

# Catalogue 2023

## Automation TIG/Plasma



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## TIG automation

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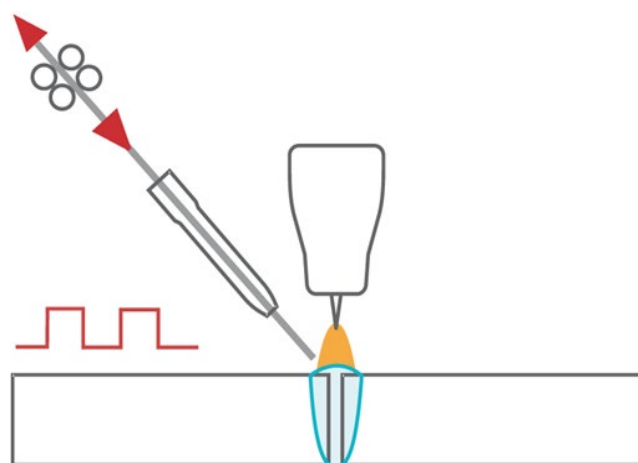
■ **tigSpeed Rob**

**Dynamic wire feed system**

The continuous wire feeding is superimposed by forward/backward motion of the wire. The welding process is especially stable with a simultaneously high deposition rate.

tigSpeed Drive can be used for cold wire and hot wire applications.

- Increases profitability, quicker than standard systems
- Perfect weld appearance





## Mechanised use

- tigSpeed drive in combination with TIG MT automated welding torch
- For cold wire and hot wire applications with four-axis wire support
- For connection to tigSpeed 352 Synergic RC cold wire and tigSpeed 352 Synergic RC hot wire
- Adjustable heat input in the wire up to 180 A
- Parameter definition via BUSINTX 11

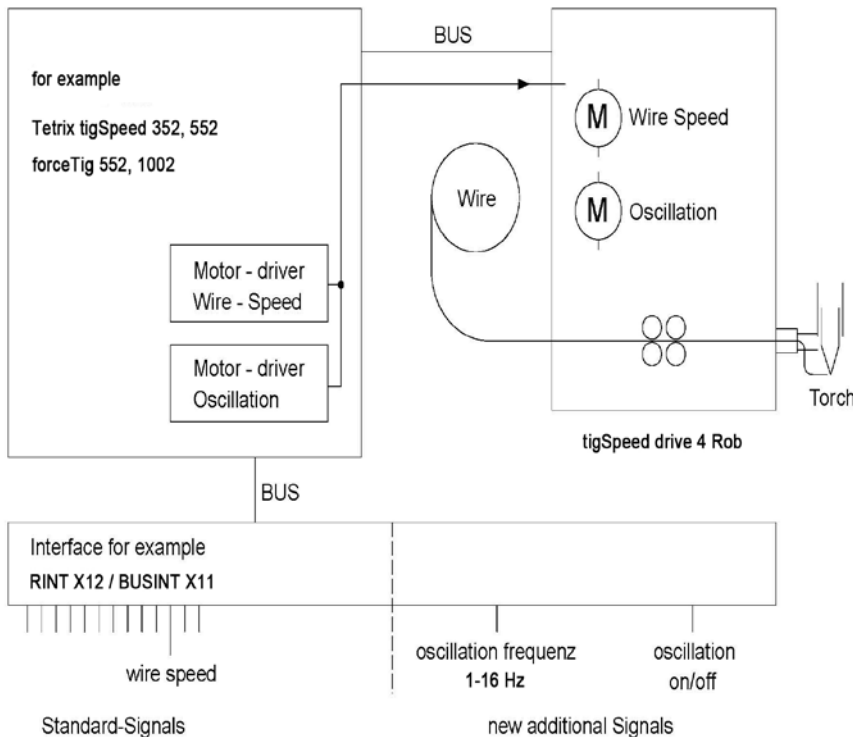




BUSINTX 11 control data for tigSpeed

Reproducible welding results thanks to digital control

- Set and view all parameters
- Forward/backward motion frequency (adjustable from 1 to 16 Hz, or disable)
- Wire feed speed (0.5 m/min to 10 m/min)
- Interface for all conventional bus systems



File View Data Zoom Help TETRIX 450 DC BUSINTX11 / Profil 0 // Ver: 0.0.3.0 / Notation: Intel

Standard

x = Byte-Position; y = Bit in Byte-Position; z = Data-Size in Bit

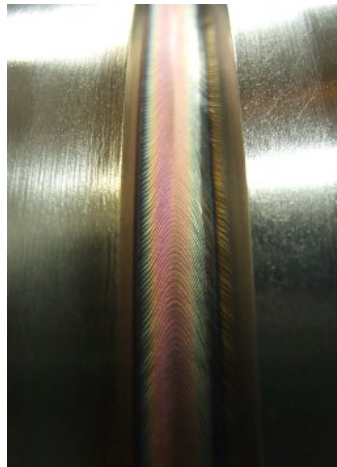
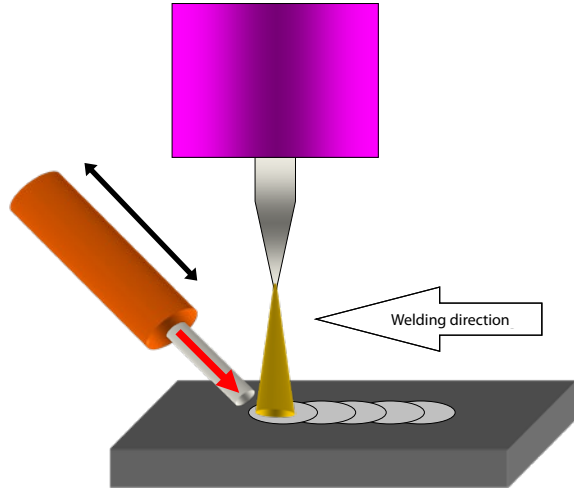
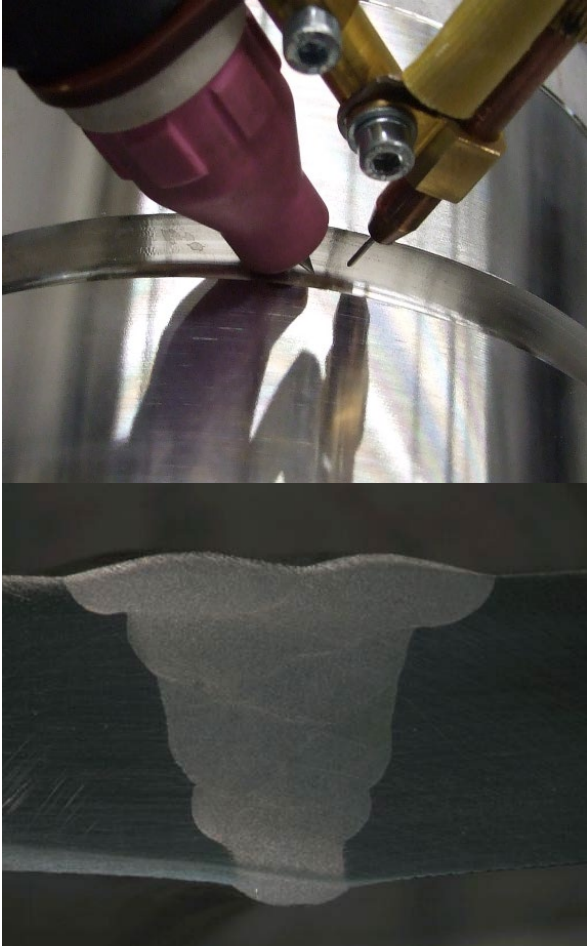
Inputdata Welding Source					Outputdata Welding-Source				
Value	x	y	z	Parameter name	Value	x	y	z	Parameter name
●	0	0	1	operation mode bit0(2)	●	0	0	1	arc on(220)
●	0	1	1	operation mode bit1(3)	●	0	1	1	power source ready(216)
●	0	2	1	weld mode bit0(4)	●	0	2	1	wire stick signal(217)
●	0	3	1	weld mode bit1(5)	●	0	3	1	error active(218)
●	0	4	1	start main process(0)	●	0	4	1	torch collision(223)
●	0	5	1	robot ready signal(14)	●	0	5	1	main current signal(222)
●	0	6	1	shield gas on(16)	●	0	6	1	process active(219)
●	0	7	1	plasma gas on(17)	●	0	7	1	aux. arc on(221)
●	1	0	1	wire inching on(18)	●	1	0	8	error type(248)
●	1	1	1	workpiece search on(12)	●	2	0	1	threshold voltage(224)
●	1	2	1	rev. inching on(19)	●	2	1	1	threshold current(225)
●	1	3	1	start aux. process(1)	●	2	2	1	not used(0)
●	1	4	1	quit error(10)	●	2	3	1	threshold motor curr.(227)
●	1	5	1	user output 1(7)	●	2	4	3	not used(0)
●	1	6	1	job control mode on(15)	●	2	7	1	Electrode touch(238)
●	1	7	1	weld simulation on(11)	●	3	0	1	input X4/3(232)
0	2	0	4	program no(20)	●	3	1	1	input X4/5(233)
●	2	4	1	not used(0)	●	3	2	1	input X4/7(234)
●	2	5	1	TigSpeed On(132)	●	3	3	1	input X4/8(245)
●	2	6	1	process monitor on(13)	●	3	4	36	not used(0)
●	2	7	1	not used(0)	27.0 V	8	0	15	arc voltage value(256)
0	3	0	8	job no(24)	●	9	7	1	not used(0)
0 A	4	0	15	main current(96)	0 A	10	0	15	arc current value(272)
●	5	7	1	not used(0)	●	11	7	1	not used(0)
0.00 m/min	6	0	15	cold wire setting(48)	0.0 m/min	12	0	15	wire speed value(288)
●	7	7	1	not used(0)	●	13	7	1	not used(0)
0.0 Hz	8	0	15	Osc. TigSpeed(64)	0.0 A	14	0	15	motor curr. value(304)





## Application examples

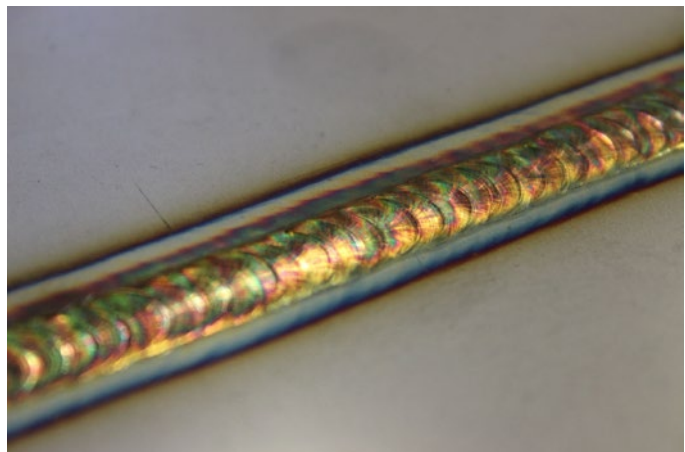
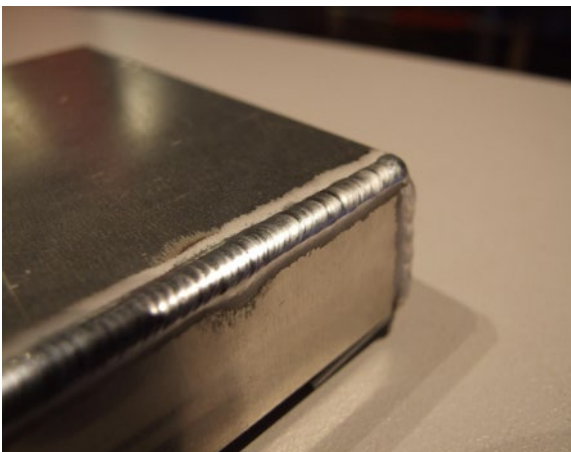
Partially mechanised on turning rolls using hot wire for a higher deposition rate



### Advantage over conventional wire feeds:

Significantly improved and easier control of the weld pool in positional welding

Lower heat input reduces distortion





## forceTig – high-performance TIG joining process

forceTig is a high-performance TIG welding process that can do more than traditional TIG solutions, combining the benefits of TIG welding (high quality weld seams) with increased efficiency. The forceTig process is perfect for automated and mechanised applications, with and without welding consumable, allowing users to take full advantage of high welding speeds. It can even be used to join extremely thick materials without the need for seam preparation, saving users time and money.

### **How does forceTig work?**

Combining our high-performance power sources and effective welding torch and electrode cooling, users can use welding currents far beyond those available for standard TIG solutions. What's more, the effective electrode cooling means the arc is concentrated and more constricted, significantly increasing the arc's directional stability. The high-power range also allows high-alloy steels to be joined reliably with a single layer using keyhole technology.

### **Advantages:**

- High currents possible for continuous operation – up to 1,000 A at 100% duty cycle
- Different torch constructions – perfectly equipped for all areas of use
- Sturdy, tried-and-tested welding torches
- Can be used to weld on material thicknesses up to 10 mm of high-alloy steels without seam preparation and in a single layer, no backing required
- Also suitable for non-ferrous metals such as copper, aluminium and titanium
- Usual TIG quality spatter-free, high weld seam quality and more reliable
- Keyhole effect for high-alloy steel in the high-power range to ensure secure root fusion
- Perfect for PA, PC and PG positions
- Increased welding speed and fewer parameter settings than with plasma welding processes
- Increased deposition rate possible thanks to hot wire, allows for cost-effective surfacing
- Welding torches can also be used with our automated standard TIG power sources using a media separation box

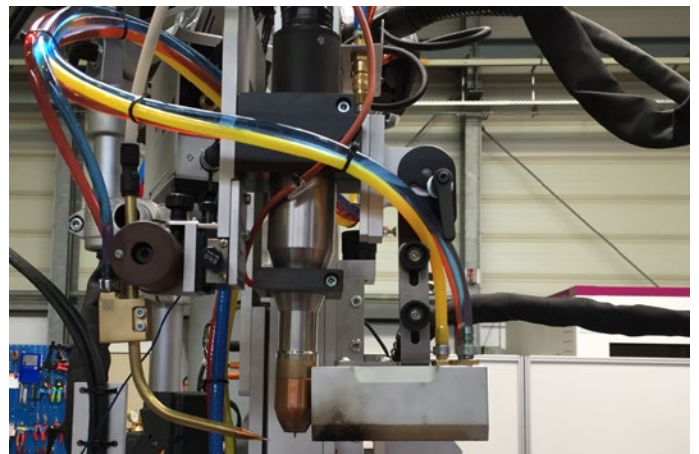
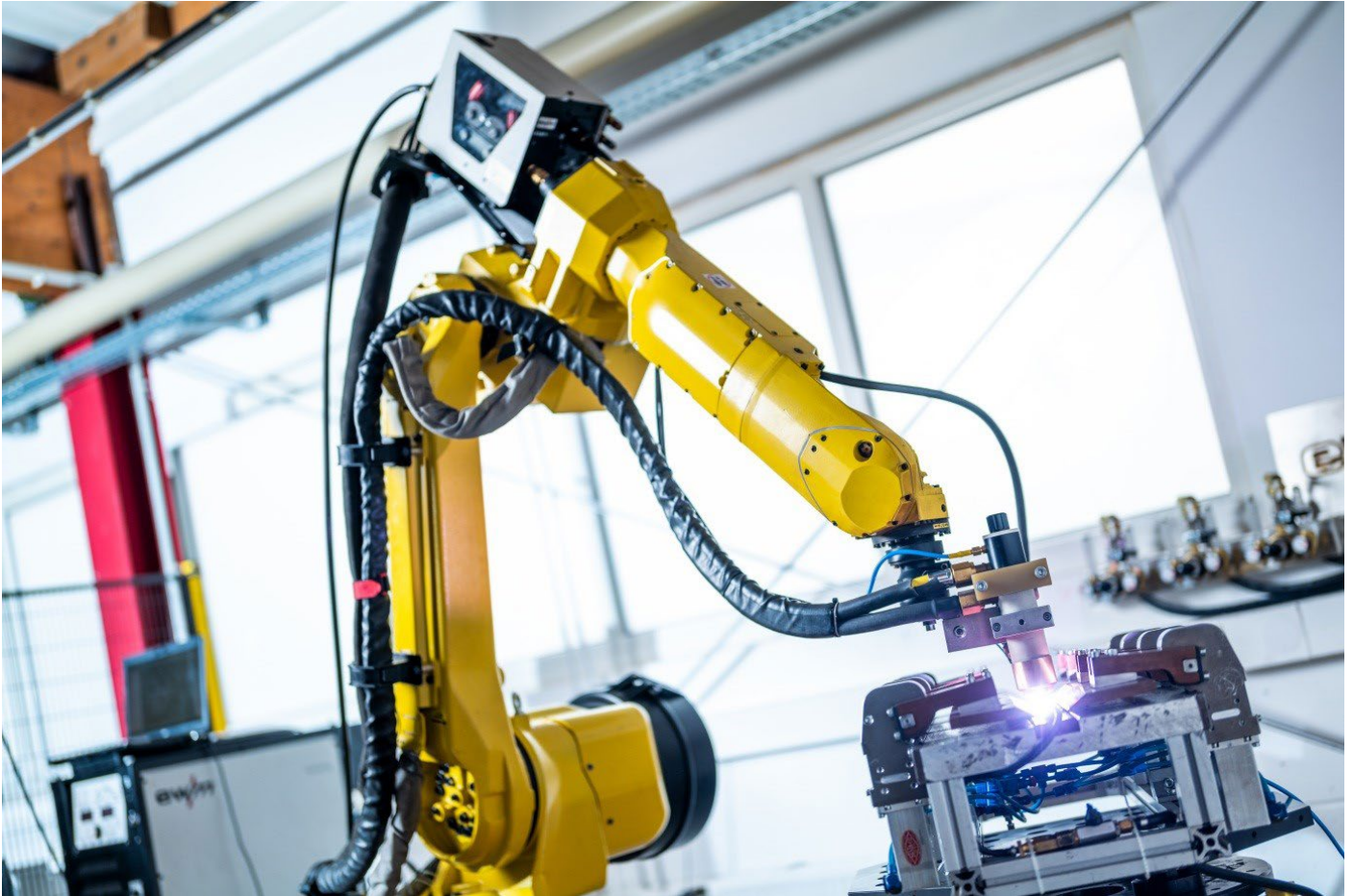
### **Fields of application:**

- Perfect for high-alloy steel of various material thicknesses
- Container construction, e.g. in food industry
- High-alloy steel pipe construction, e.g. in chemical industry
- Endless production of pipes
- Heat exchangers
- Turbine construction



## Sample applications

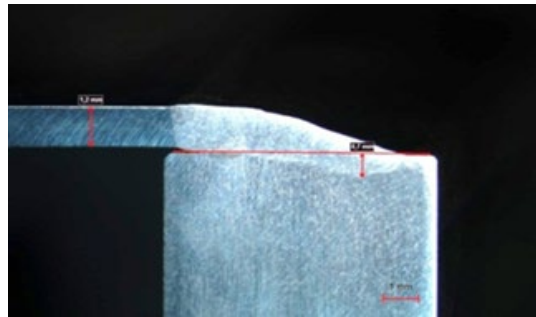
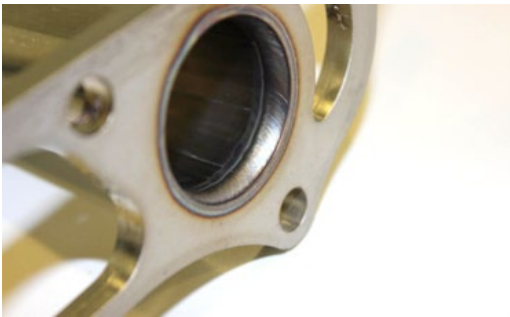
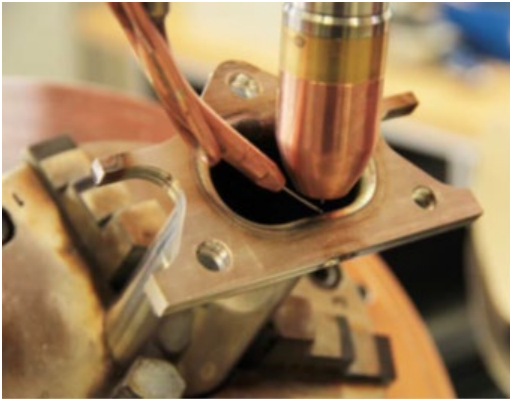
TIG joining processes can be used universally in the areas of thin and thick sheet metal processing, as part of automated or mechanised sequences, with and without filler wire.



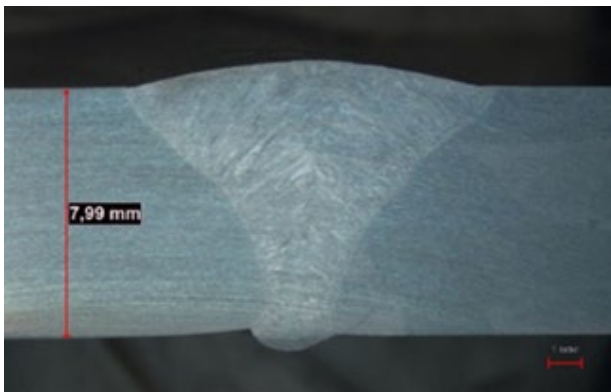
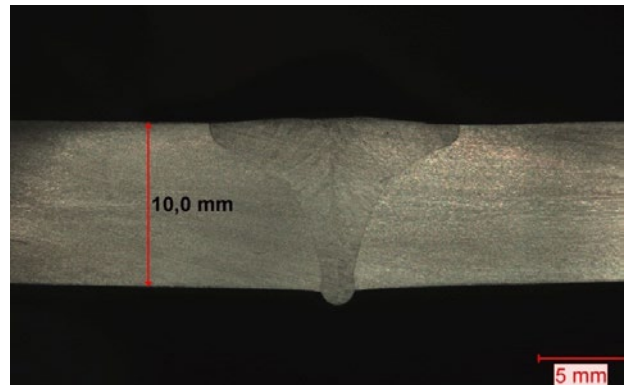
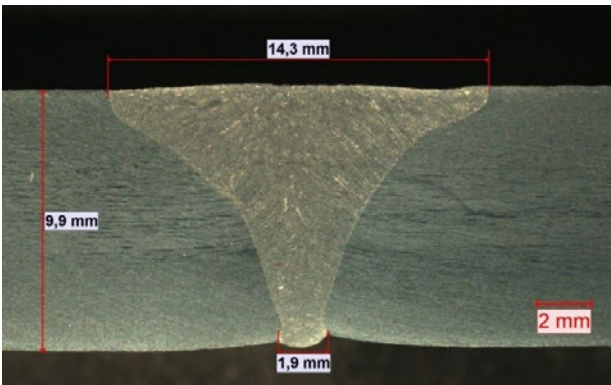


## Sample applications

Automated robot applications for joining pipe-flange connections



Welding thick panels

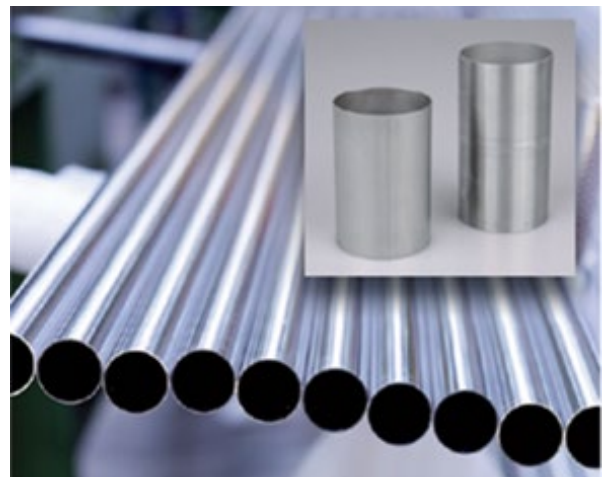




### Hot wire surfacing

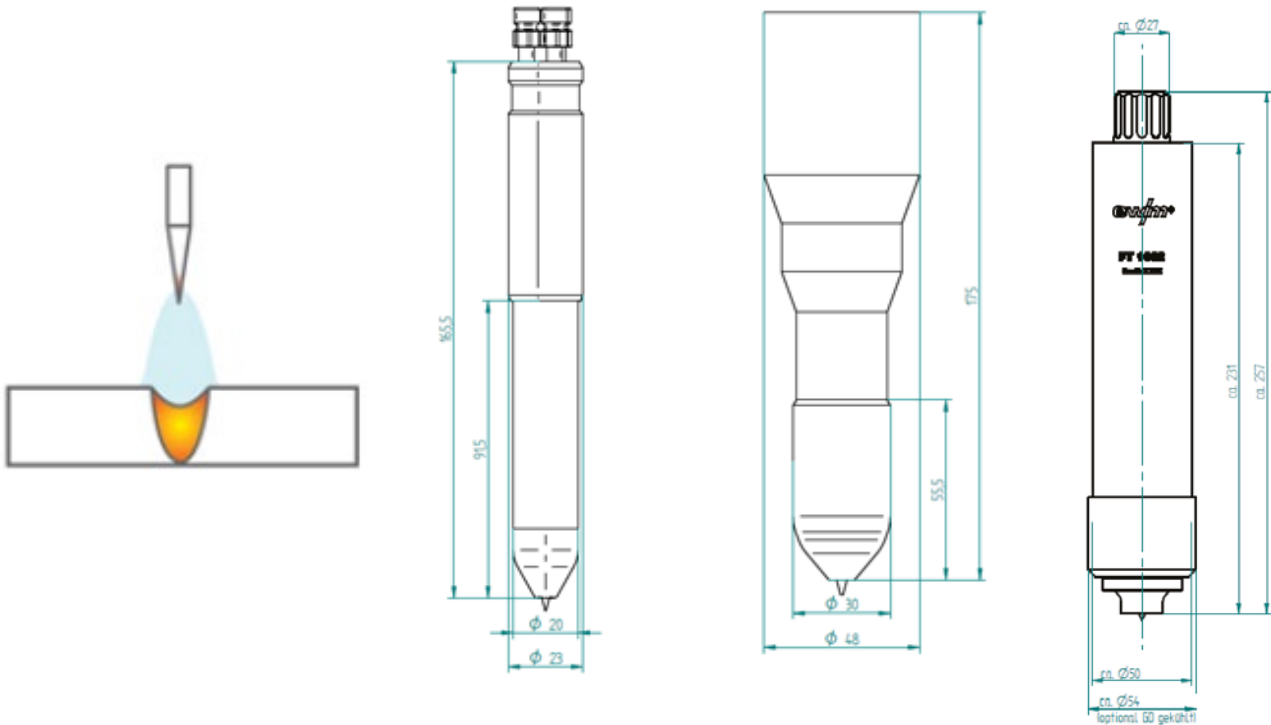


### Welding thin panels and pipes without welding consumables





## forceTig welding torches



FT500 and FT1000	FT1002
<ul style="list-style-type: none"> <li>■ FT500 with 500 A 100% duty cycle</li> <li>■ FT1000 with 800 A 100% duty cycle</li> <li>■ Compact design</li> <li>■ Screwable electrode for ensuring reproducible TCP</li> <li>■ Torch design with fewer consumables</li> <li>■ 180° or 90° hose package routing</li> <li>■ Optional slim and rigid wire feed</li> </ul>	<ul style="list-style-type: none"> <li>■ FT1002 with 1,000 A 100% duty cycle</li> <li>■ Freely adjustable electrode length with collet</li> <li>■ Electrodes with Ø 4, 6, 4, 8, 10, 12 mm available and can be resharpened</li> <li>■ Electrodes can be changed without tools</li> <li>■ Water-cooled gas nozzle – perfect for high currents in PA position</li> <li>■ Optional flexible wire feed with 4-axis support</li> </ul>



## forceTig media separation box for connection to automated TIG-XX2 power sources

The forceTig media separation box is available in various different versions, for connection to power sources with up to 550 A and for power sources of 1,000 A. Connection to the power source is made using a corresponding connecting hose package. The media separation box is also equipped with a gas valve, gas test push-button and gas pressure sensor. The forceTig media separation box can be mounted on the side of the power source using an adapter plate or “externally” on a mounting console.



Front view



Rear view



## Recommended power sources

	<b>Tetrix 552</b>	<b>Tetrix 552 HW</b>	<b>Tetrix 1002</b>
<b>Welding current</b>	5 A–550 A	5 A–550 A	10 A–1,000 A
<b>Hot wire current</b>	-	5 A–180 A	-
<b>Duty cycle 40°</b>	550 A/60%	550 A/60%	1,000 A/80%
	420 A/100%	420 A/100%	750 A/100%
<b>Open circuit voltage</b>	80 V	80 V	80 V
<b>Variants/options</b>			
<b>DC</b>	✓	✓	✓
<b>AC/DC</b>	✓	-	-
<b>Filler wire</b>	✓	✓	✓
<b>tigSpeed</b>	On request	✓	On request





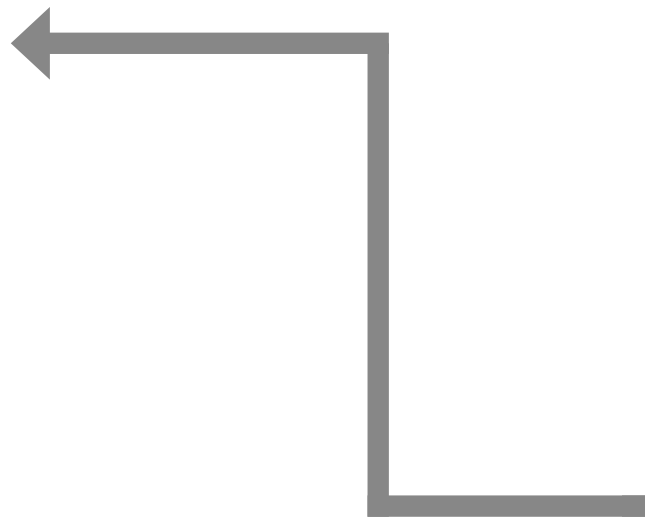
## Overview of forceTig welding system – variant 1

Example configuration for easy integration into mechanised systems.

Control via 19-pole interface for automated welding.

Parameter setting via Synergic front control, RT50 remote control or PC300.

START/STOP and I>0 evaluation via 19-pole interface for automated welding



RK3.1 recooling unit required



Flow monitoring via external flow sensor



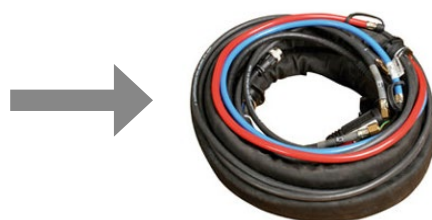




forceTig welding torch  
FT500/FT1000/FT1000 AX/FT1002



The forceTig media separation box can be mounted "externally" or on the power source using adapter plate.



A corresponding 95 mm<sup>2</sup>/water/19-pol. connecting hose package (for 1,000 series: 2 x 95 mm<sup>2</sup> screw fittings) connects the power source and the media separation box.  
The maximum total length of the connecting hose package and the welding torch is 18 m.



## Overview of forceTig welding system – variant 2

Example configuration for easy integration into mechanised systems  
for use of additional wire

Control via special RINT X12 ATCASE interface with 28-pole connection.

Parameter setting via Synergic front control,  
RT50, FR AW1 remote control or PC300.

TIG wire feeders  
T drive 4 Rob 2/T drive 4 Rob 2



Cold wire regulation and cold wire ON  
via FR AW1 remote control



START/STOP and  
I>0 evaluation via  
28-pole connection socket

RK3.1 recooling unit required

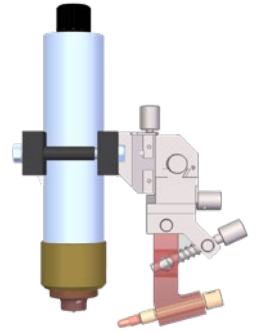
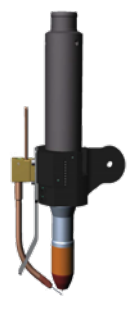
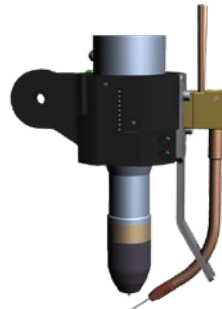
Flow monitoring via external flow  
sensor





3/tigSpeed drive 4 Rob

forceTig welding torch  
FT500/FT1000/FT1000 AX/FT1002



VSLP connecting hose package  
for connecting wire feeders



Optional RT50 remote control



The forceTig media separation box  
can be mounted "externally" or on the  
power source using adapter plate.



A corresponding 95 mm<sup>2</sup>/water/19-pol. connecting hose package  
(for 1,000 series: 2 x 95 mm<sup>2</sup> screw fittings) connects the power source and the media separation  
box.

The maximum total length of the connecting hose package and the welding torch is 18 m.



## Overview of forceTig welding system – variant 3

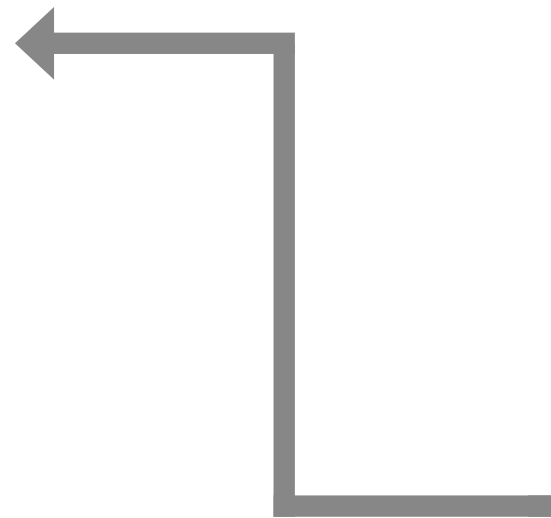
Example configuration for integration into fully automated systems with maximum scope of functions.

Control via RINT X12/BUSINT X11 interface.  
Parameter setting via PC300 software in program mode or via higher-level control in control signal mode.

TIG wire feeders  
T drive 4 Rob 2/T drive 4 Rob 2



Control via interface  
RINT X12/BUSINT X11 in  
program for control signal mode



RK3.1 recooling unit required

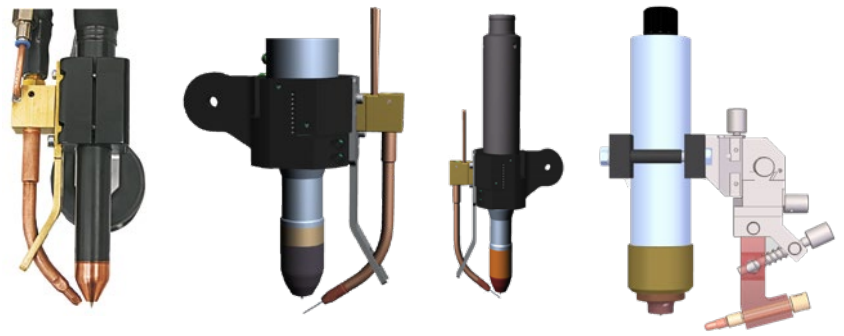
Flow monitoring via external flow  
sensor





3/tigSpeed drive 4 Rob

forceTig welding torch  
FT500/FT1000/FT1000 AX/FT1002



VSLP connecting hose package  
for connecting wire feeders



The forceTig media separation box  
can be mounted "externally" or on the  
power source using adapter plate.



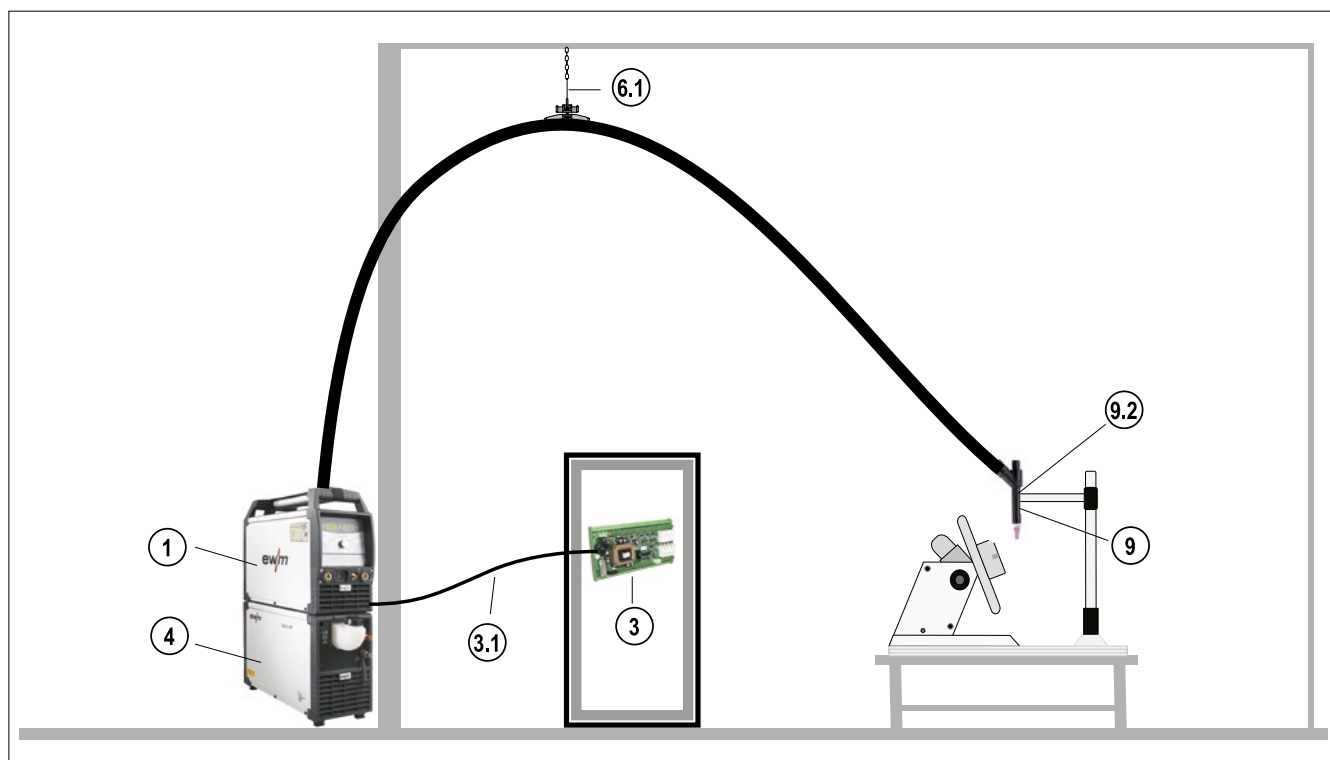
A corresponding 95 mm<sup>2</sup>/water/19-pol. connecting hose package  
(for 1,000 series: 2 x 95 mm<sup>2</sup> screw fittings) connects the power source and the media separation  
box.  
The maximum total length of the connecting hose package and the welding torch is 18 m.



# Overview

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## Tetrix, water-cooled Tetrix 300 Comfort 2.0 Rob mechanised welding system



### Tetrix 300 Comfort 2.0 puls Rob

- With Comfort 2.0 control
- Water cooled
- As demonstrated on a mechanical application

### Tetrix 300 Comfort 2.0 Rob mechanised welding system

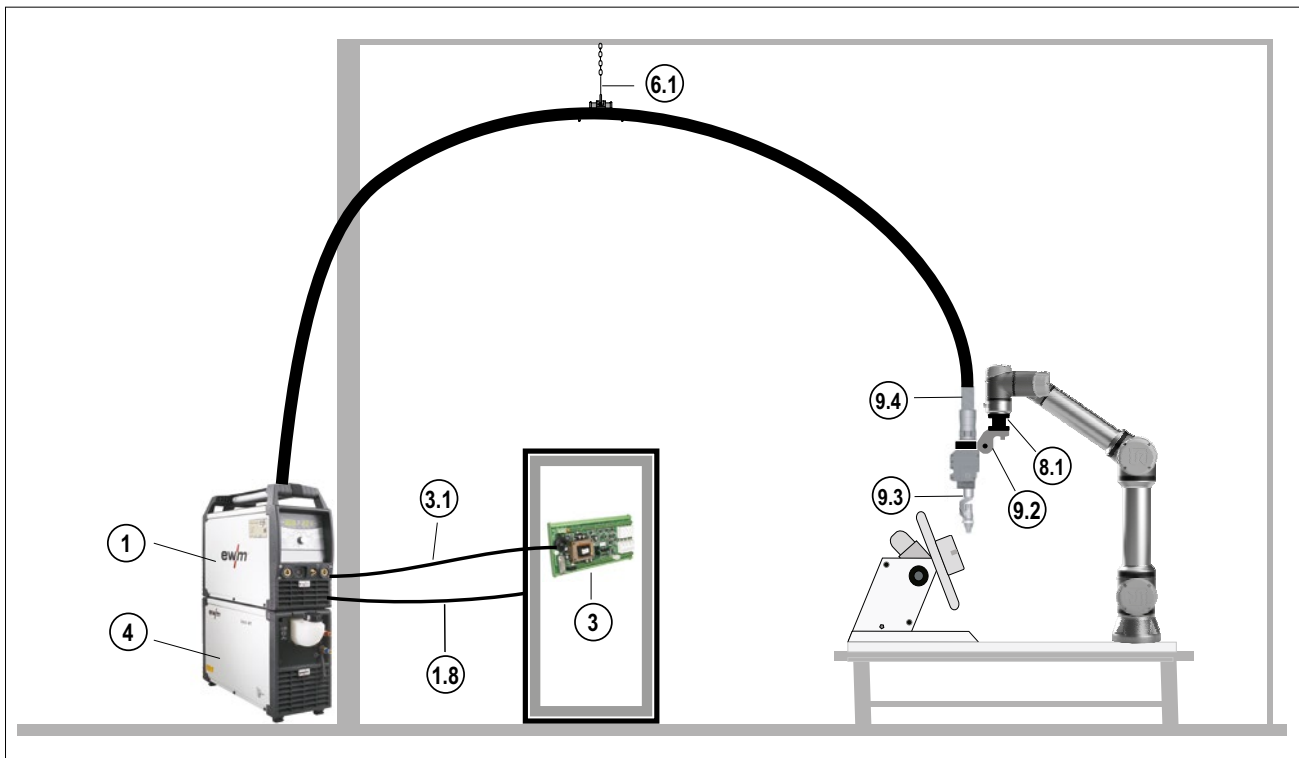
Item	Type	Designation	Item no.
1	Tetrix 300 Comfort 2.0 puls Rob	DC TIG welding machine with Comfort 2.0 control	090-000263-00502
1.1	OW CEE 16A/400V	Mains plug, assembled	092-008214-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 5m	Gas hose	094-000010-00005
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 PROFINET	Industrial bus interface, potential-free power supply, 24 V	090-908260-00008
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	cool41 U31	Cooling unit with centrifugal pump	090-008600-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
9	TIG-MT 300W 4M	Automated TIG welding torch, water-cooled	094-011709-00004
9.2	TH MT-30	Torch holder suitable for TIG-MT 200G/300W	094-013691-00000
-	Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ You can find information about external interface variants in the Accessories chapter



# Tetrix, water-cooled

## Tetrix 300 Comfort 2.0 Rob co-bot welding robot system



### Tetrix 300 Comfort 2.0 puls Rob

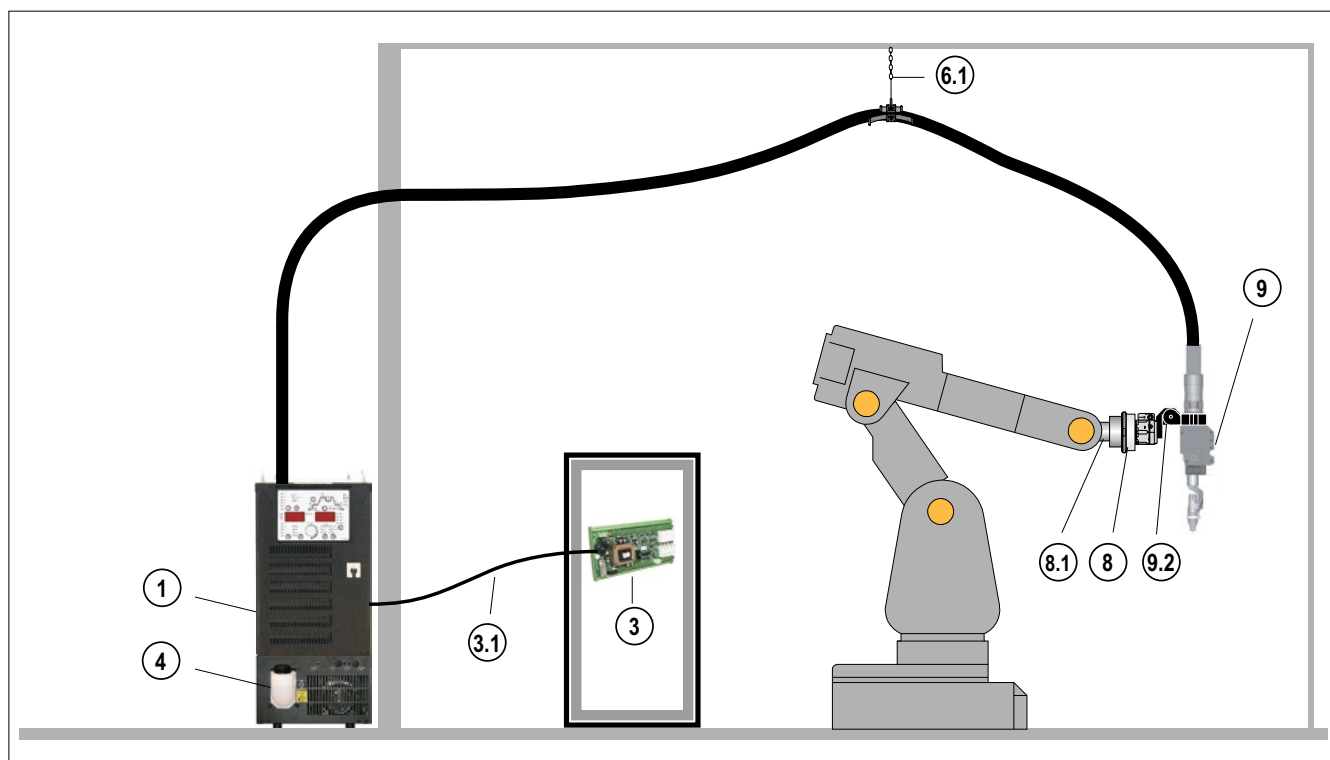
- With Comfort 2.0 control
- Water cooled
- With external RINTX12 interface
- As demonstrated on a co-bot welding robot application

### Tetrix 300 Comfort 2.0 Rob co-bot welding robot system

Item	Type	Designation	Item no.
1	Tetrix 300 Comfort 2.0 puls Rob	DC TIG welding machine with Comfort 2.0 control	090-000263-00502
1.1	OW CEE 16A/400V	Mains plug, assembled	092-008214-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 5m	Gas hose	094-000010-00005
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	RINT X12 STANDARD	Standard robot interface	090-008291-00000
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
3.2	ON PLUG SET RINT X12	Retrofit option EWM plug set for RINT X12/DVINT X11	092-001822-00000
4	cool41 U31	Cooling unit with centrifugal pump	090-008600-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
8.1	AF ROB	Adapter flange, plastic	398-010731-00000
9.2	HL CAT3 PRO CR STD	Standard holder	094-012839-00000
9.2	BH ALU	Alu torch holder	398-010732-00000
9.2	CLAMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W	094-010122-00000
9.3	TIG ROB 400W	TIG-MT torch body, straight	094-010109-00000
9.4	SPA TIG WH 6M	TIG ROB 400 W hose package	094-016058-00006
-	SE CAT	Screw set	094-023190-00000
-	Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	094-021505-00000
-			090-008779-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ You can find information about external interface variants in the Accessories chapter

## Tetrix, water-cooled Conventional welding robot system



### Tetrix 352 Synergic

- With Synergic control
- Water cooled
- Example shown: Motoman UP20

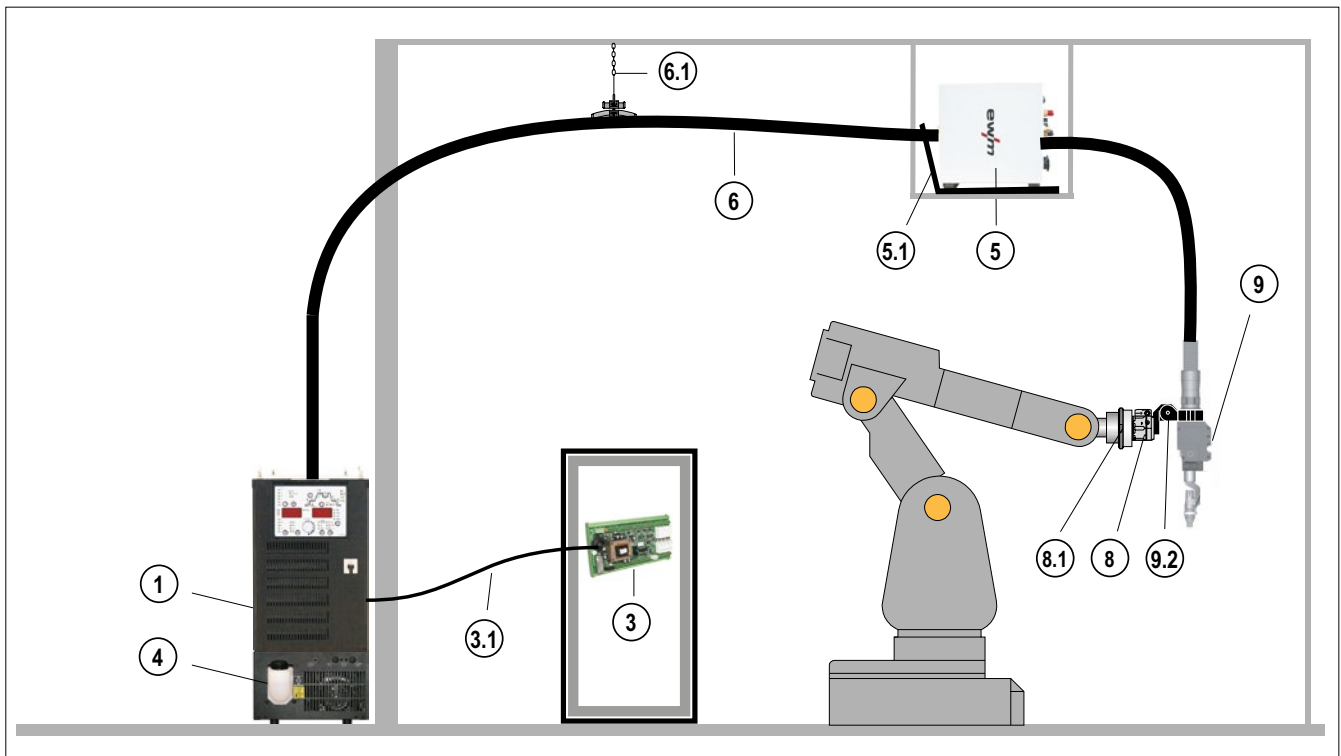
### Conventional welding robot system

Item	Type	Designation	Item no.
1	Tetrix 352 Synergic	DC TIG welding machine with Synergic control	090-000141-00502
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	RINT X12 STANDARD	Standard robot interface	090-008291-00000
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
3.2	KB MOTOMAN-RINT X12	Cable harness for RINT X12 connection to Motoman XRC/NX-100/DX-100/DX-200	094-012212-00003
4	cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
8	RSA MEDIUM PLUS	Collision sensor	094-023605-00000
8.1	FL ISO 9409-1-A40	Intermediate flange, plastic	094-013347-00500
9	TIG ROB 400W 4m	TIG welding torch, straight, water cooled, complete	094-017197-00000
9.2	CLAMMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W	094-010122-00000
-	ANALYZER	Software for control and status signal analysis	090-008778-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

► For more accessories, options and machine variants please refer to the individual chapters

## Tetrix, water-cooled Conventional welding robot system with TIG media separation box



### Tetrix 352 Synergic

- With Synergic control
- TIG media separation box
- Water cooled
- Example shown: Kawasaki D40

### Conventional welding robot system with TIG media separation box

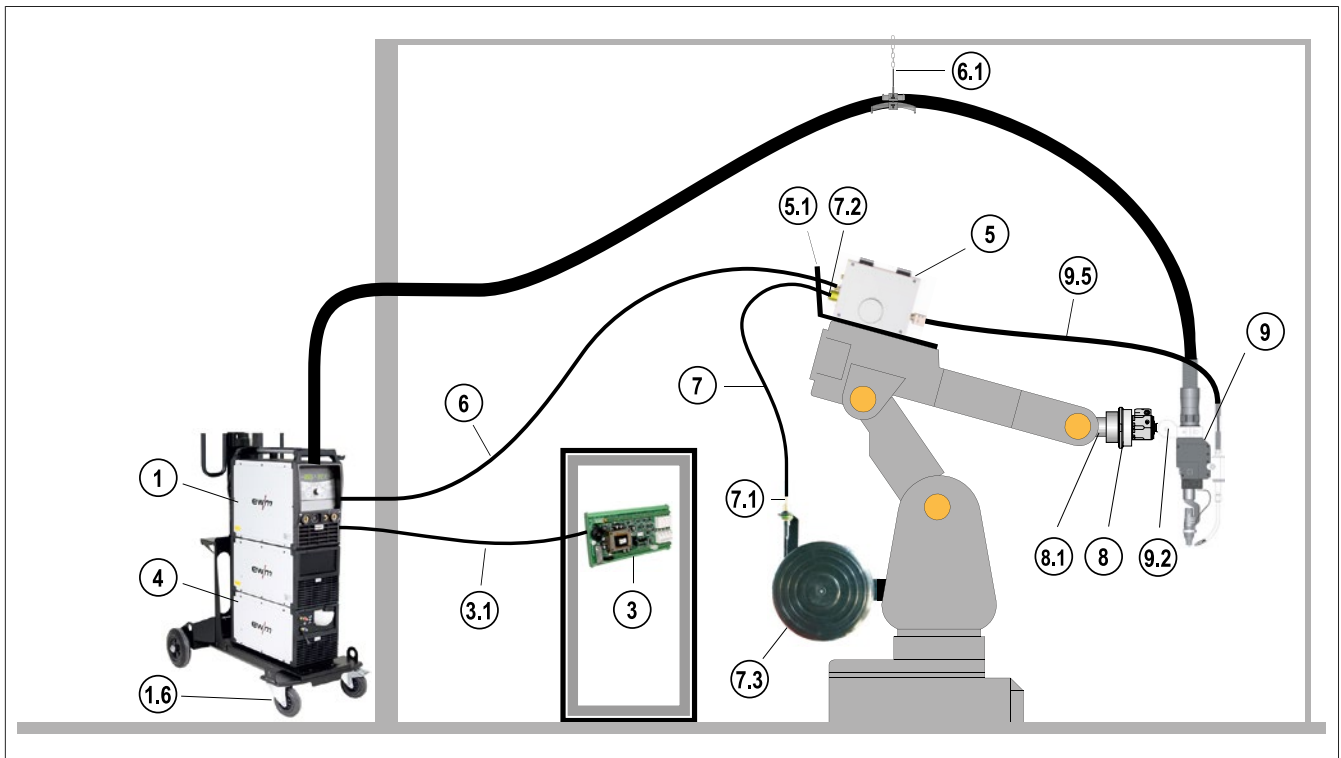
Item	Type	Designation	Item no.
1	Tetrix 352 Synergic	DC TIG welding machine with Synergic control	090-000141-00502
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 PROFIBUS	PROFIBUS industrial bus interface	090-008257-00000
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
5	Tig Torch Box	TIG media separation box	090-008299-00502
5.1	MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
6	VSLP TB 95QMM WS 19 POL 5m	Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31105
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
8	RSA MEDIUM PLUS	Collision sensor	094-023605-00000
8.1	FL ISO 9409-1-A40	Intermediate flange, plastic	094-013347-00500
9	TIG ROB 400W 4m	TIG welding torch, straight, water cooled, complete	094-017197-00000
9.2	CLAMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W	094-010122-00000
-	ANALYZER	Software for control and status signal analysis	090-008778-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

► For more accessories, options and machine variants please refer to the individual chapters

## Tetrix, water-cooled

### Conventional welding robot system Tetrix 300 Comfort Rob with cold wire



#### **Tetrix 300 Comfort 2.0 pulse CW Rob**

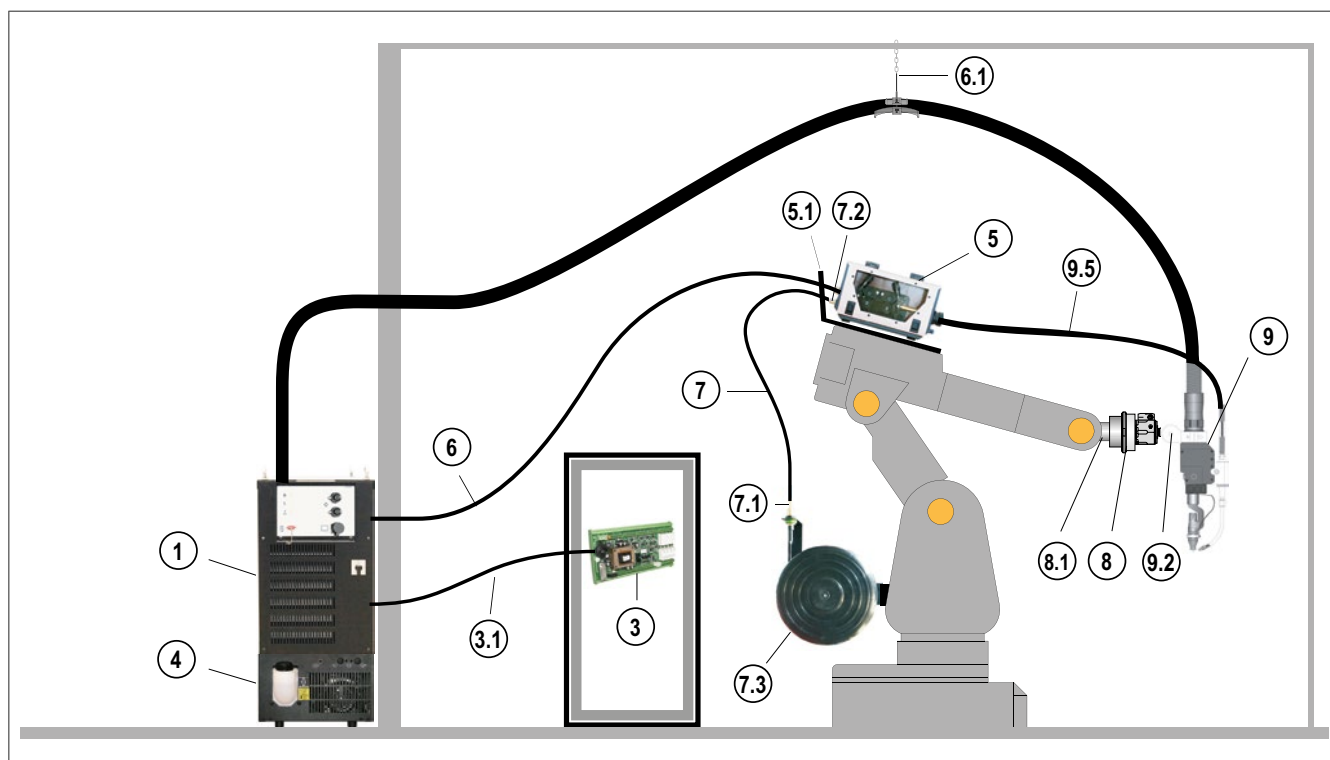
- With Comfort 2.0 control
- Water-cooled
- With external BUSINTX11 interface
- T drive 4 Rob 3 wire feeder
- With cold wire feed
- As demonstrated on a Kuka KR 6 R1840-2

#### Conventional welding robot system Tetrix 300 Comfort Rob with cold wire

Item	Type	Designation	Item no.
1	Tetrix 300 Comfort 2.0 puls CW Rob	TIG DC welding machine with Comfort 2.0 control, incl. connection capability for additional wire	090-S00263-04782
1.1	OW CEE 16A/400V	Mains plug, assembled	092-008214-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.6	Trolley 55-6	Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder	090-008825-00000
1.61	ON Extender	Extension for Trolley 55-6 to house a further module	092-003507-00000
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 ETHERCAT	Industrial bus interface ETHERCAT, potential-free power supply, 24 V	090-908621-00008
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	cool41 U31	Cooling unit with centrifugal pump	090-008600-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
4.1			094-000530-00005
5	T Drive 4 Rob 3 LI IG3	Wire feeder for automated applications, opens on left, IG3 speedometer solution	090-008784-00502
5.1	MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
6	SLP S 7/12 POL 5M	Control cable, standard protective hose	092-007855-52105
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7	WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
7.1	CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
7.2	CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000
7.3	WSH KUKA KR6 R1840-2 ARC HW	Wire spool holder, robots	092-004200-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
8	RSA MEDIUM PLUS	Collision sensor	094-023605-00000
8.1	ZF CAT D=31,5mm D=20	Intermediate flange, plastic	094-022421-00000
9	TIG ROB 400W CW ZF1.0 4m	TIG welding torch, cold wire, straight, water-cooled, complete	094-017204-00000
9.2	CLAMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W	094-010122-00000
9.5	AW CW 4 m Quick-Connect S	Cold wire feed, for T drive 4 Rob 3	094-020613-00001
-	Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ Information on wire feeder variants can be found in the corresponding chapter.
- ▶ You can find information about external interface variants in the Accessories chapter

## Tetrix, water-cooled Conventional welding robot system Tetrix with cold wire



### Tetrix 352 RC CW

- No front control
- Water cooled
- T drive 4 Rob 2
- With cold wire feed
- As demonstrated on a Fanuc ArcMate 100i

Conventional welding robot system Tetrix with cold wire

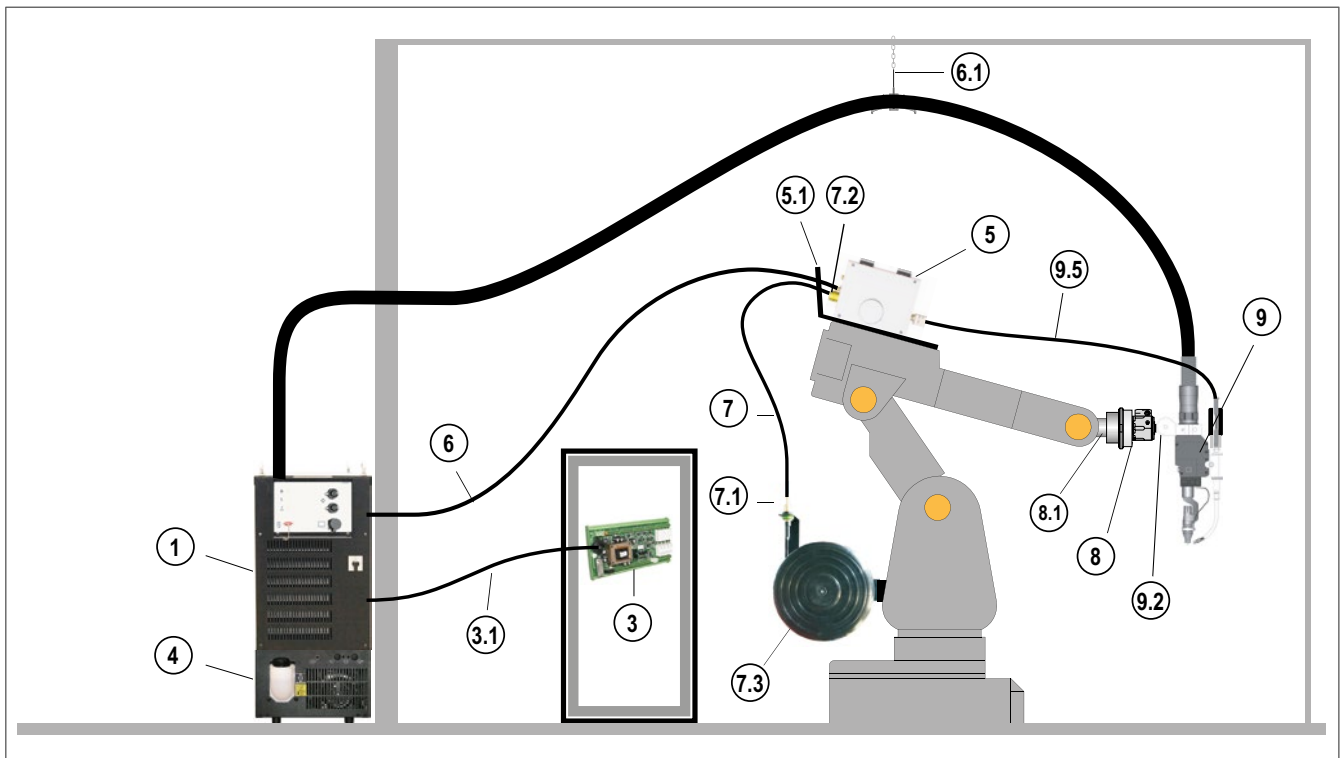
Item	Type	Designation	Item no.
1	Tetrix 352 RC CW	DC TIG welding machine incl. connection capability for additional wire, without front control	090-000166-00505
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	RINT X12 STANDARD	Standard robot interface	090-008291-00000
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
3.2	KB RINT X12 FANUC 34POL	Cable assembly	094-009441-00001
3.2	KB RINT X12 FANUC 50POL		094-009440-00001
4	cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
5	T drive 4 Rob 2 IG3	Wire feeder for automated applications, IG3 speedometer solution	090-008785-00502
5.11	MONTAGE CONSOLE ROB 2 UNIVERSAL	Mounting console for wire feed unit	092-001746-00000
6	SLP S 7/12 POL 5M	Control cable, standard protective hose	092-007855-52105
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7	WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
7.1	CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
7.21	CONNECTOR DRIVE ROB2 WIRE CONDUIT	Connection set for wire feed ROB 2 Wire Conduit	092-008205-00000
7.3	DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
8	RSA MEDIUM PLUS	Collision sensor	094-023605-00000
8.1	FL ISO 9409-1-A40	Intermediate flange, plastic	094-013347-00500
9	TIG ROB 400W CW ZF1.0 4m	TIG welding torch, cold wire, straight, water-cooled, complete	094-017204-00000
9.2	CLAMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W	094-010122-00000
9.5	AW CW 4 m Quick-Connect L	Cold wire feed, for T drive 4 Rob 2	094-020613-00000
-	ANALYZER	Software for control and status signal analysis	090-008778-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

► For more accessories, options and machine variants please refer to the individual chapters

## Tetrix, water-cooled

### Conventional welding robot system Tetrix with cold wire as push/push system



#### Tetrix 352 RC

- No front control
- Water cooled
- T drive 4 Rob 3
- With push/push system
- With cold wire feed
- Example shown: Fanuc arcMate 100i

Conventional welding robot system Tetrix with cold wire as push/push system

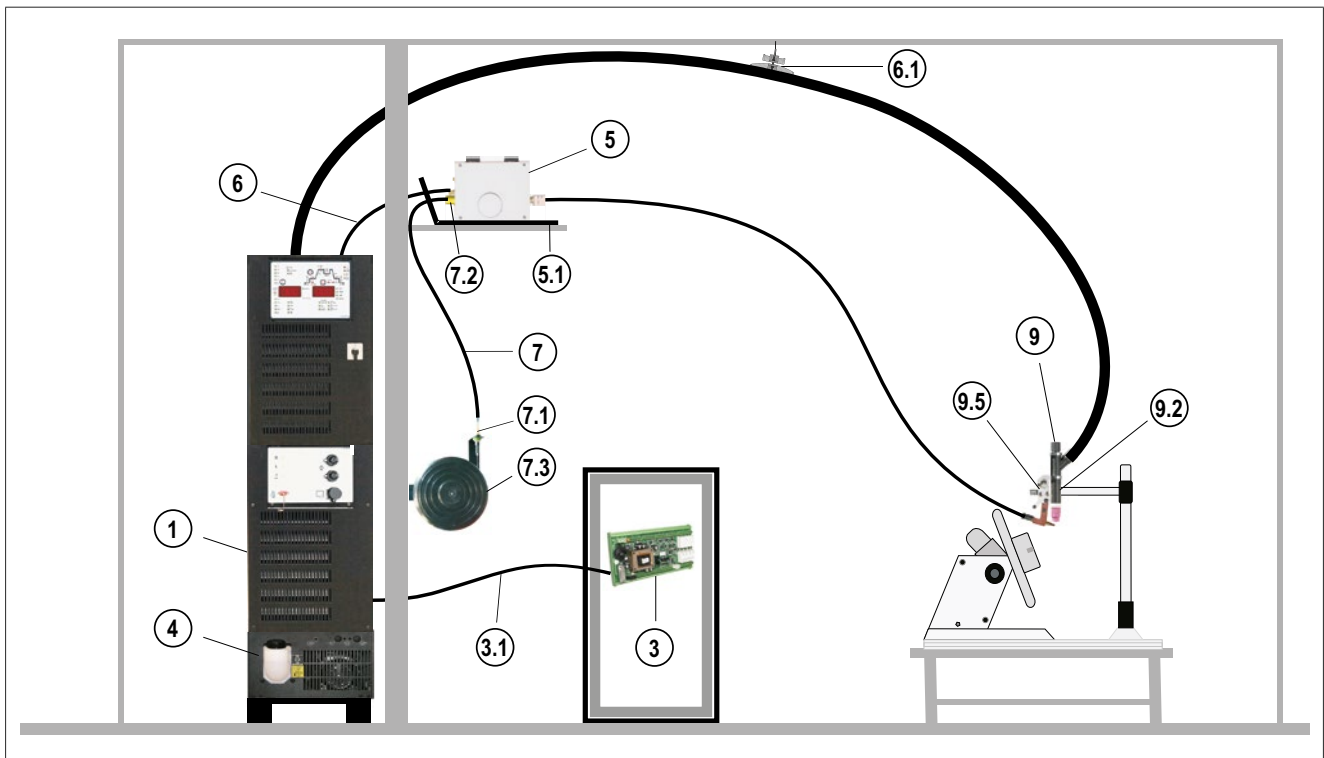


Item	Type	Designation	Item no.
1	Tetrix 352 RC CW	DC TIG welding machine incl. connection capability for additional wire, without front control	090-000166-00505
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	RINT X12 STANDARD	Standard robot interface	090-008291-00000
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
3.2	KB RINT X12 FANUC 34POL	Cable assembly	094-009441-00001
3.2	KB RINT X12 FANUC 50POL		094-009440-00001
4	cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
5	T drive 4 Rob 3 RE IG3	Wire feeder for automated applications, opens on right, IG3 speedometer solution	090-008783-00502
5.1	MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
6	SLP S 7/12 POL 5M	Control cable, standard protective hose	092-007855-52105
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7	WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
7.1	CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
7.2	CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000
7.3	DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
8	RSA MEDIUM PLUS	Collision sensor	094-023605-00000
8.1	FL ISO 9409-1-A40	Intermediate flange, plastic	094-013347-00500
9	TIG ROB 400W CW PP IG3 4M	TIG welding torch, cold wire, water-cooled, push/push, complete	094-019639-00000
9.2	CLAMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W	094-010122-00000
9.5	AW CW 4 m Quick-Connect S	Cold wire feed, for T drive 4 Rob 3	094-020613-00001
-	ANALYZER	Software for control and status signal analysis	090-008778-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

► For more accessories, options and machine variants please refer to the individual chapters

## Tetrix, water-cooled Mechanised welding system Tetrix 552 Synergic RC with hot wire



### Tetrix 552 Synergic-RC

- With Synergic-RC display
- Water cooled
- T drive 4 Rob 3 for hot wire
- Hot wire power source Tetrix 552 Synergic-RC
- Example shows a mechanical application

### Mechanised welding system Tetrix 552 Synergic RC with hot wire

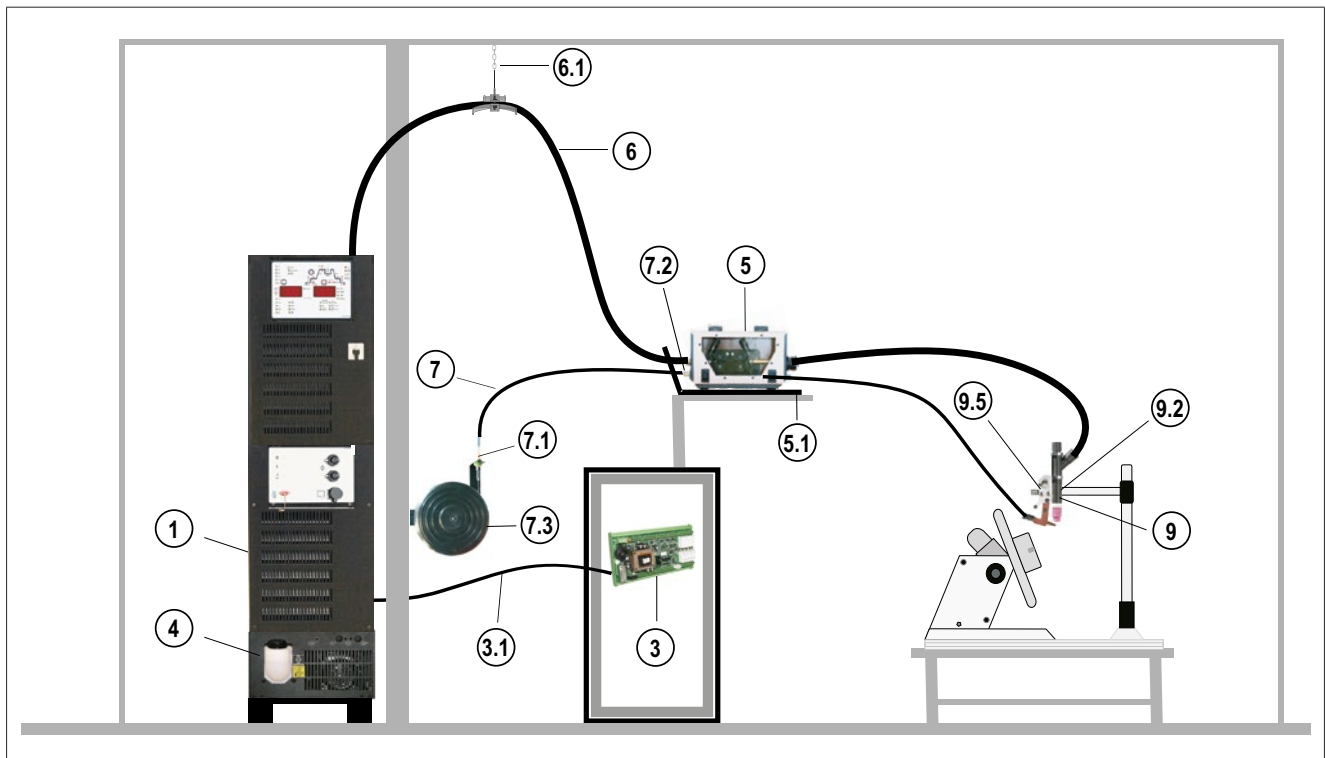
Item	Type	Designation	Item no.
1	Tetrix 552 Synergic RC HW	DC TIG welding machine with connection capability for additional wire, with Synergic-RC display; including transport pallet	090-000214-00502
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 PROFINET	Industrial bus interface, potential-free power supply, 24 V	090-908260-00008
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
5	T drive 4 Rob 3 RE Hotwire	Wire feeder for automated applications, hot wire, opens on right, with integrated IG3 speedometer solution	090-008702-00502
5.1	MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
6	SLP HW S 7/12 POL 5M	Control cable assembly, standard protective hose, hollow wrist robot	092-007855-62105
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7	WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
7.1	CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
7.2	CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000
7.3	DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
9	TIG-MT 500W 4M	Automated TIG welding torch, water-cooled	094-013706-00000
9.2	TH MT-35	Torch holder suitable for TIG-MT 500W	094-013868-00000
9.5	AWS HW 4,0 m Quick-Connect S	4 axes support, hot wire, insulated setup, for T drive 4 Rob.3	094-020614-11040
-	ANALYZER	Software for control and status signal analysis	090-008778-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

► For more accessories, options and machine variants please refer to the individual chapters

## tigSpeed, water cooled

### Mechanised welding system tigSpeed 352 Synergic RC with hot wire



#### **tigSpeed 352 Synergic RC HW**

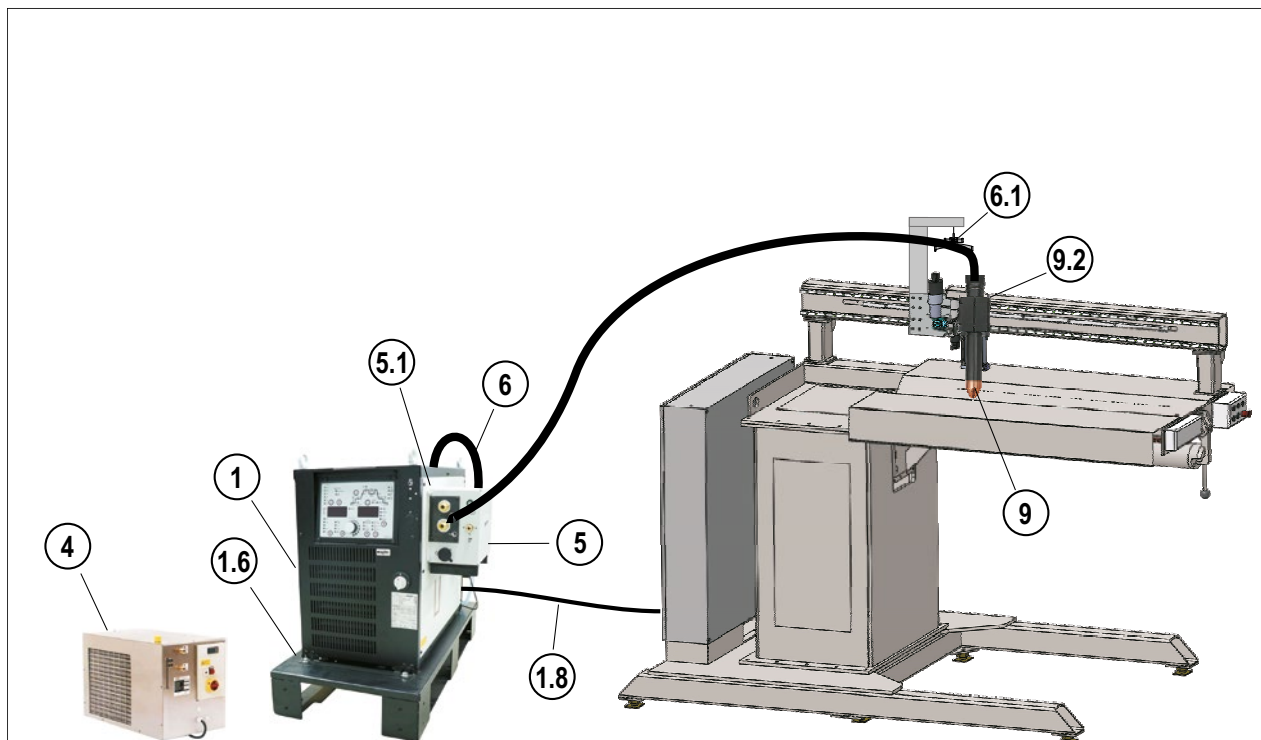
- With Synergic RC display
- Water cooled
- tigSpeed drive 4 Rob
- As demonstrated on a mechanical application

#### Mechanised welding system tigSpeed 352 Synergic RC with hot wire

Item	Type	Designation	Item no.
1	tigSpeed 352 Synergic RC HW	DC TIG welding machine with Synergic-RC display, including connection capability for hot wire	090-000232-00502
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4" 2m	Gas hose	094-000010-00001
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 PROFINET	Industrial bus interface, potential-free power supply, 24 V	090-908260-00008
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
5	tigSpeed drive 4 Rob	Wire feed unit for automated applications	090-005395-00502
5.11	MONTAGE CONSOLE ROB 2 UNIVERSAL	Mounting console for wire feed unit	092-001746-00000
6	VSLP 95QMM HW WR 7/12/19POL 5M	Intermediate hose package, robot, water cooled, ribbed hose	092-007855-81205
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7	WIRE LEAD 1,5M	Wire guide	094-018280-00000
7.1	CONNECTOR DV-CAB WIRE LEAD	DV-CAB connection	092-007931-00000
7.2	CONNECTOR DRIVE ROB2 WIRE LEAD	Connection set for Wire Lead wire feed to ROB 2	092-007913-00000
7.3	DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
9	TIG-MT 500W 2M	Automated TIG welding torch, water-cooled	094-013706-00002
9.2	TH MT-35	Torch holder suitable for TIG-MT 500W	094-013868-00000
9.5	AWS HW 1,5 m DZA	4 axes support, hot wire, insulated setup, for Tetrix drive 4L/tigSpeed drive 45	094-020614-12015
-	ANALYZER	Software for control and status signal analysis	090-008778-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters

## forceTig, water cooled



### **Tetrix 552 Synergic**

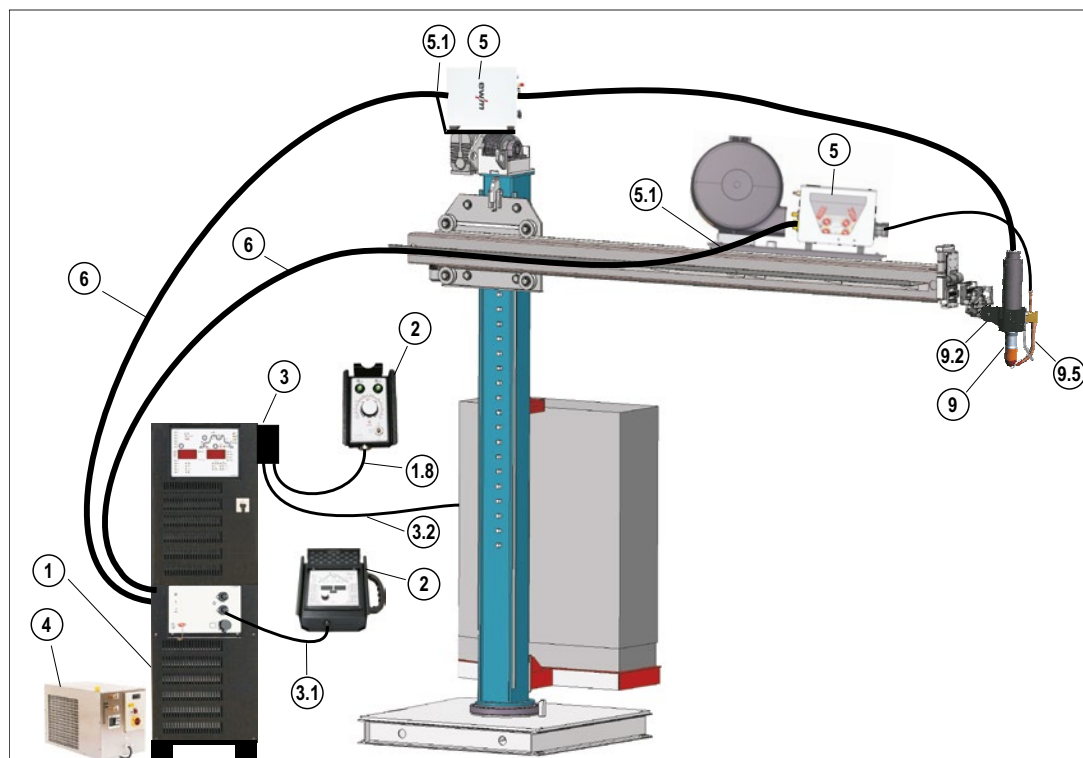
- With Synergic control
- FT500 forceTig media separation box
- Water cooled
- Example for easy integration into mechanised systems
- Control via 19-pole interface for automated welding
- Parameter setting via Synergic front control, RT50 remote control or PC300

forceTig welding system on longitudinal welding machine

Item	Type	Designation	Item no.
1	Tetrix 552 Synergic	DC TIG welding machine with Synergic control	090-000154-00502
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4 XR 5m	G1/4 IG/AG gas hose, extension for XR robot intermediate hose package	092-003220-00001
1.6	PALETTE ROB XX2	Transport pallet for power source and add-on module	090-008275-00000
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
4	RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
4.1			094-000530-00005
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
4.1			094-000530-00005
4.1			094-000530-00005
4.2	HOSE BRIDGE	Hose bridge	092-007857-00000
4.2	WS 2x0,5M	Water hoses, two units	092-001953-00001
4.2	UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000
4.3	ON DFW RK FT	Flow monitor connection, retrofit option	092-S08266-04168
5	forceTig TorchBox 550	forceTig media separation box	092-S01178-04057
5.1	ON HOLDER EXT CASE	Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058
6	VSLP TB 95QMM WS 19 POL 1m	Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31101
9	FT 500W 5m	forceTig welding torch with hose package	094-020100-10000
9.2	BF FT500	Fixing flange	094-020874-00001
10.04	INS/DIF FT500	Insulator / Diffusor	094-020620-00000
10.08	CAT FT52 R0.25	Cathode, round	094-020618-00000
-	STS FT500	Torch key	094-021232-00000
-	Toolcraft	Copper paste	094-017723-00001
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ The example and system set-up are suitable for forceTig variant 1 description.

## forceTig, water cooled



### **Tetrix 1002 Synergic CW**

- With Synergic control
- FT1000 forceTig media separation box
- Water cooled
- T drive 4 Rob 3
- Example for easy integration into mechanised systems when using filler wire
- Only START/STOP and I>0 must be connected for minimal control
- Parameter setting via front control, RT 50 remote control or PC300 software
- Cold wire regulation and cold wire ON via FR AW1 remote control

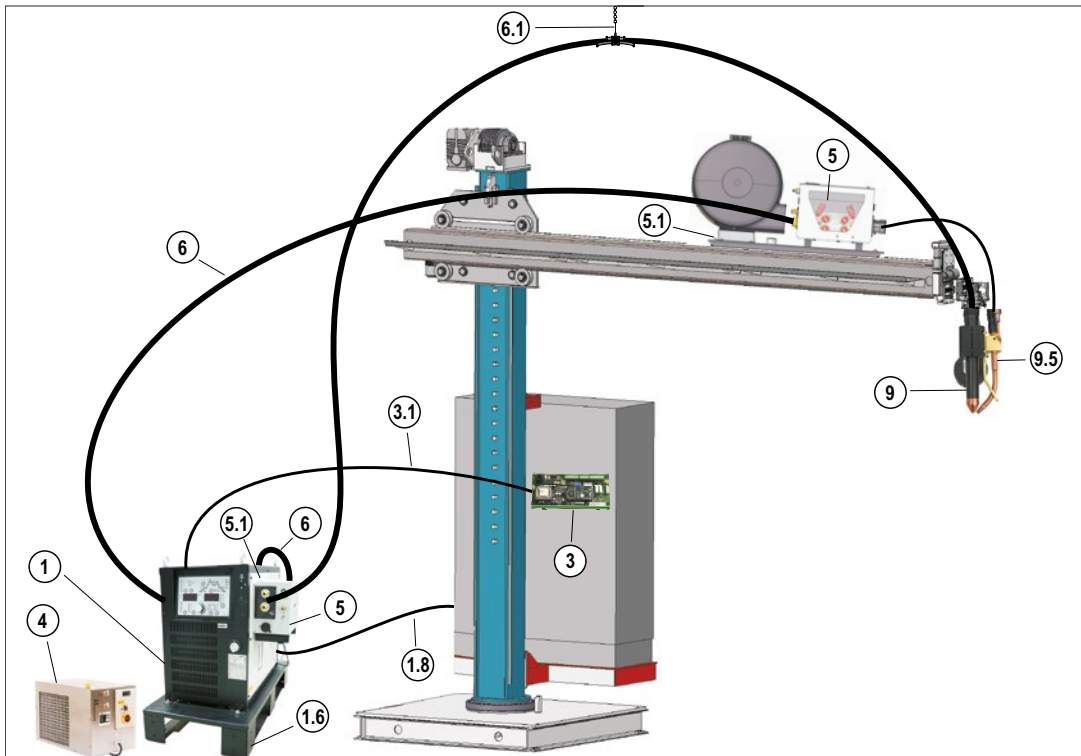
forceTig welding system on column and boom with cold wire manually



Item	Type	Designation	Item no.
1	Tetrix 1002 Synergic CW	DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-000197-00502
1.1	OW CEE 63A	Mains plug, assembled	092-008216-00000
1.2	WK95QMM 5m	Workpiece lead with cable lug, angled	092-003993-00005
1.2			092-003993-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4 XR 5m	G1/4 IG/AG gas hose, extension for XR robot intermediate hose package	092-003220-00001
1.8	RA5 12/19POL 5m	Connection cable e.g for remote control	092-S01470-04056
2	FR AW1	Remote controls	090-S08765-03796
2	RT50 7POL	Remote control with complete range of functions	090-008793-00000
3	RINT X12 SCO ATCASE	SCO robot interface in casing	090-S08293-03795
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
3.2	RA5 28POL 5M	Connection cable, 28-pole, one-sided wire end ferrules	092-007728-00005
4	RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
4.1			094-000530-00005
4.1			094-000530-00005
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
4.1			094-000530-00005
4.2	HOSE BRIDGE	Hose bridge	092-007857-00000
4.2	SET 2 Y-PART	Water connection set, 2x Y-Part	092-S09218-04188
4.2	WS 2x0,5M	Water hoses, two units	092-001953-00001
4.2	UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000
4.3	ON DFW RK FT	Flow monitor connection, retrofit option	092-S08266-04168
5	T Drive 4 Rob 3 LI IG3	Wire feeder for automated applications, opens on left, IG3 speedometer solution	090-008784-00502
5	forceTig TorchBox 1000	forceTig media separation box	092-S01178-04189
5.1	MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
5.1	ON DV CAP ROB LI	Rob wire spool support, left	092-003217-00000
5.1	ON HOLDER EXT CASE	Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058
5.2	ON COOL W ROB3	Retrofit option water cooling ROB 3	092-002384-00000
6	SLP WOS 7/12 POL 16M	Control cable assembly	092-007855-51016
6	2x95QMM WOS 19POL 16M	Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-S07855-04190
7.4	AK300	Wire spool adapter B300	094-001803-00001
9	FT1000W AX 1,5M	forceTig welding torch with hose package	094-020390-10000
9.2	BH FT RSA	Torch holder for forceTig welding torch on RSA collision sensor	094-022315-00000
9.5	AWS FT1000 1,5m QCS	Wire support	090-008829-00015
9.8	IA TIG 2K/1	Ignition aid	092-003836-00000
10.01	GD NW=12mm 37mm	Gas nozzle, ceramic	094-016127-00001
10.04	INS/DIF FT1000	Gas diffuser and insulator	094-015306-00001
10.08	CAT FT02 R0.25	Cathode, round	094-021229-00000
-	TTC FT1000	Torch key	094-021231-00000
-	Toolcraft	Copper paste	094-017723-00001
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ The example and system set-up are suitable for forceTig variant 2 description.

## forceTig, water cooled



### **Tetrix 552 Synergic CW**

- With Synergic control
- FT500 forceTig media separation box
- Water cooled
- T drive 4 Rob 3
- Example for fully automated integration into mechanised systems
- Control via BUSINTX11 interface in program or control signal mode
- Parameter setting via PC300 software in program mode or via SPS in control signal mode

forceTig welding system on column and boom with cold wire automated

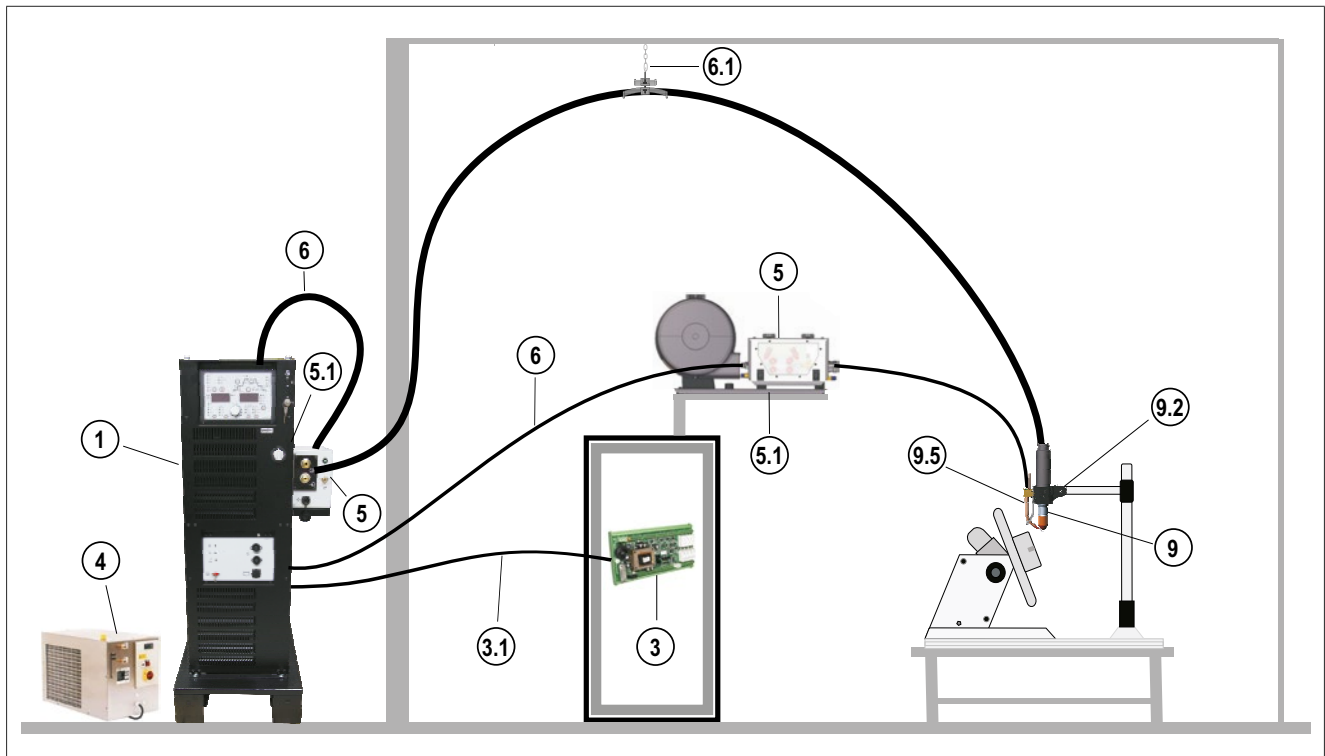
Item	Type	Designation	Item no.
1	Tetrix 552 Synergic CW	DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-S00154-04055
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4 XR 5m	G1/4 IG/AG gas hose, extension for XR robot intermediate hose package	092-003220-00001
1.6	PALETTE ROB XX2	Transport pallet for power source and add-on module	090-008275-00000
1.8	RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 PROFINET	Industrial bus interface, potential-free power supply, 24 V	090-908260-00008
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
4.1			094-000530-00005
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
4.1			094-000530-00005
4.1			094-000530-00005
4.2	HOSE BRIDGE	Hose bridge	092-007857-00000
4.2	WS 2x0,5M	Water hoses, two units	092-001953-00001
4.2	UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000
4.3	ON DFW RK FT	Flow monitor connection, retrofit option	092-S08266-04168
5	T Drive 4 Rob 3 LI IG3	Wire feeder for automated applications, opens on left, IG3 speedometer solution	090-008784-00502
5	forceTig TorchBox 550	forceTig media separation box	092-S01178-04057
5.1	ON DV CAP ROB LI	Rob wire spool support, left	092-003217-00000
5.1	ON HOLDER EXT CASE	Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058
5.2	ON COOL W ROB3	Retrofit option water cooling ROB 3	092-002384-00000
6	SLP WS 7/12 POL 10M	Control cable, standard protective hose	092-007855-51110
6	VSLP TB 95QMM WS 19 POL 1m	Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31101
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
9	FT 500W 8m	forceTig welding torch with hose package	094-020100-10008
9.5	AWS FT500 1,5m	Wire support incl. BF FT500 torch holder	090-008799-00015
10.01	GN FT4505 Ø 5 mm	Gas nozzle, copper	094-020619-00000
10.04	INS/DIF FT500	Insulator / Diffusor	094-020620-00000
10.08	CAT FT52 R0.25	Cathode, round	094-020618-00000
-	STS FT500	Torch key	094-021232-00000
-	Toolcraft	Copper paste	094-017723-00001
-	Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

► Image for conceptual purposes. Not all listed items are shown.

► For more accessories, options and machine variants please refer to the individual chapters

► The example and system set-up are suitable for forceTig variant 3 description.

## forceTig, water cooled



### **Tetrix 552 Synergic HW**

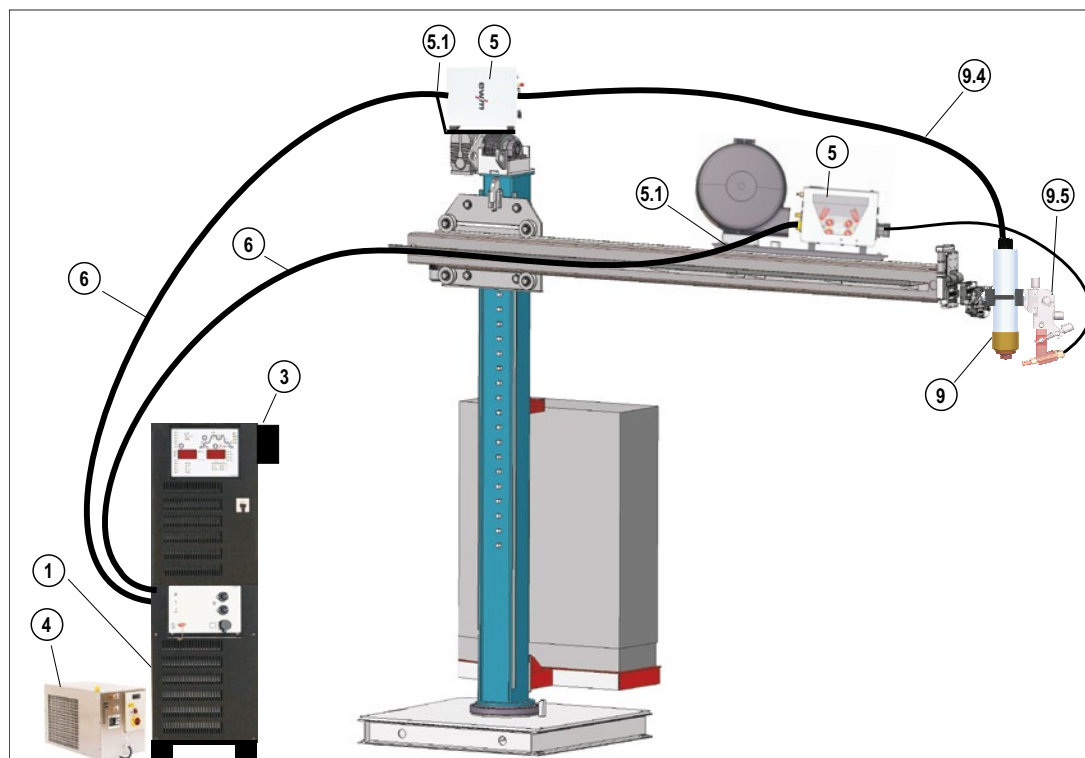
- With Synergic control
- FT550 forceTig media separation box
- Water cooled
- tigSpeed drive 4 Rob
- Example for fully automated integration into mechanised systems
- Control via BUSINTX11 interface in program or control signal mode
- Parameter setting via PC300 software in program mode or via SPS in control signal mode

forceTig welding system, tigSpeed drive,  
mechanised use with hot wire

Item	Type	Designation	Item no.
1	Tetrix 552 Synergic HW	DC TIG welding machine with Synergic control, including connection capability for hot wire	090-000217-00502
1.01	OW CEE 32A	Mains plug, assembled	092-008215-00000
1.2	WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4 XR 5m	G1/4 IG/AG gas hose, extension for XR robot intermediate hose package	092-003220-00001
1.8	RAS 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
3	Tetrix BUSINT X11 PROFINET	Industrial bus interface, potential-free power supply, 24 V	090-908260-00008
3.1	FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
4	RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
4.1			094-000530-00005
4.1			094-000530-00005
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
4.1			094-000530-00005
4.2	HOSE BRIDGE	Hose bridge	092-007857-00000
4.2	WS 2x0,5M	Water hoses, two units	092-001953-00001
4.2	UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000
4.3	ON DFW RK FT	Flow monitor connection, retrofit option	092-S08266-04168
5	forceTig TorchBox 550	forceTig media separation box	092-S01178-04057
5	tigSpeed drive 4 Rob	Wire feed unit for automated applications	090-005395-00502
5.1	ON DV CAP ROB LI	Rob wire spool support, left	092-003217-00000
5.1	ON HOLDER EXT CASE	Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058
6	VSLP 95QMM HW WR 7/12/19POL 5M	Intermediate hose package, robot, water cooled, ribbed hose	092-007855-81205
6	VSLP TB 95QMM WS 19 POL 1m	Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31101
6.1	ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
7.4	AK300	Wire spool adapter B300	094-001803-00001
9	FT1000W AX 5M	forceTig welding torch with hose package	094-020390-10005
9.2	BH FT RSA	Torch holder for forceTig welding torch on RSA collision sensor	094-022315-00000
9.5	AWS FT1000 1,5m DZA	Wire support	090-008831-00015
9.8	IA TIG 2K/1	Ignition aid	092-003836-00000
10.01	GD NW=12mm 37mm	Gas nozzle, ceramic	094-016127-00001
10.04	INS/DIF FT1000	Gas diffuser and insulator	094-015306-00001
10.08	CAT FT02 R0.25	Cathode, round	094-021229-00000
-	TTC FT1000	Torch key	094-021231-00000
-	Toolcraft	Copper paste	094-017723-00001
-	Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ The example and system set-up are suitable for forceTig variant 3 description.

## forceTig, water cooled



### **Tetrix 1002 Synergic CW**

- With Synergic control
- FT1000 forceTig media separation box
- Water cooled
- T drive 4 Rob 3
- Example for fully automated integration into mechanised systems
- Control via BUSINTX11 interface in program or control signal mode
- Parameter setting via PC300 software in program mode or via SPS in control signal mode

forceTig welding system on column and boom with cold wire

Item	Type	Designation	Item no.
1	Tetrix 1002 Synergic CW	DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-000197-00502
1.1	OW CEE 63A	Mains plug, assembled	092-008216-00000
1.2	WK95QMM 5m	Workpiece lead with cable lug, angled	092-003993-00005
1.2			092-003993-00005
1.3	Optimator AR/MIX 200bar 20l G1/4"	Pressure regulator with flow meter	094-011839-00000
1.5	GH 2x1/4 XR 5m	G1/4 IG/AG gas hose, extension for XR robot intermediate hose package	092-003220-00001
3	Tetrix BUSINT X11 PROFINET CU ATCASE	Industrial bus interface, potential-free power supply, 24 V	090-908590-00008
4	RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
4.1			094-000530-00005
4.1	KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
4.1			094-000530-00005
4.1			094-000530-00005
4.2	HOSE BRIDGE	Hose bridge	092-007857-00000
4.2	SET 2 Y-PART	Water connection set, 2x Y-Part	092-S09218-04188
4.2	WS 2x0,5M	Water hoses, two units	092-001953-00001
4.2	UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000
4.3	ON DFW RK FT	Flow monitor connection, retrofit option	092-S08266-04168
5	T Drive 4 Rob 3 LI IG3	Wire feeder for automated applications, opens on left, IG3 speedometer solution	090-008784-00502
5	forceTig TorchBox 1000	forceTig media separation box	092-S01178-04162
5.1	MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
5.1	ON DV CAP ROB LI	Rob wire spool support, left	092-003217-00000
5.1	ON HOLDER EXT CASE	Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058
5.2	ON COOL W ROB3	Retrofit option water cooling ROB 3	092-002384-00000
6	SLP WOS 7/12 POL 10m	Control cable, without protective hose	092-007855-51010
6	VSLP TB 2X95QMM WOS 19 POL 10m	Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-S07855-04371
7.4	AK300	Wire spool adapter B300	094-001803-00001
9	FT1002W	forceTig welding torch	094-026042-00000
9.4	SP W 3 M	Hose package	094-025118-00000
9.5	AWS HW 4-AXIS 3,0M QC-S CRNI	4 axes support, hot wire, insulated setup, for T drive 4 Rob.3	094-S20614-04222
9.8	IA TIG 2K/1	Ignition aid	092-003836-00000
10.01	SG Ø 24 x 34 mm	Shielding gas nozzle	094-025117-00000
10.05	ZSZ D=6,4MM	Collet chuck	094-025105-00000
10.08	WE D=6,4x175MM	Tungsten electrode	094-025109-00000
10.13	GL D=6,4MM	Gas lens	094-025113-00000
11.02	SGDK	Shielding gas nozzle cooling	094-025122-00001
11.03	SGDE D=24MM	Shielding gas nozzle attachment	094-025123-00000
11.04	SET WG GD 4M	Hose set for water-cooled gas nozzles, 4 m	094-025212-00000
-	ELEC-ADJUST	Electrode setting gauge	094-025119-00000
-	SIL 100G	Silicon paste for o-ring	094-013826-00000
-	SWA G1/2	Power-water adapter	094-025135-00000
-	SWA M18x1,5		094-025134-00000
-	PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

- ▶ Image for conceptual purposes. Not all listed items are shown.
- ▶ For more accessories, options and machine variants please refer to the individual chapters
- ▶ The example and system set-up are suitable for forceTig variant 3 description.

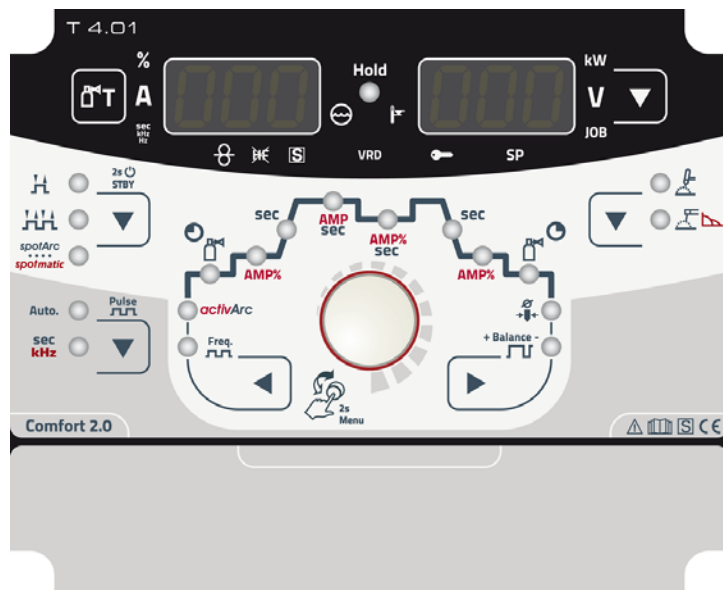




# Overview

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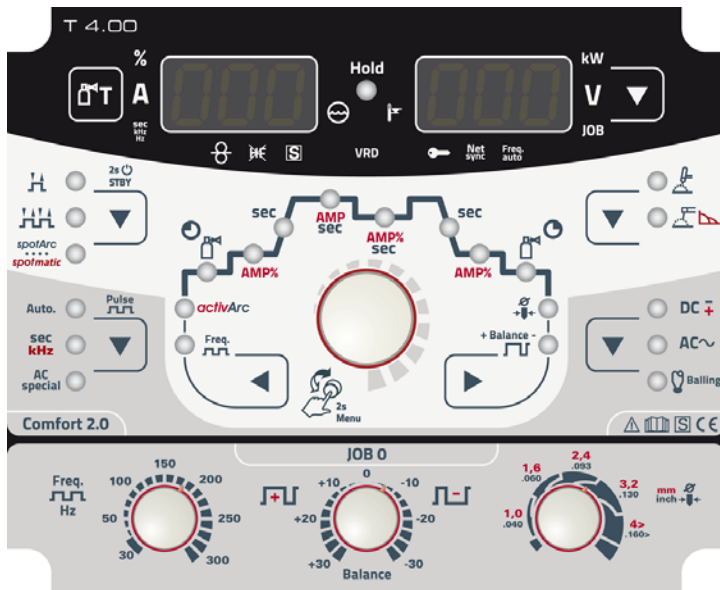
## Comfort 2.0 DC



<b>Welding process</b>	<b>TIG</b>
	activArc
	spotArc
	spotmatic
	MMA
<b>Operating modes</b>	Non-latched
	Special non-latched
<b>Ignition options</b>	HF
	Liftarc
<b>Pulse type</b>	Average value pulse welding
	kHz pulsing
	Pulse frequency
<b>Parameters in display</b>	Welding current
	Welding voltage
	Welding parameters
	Welding power
	JOB number
<b>Number of freely definable JOBS</b>	depending on power source
<b>MMA functions</b>	Hotstart
	Arcforce
	Antistick
	Average value pulse welding
	Frequency pulse welding

- **One-knob operation**
- Welding sequence selection and parameter setting using click wheel or conventional operation with sequence buttons (back/forward)
- Expert menu for advanced welding parameter settings
- **Welding sequence parameter setting**
- Start, welding, secondary and end current
- Up-slope/down-slope time
- Gas pre- and post-flow time
- Electrode diameter

## Comfort 2.0 AC/DC



- **One-knob operation**
- Welding sequence selection and parameter setting using click wheel or conventional operation with sequence buttons (back/forward)
- Expert menu for advanced welding parameter settings
- **Welding sequence parameter setting**
- Start, welding, secondary and end current
- Up-slope/down-slope time
- Gas pre- and post-flow time
- Electrode diameter

<b>Welding process</b>	<b>TIG</b>
	activArc
	spotArc
	spotmatic
	TIG AC
	MMA
<b>Operating modes</b>	Non-latched
	Special non-latched
<b>AC functions</b>	AC special
	AC tungsten balling
	AC sine
	AC trapezoidal
	AC rectangle
	AC balance
	AC frequency: 30 Hz to 300 Hz
	Automatic AC frequency
<b>Ignition options</b>	HF
	Liftarc
<b>Pulse type</b>	Average value pulse welding
	kHz pulsing
	Pulsing
	Seconds pulse
<b>Parameters in display</b>	Welding current
	Welding voltage
	Welding parameters
	Welding power
	JOB number
<b>Number of freely definable JOBS</b>	depending on power source
<b>MMA functions</b>	Hotstart
	Arcforce
	Antistick
	AC electrode welding
	Average value pulse welding
	Frequency pulse welding



# Overview

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## Tetrix DC Tetrix 300 Comfort 2.0 puls Rob

/activArc®



- TIG DC inverter welding machine with Comfort 2.0 front control
- Comfort 2.0 control, simple operation with click wheel
- Set up on front control or notebook with PC300. NET software
- Features characteristics for EWM activArc and EWM spotArc at no extra charge
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- RINT X12 and BUSINT X11 for installation in external electrical enclosure
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled or optionally water-cooled with cool 41 U31 cooling unit
- Can be optionally connected to LAN or WiFi, ewm Xnet compatible
- PC interface for PC300.Net software
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 300 A
<b>Duty cycle 40 °C</b>	300 A / 35 %
	260 A / 60 %
	210 A / 100 %
<b>Open circuit voltage</b>	63 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	15 kVA
<b>Torch connection</b>	Decentral
<b>Protection classification</b>	IP23
<b>Test mark</b>	
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	539 mm x 210 mm x 415 mm
<b>Weight</b>	20 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A

Type	Designation	Item no.
Tetrix 300 Comfort 2.0 puls Rob	DC TIG welding machine with Comfort 2.0 control	090-000263-00502

► You can find information about external interface variants in the Accessories chapter

### Options/accessories

Cooling units	Item no.
<b>cool41 U31</b>	090-008600-00502

Cooling unit with centrifugal pump  
 Cooling unit for water-cooled welding torches  
 Modular design, tool-free assembly  
 Excellent torch cooling and therefore cost savings on consumables thanks to the high-performance centrifugal pump  
 External coolant water filling nozzle with filling level indicator



Trolley	Item no.
Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Solid, stable design	
<b>Trolley 55-5</b>	090-008632-00000
<b>Trolley 55-5 TM</b> Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder, partially assembled	090-008632-00001
<b>Trolley 55-6</b> Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Four rolls For transporting a power source, a cooling unit and one or two shielding gas cylinders Crane-liftable using four fixing points as standard Supplied with roll brakes Solid, stable design	090-008825-00000
<b>Options for welding machines</b>	<b>Item no.</b>
<b>ON Filter TG.0002</b> Dirt filter for air inlet Reliably protects the machine from impurities under tough working conditions.	092-002551-00000
<b>Options for transport carts</b>	<b>Item no.</b>
<b>ON Extender</b> Extension for Trolley 55-6 to house a further module Thus, for example, a power source, a water block and a toolbox can be fitted on the Trolley	092-003507-00000
<b>Options for retrofitting</b>	<b>Item no.</b>
<b>ON PC Plug</b> Protective cap for plug Protects against force exerted from left, right or above	092-003074-00000



## Tetrix DC 352 - 452 - 552 Synergic

/activArc®



- TIG inverter welding machine, DC, with Synergic front control
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Synergic: Maximum ease-of-use – one-knob operation with up to 256 pre-defined JOBS (welding tasks)
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, cranable, stackable
- Gas-cooled, with optional water-cooling unit

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 450 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	450 A / 80 %	550 A / 60 %
	350 A / 100 %	420 A / 100 %	
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz	
<b>Recommended generator power</b>	14.3 kVA	21.5 kVA	30 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>	CE UK EAC S		
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm		
<b>Weight</b>	78.5 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 352 Synergic	DC TIG welding machine with Synergic control	090-000141-00502
Tetrix 452 Synergic	DC TIG welding machine with Synergic control	090-000142-00502
Tetrix 552 Synergic	DC TIG welding machine with Synergic control	090-000154-00502

### Options/accessories

Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000





# Tetrix DC 352 - 452 - 552 Synergic RC

/activArc®



- TIG inverter welding machine, DC, with Synergic RC display
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, crunable, stackable
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 450 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	450 A / 80 %	550 A / 60 %
	350 A / 100 %	420 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %	-25 % - +20 %	-25 % - +20 %
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	21.5 kVA	30 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>	 		
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm		
<b>Weight</b>	78.5 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 352 Synergic RC	DC TIG welding machine with Synergic-RC display	090-000189-00502
Tetrix 452 Synergic RC	DC TIG welding machine with Synergic-RC display	090-000190-00502
Tetrix 552 Synergic RC	DC TIG welding machine with Synergic-RC display	090-000191-00502

## Options/accessories

Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

## Tetrix DC 352 - 452 - 552 RC

/activArc®



- TIG inverter welding machine, DC, without front control
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard interface for automated welding (start/stop, control voltage, current flow)
- Optional interfaces: RINT X12, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and WELDQAS monitoring and documentation system
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, cranable, stackable
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 450 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	450 A / 80 %	550 A / 60 %
	350 A / 100 %	420 A / 100 %	
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz	
<b>Recommended generator power</b>	14.3 kVA	21.5 kVA	30 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>	CE UK EAC S S CE EAC		
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm		
<b>Weight</b>	78.5 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 352 RC	DC TIG welding machine without front control	090-000166-00502
Tetrix 452 RC	DC TIG welding machine without front control	090-000167-00502
Tetrix 552 RC	DC TIG welding machine without front control	090-000168-00502

### Options/accessories




Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

# Tetrix DC CW Tetrix 300 Comfort 2.0 puls CW Rob

/activArc®



- TIG inverter welding machine, DC, with Comfort 2.0 front control, prepared for cold wire
- Comfort 2.0 control, simple operation with click wheel
- Set up on front control or notebook with PC300. NET software
- Cold wire in combination with T drive 4 Rob 2 or T drive 4 Rob 3
- Optional ex works, cold wire and as Push/Push with TIG ROB 400 W KD PP welding torch
- Optional ex works, cold wire with tigSpeed drive 4 Rob
- Features characteristics for EWM activArc and EWM spotArc at no extra charge
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- RINT X12 and BUSINT X11 for installation in external electrical enclosure
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled or optionally water-cooled with cool 41 U31 cooling unit
- Can be optionally connected to LAN or WiFi, ewm Xnet compatible
- PC interface for PC300.Net software
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 300 A
<b>Duty cycle 40 °C</b>	300 A / 35 %
	260 A / 60 %
	210 A / 100 %
<b>Open circuit voltage</b>	63 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	16.3 kVA
<b>Torch connection</b>	Decentral
<b>Protection classification</b>	IP23
<b>Test mark</b>	  
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	539 mm x 210 mm x 755 mm
<b>Weight</b>	30 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A







Type	Designation	Item no.
Tetrix 300 Comfort 2.0 puls CW Rob	TIG DC welding machine with Comfort 2.0 control, incl. connection capability for additional wire	090-S00263-04782

- ▶ Information on wire feeder variants can be found in the corresponding chapter.
- ▶ You can find information about external interface variants in the Accessories chapter

## Options/accessories

Cooling units	Item no.
<b>cool41 U31</b> Cooling unit with centrifugal pump Cooling unit for water-cooled welding torches Modular design, tool-free assembly Excellent torch cooling and therefore cost savings on consumables thanks to the high-performance centrifugal pump External coolant water filling nozzle with filling level indicator	090-008600-00502







<b>Trolley</b>	<b>Item no.</b>
Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Solid, stable design	
<b>Trolley 55-5</b>	090-008632-00000
<b>Trolley 55-5 TM</b>	090-008632-00001
Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder, partially assembled	
<b>Trolley 55-6</b>	090-008825-00000
Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Four rolls For transporting a power source, a cooling unit and one or two shielding gas cylinders Crane-liftable using four fixing points as standard Supplied with roll brakes Solid, stable design	
<b>Options for welding machines</b>	
<b>ON Filter TG.0002</b>	092-002551-00000
Dirt filter for air inlet Reliably protects the machine from impurities under tough working conditions.	
<b>Options for transport carts</b>	
<b>ON Extender</b>	092-003507-00000
Extension for Trolley 55-6 to house a further module Thus, for example, a power source, a water block and a toolbox can be fitted on the Trolley	
<b>Options for retrofitting</b>	
<b>ON PC Plug</b>	092-003074-00000
Protective cap for plug Protects against force exerted from left, right or above	

# Tetrix DC CW 352–552 Synergic cold wire

/activArc®



- TIG inverter welding machine, DC, with Synergic front control, prepared for cold wire
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Synergic: Maximum ease-of-use – one-knob operation with up to 256 pre-defined JOBS (welding tasks)
- Cold wire in combination with T Drive 4 Rob 2 or T Drive 4 Rob 3, as push/push version with TIG ROB 400W KD PP
- Features characteristics for EWM activArc and EWM spotArc at no extra charge
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, crangible, stackable
- Gas cooled, with optional cool82 cooling unit also water cooled
- Can be optionally connected to LAN or WiFi, ewm Xnet compatible
- PC interface for PC300.Net software
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 550 A
	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	550 A / 60 %
	350 A / 100 % 420 A / 100 %	–
<b>Open circuit voltage</b>	79 V	
<b>Mains voltage</b>	400 V	
<b>Tolerances</b>	-25 % - +20 %	
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	30 kVA
<b>Protection classification</b>	IP23	
<b>Test mark</b>	   	
<b>EMC class</b>	A	
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm	
<b>Weight</b>	78.5 kg	
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A	

Type	Designation	Item no.
Tetrix 352 Synergic CW	DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-S00141-04095
Tetrix 552 Synergic CW	DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-S00154-04055

## Options/accessories

Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

## Tetrix DC CW 352 - 452 - 552 RC cold wire

/activArc®



- TIG inverter welding machine, DC, without front control, prepared for cold wire
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Cold wire in combination with T Drive 4 Rob 2 or T Drive 4 Rob 3, as push/push version with TIG ROB 400W KD PP
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, cranable, stackable
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 450 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	450 A / 80 %	550 A / 60 %
	350 A / 100 %	420 A / 100 %	
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz	
<b>Recommended generator power</b>	14.3 kVA	21.5 kVA	30 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>	CE UK EAC S		S CE EAC
<b>EMC class</b>	A		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 352 RC CW	DC TIG welding machine incl. connection capability for additional wire, without front control	090-000166-00505
Tetrix 452 RC CW	DC TIG welding machine incl. connection capability for additional wire, without front control	090-000167-00505
Tetrix 552 RC CW	DC TIG welding machine incl. connection capability for additional wire, without front control	090-000168-00505

### Options/accessories



Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

# Tetrix DC CW 1002 Synergic cold wire

/activArc®



- TIG inverter welding machine, DC, with Synergic front control, prepared for cold wire
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Synergic: Maximum ease-of-use – one-knob operation with up to 256 pre-defined JOBS (welding tasks)
- Cold wire in combination with T Drive 4 Rob 2 or T Drive 4 Rob 3, as push/push version with TIG ROB 400W KD PP
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	10 A - 1000 A
<b>Duty cycle 40 °C</b>	1000 A / 80 %
	750 A / 100 %
<b>Open circuit voltage</b>	80 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	75 kVA
<b>Protection classification</b>	IP23
<b>Test mark</b>	 
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 1250 mm
<b>Weight</b>	177 kg




Type	Designation	Item no.
Tetrix 1002 Synergic CW	DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-000197-00502

## Tetrix DC CW 1002 Synergic RC cold wire

/activArc®



- TIG inverter welding machine, DC, with Synergic-RC display, prepared for cold wire
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Cold wire in combination with T Drive 4 Rob 2 or T Drive 4 Rob 3, as push/push version with TIG ROB 400W KD PP
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	10 A - 1000 A
<b>Duty cycle 40 °C</b>	1000 A / 80 %
	750 A / 100 %
<b>Open circuit voltage</b>	80 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	75 kVA
<b>Protection classification</b>	IP23
<b>Test mark</b>	  
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 1250 mm
<b>Weight</b>	177 kg

Type	Designation	Item no.
Tetrix 1002 Synergic RC CW	DC TIG welding machine with Synergic-RC display, including connection capability for additional wire	090-000198-00502







# Tetrix DC HW 352 - 452 - 552 Synergic hot wire

/activArc®



- DC TIG welding machine with Synergic controller, prepared for hot wire
- Hot wire power 5–180 A 100% DC, can be set using PC 300 software
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Synergic: Maximum ease-of-use – one-knob operation with up to 256 pre-defined JOBS (welding tasks)
- Hot wire in combination with T drive 4 Rob 3 Hotwire, as push/push version with TIG ROB 400W KD PP
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 450 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	450 A / 80 %	550 A / 60 %
	350 A / 100 %	420 A / 100 %	
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz	
<b>Recommended generator power</b>	14.3 kVA	21.5 kVA	30 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>	   		
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 1250 mm		
<b>Weight</b>	177 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 352 Synergic HW	DC TIG welding machine with Synergic control, including connection capability for hot wire	090-000215-00502
Tetrix 452 Synergic HW	DC TIG welding machine with Synergic control, including connection capability for hot wire	090-000216-00502
Tetrix 552 Synergic HW	DC TIG welding machine with Synergic control, including connection capability for hot wire	090-000217-00502

## Tetrix DC HW 352 – 452 – 552 Synergic RC hot wire

/activArc®



- DC TIG welding machine with Synergic-RC display, prepared for hot wire
- Hot wire power 5–180 A 100% DC, can be set using PC 300 software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Hot wire in combination with T drive 4 Rob 3 Hotwire, as push/push version with TIG ROB 400W KD PP
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 450 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–	450 A / 80 %	550 A / 60 %
	350 A / 100 %	420 A / 100 %	
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	16 A / 50 Hz / 60 Hz	32 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	23.4 kVA	30 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 1250 mm		
<b>Weight</b>	177 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 352 Synergic RC HW	DC TIG welding machine with Synergic-RC display, including connection capability for hot wire	090-000195-00502
Tetrix 452 Synergic RC HW	DC TIG welding machine with Synergic-RC display, including connection capability for hot wire	090-000196-00502
Tetrix 552 Synergic RC HW	DC TIG welding machine with connection capability for additional wire, with Synergic-RC display; including transport pallet	090-000214-00502

# Tetrix AC/DC Tetrix 300 AC/DC Comfort 2.0 puls Rob

/activArc®



- TIG AC/DC inverter welding machine with Comfort 2.0 front control
- Comfort 2.0 control, simple operation with click wheel
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Features characteristics for EWM activArc and EWM spotArc at no extra charge
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- RINT X12 and BUSINT X11 for installation in external electrical enclosure
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled or optionally water-cooled with cool 41 U31 cooling unit
- Can be optionally connected to LAN or WiFi, ewm Xnet compatible
- PC interface for PC300.Net software
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 300 A
<b>Duty cycle 40 °C</b>	300 A / 35 %
	260 A / 60 %
	210 A / 100 %
<b>Open circuit voltage</b>	63 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	16 kVA
<b>Torch connection</b>	Decentral
<b>Protection classification</b>	IP23
<b>Test mark</b>	
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	539 mm x 210 mm x 415 mm
<b>Weight</b>	22 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A






Type	Designation	Item no.
Tetrix 300 AC/DC Comfort 2.0 puls Rob	TIG AC/DC welding machine with Comfort 2.0 control	090-S00235-04286

► You can find information about external interface variants in the Accessories chapter

## Options/accessories

Cooling units	Item no.
<b>cool41 U31</b> Cooling unit with centrifugal pump Cooling unit for water-cooled welding torches Modular design, tool-free assembly Excellent torch cooling and therefore cost savings on consumables thanks to the high-performance centrifugal pump External coolant water filling nozzle with filling level indicator	090-008600-00502



<p><b>Trolley</b></p>	<p><b>Item no.</b></p>
<p>Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Solid, stable design</p>	
<p><b>Trolley 55-5</b></p>	<p>090-008632-00000</p>
<p><b>Trolley 55-5 TM</b></p>	<p>090-008632-00001</p>
<p>Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder, partially assembled</p>	
<p><b>Trolley 55-6</b></p>	<p>090-008825-00000</p>
<p>Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder</p>	
<p>Four rolls</p>	
<p>For transporting a power source, a cooling unit and one or two shielding gas cylinders</p>	
<p>Crane-liftable using four fixing points as standard</p>	
<p>Supplied with roll brakes</p>	
<p>Solid, stable design</p>	
<p><b>Options for welding machines</b></p>	<p><b>Item no.</b></p>
<p><b>ON Filter TG.0002</b></p>	<p>092-002551-00000</p>
<p>Dirt filter for air inlet</p>	
<p>Reliably protects the machine from impurities under tough working conditions.</p>	
<p><b>Options for transport carts</b></p>	<p><b>Item no.</b></p>
<p><b>ON Extender</b></p>	<p>092-003507-00000</p>
<p>Extension for Trolley 55-6 to house a further module</p>	
<p>Thus, for example, a power source, a water block and a toolbox can be fitted on the Trolley</p>	
<p><b>Options for retrofitting</b></p>	<p><b>Item no.</b></p>
<p><b>ON PC Plug</b></p>	<p>092-003074-00000</p>
<p>Protective cap for plug</p>	
<p>Protects against force exerted from left, right or above</p>	

# Tetrix AC/DC 352 - 552 Synergic

/activArc®



- TIG inverter welding machine, AC/DC, with Synergic front control
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Synergic: Maximum ease-of-use – one-knob operation with up to 256 pre-defined JOBS (welding tasks)
- Standard interface for automated welding (start/stop, control voltage, current flow)
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, craneable, stackable
- Connection options: Remote control, up/down and Retox TIG welding torch (optional), optional interfaces for automation, documentation and PC connection
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	350 A / 60 %	550 A / 60 %
	300 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	100 V	79 V
<b>Mains voltage</b>	400 V	
<b>Tolerances</b>	-25 % - +20 %	
<b>Mains frequency</b>	20 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	30 kVA
<b>Protection classification</b>	IP23	
<b>Test mark</b>		
<b>EMC class</b>	A	
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm	780 mm x 375 mm x 1250 mm
<b>Weight</b>	87.5 kg	177 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A	

Type	Designation	Item no.
Tetrix 352 AC/DC Synergic	AC/DC TIG welding machine with Synergic control	090-000140-00502
Tetrix 552 AC/DC Synergic	AC/DC TIG welding machine with Synergic control	090-000221-00502

► Modular, craneable, stackable; connection set option for stacking of machines only in conjunction with Tetrix 352

## Options/accessories

Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

## Tetrix AC/DC 352 - 552 Synergic RC

/activArc®



- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard interface for automated welding (start/stop, control voltage, current flow)
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, craneable, stackable
- Connection options: Remote control, up/down and Retox TIG welding torch (optional), optional interfaces for automation, documentation and PC connection
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	350 A / 60 %	550 A / 60 %
	300 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	100 V	79 V
<b>Mains voltage</b>	400 V	
<b>Tolerances</b>	-25 % - +20 %	
<b>Mains frequency</b>	20 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	30 kVA
<b>Protection classification</b>	IP23	
<b>Test mark</b>		
<b>EMC class</b>	A	
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm	780 mm x 375 mm x 1250 mm
<b>Weight</b>	87.5 kg	177 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A	

Type	Designation	Item no.
Tetrix 352 AC/DC Synergic RC	AC/DC TIG welding machine with Synergic RC display	090-000192-00502
Tetrix 552 AC/DC Synergic RC	AC/DC TIG welding machine with Synergic RC display	090-000220-00502

► Modular, craneable, stackable; connection set option for stacking of machines only in conjunction with Tetrix 352

### Options/accessories

Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

# Tetrix AC/DC 352 RC

/activArc®



- TIG inverter welding machine, AC/DC, without front control
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard interface for automated welding (start/stop, control voltage, current flow)
- Setting-up with optional Windows software PC300.NET via PC
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, cranable, stackable
- Connection options: Remote control, up/down and Retox TIG welding torch (optional), optional interfaces for automation, documentation and PC connection
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A
<b>Duty cycle 40 °C</b>	350 A / 60 %
	300 A / 100 %
<b>Open circuit voltage</b>	100 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	20 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.7 kVA
<b>Pump pressure</b>	3.5 bar
<b>Protection classification</b>	IP23
<b>Test mark</b>	
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm
<b>Weight</b>	87.5 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A

Type	Designation	Item no.
Tetrix 352 AC/DC RC	AC/DC TIG welding machine without front control	090-000139-00502

## Options/accessories


Options for retrofitting	Item no.
<b>ON STACK XX2</b> Connection set for stacking welding machines	092-007856-00000

## Tetrix AC/DC CW Tetrix 300 AC/DC Comfort 2.0 puls CW Rob

/activArc®



- TIG AC/DC inverter welding machine with Comfort 2.0 front control, prepared for cold wire
- Comfort 2.0 control, simple operation with click wheel
- Set up on front control or notebook with PC300. NET software
- Cold wire in combination with T drive 4 Rob 2 or T drive 4 Rob 3
- Optional ex works, cold wire and as Push/Push with TIG ROB 400 W KD PP welding torch
- Optional ex works, cold wire with tigSpeed drive 4 Rob
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Features characteristics for EWM activArc and EWM spotArc at no extra charge
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- RINT X12 and BUSINT X11 for installation in external electrical enclosure
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled or optionally water-cooled with cool 41 U31 cooling unit
- Can be optionally connected to LAN or WiFi, ewm Xnet compatible
- PC interface for PC300.Net software
- 5 m mains supply lead
- 100 % tested and free-welded







<b>Setting range for welding current</b>	5 A - 300 A
<b>Duty cycle 40 °C</b>	300 A / 35 %
	260 A / 60 %
	210 A / 100 %
<b>Open circuit voltage</b>	63 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	16 kVA
<b>Torch connection</b>	Decentral
<b>Protection classification</b>	IP23
<b>Test mark</b>	
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	539 mm x 210 mm x 755 mm
<b>Weight</b>	30 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A

Type	Designation	Item no.
Tetrix 300 AC/DC Comfort 2.0 puls CW Rob	AC/DC TIG welding machine with Comfort 2.0 control, incl. connection capability for filler wire	090-S00235-04848

► You can find information about external interface variants in the Accessories chapter



## Options/accessories






<p><b>Cooling units</b></p> <p><b>cool41 U31</b></p> <p>Cooling unit with centrifugal pump Cooling unit for water-cooled welding torches Modular design, tool-free assembly Excellent torch cooling and therefore cost savings on consumables thanks to the high-performance centrifugal pump External coolant water filling nozzle with filling level indicator</p>		<p><b>Item no.</b></p> <p>090-008600-00502</p>
<p><b>Trolley</b></p> <p>Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Solid, stable design</p> <p><b>Trolley 55-5</b></p> <p><b>Trolley 55-5 TM</b></p> <p>Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder, partially assembled</p>		<p><b>Item no.</b></p> <p>090-008632-00000</p> <p>090-008632-00001</p>
<p><b>Trolley 55-6</b></p> <p>Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder Four rolls For transporting a power source, a cooling unit and one or two shielding gas cylinders Crane-liftable using four fixing points as standard Supplied with roll brakes Solid, stable design</p>		<p>090-008825-00000</p>
<p><b>Options for welding machines</b></p> <p><b>ON Filter TG.0002</b></p> <p>Dirt filter for air inlet Reliably protects the machine from impurities under tough working conditions.</p>		<p><b>Item no.</b></p> <p>092-002551-00000</p>
<p><b>Options for transport carts</b></p> <p><b>ON Extender</b></p> <p>Extension for Trolley 55-6 to house a further module Thus, for example, a power source, a water block and a toolbox can be fitted on the Trolley</p>		<p><b>Item no.</b></p> <p>092-003507-00000</p>
<p><b>Options for retrofitting</b></p> <p><b>ON PC Plug</b></p> <p>Protective cap for plug Protects against force exerted from left, right or above</p>		<p><b>Item no.</b></p> <p>092-003074-00000</p>

## Tetrix AC/DC CW 352 - 552 Synergic CW

/activArc®



- TIG inverter welding machine, AC/DC, with Synergic front control, prepared for cold wire
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Synergic: Maximum ease-of-use – one-knob operation with up to 256 pre-defined JOBS (welding tasks)
- Cold wire in combination with T Drive 4 Rob 2 or T Drive 4 Rob 3, as push/push version with TIG ROB 400W KD PP
- Standard interface for automated welding (start/stop, control voltage, current flow)
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, cranable, stackable
- Connection options: Remote control, up/down and Retox TIG welding torch (optional), optional interfaces for automation, documentation and PC connection
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	350 A / 60 %	550 A / 60 %
	300 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	100 V	79 V
<b>Mains voltage</b>	400 V	
<b>Tolerances</b>	-25 % - +20 %	
<b>Mains frequency</b>	20 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	30 kVA
<b>Protection classification</b>	IP23	
<b>Test mark</b>	  	 
<b>EMC class</b>	A	
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm	780 mm x 375 mm x 1250 mm
<b>Weight</b>	87.5 kg	177 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A	

Type	Designation	Item no.
Tetrix 352 AC/DC Synergic CW	AC/DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-000193-00502
Tetrix 552 AC/DC Synergic CW	AC/DC TIG welding machine with Synergic control, incl. connection capability for additional wire	090-000223-00502

# Tetrix AC/DC CW 352 - 552 Synergic RC CW

/activArc®



- TIG inverter welding machine, DC, with Synergic-RC display, prepared for cold wire
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Cold wire in combination with T Drive 4 Rob 2 or T Drive 4 Rob 3, as push/push version with TIG ROB 400W KD PP
- Standard interface for automated welding (start/stop, control voltage, current flow)
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Modular, cranable, stackable
- Connection options: Remote control, up/down and Retox TIG welding torch (optional), optional interfaces for automation, documentation and PC connection
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	350 A / 60 %	550 A / 60 %
	300 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	100 V	79 V
<b>Mains voltage</b>	400 V	
<b>Tolerances</b>	-25 % - +20 %	
<b>Mains frequency</b>	20 A / 50 Hz / 60 Hz	25 A / 50 Hz / 60 Hz
<b>Recommended generator power</b>	14.3 kVA	30 kVA
<b>Protection classification</b>	IP23	
<b>Test mark</b>		
<b>EMC class</b>	A	
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 625 mm	780 mm x 375 mm x 1250 mm
<b>Weight</b>	87.5 kg	177 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A	

Type	Designation	Item no.
Tetrix 352 AC/DC Synergic RC CW	AC/DC TIG welding machine with Synergic RC display, incl. connection capability for additional wire	090-000194-00502
Tetrix 552 AC/DC Synergic RC CW	AC/DC TIG welding machine with Synergic RC display, incl. connection capability for additional wire	090-000222-00502

## tigSpeed 352 Synergic RC HW

/activArc®












- DC TIG welding machine with Synergic RC display, designed for tigSpeed hot wire
- Hot wire current 5–180 A 100% duty cycle, can be set using PC 300 software, optional via BUSINT X11
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Oscillation tigSpeed 1–16 Hz, setting via BUSINTX11
- Set up on front control with PC300 software. NET software
- Hot wire in combination with tigSpeed Drive 4 Rob
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Parameters adjustable via interfaces: 256 JOBS with 15 programs each, in program mode or RINTX12 welding current, wire setting, secondary current, pulse time, pause time; BUSINTX11: main current, wire setting, secondary current, pulse time, pulse pause time, down-slope time, up-slope time, oscillation, frequency via control voltage or control signal operation
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Gas-cooled, with optional water-cooling unit
- 5 m mains supply lead
- 100 % tested and free-welded

<b>Setting range for welding current</b>	5 A - 350 A
<b>Duty cycle 40 °C</b>	350 A / 100 %
<b>Open circuit voltage</b>	80 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	20.3 kVA
<b>Protection classification</b>	IP23
<b>Test mark</b>	
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	780 mm x 375 mm x 1250 mm
<b>Weight</b>	177 kg

Type	Designation	Item no.
tigSpeed 352 Synergic RC HW	DC TIG welding machine with Synergic-RC display, including connection capability for hot wire	090-000232-00502

## Options/accessories

Options for welding machines		Item no.
<b>OW 440/460/480 Volt</b> Equipment for 355/405/505 and 351/401/451/501/551 machines for 3x 440/460/480 V mains connection (excluding compact machines from the 355 series or Tetrax AC/DC machines) –factory fitting, no retrofitting Multi-voltage design for operation with mains voltages of 440 V, 460 V and 480 V Not possible with the compact 355 series machines or Tetrax AC/DC welding machines!		092-002647-00001
<b>ON Key Switch Tetrax</b> Key switch <b>► Not possible for Tetrax 300 Comfort machines!</b>		092-001828-00000
<b>Connection cables</b> Connection cable, 19-pole, one-sided wire end ferrules		<b>Item no.</b>
<b>RA5 19POL 1x 5M</b>		092-001569-00005
<b>RA10 19POL 1x 10M</b>		092-001569-00010
<b>RA15 19POL 1x 15M</b>		092-001569-00015
<b>RA20 19POL 1x 20M</b>		092-001569-00020
<b>RA25 19POL 1x 25M</b>		092-001569-00025
<b>Welding leads</b> Workpiece lead with cable lug		<b>Item no.</b>
<b>WK70/CL 5m</b>		092-002078-00005
<b>WK70/CL 10m</b>		092-002078-00010
<b>WK95/CL 5m</b>		092-001990-00005
<b>WK95/CL 10m</b>		092-001990-00010
Workpiece lead with cable lug, angled <b>► For use with 1,000 A power sources</b>		
<b>WK95QMM 5m</b>		092-003993-00005
<b>WK95QMM 10m</b>		092-003993-00010
<b>General</b> <b>ON AL D13/27</b> Cap for load sockets		092-003282-00000
<b>Options for retrofitting</b> <b>ON FILTER XX2</b> Dirt filter for air inlet for robot power sources		092-002714-00000
Mains plug <b>► Suitable for all machines with a welding current of 350 A and above (except compact Phoenix 355, compact Taurus 355 and Picomig 355)</b>		
<b>32A 5POLE/CEE</b>		094-000207-00000
<b>125A 5POLE/CEE</b>		094-025475-00000
<b>Mains plug</b> Mains plug, assembled Mains plug, factory fitting (no retrofitting)		<b>Item no.</b>
<b>OW CEE 16A/400V</b>		092-008214-00000
<b>OW CEE 32A</b>		092-008215-00000

## Gateways



- Xnet LAN gateway
- **Range of functions:**
- Connecting welding machines without integrated Xnet components to an Xnet system (for all EWM machines with integrated 7-pole interface)
- Data transfer via network cable
- USB interface for data recording and data transfer
- Connection of a barcode scanner possible
- Registration option via Xbutton
- Digital display with click wheel operation
- **The following information is shown on the display:**
- network status, network configuration, nominal/actual welding parameters, JOB information, Xnet monitoring of the welding parameters in real time, WPQR welding data assistant, component information, errors and warnings in the system
- **For using it, an Xnet-machine licence is required**

**Test mark**



**Dimensions (L x B x H)**

420 mm x 235 mm x 115 mm

Type	Designation	Item no.
Xnet LAN Gateway	LAN gateway in external housing	090-008833-00502

► Delivery includes an Xbutton (black). Additional Xbuttons can be found under accessories

### Options/accessories

Xnet hardware	Item no.
<b>SCAN BC 8Pol</b> Scanner	090-008823-00000

For component management in conjunction with Xnet software

Scan QR codes and barcodes

Scan codes from an LCD screen

When connecting to welding machines with integrated Xnet gateway, the optional OW 8-pole scanner is required on the machine side





- Xnet WiFi gateway
- **Range of functions:**
- Connecting welding machines without integrated Xnet components to an Xnet system (for all EWM machines with integrated 7-pole interface)
- Data transfer via WiFi or network cable
- USB interface for data recording and data transfer
- Connection of a barcode scanner possible
- Registration option via Xbutton
- Digital display with click wheel operation
- **The following information is shown on the display:**
- network status, network configuration, nominal/actual welding parameters, JOB information, Xnet monitoring of the welding parameters in real time, WPQR welding data assistant, component information, errors and warnings in the system
- **For using it, an Xnet-machine licence is required**

<b>Test mark</b>	CE UK
<b>Dimensions (L x B x H)</b>	420 mm x 235 mm x 115 mm

Type	Designation	Item no.
Xnet WiFi Gateway	WiFi gateway in external casing	090-008834-00502

► Delivery includes an Xbutton (black). Additional Xbuttons can be found under accessories

## Options/accessories

Xnet hardware	Item no.
<b>SCAN BC 8Pol</b> Scanner For component management in conjunction with Xnet software Scan QR codes and barcodes Scan codes from an LCD screen When connecting to welding machines with integrated Xnet gateway, the optional OW 8-pole scanner is required on the machine side	090-008823-00000



## Options/accessories

Options for retrofitting	Item no.
<p><b>Splitter 2x 7POL</b> Distributor box to add to the available 7-pole interfaces on the welding machine Distributor box to add to the available 7-pole interfaces on the welding machine</p>	090-008302-00000
<p><b>ON SH FS.02</b> Scanner holder for attaching to gateway Scanner holder for attaching to gateway</p>	092-004492-00000





# TIG RT50



- The RT50 7POL remote control allows machines with a 7-pole connection to be equipped with a second remote control
- Robust metal casing with rubber feet, retaining clip and holding magnet, 7-pole connection socket
- Cable not supplied in delivery, please order connection cable separately

<b>Test mark</b>	CE EAC UK
<b>Dimensions (L x B x H)</b>	115 mm x 235 mm x 300 mm
<b>Weight</b>	3.2 kg

Type	Designation	Item no.
RT50 7POL	Remote control with complete range of functions	090-008793-00000

## TIG FR AW1



- Setting of wire feed speed directly at the workstation
- Separate push-buttons for wire return/inching
- Separate switch for cold or hot wire On
- Robust metal casing with rubber feet, retaining clip and holding magnet
- For use with RINTX12 ATCASE interface (090-S08293-03795) only

**Dimensions (L x B x H)**

174 mm x 100 mm x 80 mm

**Weight**

ca.0.8 kg





Type	Designation	Item no.
FR AW1	Remote controls	090-S08765-03796

### Options/accessories

Connection cables	Item no.
Connection cable e.g for remote control	
► Other lengths available on request	
RA5 12/19POL 5m	092-S01470-04056
RA10 12/19POL 10m	092-S01470-04372
RA15 12/19POL 15m	092-S01470-04538
RA20 12/19POL 20m	092-S01470-03797



## Options/accessories

Connection cables		Item no.	
Connection cable, 7-pole			
7-pole connection cable, suitable for installation in drag chains			
► <b>Connection and extension cable for external LAN and WiFi gateway, panel, remote control</b>			
<b>FRV-25 7POL 10m</b>			092-003417-00010
<b>FRV-25 7POL 15m</b>			092-003417-00015
<b>FRV-25 7POL 20m</b>			092-003417-00020
<b>FRV-25 7POL 25m</b>	092-003417-00025		
<b>FRV-25 7POL 30m</b>	092-003417-00030		
Connection cable extension		Item no.	
Digital 7-pole cable			
Extension for 7-pole remote control with permanently installed cable			
Connection cable for remote control and gateway without permanently installed cable			
<b>FRV 7POL 0.5m</b>			092-000201-00004
<b>FRV 7POL 1m</b>			092-000201-00002
<b>FRV 7POL 5m</b>			092-000201-00003
<b>FRV 7POL 10m</b>			092-000201-00000
<b>FRV 7POL 15m</b>			092-000201-00005
<b>FRV 7POL 20m</b>	092-000201-00001		
<b>FRV 7POL 25m</b>	092-000201-00007		



# Overview

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## TIG T drive 4 Rob 2



- Wire feed unit for high cold wire deposition rates up to 10 m/min
- Reproducible wire feed speed thanks to fully digital control with incremental transducer, adjustable in increments of 0.1 m/min
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- Compact machine for simple mounting on or near the robot
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)

<b>Wire feed speed</b>	0.3 m/min - 10 m/min
<b>Wire-feed speed increments</b>	0.1 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	<b>CE EAC</b>
<b>Dimensions (L x B x H)</b>	407 mm x 201 mm x 229 mm
<b>Weight</b>	9.8 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
T drive 4 Rob 2 IG3	Wire feeder for automated applications, IG3 speedometer solution	090-008785-00502

► For replacement rolls and drive rolls for various welding consumables, please refer to the "Wire feeder accessories" chapter.

### Options/accessories

Drive rolls – conversion kits	Item no.
Conversion kit for aluminium	
Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000



# TIG T drive 4 Rob 3



- Light, compact wire feed unit for high-precision cold wire feed
- Reproducible wire feed speed thanks to fully digital control with rotary transducer, adjustable in increments of 0.01 m/min
- LED display of process status
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- Tool-free roller changing, captive screws
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- Compact machine for simple mounting on or behind the 3rd robot axis
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)

<b>Wire feed speed</b>	0.1 m/min - 5 m/min
<b>Wire-feed speed increments</b>	0.01 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	<b>CE EAC</b>
<b>Dimensions (L x B x H)</b>	345 mm x 230 mm x 250 mm
<b>Weight</b>	6.5 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
T Drive 4 Rob 3 LI IG3	Wire feeder for automated applications, opens on left, IG3 speedometer solution	090-008784-00502
T drive 4 Rob 3 RE IG3	Wire feeder for automated applications, opens on right, IG3 speedometer solution	090-008783-00502

► For replacement rolls and drive rolls for various welding consumables, please refer to the "Wire feeder accessories" chapter.

## Options/accessories

Options for retrofitting	Item no.
<b>ON COOL W ROB3</b> Retrofit option water cooling ROB 3	092-002384-00000

Drive rolls – conversion kits	Item no.
Conversion kit for aluminium Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000



## TIG T drive 4 Rob 3 Hotwire



- Light, compact wire feed unit for highly-precise hot wire feed
- Reproducible wire feed speed thanks to fully digital control with rotary transducer, adjustable in increments of 0.1 m/min
- LED display of process status
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- Tool-free roller changing, captive screws
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- Compact machine for simple mounting on or behind the 3rd robot axis
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)

<b>Wire feed speed</b>	0.1 m/min - 5 m/min
<b>Wire-feed speed increments</b>	0.01 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	<b>CE EAC</b>
<b>Dimensions (L x B x H)</b>	345 mm x 230 mm x 250 mm
<b>Weight</b>	6.5 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
T drive 4 Rob 3 RE Hotwire	Wire feeder for automated applications, hot wire, opens on right, with integrated IG3 speedometer solution	090-008702-00502
T drive 4 Rob 3 LI Hotwire	Wire feeder for automated applications, hot wire, opens on left, with integrated IG3 speedometer solution	090-008703-00502

► For replacement rolls and drive rolls for various welding consumables, please refer to the "Wire feeder accessories" chapter.

### Options/accessories

Options for retrofitting	Item no.
<b>ON COOL W ROB3</b> Retrofit option water cooling ROB 3	092-002384-00000
Drive rolls – conversion kits	Item no.
Conversion kit for aluminium Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000





# TIG T drive 4 Rob 3 Hotwire HS



- Compact, lightweight wire feeder for high cold or hot wire deposition rates of up to 24 m/min.
- Reproducible wire feed speed thanks to fully digital control with rotary transducer, adjustable in increments of 0.1 m/min.
- LED display of process status
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- Tool-free roller changing, captive screws
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- Compact machine for simple mounting on or behind the 3rd robot axis
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)

<b>Duty cycle 40 °C</b>	270 A / 45 % 180 A / 100 %
<b>Wire feed speed</b>	0.5 m/min - 24 m/min
<b>Wire-feed speed increments</b>	0.1 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	<b>CE EAC</b>
<b>Dimensions (L x B x H)</b>	345 mm x 230 mm x 250 mm
<b>Weight</b>	6.5 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
T drive 4 Rob 3 RE Hotwire HS	Wire feeder for automated applications, hot wire, opens on right, with integrated IG3 speedometer solution	090-005505-00502
T drive 4 Rob 3 LI Hotwire HS	Wire feeder for automated applications, hot wire, opens on left, with integrated IG3 speedometer solution	090-005506-00502

► For replacement rolls and drive rolls for various welding consumables, please refer to the "Wire feeder accessories" chapter.

## Options/accessories

Options for retrofitting	Item no.
<b>ON COOL W ROB3</b> Retrofit option water cooling ROB 3	092-002384-00000
Drive rolls – conversion kits	Item no.
Conversion kit for aluminium Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000



## TIG tigSpeed drive 4 Rob



- Wire feeder for high cold or hot wire deposition rates up to 10 m/min
- Dynamic wire feed system through superimposed forward/backward wire motion
- Reproducible wire feed speed thanks to fully digital control with incremental transducer, adjustable in increments of 0.1 m/min
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)
- Compact machine for mechanisation

<b>Wire feed speed</b>	0.5 m/min - 10 m/min
<b>Oscillating frequency</b>	1 Hz - 16 Hz
<b>Wire-feed speed increments</b>	0.1 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	<b>CE EAC</b>
<b>Dimensions (L x B x H)</b>	407 mm x 281 mm x 229 mm
<b>Weight</b>	12 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
tigSpeed drive 4 Rob	Wire feed unit for automated applications	090-005395-00502

► See description/tigSpeed advantages from page XXX

### Options/accessories

Drive rolls – conversion kits	Item no.
Conversion kit for aluminium Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000



# TIG tigSpeed continuous drive 45 Rob coldwire






- TIG cold wire stand-alone wire feeder
- Setup via front control
- Analogue nominal value specification (0–10 V) for wire feed speed
- High process reliability, reproducible welding results and straightforward handling
- Perfect weld appearance, no weld spatters
- Up to 60% faster welding speeds compared to manual TIG welding
- Optimised for automated and mechanised applications, easy integration
- 4-roll drive. Equipped for 1.0 mm + 1.2 mm steel wires

<b>Wire feed speed</b>	0.3 m/min - 15 m/min
<b>Wire-feed speed increments</b>	0.1 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Spool diameter</b>	D200/D300
<b>Test mark</b>	CE EAC
<b>Dimensions (L x B x H)</b>	625 mm x 377 mm x 531 mm
<b>Weight</b>	24.5 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
tigSpeed continuous drive 45 Rob coldwire	TIG wire feeder with analogue nominal value specification	090-S00237-04388

## Options/accessories

Options for retrofitting	Item no.
<b>ON WAK tigSpeed</b> With wheel assembly kit with strain relief	092-007927-00000
	
<b>ON AS SR tigSpeed</b> Strain relief Strain relief for tigSpeed Recommended for installation of tigSpeed on external machine	092-003685-00000
	
Accessories	Item no.
<b>UTG614 12PN</b> Cable connector	094-008107-10000
<b>UTG145T</b> Strain relief	094-012882-10000
<b>Pin (Male)</b> Contact insert	094-003065-10000
Cold wire feed accessories	Item no.
<b>AWS CW 3,0 m DZA CrNi</b> 4 axes support, cold wire, insulated setup, for Tetrax drive 4L/tigSpeed drive 45 ► More variants can be found in the filler wire AW Support cold wire chapter!	094-020614-02130
	

## TIG tigSpeed continuous drive 45 Rob hotwire






- TIG cold wire and hot wire stand-alone wire feeder
- Setup via front control
- Analogue nominal value specification (0–10 V) for wire feed speed and hot wire current
- High process reliability, reproducible welding results and straightforward handling
- Perfect weld appearance, no weld spatters
- Up to 60% increase in deposition rate
- Dilution reduced by up to 60%
- Adjustable heat supply to the wire for improved deposition rate and an even lower risk of seam errors
- Optimised for automated and mechanised applications, easy integration
- 4-roll drive. Equipped for 1.0 mm + 1.2 mm steel wires

<b>Duty cycle 40 °C</b>	180 A / 35 %
	150 A / 60 %
	130 A / 100 %
<b>Hot wire current</b>	40 A - 180 A
<b>Wire feed speed</b>	0.3 m/min - 15 m/min
<b>Wire-feed speed increments</b>	0.1 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Spool diameter</b>	D200/D300
<b>Test mark</b>	
<b>Dimensions (L x B x H)</b>	625 mm x 377 mm x 531 mm
<b>Weight</b>	30.5 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
tigSpeed continuous drive 45 Rob hotwire	TIG wire feeder with wire preheating and analogue nominal value specification	090-S00236-0XXXX

### Options/accessories

Options for retrofitting	Item no.
<b>ON WAK tigSpeed</b> With wheel assembly kit with strain relief	092-007927-00000
	
<b>ON AS SR tigSpeed</b> Strain relief Strain relief for tigSpeed Recommended for installation of tigSpeed on external machine	092-003685-00000
	
Accessories	Item no.
<b>UTG614 12PN</b> Cable connector	094-008107-10000
<b>UTG14ST</b> Strain relief	094-012882-10000
<b>Pin (Male)</b> Contact insert	094-003065-10000
Accessories hot wire feed	Item no.
<b>AWS HW 3,0 m DZA CrNi</b> 4 axes support, hot wire, insulated setup, for Tetrax drive 4L/tigSpeed drive 45 ► More variants can be found in the filler wire AW Support hot wire chapter! ► Order the right wire feed for the wire feeder used!	094-020614-12130
	

# Media separation box Tig Torch Box



- Lightweight, compact TIG media separation box
- For connection to TIG-MT 400W and TIG-MT 500 W
- Can be combined with T Drive 4 Rob 3 L/R (left/right)
- Integrated gas valve
- Separate button for gas test
- Gas pressure monitoring
- Mounting plate with strain relief for fastening to the robot (optional)
- Compact unit for simple mounting on the robot

<b>Duty cycle 40 °C</b>	550 A / 60 % 420 A / 100 %
<b>Test mark</b>	CE EAC
<b>Dimensions (L x B x H)</b>	325 mm x 142 mm x 222 mm
<b>Weight</b>	3 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
Tig Torch Box	TIG media separation box	090-008299-00502

## Media separation box forceTig media separation box 550



- forceTig media separation box, lightweight version up to 550 A
- For using forceTig welding torches with automated Tetrax XX2 power sources
- Can be combined with T Drive 4 Rob 3 L/R (left/right)
- Integrated gas valve
- Separate push-button for gas test
- Gas pressure sensor
- Compact machine for easy installation
- Maximum overall length of welding torch and connecting hose package: 18 m
- Mounting console with strain relief for mounting on device (optional)
- Assembly PCB panel with strain relief for mounting on the power source (optional)

<b>Duty cycle 40 °C</b>	550 A / 60 % 420 A / 100 %
<b>Dimensions (L x B x H)</b>	325 mm x 142 mm x 222 mm
<b>Weight</b>	3 kg
<b>Standards</b>	IEC 60974-1 and -10 CL.A

Type	Designation	Item no.
forceTig TorchBox 550	forceTig media separation box	092-S01178-04342
▶ For forceTig FT1000W 1.5M and FT1000W AX 1.5M welding torches		
Type	Designation	Item no.
forceTig TorchBox 550	forceTig media separation box	092-S01178-04057
▶ For forceTig FT1000W, FT1000W AX 5M, 8M 12M and FT1002W welding torches		
▶ For forceTig FT500W 5M, 8M welding torches		

## Options/accessories

Connection hose package	Item no.
<b>Other lengths available on request</b>	
<b>VSLP TB 95QMM WOS 19 POL 1m</b> Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-007855-31001
<b>VSLP TB 95QMM WOS 19 POL 10m</b> Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-007855-31010
<b>VSLP TB 95QMM WOS 19 POL 16m</b> Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-007855-31016
<b>VSLP TB 95QMM WS 19 POL 1m</b> Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31101
<b>VSLP TB 95QMM WS 19 POL 5m</b> Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31105
<b>VSLP TB 95QMM WS 19 POL 8m</b> Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31108
<b>VSLP TB 95QMM WS 19 POL 9m</b> Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31109
<b>VSLP TB 95QMM WS 19 POL 10m</b> Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31110
<b>VSLP TB 95QMM WS 19 POL 12m</b> Robot intermediate hose package, water cooled, standard protective hose, 19-pole	092-007855-31112
<b>VSLP TB 95QMM WR 19 POL 1M</b> Robot intermediate hose package, water cooled, ribbed hose, 19-pole	092-007855-31201
<b>VSLP TB 95QMM WR 19 POL 10M</b> Robot intermediate hose package, water cooled, ribbed hose, 19-pole	092-007855-31210
Options for retrofitting	Item no.
<b>ON HOLDER EXT CASE</b> Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058



**Assembly consoles****Item no.****MONTAGE CONSOLE ROB 3 UNIVERSAL**

092-002440-00000

Mounting console for wire feeder and media separation box  
Console for simple mounting on robot, with strain relief for intermediate hose package  
Fastening holes (drill pattern) for different robot types already available  
Console for mounting drive 4 Rob 3, left or right versions  
Fits on the 3rd robot axis  
Insulated assembly



## Media separation box forceTig media separation box 1000



- forceTig media separation box, lightweight version up to 1,000 A
- For using forceTig welding torches with automated Tetric XX2 power sources
- Can be combined with T Drive 4 Rob 3 L/R (left/right)
- Integrated gas valve
- Separate push-button for gas test
- Gas pressure sensor
- Compact machine for easy installation
- Maximum overall length of welding torch and connecting hose package: 18 m
- Secure power connection for intermediate hose package thanks to screw-in connection
- Mounting console with strain relief for mounting on device (optional)
- Assembly PCB panel with strain relief for mounting on the power source (optional)

<b>Duty cycle 40 °C</b>	1000 A / 60 % 750 A / 100 %
<b>Dimensions (L x B x H)</b>	325 mm x 142 mm x 222 mm
<b>Weight</b>	3 kg
<b>Standards</b>	IEC 60974-1 and -10 CL.A

Type	Designation	Item no.
forceTig TorchBox 1000	forceTig media separation box	092-S01178-04189

► For forceTig FT1000W 1.5M and FT1000W AX 1.5M welding torches

Type	Designation	Item no.
forceTig TorchBox 1000	forceTig media separation box	092-S01178-04162

► For forceTig FT1000W, FT1000W AX 5M, 8M 12M and FT1002W welding torches

### Options/accessories

Connection hose package	Item no.
<b>Other lengths available on request</b>	
<b>VSLP TB 2X95QMM WOS 19 POL 5m</b> Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-S07855-04471
<b>VSLP TB 2X95QMM WOS 19 POL 10m</b> Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-S07855-04371
<b>2x95QMM WOS 19POL 16M</b> Robot intermediate hose package, water cooled, without protective hose, 19-pole	092-S07855-04190
<b>VSLP TB 2X95QMM WR 19 POL 1,3m</b> Robot intermediate hose package, water cooled, ribbed hose, 19-pole	092-S07855-04163
<b>VSLP TB 2X95QMM WR 19 POL 10m</b> Robot intermediate hose package, water cooled, ribbed hose, 19-pole	092-S07855-04387
<b>VSLP TB 2X95QMM WR 19 POL 15m</b> Robot intermediate hose package, water cooled, ribbed hose, 19-pole	092-S07855-04241

Options for retrofitting	Item no.
<b>ON HOLDER EXT CASE</b> Assembly PCB panel for external casing on XX2 power sources	092-S01758-04058



Assembly consoles	Item no.
<b>MONTAGE CONSOLE ROB 3 UNIVERSAL</b> Mounting console for wire feeder and media separation box Console for simple mounting on robot, with strain relief for intermediate hose package Fastening holes (drill pattern) for different robot types already available Console for mounting drive 4 Rob 3, left or right versions Fits on the 3rd robot axis Insulated assembly	092-002440-00000

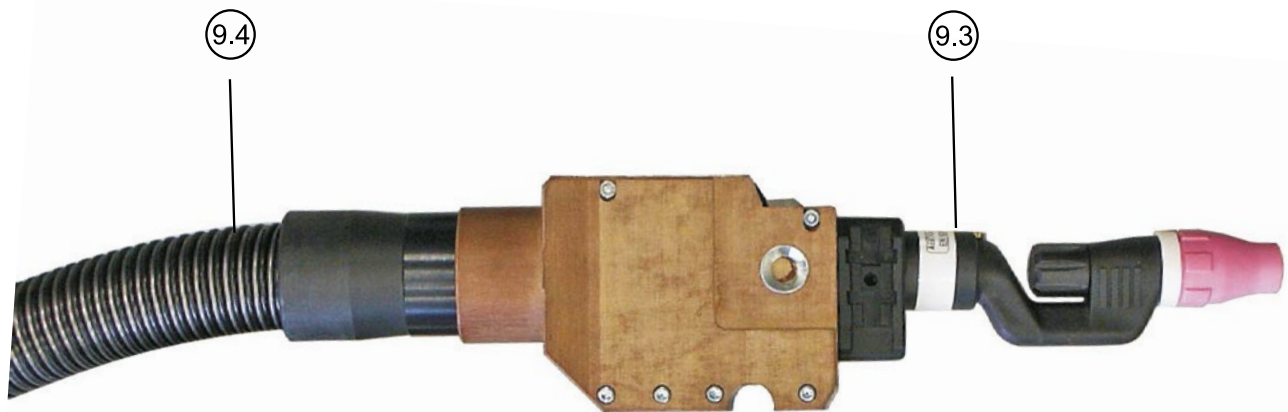




# Overview

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## Robot welding torches TIG ROB 400W



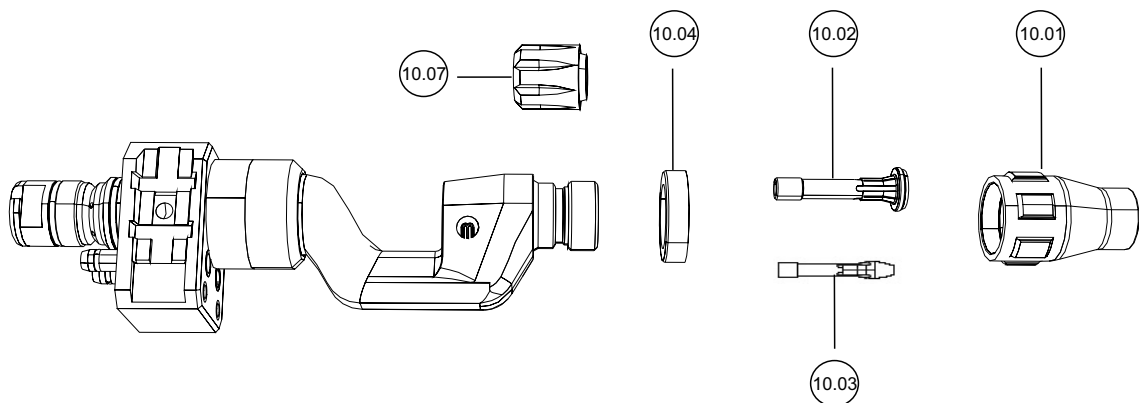
**Basic features:**

- 4 m hose package
- Straight torch neck
- Gas nozzle  $\varnothing = 10 \text{ mm}$  L = 37 mm
- Gas diffuser  $\varnothing$  electrode = 2.4 mm
- TIG robot welding torch, water cooled
- Fast, safe, trouble-free
- Pre-set tungsten electrode
- Reproducible torch position

<b>Duty cycle DC-</b>	400 A / 100 %
<b>Duty cycle AC</b>	280 A / 100 %
<b>Electrode <math>\varnothing</math></b>	1.6 mm - 4.8 mm

Item	Type	Designation	Length m	Item no.
9	TIG ROB 400W 4m	TIG welding torch, straight, water cooled, complete	4.0	094-017197-00000
9.2	CLAMMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W		094-010122-00000
9.3	TIG ROB 400W	TIG-MT torch body, straight		094-010109-00000
9.3	TIG ROB 400W 45	Torch body TIG-MT 45°	-	094-010116-00000
9.3	TIG ROB 400W 70	Torch body TIG-MT 70°		094-010117-00000
9.3	TIG ROB 400W 90	TIG-MT torch body, 90°		094-010119-00000
9.4	SPA TIG WH 4M		4.0	094-016058-00000
9.4	SPA TIG WH 6M	TIG ROB 400 W hose package	6.0	094-016058-00006
9.4	SPA TIG WH 8M		8.0	094-016058-00008

## Consumables/Accessories

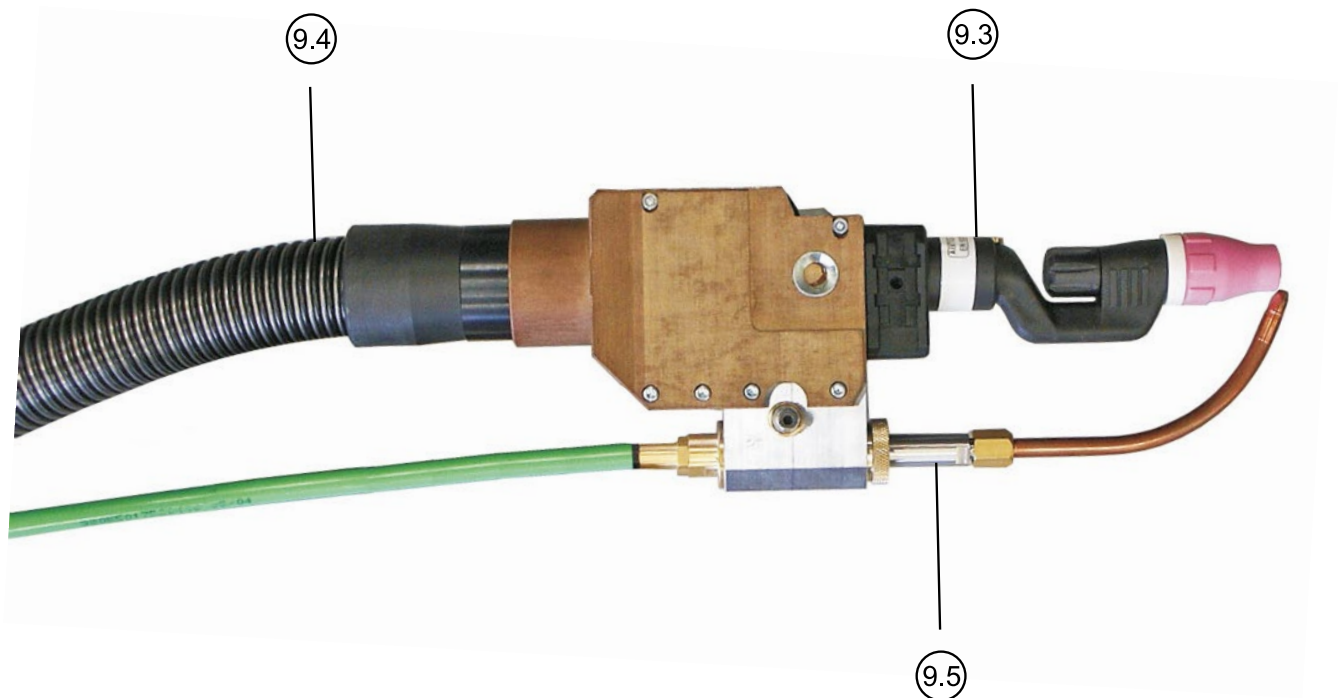


Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle	-	-	7.5	37	Ceramic	094-009646-00000
10.01	Gas nozzle	-	-	7.5	52	Ceramic	094-009650-00000
10.01	Gas nozzle	-	-	10	37	Ceramic	094-009647-00000
10.01	Gas nozzle	-	-	10	52	Ceramic	094-009651-00000
10.01	Gas nozzle	-	-	13	37	Ceramic	094-009648-00000
10.01	Gas nozzle, reinforced	-	-	13	37	Ceramic	094-011997-00000
10.01	Gas nozzle	-	-	13	52	Ceramic	094-009653-00000
10.01	Gas nozzle	-	-	15	37	Ceramic	094-009649-00000
10.01	Gas nozzle, reinforced	-	-	15	37	Ceramic	094-011998-00000
10.01	Gas nozzle	-	-	15	52	Ceramic	094-009654-00000
10.02	Gas diffuser	-	1.6	-	48	Brass	094-009640-00000
10.02	Gas diffuser	-	2	-	48	Brass	094-009641-00000
10.02	Gas diffuser	-	2.4	-	48	Brass	094-009642-00000
10.02	Gas diffuser	-	3.2	-	48	Brass	094-009643-00000
10.02	Gas diffuser	-	4	-	48	Brass	094-009644-00000
10.02	Gas diffuser	-	4.8	-	48	Brass	094-009645-00000
10.03	Electrode holder	-	1.6	-	56	Brass	094-009634-00000
10.03	Electrode holder	-	2	-	56	Brass	094-009635-00000
10.03	Electrode holder	-	2.4	-	56	Brass	094-009636-00000
10.03	Electrode holder	-	3.2	-	56	Brass	094-009637-00000
10.03	Electrode holder	-	4	-	56	Brass	094-009638-00000
10.03	Electrode holder	-	4.8	-	56	Brass	094-009639-00000
10.04	Insulator	Standard	-	-	-	Teflon	094-011759-00000
10.07	Torch cap	-	-	-	-	-	094-010112-00000

### Options/accessories

Torch accessories	Item no.
ZH TIG400 Ignition aid	094-010360-00000
RTN TIG 400W 0°/70° Adjusting device	094-017717-00000
RTN TIG 400W 45°/90° Adjusting device	094-017718-00000

## Robot welding torches TIG ROB 400W CW



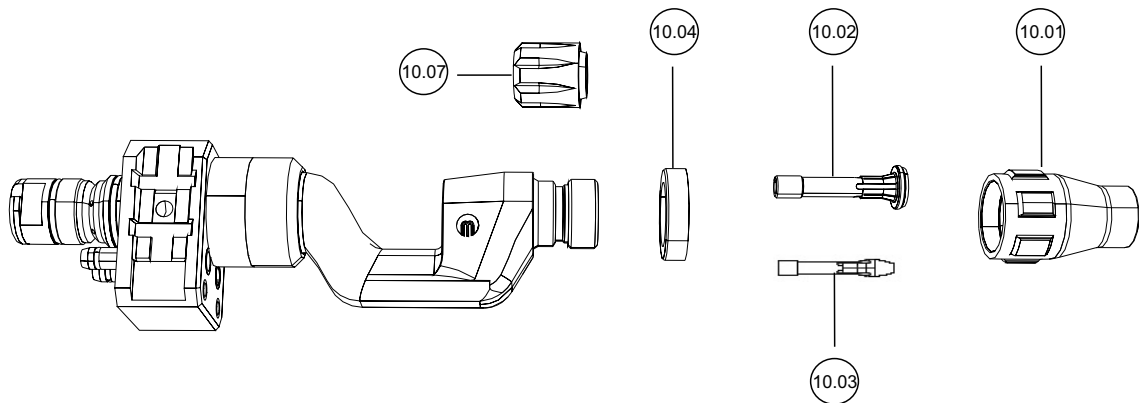
### TIG robot welding torch, water cooled, with cold wire feed

- Fast, safe, trouble-free
- With cold wire feed
- Pre-set tungsten electrode
- Reproducible torch position
- **Basic features:**
- 4 m hose package
- Straight torch neck
- Cold wire nozzle  $\varnothing = 1$  mm
- Gas nozzle  $\varnothing = 10$  mm L = 37 mm
- Gas diffuser  $\varnothing$  electrode = 2.4 mm

<b>Duty cycle DC-</b>	400 A / 100 %
<b>Duty cycle AC</b>	280 A / 100 %
<b>Electrode <math>\varnothing</math></b>	1.6 mm - 4.8 mm

Item	Type	Designation	Length m	Item no.
9	TIG ROB 400W CW ZF1.0 4m	TIG welding torch, cold wire, straight, water-cooled, complete	4.0	094-017204-00000
9	TIG ROB 400W CW ZF1.0 1,3m		1.3	094-017204-00013
9.2	CLAMMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W		094-010122-00000
9.3	TIG ROB 400W	TIG-MT torch body, straight		094-010109-00000
9.3	TIG ROB 400W 45	Torch body TIG-MT 45°	-	094-010116-00000
9.3	TIG ROB 400W 70	Torch body TIG-MT 70°		094-010117-00000
9.3	TIG ROB 400W 90	TIG-MT torch body, 90°		094-010119-00000
9.4	SPA TIG WH 4M	TIG ROB 400 W hose package	4.0	094-016058-00000
9.4	SPA TIG WH 6M		6.0	094-016058-00006
9.4	SPA TIG WH 8M		8.0	094-016058-00008
9.5	KD SUPPORT	Cold wire feed	-	094-016068-00000

## Consumables/Accessories

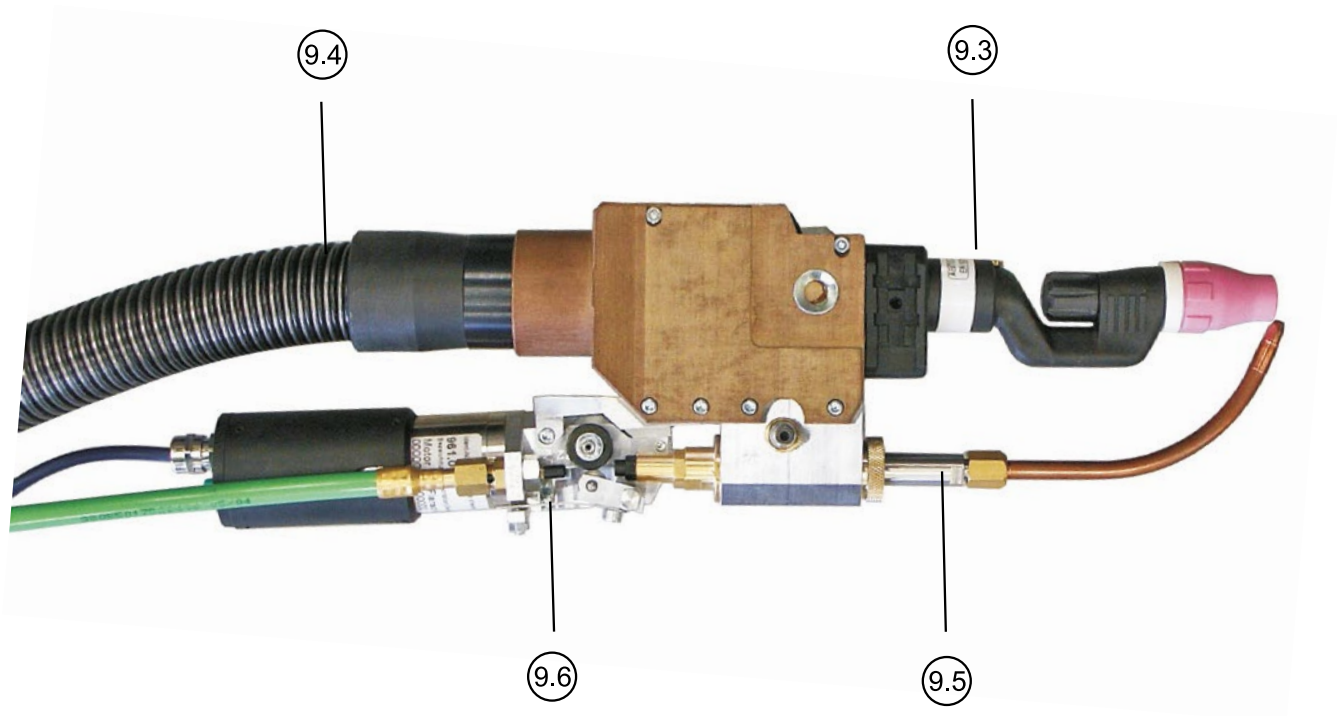


Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Wire Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle	-	-	7.5	-	37	Ceramic	094-009646-00000
10.01	Gas nozzle	-	-	7.5	-	52	Ceramic	094-009650-00000
10.01	Gas nozzle	-	-	10	-	37	Ceramic	094-009647-00000
10.01	Gas nozzle	-	-	10	-	52	Ceramic	094-009651-00000
10.01	Gas nozzle	-	-	13	-	37	Ceramic	094-009648-00000
10.01	Gas nozzle, reinforced	-	-	13	-	37	Ceramic	094-011997-00000
10.01	Gas nozzle	-	-	13	-	52	Ceramic	094-009653-00000
10.01	Gas nozzle	-	-	15	-	37	Ceramic	094-009649-00000
10.01	Gas nozzle, reinforced	-	-	15	-	37	Ceramic	094-011998-00000
10.01	Gas nozzle	-	-	15	-	52	Ceramic	094-009654-00000
10.02	Gas diffuser	-	1.6	-	-	48	Brass	094-009640-00000
10.02	Gas diffuser	-	2	-	-	48	Brass	094-009641-00000
10.02	Gas diffuser	-	2.4	-	-	48	Brass	094-009642-00000
10.02	Gas diffuser	-	3.2	-	-	48	Brass	094-009643-00000
10.02	Gas diffuser	-	4	-	-	48	Brass	094-009644-00000
10.02	Gas diffuser	-	4.8	-	-	48	Brass	094-009645-00000
10.03	Electrode holder	-	1.6	-	-	56	Brass	094-009634-00000
10.03	Electrode holder	-	2	-	-	56	Brass	094-009635-00000
10.03	Electrode holder	-	2.4	-	-	56	Brass	094-009636-00000
10.03	Electrode holder	-	3.2	-	-	56	Brass	094-009637-00000
10.03	Electrode holder	-	4	-	-	56	Brass	094-009638-00000
10.03	Electrode holder	-	4.8	-	-	56	Brass	094-009639-00000
10.04	Insulator	Standard	-	-	-	-	Teflon	094-011759-00000
10.07	Torch cap	-	-	-	-	-	-	094-010112-00000
20.01	Wire feed nozzle	-	-	-	0.6	-	-	094-010126-00000
20.01	Wire feed nozzle	-	-	-	0.8	-	-	094-010127-00000
20.01	Wire feed nozzle	-	-	-	1	-	-	094-010128-00000
20.01	Wire feed nozzle	-	-	-	1.2	-	-	094-010129-00000
20.01	Wire feed nozzle	-	-	-	1.6	-	-	094-010130-00000
-	Wire feed tube 0°	-	-	-	-	-	-	094-010123-00000
-	Wire feed tube, 45°	-	-	-	-	-	-	094-010124-00000
-	Wire feed tube, 70°/90°	-	-	-	-	-	-	094-010125-00000

### Options/accessories

Accessories hot wire feed	Item no.
SP AWS TIG WH 1,0m Hot wire feed, complete	090-008794-00000
SP AWS TIG WH 1,2m Hot wire feed, complete	090-008794-00001
Torch accessories	Item no.
ZH TIG400 Ignition aid	094-010360-00000
RTN TIG 400W 0°/70° Adjusting device	094-017717-00000
RTN TIG 400W 45°/90° Adjusting device	094-017718-00000

## Robot welding torches TIG ROB 400W CW PP



### TIG robot welding torch, water cooled, push/push

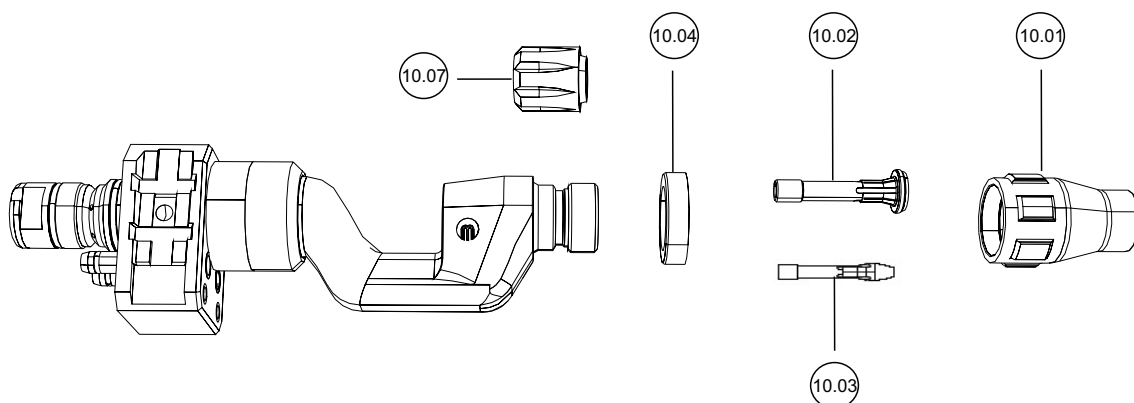
- Fast, safe, trouble-free
- With cold wire feed
- Pre-set tungsten electrode
- Reproducible torch position
- **Basic features:**
  - 4 m hose package
  - Straight torch neck
  - Gas nozzle dia. = 10 mm L = 37 mm
  - Gas lens dia. electrode = 2.4 mm
  - Cold wire nozzle dia. = 1.0 mm
  - Universal drive roll dia. = 1.0 mm

<b>Duty cycle DC-</b>	400 A / 100 %
<b>Duty cycle AC</b>	280 A / 100 %
<b>Electrode Ø</b>	1.6 mm - 4.8 mm

Item	Type	Designation	Length m	Item no.
9	TIG ROB 400W CW PP IG3 4M	TIG welding torch, cold wire, water-cooled, push/push, complete	4.0	094-019639-00000
9.2	CLAMMPING HOLDER TIG WH	Clamping holder TIG ROB 400 W		094-010122-00000
9.3	TIG ROB 400W	TIG-MT torch body, straight		094-010109-00000
9.3	TIG ROB 400W 45	Torch body TIG-MT 45°	-	094-010116-00000
9.3	TIG ROB 400W 70	Torch body TIG-MT 70°		094-010117-00000
9.3	TIG ROB 400W 90	TIG-MT torch body, 90°		094-010119-00000
9.4	SPA TIG WH 4M		4.0	094-016058-00000
9.4	SPA TIG WH 6M	TIG ROB 400 W hose package	6.0	094-016058-00006
9.4	SPA TIG WH 8M		8.0	094-016058-00008
9.5	KD SUPPORT	Cold wire feed		094-016068-00000
9.6	PUSHPUSH DRIVE TIG WH IG3	Drive unit TIG ROB 400 W	-	094-019638-00000
-	Y-PART SLP	Y-piece, control cable assembly	-	094-016167-00000

► Only in combination with T Drive Rob 3

## Consumables/Accessories



► Only in combination with T Drive Rob 3

Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Wire Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle	-	-	7.5	-	37	Ceramic	094-009646-00000
10.01	Gas nozzle	-	-	7.5	-	52	Ceramic	094-009650-00000
10.01	Gas nozzle	-	-	10	-	37	Ceramic	094-009647-00000
10.01	Gas nozzle	-	-	10	-	52	Ceramic	094-009651-00000
10.01	Gas nozzle	-	-	13	-	37	Ceramic	094-009648-00000
10.01	Gas nozzle, reinforced	-	-	13	-	37	Ceramic	094-011997-00000
10.01	Gas nozzle	-	-	13	-	52	Ceramic	094-009653-00000
10.01	Gas nozzle	-	-	15	-	37	Ceramic	094-009649-00000
10.01	Gas nozzle	-	-	15	-	52	Ceramic	094-009654-00000
10.02	Gas diffuser	-	1.6	-	-	48	Brass	094-009640-00000
10.02	Gas diffuser	-	2	-	-	48	Brass	094-009641-00000
10.02	Gas diffuser	-	2.4	-	-	48	Brass	094-009642-00000
10.02	Gas diffuser	-	3.2	-	-	48	Brass	094-009643-00000
10.02	Gas diffuser	-	4	-	-	48	Brass	094-009644-00000
10.02	Gas diffuser	-	4.8	-	-	48	Brass	094-009645-00000
10.03	Electrode holder	-	1.6	-	-	56	Brass	094-009634-00000
10.03	Electrode holder	-	2	-	-	56	Brass	094-009635-00000
10.03	Electrode holder	-	2.4	-	-	56	Brass	094-009636-00000
10.03	Electrode holder	-	3.2	-	-	56	Brass	094-009637-00000
10.03	Electrode holder	-	4	-	-	56	Brass	094-009638-00000
10.03	Electrode holder	-	4.8	-	-	56	Brass	094-009639-00000
10.04	Insulator	Standard	-	-	-	-	Teflon	094-011759-00000
10.07	Torch cap	-	-	-	-	-	-	094-010112-00000
20.01	Wire feed nozzle	-	-	-	0.6	-	-	094-010126-00000
20.01	Wire feed nozzle	-	-	-	0.8	-	-	094-010127-00000
20.01	Wire feed nozzle	-	-	-	1	-	-	094-010128-00000
20.01	Wire feed nozzle	-	-	-	1.2	-	-	094-010129-00000
20.01	Wire feed nozzle	-	-	-	1.6	-	-	094-010130-00000
-	Wire feed tube 0°	-	-	-	-	-	-	094-010123-00000
-	Wire feed tube, 45°	-	-	-	-	-	-	094-010124-00000
-	Wire feed tube, 70°/90°	-	-	-	-	-	-	094-010125-00000

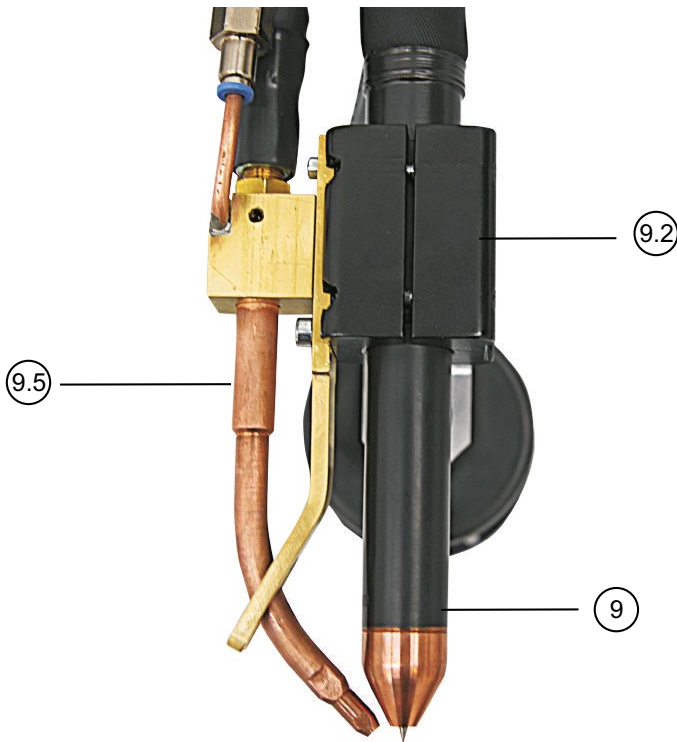
### Options/accessories

Torch accessories	Item no.
ZHTIG400 Ignition aid	094-010360-00000
RTN TIG 400W 0°/70° Adjusting device	094-017717-00000
RTN TIG 400W 45°/90° Adjusting device	094-017718-00000

<b>Drive rolls</b>	<b>Item no.</b>
<b>WFROLL UNI 1.4</b> Universal wire feed roll, 1.4 mm	094-010196-00000
<b>WFROLL UNI 0.6</b> Drive roll, universal (V-groove)	094-010191-00000
<b>WFROLL UNI 0.8</b> Drive roll, universal (V-groove)	094-010192-00000
<b>WFROLL UNI 0.9</b> Drive roll, universal (V-groove)	094-010193-00000
<b>WFROLL UNI V 1.0</b> Drive roll, universal (V-groove)	094-010194-00500
<b>WFROLL UNI V 1.2</b> Drive roll, universal (V-groove)	094-010195-00500
<b>WFROLL UNI V 1.6</b> Drive roll, universal (V-groove)	094-010197-00500



# Robot welding torches forceTig FT500W

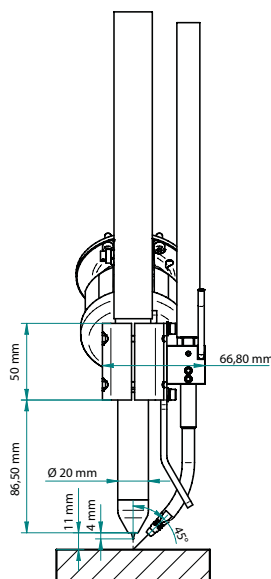
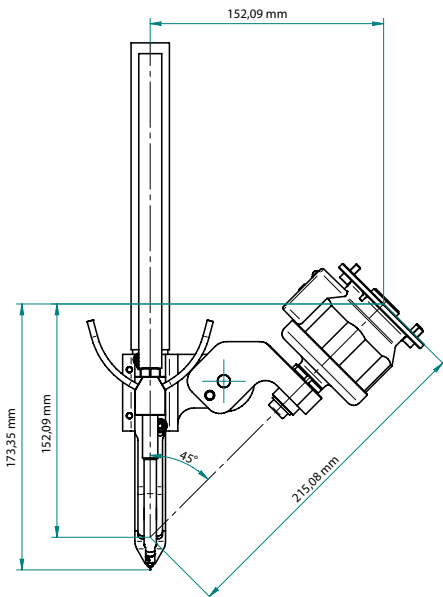


## High welding torch power

- Stable design for increased crash safety
- Closed cooling circuit
- Screw-in electrode, defined calibrated geometry when changing electrodes, i.e. no need to adjust with setting gauges at replacement time
- Available with or without additional wire feed
- Basic features: Gas diffuser, round cathode, 13 mm copper gas nozzle
- Hose package outlet upwards

Duty cycle DC-

500 A / 100 %

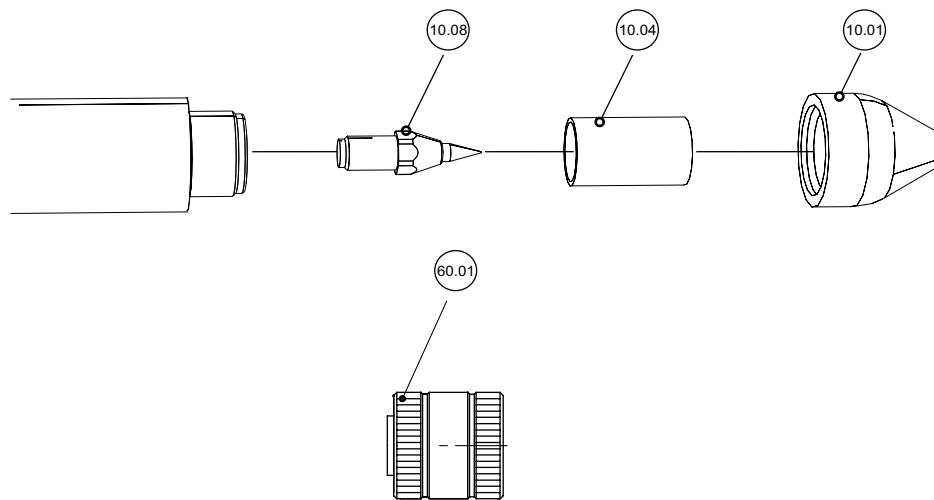


## TIG automation Welding torches

Item	Type	Designation	Length m	Item no.
9	FT 500W 5m	forceTig welding torch with hose package	5.0	094-020100-10000
9	FT 500W 8m		8.0	094-020100-10008
9.2	BF FT500	Fixing flange	-	094-020874-00001
9.5	AWS FT500 1,5m	Wire support incl. BF FT500 torch holder	1.5	090-008799-00015
9.5	AWS FT500 3m		3.0	090-008799-00000
9.8	IA TIG 2K/1	Ignition aid	-	092-003836-00000

► Delivery of wire support 090-008799-xxxx includes torch holder 094-020874-00001.  
 ► See description/forceTig advantages from page XXX

## Consumables/Accessories

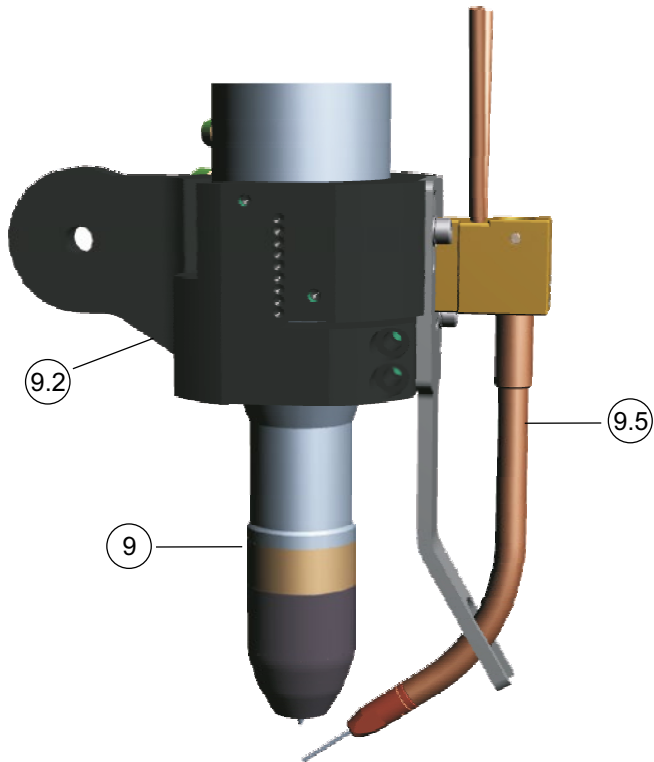


Item	Designation	Nozzle Ø mm	Length mm	Item no.
10.01	Gas nozzle, copper	5	21.5	094-020619-00000
10.01	Gas nozzle, copper	8	21.5	094-023968-00000
10.01	Gas nozzle, copper	10	21.5	094-023969-00000
10.04	Insulator / Diffusor	-	-	094-020620-00000
10.08	Cathode, round	-	-	094-020618-00000
60.01	Torch key	-	-	094-021232-00000
-	Copper paste	-	-	094-017723-00001

### Options/accessories

	Item no.
IA TIG 2K/1 Ignition aid	092-003836-00000

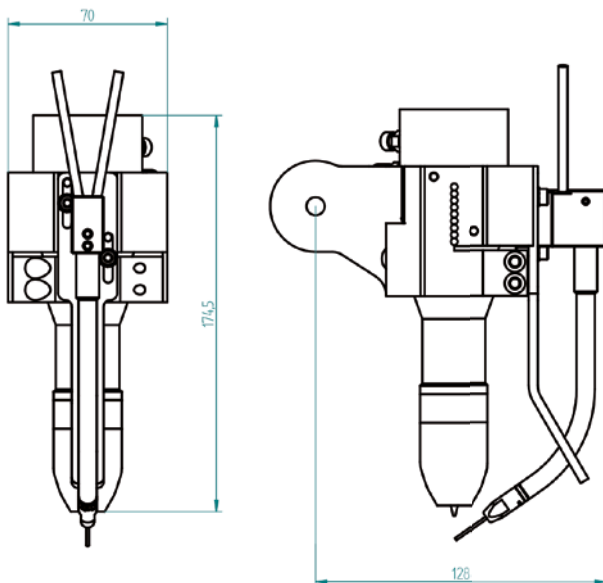
## Robot welding torches forceTig FT1000W



### High welding torch power

- Stable design for increased crash safety
- Closed cooling circuit
- Screw-in electrode, defined calibrated geometry when changing electrodes, i.e. no need to adjust with setting gauges at replacement time
- Available with or without additional wire feed
- Basic features: Gas diffuser, round cathode, 13 mm copper gas nozzle
- Hose package outlet on side

<b>Duty cycle</b>	800 A / 100 %
<b>Load capacity</b>	1000 A



Item	Type	Designation	Length m	Item no.
9	FT 1000W 1,5m		1.5	094-019480-10001
9	FT 1000W 5m	forceTig welding torch with hose package	5.0	094-019480-10000
9	FT 1000W 8m		8.0	094-019480-10008
9	FT 1000W 12m		12.0	094-019480-10012
9.2	BH FT RSA	Torch holder for forceTig welding torch on RSA collision sensor	-	094-022315-00000
9.5	AWS FT1000 1,5m QCS	Wire support	1.5	090-008829-00015
9.5	AWS FT1000 1,5m QCL			090-008830-00015
9.5	AWS FT1000 1,5m DZA			090-008831-00015
9.8	IA TIG 2K/1	Ignition aid	-	092-003836-00000

► Welding torch connections with a length of 1.5 m differ from those in 5 m, 8 m and 12 m lengths.

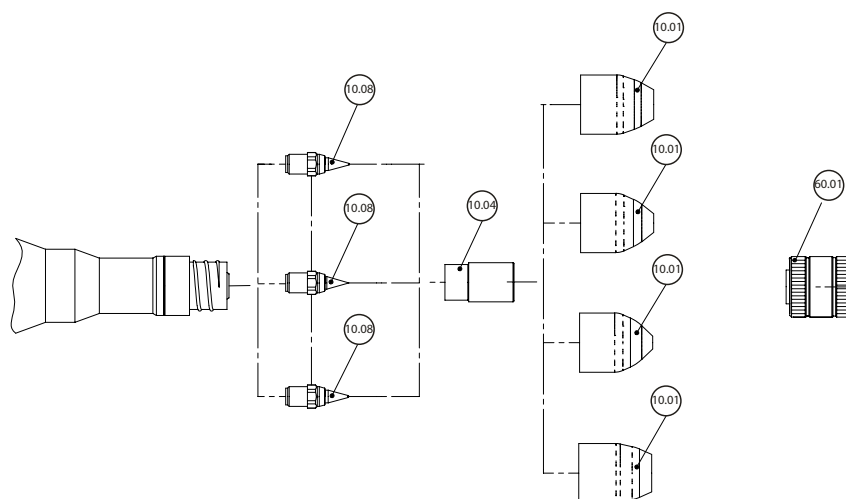
The appropriate media separation box must be ordered according to the welding torch, see forceTig media separation box chapter.

► See description/forceTig advantages from page XXX

► Wire support for mounting on BH FT RSA torch holder

► Other lengths available on request

## Consumables/Accessories

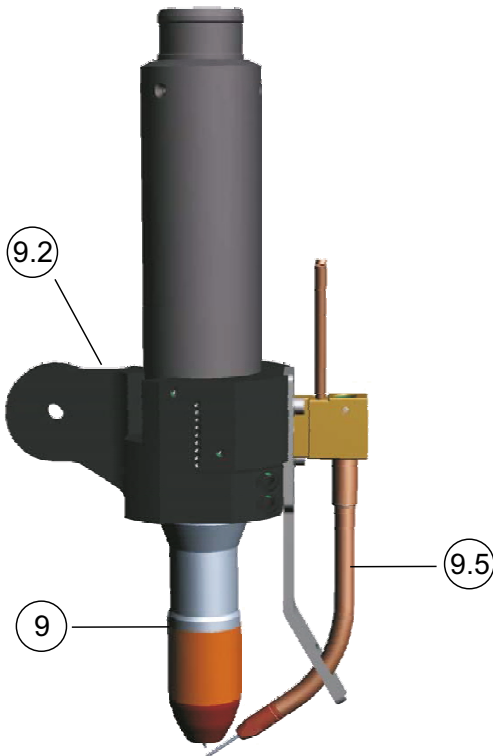


Item	Designation	Nozzle Ø		Item no.
		mm	Length mm	
10.01	Gas nozzle, copper	5.5	37	094-019364-00000
10.01	Gas nozzle, copper	8	37	094-015308-00000
10.01	Gas nozzle, ceramic	12	37	094-016127-00001
10.01	Gas nozzle, copper	13	37	094-015307-00000
10.01	Gas nozzle, ceramic	16	37	094-021638-00000
10.01	Gas nozzle, copper	16	37	094-019365-00000
10.04	Gas diffuser and insulator	-	-	094-015306-00001
10.08	Cathode, obtuse	6.4	-	094-015305-00002
10.08	Cathode, pointed	6.4	-	094-015321-00001
10.08	Cathode, round	6.4	-	094-021229-00000
10.08	Cathode, round	6.4	-	094-021230-00000
60.01	Torch key	-	-	094-021231-00000
-	Copper paste	-	-	094-017723-00001

### Options/accessories

	Item no.
IA TIG 2K/1 Ignition aid	092-003836-00000

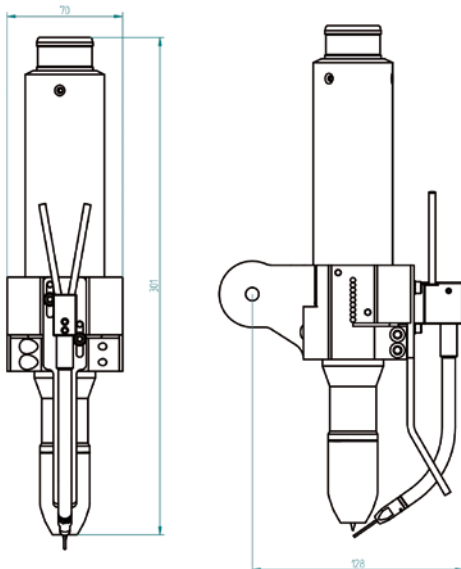
# Robot welding torches forceTig FT1000W AX



## High welding torch power

- Stable design for increased crash safety
- Closed cooling circuit
- Screw-in electrode, defined calibrated geometry when changing electrodes, i.e. no need to adjust with setting gauges at replacement time
- Available with or without additional wire feed
- Basic features: Gas diffuser, round cathode, 13 mm copper gas nozzle
- Hose package outlet upwards

<b>Duty cycle</b>	800 A / 100 %
<b>Load capacity</b>	1000 A



## TIG automation Welding torches

Item	Type	Designation	Length m	Item no.
9	FT1000W AX 1,5M		1.5	094-020390-10000
9	FT1000W AX 5M	forceTig welding torch with hose package	5.0	094-020390-10005
9	FT1000W AX 8M		8.0	094-020390-10008
9	FT1000W AX 12M		12.0	094-020390-10012
9.2	BH FT RSA	Torch holder for forceTig welding torch on RSA collision sensor	-	094-022315-00000
9.5	AWS FT1000 1,5m QCS	Wire support	1.5	090-008829-00015
9.5	AWS FT1000 1,5m QCL			090-008830-00015
9.5	AWS FT1000 1,5m DZA			090-008831-00015
9.8	IA TIG 2K/1	Ignition aid	-	092-003836-00000

► See description/forceTig advantages from page XXX

► Welding torch connections with a length of 1.5 m differ from those in 5 m, 8 m and 12 m lengths.

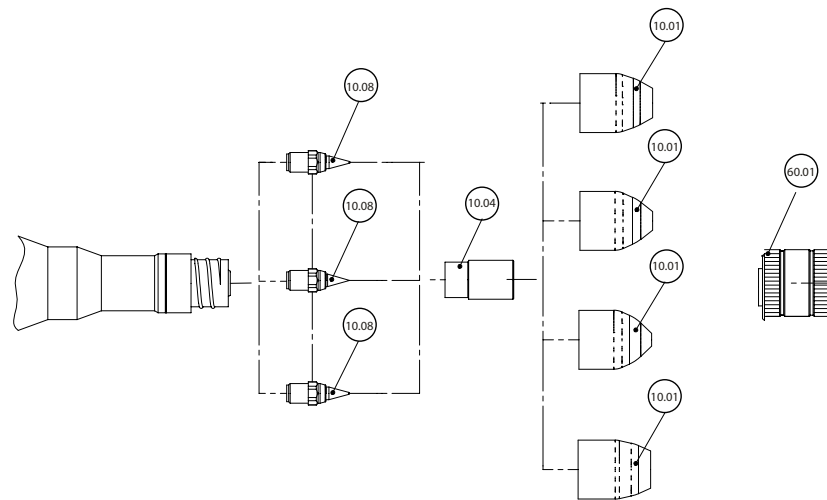
The appropriate media separation box must be ordered according to the welding torch, see forceTig media separation box chapter.

► Wire support for mounting on BH FT RSA torch holder

► Other lengths available on request



## Consumables/Accessories

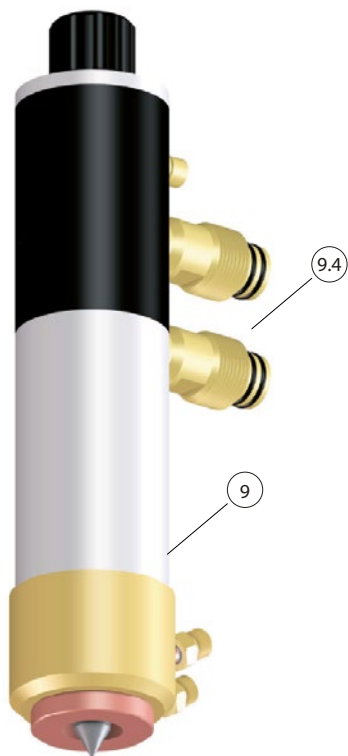


Item	Designation	Nozzle Ø mm	Length mm	Item no.
10.01	Gas nozzle, copper	5.5	37	094-019364-00000
10.01	Gas nozzle, copper	8	37	094-015308-00000
10.01	Gas nozzle, ceramic	12	37	094-016127-00001
10.01	Gas nozzle, copper	13	37	094-015307-00000
10.01	Gas nozzle, ceramic	16	37	094-021638-00000
10.01	Gas nozzle, copper	16	37	094-019365-00000
10.04	Gas diffuser and insulator	-	-	094-015306-00001
10.08	Cathode, obtuse	6.4	-	094-015305-00002
10.08	Cathode, pointed	6.4	-	094-015321-00001
10.08	Cathode, round	6.4	-	094-021229-00000
10.08	Cathode, round	6.4	-	094-021230-00000
60.01	Torch key	-	-	094-021231-00000
-	Copper paste	-	-	094-017723-00001

### Options/accessories

	Item no.
IA TIG 2K/1 Ignition aid	092-003836-00000

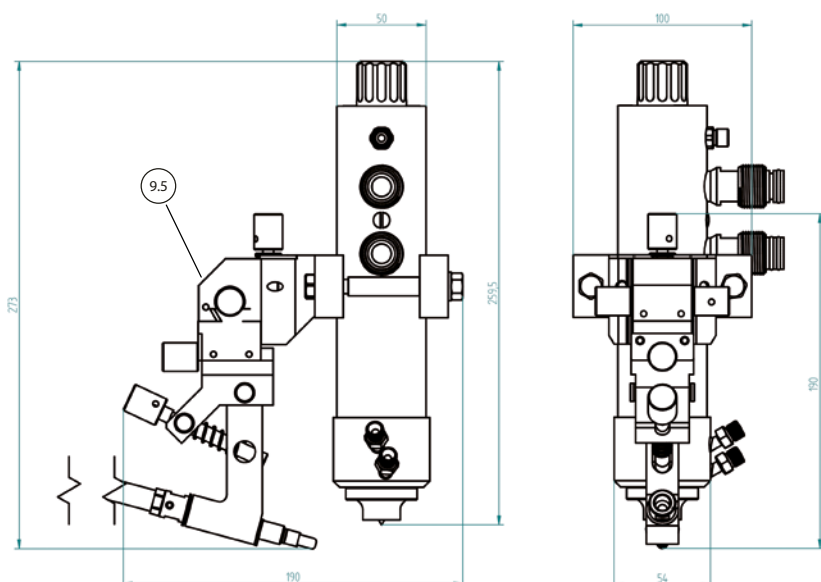
## Robot welding torches FT1002W



### High-performance TIG automated welding torches

- Mechanised high-current welding
- Designed for continuous operation at highest loads
- Laminar shielding gas for optimal protection of weld seam
- Different electrode diameters make adapting to different welding tasks a breeze
- Hose package outlet on side, available in different lengths

<b>Duty cycle</b>	1000 A / 100 %
<b>Electrode Ø</b>	4 mm - 12 mm
<b>Load capacity</b>	1000 A



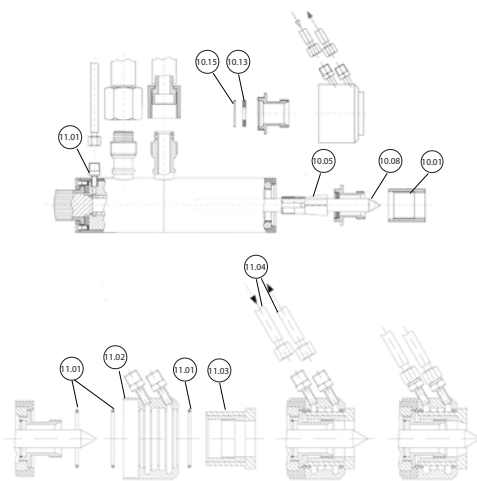
Item	Type	Designation	Length m	Item no.
9	FT1002W	forceTig welding torch	-	094-026042-00000
9.4	SP W 1,5M		1.5	094-025118-00015
9.4	SP W 3 M		3.0	094-025118-00000
9.4	SP W 5 M	Hose package	5.0	094-025118-00005
9.4	SP W 8 M		8.0	094-025118-00008
9.5	AWS HW 4-AXIS 1,5M QC-L CRNI		1.5	094-S20614-04386
9.5	AWS HW 4-AXIS 3,0M QC-L CRNI	4 axes support, hot wire, insulated setup, for T drive 4 Rob.2		094-S20614-04373
9.5	AWS HW 4-AXIS 3,0M QC-S CRNI	4 axes support, hot wire, insulated setup, for T drive 4 Rob.3	3.0	094-S20614-04222
9.8	IA TIG 2K/1	Ignition aid		092-003836-00000
-	SWA G1/2		-	094-025135-00000
-	SWA M18x1,5	Power-water adapter		094-025134-00000

► Order welding torch fully equipped.

Hose package and power/water adapters are not included in the supply package and must be ordered separately!

Consumables and equipment parts are not included in the supply package and must be ordered based on the specific application!

## Consumables/Accessories



Item	Designation	Electrode Ø	Nozzle Ø	Inside Ø	Length	Item no.
		mm	mm	mm		
10.01	Shielding gas nozzle	-	16	-	48.00 mm	094-025121-00000
10.01	Shielding gas nozzle	-	19	-	48.00 mm	094-025120-00000
10.01	Shielding gas nozzle	-	24	-	34.00 mm	094-025117-00000
10.05	Collet chuck	-	-	4	-	394-007359-00000
10.05	Collet chuck	-	-	6.4	-	094-025105-00000
10.05	Collet chuck	-	-	8	-	094-025106-00000
10.05	Collet chuck	-	-	10	-	094-025107-00000
10.05	Collet chuck	-	-	12	-	094-025108-00000
10.08	Tungsten electrode	4	-	-	175.00 mm	394-007360-00000
10.08	Tungsten electrode	6.4	-	-	175.00 mm	094-025109-00000
10.08	Tungsten electrode	8	-	-	175.00 mm	094-025110-00000
10.08	Tungsten electrode	10	-	-	175.00 mm	094-025111-00000
10.08	Tungsten electrode	12	-	-	175.00 mm	094-025112-00000
10.13	Gas lens	-	-	4	-	394-007361-00000
10.13	Gas lens	-	-	6.4	-	094-025113-00000
10.13	Gas lens	-	-	8	-	094-025114-00000
10.13	Gas lens	-	-	10	-	094-025115-00000
10.13	Gas lens	-	-	12	-	094-025116-00000
10.15	Circlip	-	-	-	-	394-009092-00000
11.01	O-ring for water connection	-	-	-	-	394-009093-00000
11.01	O-ring for collet chuck	-	-	-	-	394-009091-00000
11.02	Shielding gas nozzle cooling	-	-	-	-	094-025122-00001
11.03	Shielding gas nozzle attachment	-	-	20	-	094-025124-00000
11.03	Shielding gas nozzle attachment	-	-	24	-	094-025123-00000
11.04	Hose set for water-cooled gas nozzles, 4 m	-	-	-	4.00 m	094-025212-00000
-	Electrode setting gauge	-	-	-	-	094-025119-00000
-	Silicon paste for o-ring	-	-	-	-	094-013826-00000
-	Gas nozzle holder	-	-	-	-	394-008415-00000
-	Insulating disk	-	-	-	-	394-008416-00000

## Options/accessories

	Item no.
IA TIG 2K/1 Ignition aid	092-003836-00000



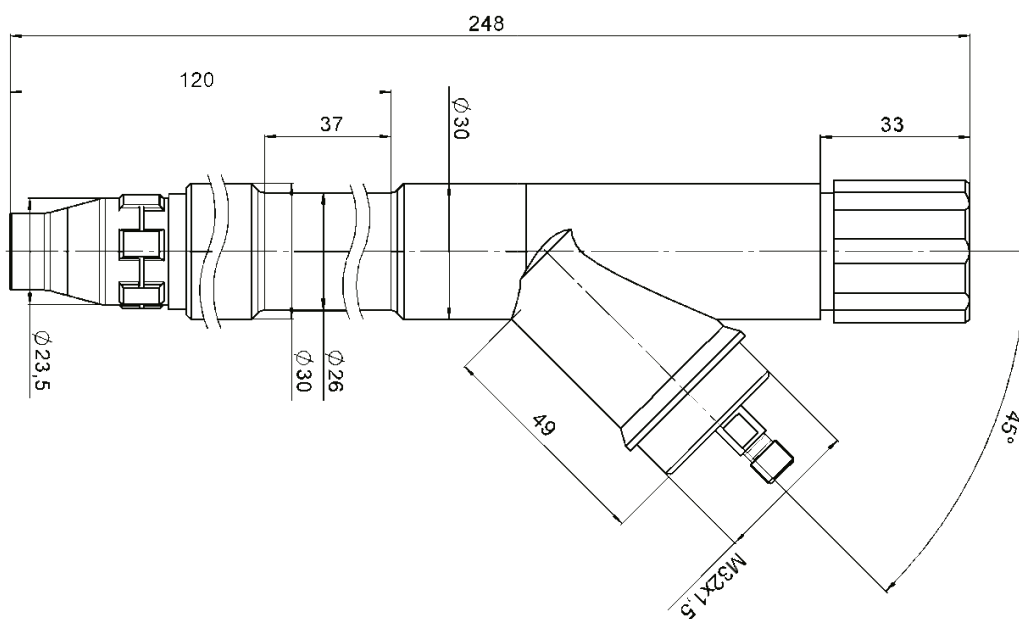
## Automated welding torches TIG-MT 200G



### Automated TIG welding torch, gas-cooled

- Long service life thanks to best heat dissipation combined with smallest possible size
- Hose package outlet on side without risk of kinking
- Tungsten electrode can be adjusted from the rear

<b>Duty cycle DC-</b>	200 A / 60 %
<b>Duty cycle AC</b>	140 A / 60 %
<b>Electrode Ø</b>	1 mm - 4 mm
<b>Connection</b>	Decentral

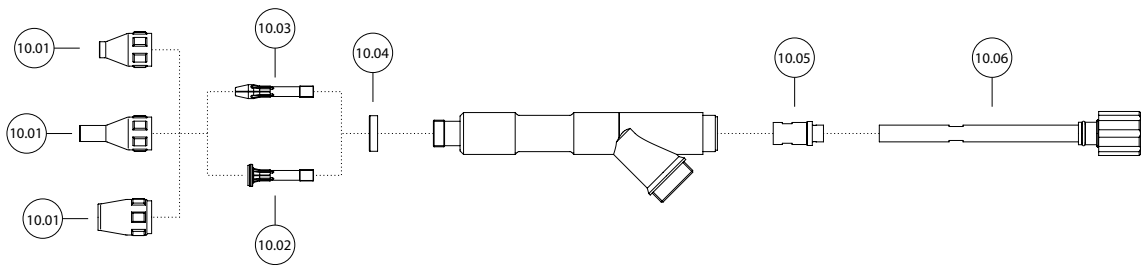


Item	Type	Designation	Length m	Item no.
9	TIG-MT 200G 3M	Automated TIG welding torch, gas-cooled	3.0	094-011708-00003
9	TIG-MT 200G 4M		4.0	094-011708-00000

► Other lengths available on request

► Please note: Consumables (gas nozzle, collet etc.) are not included in the scope of supply and must be ordered separately.

## Consumables/Accessories



Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle	-	-	7.5	37	Ceramic	094-009646-00000
10.01	Gas nozzle	-	-	7.5	52	Ceramic	094-009650-00000
10.01	Gas nozzle	-	-	10	37	Ceramic	094-009647-00000
10.01	Gas nozzle	-	-	10	52	Ceramic	094-009651-00000
10.01	Gas nozzle	-	-	13	37	Ceramic	094-009648-00000
10.01	Gas nozzle, reinforced	-	-	13	37	Ceramic	094-011997-00000
10.01	Gas nozzle	-	-	13	52	Ceramic	094-009653-00000
10.01	Gas nozzle	-	-	15	37	Ceramic	094-009649-00000
10.01	Gas nozzle, reinforced	-	-	15	37	Ceramic	094-011998-00000
10.01	Gas nozzle	-	-	15	52	Ceramic	094-009654-00000
10.02	Gas diffuser	-	1.6	-	48	Brass	094-009640-00000
10.02	Gas diffuser, multi-layer	-	1.6	-	51	Brass	094-023018-00000
10.02	Gas diffuser	-	2	-	48	Brass	094-009641-00000
10.02	Gas diffuser	-	2.4	-	48	Brass	094-009642-00000
10.02	Gas diffuser, multi-layer	-	2.4	-	51	Brass	094-004969-00000
10.02	Gas diffuser	-	3.2	-	48	Brass	094-009643-00000
10.02	Gas diffuser, multi-layer	-	3.2	-	51	Brass	094-006255-00000
10.02	Gas diffuser	-	4	-	48	Brass	094-009644-00000
10.02	Gas diffuser	-	4.8	-	48	Brass	094-009645-00000
10.03	Electrode holder	-	1.6	-	56	Brass	094-009634-00000
10.03	Electrode holder	-	2	-	56	Brass	094-009635-00000
10.03	Electrode holder	-	2.4	-	56	Brass	094-009636-00000
10.03	Electrode holder	-	3.2	-	56	Brass	094-009637-00000
10.03	Electrode holder	-	4	-	56	Brass	094-009638-00000
10.03	Electrode holder	-	4.8	-	56	Brass	094-009639-00000
10.04	Insulator	Standard	-	-	-	Teflon	094-011759-00000
10.05	Mount for guide tube	-	-	-	-	-	094-020286-00000
10.06	Guide tube	-	-	-	-	-	094-020285-00000

### Options/accessories

Torch accessories	Item no.
Torch holder suitable for TIG-MT 200G/300W	
<b>TH MT-26</b>	094-013690-00000
<b>TH MT-30</b>	094-013691-00000



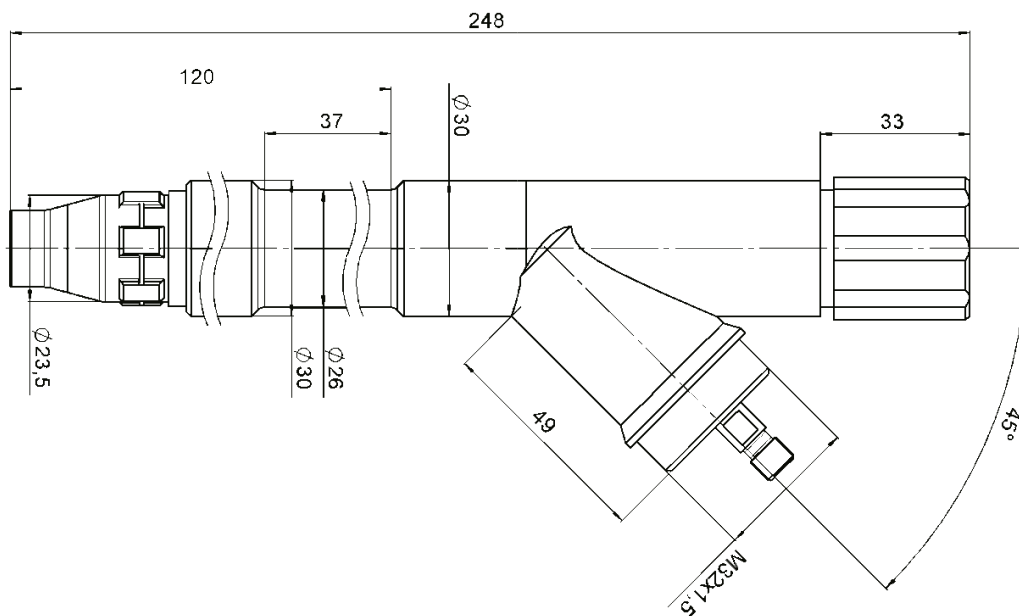
## Automated welding torches TIG-MT 300W



### Automated TIG welding torch, water-cooled

- Long service life thanks to best heat dissipation combined with smallest possible size
- Hose package outlet on side without risk of kinking
- Tungsten electrode can be adjusted from the rear

<b>Duty cycle DC-</b>	300 A / 100 %
<b>Duty cycle AC</b>	210 A / 100 %
<b>Electrode Ø</b>	1.6 mm - 4.8 mm
<b>Connection</b>	Decentral



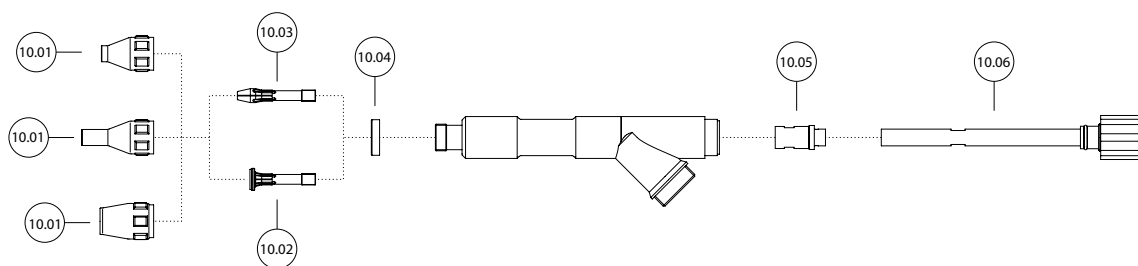
Item	Type	Designation	Length m	Item no.
9	TIG-MT 300W 3M		3.0	094-011709-00000
9	TIG-MT 300W 4M	Automated TIG welding torch, water-cooled	4.0	094-011709-00004
9	TIG-MT 300W 8M		8.0	094-011709-00008

► Other lengths available on request

► Please note: Consumables (gas nozzle, collet etc.) are not included in the scope of supply and must be ordered separately.



## Consumables/Accessories



Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle	-	-	7.5	37	Ceramic	094-009646-00000
10.01	Gas nozzle	-	-	7.5	52	Ceramic	094-009650-00000
10.01	Gas nozzle	-	-	10	37	Ceramic	094-009647-00000
10.01	Gas nozzle	-	-	10	52	Ceramic	094-009651-00000
10.01	Gas nozzle	-	-	13	37	Ceramic	094-009648-00000
10.01	Gas nozzle, reinforced	-	-	13	37	Ceramic	094-011997-00000
10.01	Gas nozzle	-	-	13	52	Ceramic	094-009653-00000
10.01	Gas nozzle	-	-	15	37	Ceramic	094-009649-00000
10.01	Gas nozzle, reinforced	-	-	15	37	Ceramic	094-011998-00000
10.01	Gas nozzle	-	-	15	52	Ceramic	094-009654-00000
10.02	Gas diffuser	-	1.6	-	48	Brass	094-009640-00000
10.02	Gas diffuser, multi-layer	-	1.6	-	51	Brass	094-023018-00000
10.02	Gas diffuser	-	2.4	-	48	Brass	094-009642-00000
10.02	Gas diffuser, multi-layer	-	2.4	-	51	Brass	094-004969-00000
10.02	Gas diffuser	-	3.2	-	48	Brass	094-009643-00000
10.02	Gas diffuser, multi-layer	-	3.2	-	51	Brass	094-006255-00000
10.02	Gas diffuser	-	4	-	48	Brass	094-009644-00000
10.02	Gas diffuser	-	4.8	-	48	Brass	094-009645-00000
10.03	Electrode holder	-	1.6	-	56	Brass	094-009634-00000
10.03	Electrode holder	-	2	-	56	Brass	094-009635-00000
10.03	Electrode holder	-	2.4	-	56	Brass	094-009636-00000
10.03	Electrode holder	-	3.2	-	56	Brass	094-009637-00000
10.03	Electrode holder	-	4	-	56	Brass	094-009638-00000
10.03	Electrode holder	-	4.8	-	56	Brass	094-009639-00000
10.04	Insulator	Standard	-	-	-	Teflon	094-011759-00000
10.05	Mount for guide tube	-	-	-	-	-	094-020286-00000
10.06	Guide tube	-	-	-	-	-	094-020285-00000

## Options/accessories

### Torch accessories

Torch holder suitable for TIG-MT 200G/300W

**TH MT-26**

**TH MT-30**



**Item no.**

094-013690-00000

094-013691-00000

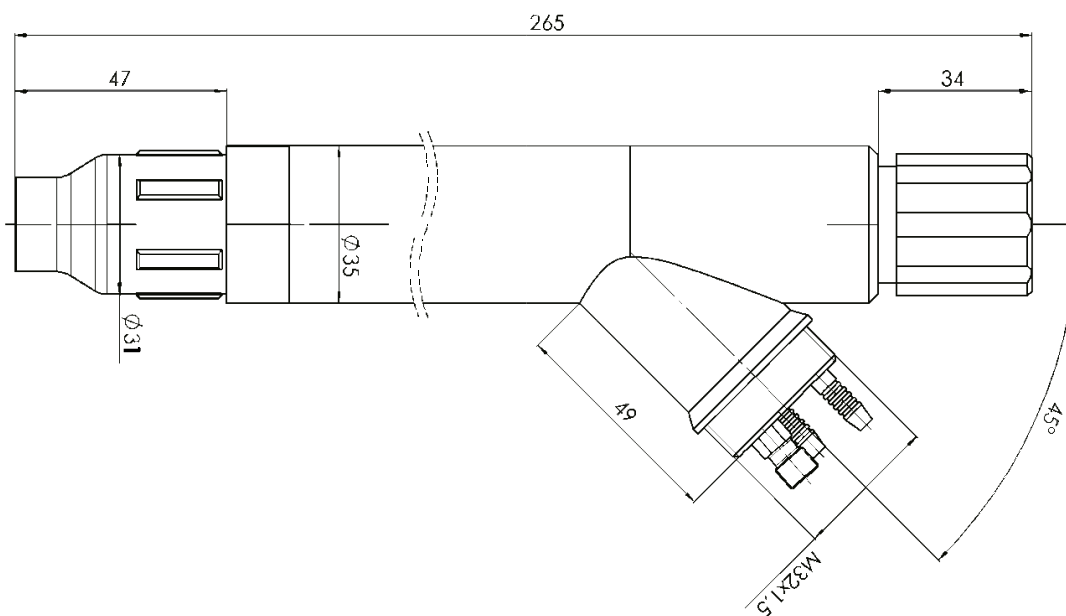
## Automated welding torches TIG-MT 400W



### Automated TIG welding torch, water-cooled

- Long service life thanks to best heat dissipation combined with smallest possible size
- Hose package outlet on side without risk of kinking
- Tungsten electrode can be adjusted from the rear
- Excellent accessibility with optimum performance

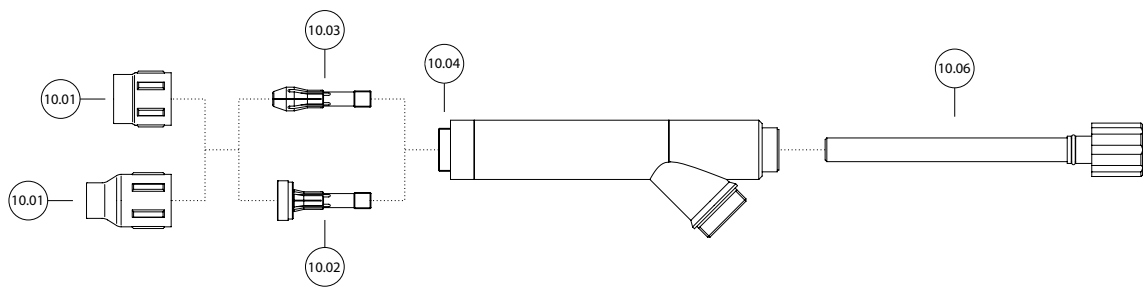
<b>Duty cycle DC-</b>	400 A / 100 %
<b>Duty cycle AC</b>	280 A / 100 %
<b>Electrode Ø</b>	1.6 mm - 4.8 mm
<b>Connection</b>	Decentral



Item	Type	Designation	Length m	Item no.
9	TIG-MT 400W 3M	Automated TIG welding torch, water-cooled	3.0	094-022417-00003
9	TIG-MT 400W 4M		4.0	094-022417-00004

- ▶ Other lengths available on request
- ▶ Please note: Consumables (gas nozzle, collet etc.) are not included in the scope of supply and must be ordered separately.

## Consumables/Accessories



Item	Designation	Electro- de Ø mm	Nozzle Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle	-	7.5	37	Ceramic	094-009646-00000
10.01	Gas nozzle	-	7.5	52	Ceramic	094-009650-00000
10.01	Gas nozzle	-	10	37	Ceramic	094-009647-00000
10.01	Gas nozzle	-	10	52	Ceramic	094-009651-00000
10.01	Gas nozzle	-	13	37	Ceramic	094-009648-00000
10.01	Gas nozzle, reinforced	-	13	37	Ceramic	094-011997-00000
10.01	Gas nozzle	-	13	52	Ceramic	094-009653-00000
10.01	Gas nozzle	-	15	37	Ceramic	094-009649-00000
10.01	Gas nozzle, reinforced	-	15	37	Ceramic	094-011998-00000
10.01	Gas nozzle	-	15	52	Ceramic	094-009654-00000
10.02	Gas diffuser	1.6	-	48	Brass	094-009640-00000
10.02	Gas diffuser	2	-	48	Brass	094-009641-00000
10.02	Gas diffuser	2.4	-	48	Brass	094-009642-00000
10.02	Gas diffuser	3.2	-	48	Brass	094-009643-00000
10.02	Gas diffuser	4	-	48	Brass	094-009644-00000
10.02	Gas diffuser	4.8	-	48	Brass	094-009645-00000
10.03	Electrode holder	1.6	-	56	Brass	094-009634-00000
10.03	Electrode holder	2	-	56	Brass	094-009635-00000
10.03	Electrode holder	2.4	-	56	Brass	094-009636-00000
10.03	Electrode holder	3.2	-	56	Brass	094-009637-00000
10.03	Electrode holder	4	-	56	Brass	094-009638-00000
10.03	Electrode holder	4.8	-	56	Brass	094-009639-00000
10.04	Insulator	-	-	-	-	094-022419-00000
-	Guide tube	-	-	-	-	094-022418-00000

### Options/accessories

#### Torch accessories

##### TH MT-25

Torch holder suitable for TIG-MT 400 W



#### Item no.

094-013869-00000

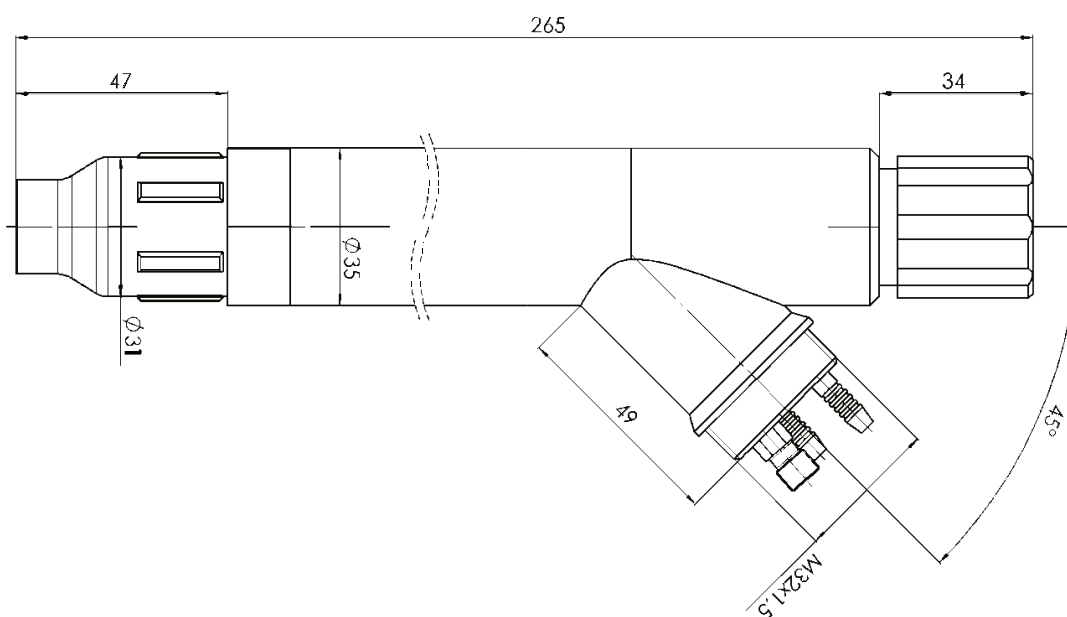
## Automated welding torches TIG-MT 500W



### Automated TIG welding torch, water-cooled

- Long service life thanks to best heat dissipation combined with smallest possible size
- Hose package outlet on side without risk of kinking
- Tungsten electrode can be adjusted from the rear

<b>Duty cycle DC-</b>	500 A / 100 %
<b>Duty cycle AC</b>	350 A / 100 %
<b>Electrode Ø</b>	1.6 mm - 6.4 mm
<b>Connection</b>	Decentral

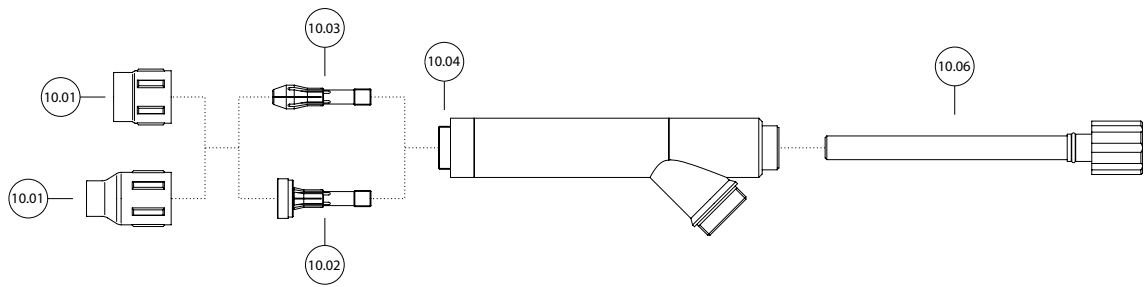


Item	Type	Designation	Length m	Item no.
9	TIG-MT 500W 1M	Automated TIG welding torch, water-cooled	1.0	094-013706-00001
9	TIG-MT 500W 2M		2.0	094-013706-00002
9	TIG-MT 500W 3M		3.0	094-013706-00003
9	TIG-MT 500W 4M		4.0	094-013706-00000
9	TIG-MT 500W 8M		8.0	094-013706-00008

► Other lengths available on request

► Please note: Consumables (gas nozzle, collet etc.) are not included in the scope of supply and must be ordered separately.

## Consumables/Accessories



Item	Designation	Electro- de Ø mm	Nozzle Ø mm	Wire Ø mm	Length mm	Material	Item no.
10.01	Gas nozzle for gas diffuser, JUMBO	-	12.5	-	50	Ceramic	094-009663-00000
10.01	Gas nozzle for gas diffuser, JUMBO	-	16	-	50	Ceramic	094-009664-00000
10.01	Gas nozzle for gas diffuser, JUMBO	-	19.5	-	50	Ceramic	094-009665-00000
10.01	Gas nozzle for gas diffuser, JUMBO	-	24	-	34	Ceramic	094-011999-00000
10.02	Gas diffuser	1.6	-	-	-	-	094-017223-00000
10.02	Gas diffuser	2.4	-	-	-	-	094-017225-00000
10.02	Gas diffuser	3.2	-	-	-	-	094-017226-00000
10.02	Gas diffuser	4	-	-	-	-	094-017227-00000
10.02	Gas diffuser	4.8	-	-	-	-	094-013753-00000
10.02	Gas diffuser	6.4	-	-	-	-	094-017228-00000
10.03	Electrode holder	1.6	-	-	-	-	094-017218-00000
10.03	Electrode holder	2.4	-	-	-	-	094-017220-00000
10.03	Electrode holder	3.2	-	-	-	-	094-017221-00000
10.03	Electrode holder	4	-	-	-	-	094-017222-00000
10.03	Electrode holder	4.8	-	-	-	-	094-013752-00000
10.03	Electrode holder	6.4	-	-	-	-	094-013754-00000
10.04	Insulator	-	-	-	-	-	094-017229-00000
10.06	Guide tube	-	-	-	-	-	094-017217-00000
20.01	Wire feed nozzle	-	-	0.8	-	-	094-010127-00000
20.01	Wire feed nozzle	-	-	1	-	-	094-010128-00000
20.01	Wire feed nozzle	-	-	1.2	-	-	094-010129-00000
20.01	Wire feed nozzle	-	-	1.6	-	-	094-010130-00000

### Options/accessories

Cold wire feed accessories	Item no.
<b>KDZ KPL TIG-MT 500</b> Cold wire feed, complete	094-021754-00000
<b>ZFR WH400 0°</b> Wire feed tube 0°	094-010123-00000
<b>ZFR MT500W</b> Wire feed tube	094-021755-00000
<b>LCT 2.0mm x 4.0mm 4m</b> Combined liner, carbon teflon	094-001247-00000



<b>PAL 2,0/4,0 D1,0-1,3 4M</b> Polyamide liner	094-001283-00000
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Torch accessories	Item no.
<b>TH MT-35</b> Torch holder suitable for TIG-MT 500W	094-013868-00000



## Electrodes

Item	Designation	Electrode Ø mm	Nozzle Ø mm	Wire Ø mm	Length mm	Material	Item no.
10.08	Tungsten electrode, green	1	-	-	175	Pure tungsten 99,9%	094-001593-00000
10.08	Tungsten electrode, red	1	-	-	175	< 2% ThO <sub>2</sub>	094-001377-00000
10.08	Tungsten electrode, grey	1	-	-	175	< 2% CeO <sub>2</sub>	094-001380-00000
10.08	Tungsten electrode, blue	1	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-012958-00000
10.08	Tungsten electrode, gold	1	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-009446-00000
10.08	Tungsten electrode, purple	1	-	-	175	< 2% rare earths	094-019691-00000
10.08	Tungsten electrode, green	1.6	-	-	175	Pure tungsten 99,9%	094-001008-00000
10.08	Tungsten electrode, red	1.6	-	-	175	< 2% ThO <sub>2</sub>	094-001000-00000
10.08	Tungsten electrode, grey	1.6	-	-	175	< 2% CeO <sub>2</sub>	094-001004-00000
10.08	Tungsten electrode, blue	1.6	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-001915-00000
10.08	Tungsten electrode, gold	1.6	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-009447-00000
10.08	Tungsten electrode, purple	1.6	-	-	175	< 2% rare earths	094-019692-00000
10.08	Tungsten electrode, green	2	-	-	175	Pure tungsten 99,9%	094-001594-00000
10.08	Tungsten electrode, red	2	-	-	175	< 2% ThO <sub>2</sub>	094-001378-00000
10.08	Tungsten electrode, grey	2	-	-	175	< 2% CeO <sub>2</sub>	094-001381-00000
10.08	Tungsten electrode, blue	2	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-012960-00000
10.08	Tungsten electrode, gold	2	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-012962-00000
10.08	Tungsten electrode, purple	2	-	-	175	< 2% rare earths	094-019693-00000
10.08	Tungsten electrode, green	2.4	-	-	175	Pure tungsten 99,9%	094-001009-00000
10.08	Tungsten electrode, red	2.4	-	-	175	< 2% ThO <sub>2</sub>	094-001001-00000
10.08	Tungsten electrode, grey	2.4	-	-	175	< 2% CeO <sub>2</sub>	094-001005-00000
10.08	Tungsten electrode, blue	2.4	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-001916-00000
10.08	Tungsten electrode, gold	2.4	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-009276-00000
10.08	Tungsten electrode, purple	2.4	-	-	175	< 2% rare earths	094-019694-00000
10.08	Tungsten electrode, green	3.2	-	-	175	Pure tungsten 99,9%	094-001010-00000
10.08	Tungsten electrode, red	3.2	-	-	175	< 2% ThO <sub>2</sub>	094-001002-00000
10.08	Tungsten electrode, grey	3.2	-	-	175	< 2% CeO <sub>2</sub>	094-001006-00000
10.08	Tungsten electrode, blue	3.2	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-001917-00000
10.08	Tungsten electrode, gold	3.2	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-009527-00000
10.08	Tungsten electrode, purple	3.2	-	-	175	< 2% rare earths	094-019695-00000
10.08	Tungsten electrode, green	4	-	-	175	Pure tungsten 99,9%	094-001011-00000
10.08	Tungsten electrode, red	4	-	-	175	< 2% ThO <sub>2</sub>	094-001003-00000
10.08	Tungsten electrode, grey	4	-	-	175	< 2% CeO <sub>2</sub>	094-001007-00000
10.08	Tungsten electrode, blue	4	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-012961-00000
10.08	Tungsten electrode, gold	4	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-009528-00000
10.08	Tungsten electrode, purple	4	-	-	175	< 2% rare earths	094-019696-00000
10.08	Tungsten electrode, green	4.8	-	-	175	Pure tungsten 99,9%	094-001595-00000
10.08	Tungsten electrode, red	4.8	-	-	175	< 2% ThO <sub>2</sub>	094-001379-00000
10.08	Tungsten electrode, grey	4.8	-	-	175	< 2% CeO <sub>2</sub>	094-001382-00000
10.08	Tungsten electrode, blue	4.8	-	-	175	< 2% La <sub>2</sub> O <sub>3</sub>	094-001918-00000
10.08	Tungsten electrode, gold	4.8	-	-	175	< 1,5% La <sub>2</sub> O <sub>3</sub>	094-009529-00000



## Tungsten electrode grinders Porta & Handy



- Portable tungsten electrode grinder
- For use at the welding site
- Simple operation, high efficiency and quality
- Diamond disk grinding surface can be used at three positions
- 99.9% of grinding dust is captured
- **Scope of supply:** Transport case; electrode holder; collet chucks for 1.6 mm, 2.4 mm and 3.2 mm electrodes; Allen keys (4 mm and 8 mm); open-ended spanners (13/17 and 13/14); disposal bag for disposable filters; operating instructions

<b>Rotational speed</b>	8000 U/min - 22000 U/min
<b>Grinding angle</b>	15 ° - 180 °
<b>Diamond disc diameter</b>	40 mm
<b>Electrode Ø</b>	0.8 mm - 4 mm
<b>Weight</b>	2.5 kg
<b>Protection classification</b>	IP 21
<b>Standards</b>	DIN 8575
<b>Version</b>	1 x 230 V / 50 Hz

Type	Designation	Item no.
TGM 40230 Handy	Portable tungsten electrode grinder	098-003412-00500



## Tungsten electrode grinders Porta & Handy



- Stationary tungsten electrode grinder
- Simple operation, high efficiency and quality
- Wet grinding for optimum grinding quality and long service life of the diamond disk
- 100% of grinding dust is captured
- **Delivery includes:** 2 m mains cable; 250 ml grinding liquid; diamond disc; collet chucks (1.6 mm–3.2 mm); electrode holder

<b>Rotational speed</b>	8500 U/min
<b>Grinding angle</b>	7.5 ° - 90 °
<b>Weight</b>	9.3 kg
<b>Protection classification</b>	IP 21
<b>Standards</b>	EN 61029

Type	Designation	Item no.
TGM 40230 Porta 230V 50Hz	Stationary tungsten electrode grinder	098-003694-00000



# Overview

TIG automation			Page
Additional wire	TIG/plasma	AW Support cold wire	134
		AW support hot wire	137

# TIG/plasma filler wire support

## Determining item numbers for cold and hot wire feeds

An item code is required for ordering cold and hot wire supports, which forms the last five positions in the item number. This is formulated according to the configuration of the support.

### Filler wire support code

Basic item number: 094-0020614-**ABCDD**

Position in item number	Code	Description	Matching connection
A	0	Cold wire	
	1	Hot wire	
B	0	T drive 4 Rob.2	Quick Connect L
	1	T drive 4 Rob.3	Quick Connect S
	2	Tetrix drive 4L/tigSpeed drive 45/tigSpeed drive 4 Rob	Dinse connector
C	0	Steel design	
	1	Stainless steel design	
	2	Aluminium design	
DD	10-40	Indication of the length	

### Configuration examples:

Cold wire support, T drive 4 Rob.2, steel, 3 metres/092-020614-00030

Position in item number	Code	Description
A	0	Cold wire
B	0	T drive 4 Rob.2
C	0	Steel design
DD	30	3 metres

094-0020614- **00030** End number

Hot wire support, T drive 4 Rob.3, stainless steel, 1.5 metres/092-020614-11115

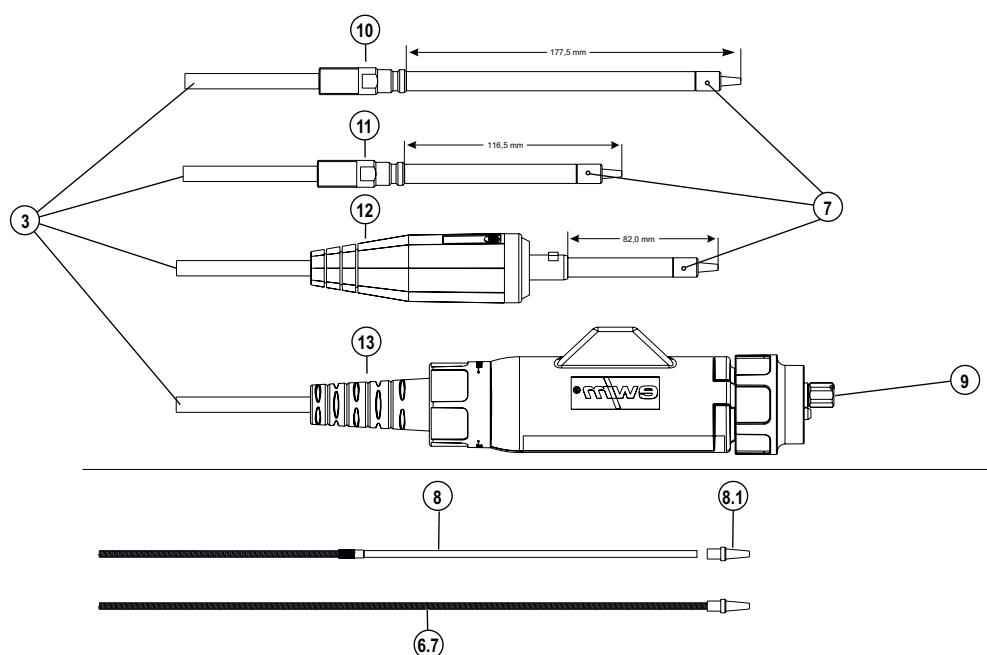
Position in item number	Code	Description
A	1	Hot wire
B	1	T drive 4 Rob.3
C	1	Stainless steel design
DD	15	1.5 metres

094-020614 - **11115** End number

Wire feed lengths currently available: 1.5 m, 3 m, 4 m = DD 15, 30, 40

- ▶ Other lengths available on request
- ▶ Can be used in virtually all standard TIG automated welding torches

## Cold wire feeds



### Wire feed for automated cold wire applications (TIG/plasma)

- Wire feed individually adjustable for each process
- Compatible with EMW cold wire support
- The wire feed can be reduced to the required length

► Equipment parts, such as liners and inlet guides, are not part of the scope of supply and must be ordered based on the specific application!

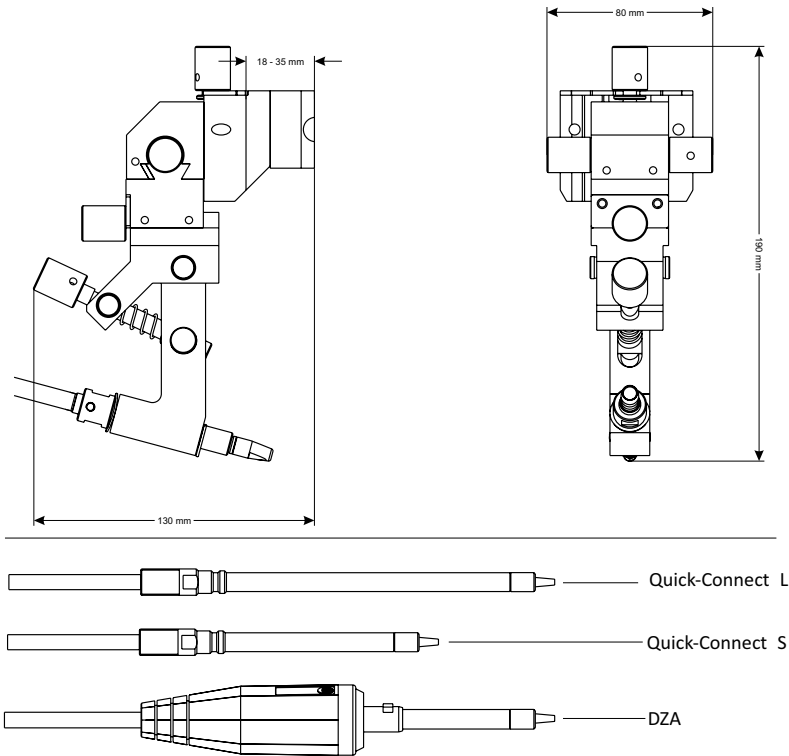
► Order the right wire feed for the wire feeder used!

Item	Connection	Description	Length	Item no.
10	Quick Connect L	Cold wire feed, for T drive 4 Rob 2	4 m	094-020613-00000
11	Quick Connect S	Cold wire feed, for T drive 4 Rob 3		094-020613-00001
12	Dinse connector	Cold wire feed, for tigSpeed		094-020613-00002
13	Euro torch connector	Cold wire feed, Euro torch connector		094-020613-00003

### Replacement parts

Item	Description	Wire Ø	Inside Ø	Outside Ø	Length	Material	Pr. U	VE	Item no.
		mm	mm	mm					
3	Wire transport hose	-	-	-	1	-	per m.	1	094-017104-00000
6.7	Steel liner	-	1.5	3.3	3.5	Steel	per pc.	1	092-018695-00003
6.7	Steel liner	-	1.5	3.3	4.5	Steel		1	092-018695-00004
6.7	Steel liner	-	2	4	3.5	Steel		1	092-018693-00003
6.7	Steel liner	-	2	4	4.5	Steel		1	092-018693-00004
6.7	Steel liner, stainless steel	-	1.5	3.3	3.5	CrNi		1	092-018696-00003
6.7	Steel liner, stainless steel	-	1.5	3.3	4.5	CrNi		1	092-018696-00004
6.7	Steel liner, stainless steel	-	2	4	3.5	CrNi		1	092-018694-00003
6.7	Steel liner, stainless steel	-	2	4	4.5	CrNi		1	092-018694-00004
6.7	Steel liner, brass	-	2	4	3.5	Brass		1	092-018697-00003
6.7	Steel liner, brass	-	2	4	4.5	Brass		1	092-018697-00004
7	Crown nut	-	-	-	-	-		10	094-015563-00001
8	Combined liner, PA	1.2-1.6	2	4	3	PA		1	094-013076-00000
8	Combined liner, PA	1.2-1.6	2	4	4	PA		1	094-013077-00000
8	Combined liner, PA	1.2-1.6	2	4	5	PA		1	094-013565-00000
8	Combined liner, Teflon	0.8-1.2	1.5	4	3	Teflon	1	094-013800-00000	
8	Combined liner, Teflon	0.8-1.2	1.5	4	4	Teflon	1	094-013800-00004	
8	Combined liner, Teflon	0.8-1.2	1.5	4	5	Teflon	1	094-013800-00005	
8	Combined liner, Teflon	1-1.2	2	4	3	Teflon	1	094-013801-00000	
8	Combined liner, Teflon	1-1.2	2	4	4	Teflon	1	094-013801-00004	
8	Combined liner, Teflon	1.2-1.6	2	4	5	Teflon	1	094-013801-00005	
8	Combined liner, carbon Teflon	0.8-1.2	1.5	4	3	Carbon Teflon	1	094-013871-00000	
8	Combined liner, carbon Teflon	0.8-1.2	1.5	4	4	Carbon Teflon	1	094-013871-00004	
8	Combined liner, carbon Teflon	1.2-1.6	2	4	3	Carbon Teflon	1	094-013828-00000	
8	Combined liner, carbon Teflon	1.2-1.6	2	4	4	Carbon Teflon	1	094-013828-00004	
8.1	Inlet guide, liner	-	-	-	-	-	2	094-014032-00001	
9	Hexagonal nut	-	-	-	-	-	10	094-001080-00000	

## TIG/plasma AW Support cold wire



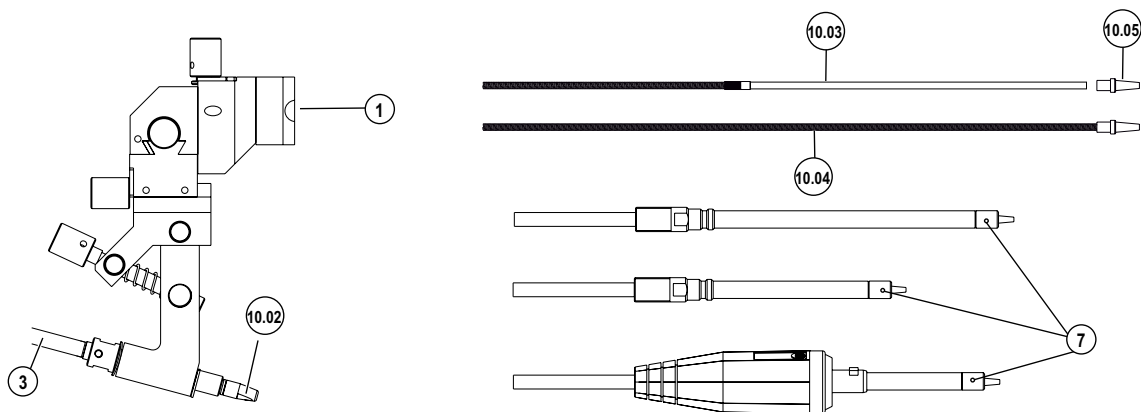
### Wire feed for automated TIG cold wire applications

- XYZ axes and setting angle infinitely lockable and adjustable
- Insulated design (HF safe)
- Suitable for TIG-MT automated welding torches
- Clamping range from 18 mm to 35 mm
- Rapid, straightforward assembly
- Adjustable on four axes:
  - Up/down
  - Forwards/backwards
  - Left/right
  - Angle
- Equipment as supplied: Wire  $\varnothing$  1 mm
- **Please note:** Maximum wire  $\varnothing$  = 1.2 mm (1.6 mm on request)

Type	Designation	Item no.
AWS CW 1,5 m DZA		094-020614-02015
AWS CW 3,0 m DZA		094-020614-02030
AWS CW 4,0 m DZA		094-020614-02040
AWS CW 1,5 m DZA Alu		094-020614-02215
AWS CW 3,0 m DZA Alu	4 axes support, cold wire, insulated setup, for Tetrax drive 4L/tigSpeed drive 45	094-020614-02230
AWS CW 4,0 m DZA Alu		094-020614-02240
AWS CW 1,5 m DZA CrNi		094-020614-02115
AWS CW 3,0 m DZA CrNi		094-020614-02130
AWS CW 4,0 m DZA CrNi		094-020614-02140
AWS CW 1,5 m Quick-Connect L		094-020614-00015
AWS CW 3,0 m Quick-Connect L		094-020614-00030
AWS CW 4,0 m Quick-Connect L		094-020614-00040
AWS CW 1,5 m Quick-Connect L Alu		094-020614-00215
AWS CW 3,0 m Quick-Connect L Alu		094-020614-00230
AWS CW 4,0 m Quick-Connect L Alu	4 axes support, cold wire, insulated setup, for T drive 4 Rob.2	094-020614-00240
AWS CW 1,5 m Quick-Connect L CrNi		094-020614-00115
AWS CW 3,0 m Quick-Connect L CrNi		094-020614-00130
AWS CW 4,0 m Quick-Connect L CrNi		094-020614-00140
AWS CW 1,5 m Quick-Connect S		094-020614-01015
AWS CW 3,0 m Quick-Connect S		094-020614-01030
AWS CW 4,0 m Quick-Connect S		094-020614-01040
AWS CW 1,5 m Quick-Connect S Alu		094-020614-01215
AWS CW 3,0 m Quick-Connect S Alu		094-020614-01230
AWS CW 4,0 m Quick-Connect S Alu	4 axes support, cold wire, insulated setup, for T drive 4 Rob.3	094-020614-01240
AWS CW 1,5 m Quick-Connect S CrNi		094-020614-01115
AWS CW 3,0 m Quick-Connect S CrNi		094-020614-01130
AWS CW 4,0 m Quick-Connect S CrNi		094-020614-01140

► Order the right wire feed for the wire feeder used!

## Consumables



Item	Designation	Wire Ø mm	Thread	Length	Material	Item no.
1	4 axes support, insulated setup	-	-	-	-	092-007868-00000
3	Wire hose	-	-	1.00 m	-	094-017104-00000
7	Crown nut	-	-	-	-	094-015563-00002
10.02	Contact tip	0.8	M7	30.00 mm	CuCrZr	094-013535-00001
10.02	Contact tip, aluminium welding	0.8	M7	30.00 mm	E-Cu	094-013550-00001
10.02	Contact tip	0.9	M7	30.00 mm	CuCrZr	094-013536-00001
10.02	Contact tip, aluminium welding	0.9	M7	30.00 mm	E-Cu	094-013551-00001
10.02	Contact tip	1	M7	30.00 mm	CuCrZr	094-013537-00001
10.02	Contact tip, aluminium welding	1	M7	30.00 mm	E-Cu	094-013552-00001
10.02	Contact tip	1.2	M7	30.00 mm	CuCrZr	094-013538-00001
10.02	Contact tip, aluminium welding	1.2	M7	30.00 mm	E-Cu	094-013553-00001

## Liners

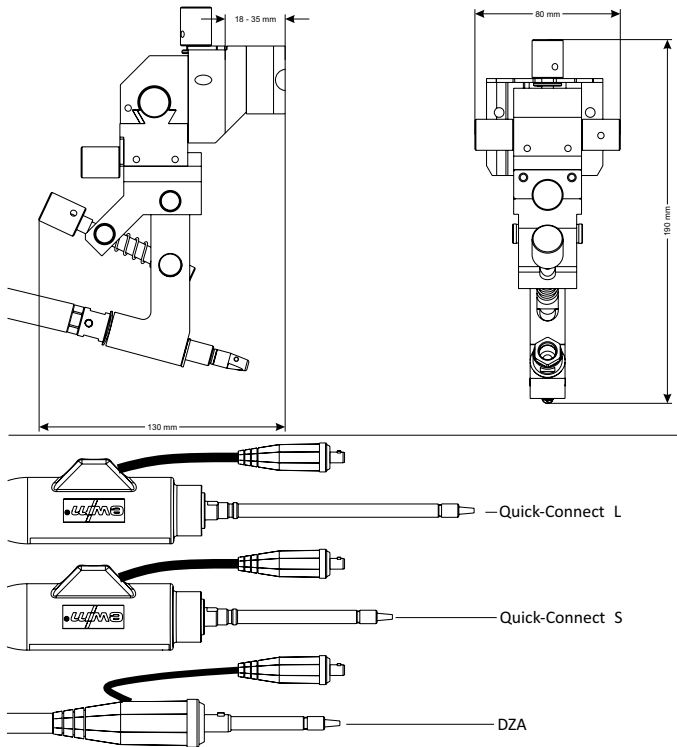
Item	Designation	Wire Ø mm	Inside Ø mm	Outside Ø mm	Length m	Material	Item no.
10.03	Combined liner, carbon teflon	0.6 - 1	1.5	4	3	Carbon teflon	094-013871-00000
10.03	Combined liner, Teflon	0.6 - 1	1.5	4	3	Teflon	094-013800-00000
10.03	Combined liner, carbon teflon	0.6 - 1	1.5	4	4	Carbon teflon	094-013871-00004
10.03	Combined liner, Teflon	0.6 - 1	1.5	4	4	Teflon	094-013800-00004
10.03	Combined liner, Teflon	0.6 - 1	1.5	4	5	Teflon	094-013800-00005
10.03	Combined liner, carbon teflon	1.2 - 1.6	2	4	3	Carbon teflon	094-013828-00000
10.03	Combined liner, Teflon	1.2 - 1.6	2	4	3	Teflon	094-013801-00000
10.03	Combined liner, PA	1.2 - 1.6	2	4	3.5	Polyamid	092-018706-00003
10.03	Combined liner, carbon teflon	1.2 - 1.6	2	4	4	Carbon teflon	094-013828-00004
10.03	Combined liner, Teflon	1.2 - 1.6	2	4	4	Teflon	094-013801-00004
10.03	Combined liner, PA	1.2 - 1.6	2	4	4.5	Polyamid	092-018706-00004
10.04	Steel liner	0.6 - 1	1.5	3.3	3.5	Steel	092-018695-00003
10.04	Steel liner, stainless steel	0.6 - 1	1.5	3.3	3.5	CrNi	092-018696-00003
10.04	Steel liner	0.6 - 1	1.5	3.3	4.5	Steel	092-018695-00004
10.04	Steel liner, stainless steel	0.6 - 1	1.5	3.3	4.5	CrNi	092-018696-00004
10.04	Steel liner	1.2 - 1.6	2	4	3.5	Steel	092-018693-00003
10.04	Steel liner, stainless steel	1.2 - 1.6	2	4	3.5	CrNi	092-018694-00003
10.04	Steel liner, brass	1.2 - 1.6	2	4	3.5	Brass	092-018697-00003
10.04	Steel liner	1.2 - 1.6	2	4	4.5	Steel	092-018693-00004
10.04	Steel liner, stainless steel	1.2 - 1.6	2	4	4.5	CrNi	092-018694-00004
10.04	Steel liner, brass	1.2 - 1.6	2	4	4.5	Brass	092-018697-00004
10.05	Inlet guide for plastic liners	-	-	4	-	-	094-014032-00001

## Options/accessories

Torch accessories	Item no.
HA AWS SP► For mounting support on FT1002W automated welding torch AWS support holder	092-022515-00000



## TIG/plasma AW support hot wire



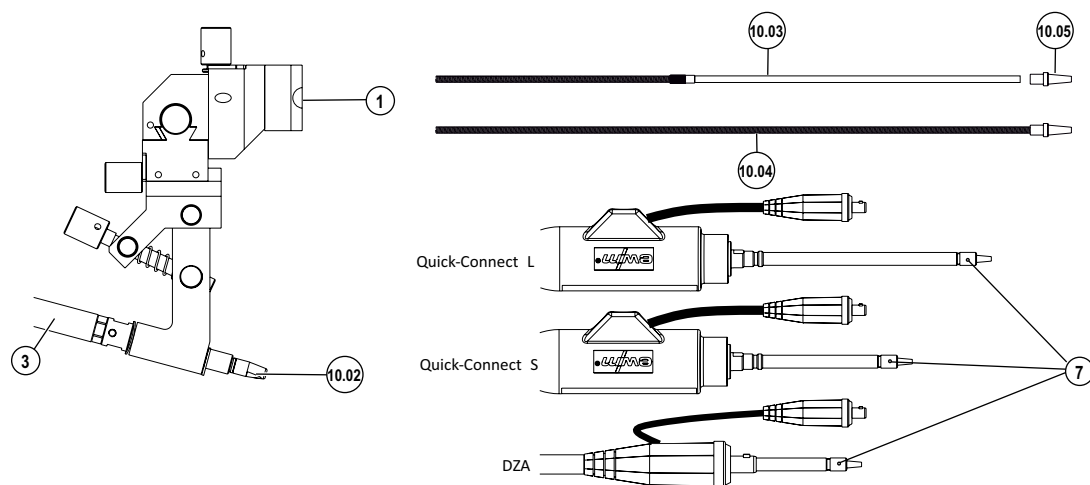
### **Maximum hot wire current 150 A / 35 %**

- Wire feed for automated TIG hot wire applications
- XYZ axes and setting angle infinitely lockable and adjustable
- Insulated design (HF safe)
- Suitable for TIG-MT automated welding torches
- Clamping range from 18 mm to 35 mm
- Rapid, straightforward assembly
- Adjustable on four axes:
  - Up/down
  - Forwards/backwards
  - Left/right
  - Angle
- Equipment as supplied: Wire  $\varnothing$  1 mm
- **Please note:** Maximum wire  $\varnothing$  = 1.2 mm (1.6 mm on request)

Type	Designation	Item no.
AWS HW 1,5 m DZA		094-020614-12015
AWS HW 3,0 m DZA		094-020614-12030
AWS HW 4,0 m DZA		094-020614-12040
AWS HW 1,5 m DZA Alu		094-020614-12215
AWS HW 3,0 m DZA Alu	4 axes support, hot wire, insulated setup, for Tetrax drive 4L/tigSpeed drive 45	094-020614-12230
AWS HW 4,0 m DZA Alu		094-020614-12240
AWS HW 1,5 m DZA CrNi		094-020614-12115
AWS HW 3,0 m DZA CrNi		094-020614-12130
AWS HW 4,0 m DZA CrNi		094-020614-12140
AWS HW 1,5 m Quick-Connect L		094-020614-10015
AWS HW 3,0 m Quick-Connect L		094-020614-10030
AWS HW 4,0 m Quick-Connect L		094-020614-10040
AWS HW 1,5 m Quick-Connect L Alu		094-020614-10215
AWS HW 3,0 m Quick-Connect L Alu		094-020614-10230
AWS HW 4,0 m Quick-Connect L Alu	4 axes support, hot wire, insulated setup, for T drive 4 Rob.2	094-020614-10240
AWS HW 1,5 m Quick-Connect L CrNi		094-020614-10115
AWS HW 3,0 m Quick-Connect L CrNi		094-020614-10130
AWS HW 4,0 m Quick-Connect L CrNi		094-020614-10140
AWS HW 1,5 m Quick-Connect S		094-020614-11015
AWS HW 3,0 m Quick-Connect S		094-020614-11030
AWS HW 4,0 m Quick-Connect S		094-020614-11040
AWS HW 1,5 m Quick-Connect S Alu		094-020614-11215
AWS HW 3,0 m Quick-Connect S Alu		094-020614-11230
AWS HW 4,0 m Quick-Connect S Alu	4 axes support, hot wire, insulated setup, for T drive 4 Rob.3	094-020614-11240
AWS HW 1,5 m Quick-Connect S CrNi		094-020614-11115
AWS HW 3,0 m Quick-Connect S CrNi		094-020614-11130
AWS HW 4,0 m Quick-Connect S CrNi		094-020614-11140

► Order the right wire feed for the wire feeder used!

## Consumables



Item	Designation	Wire Ø mm	Thread	Length	Material	Item no.
1	4 axes support, insulated setup	-	-	-	-	092-007868-00000
3	Coaxial cable	-	-	1.50 m	-	094-016625-00015
3	Coaxial cable	-	-	3.00 m	-	094-016625-00000
3	Coaxial cable	-	-	4.00 m	-	094-016625-00004
7	Crown nut	-	-	-	-	094-015563-00002
10.02	Contact tip	0.8	M7	30.00 mm	CuCrZr	094-013535-00001
10.02	Contact tip, aluminium welding	0.8	M7	30.00 mm	E-Cu	094-013550-00001
10.02	Contact tip	0.9	M7	30.00 mm	CuCrZr	094-013536-00001
10.02	Contact tip, aluminium welding	0.9	M7	30.00 mm	E-Cu	094-013551-00001
10.02	Contact tip	1	M7	30.00 mm	CuCrZr	094-013537-00001
10.02	Contact tip, aluminium welding	1	M7	30.00 mm	E-Cu	094-013552-00001
10.02	Contact tip	1.2	M7	30.00 mm	CuCrZr	094-013538-00001
10.02	Contact tip, aluminium welding	1.2	M7	30.00 mm	E-Cu	094-013553-00001
-	Heat protection hose	-	-	-	-	094-021163-00000

## Liners

Item	Designation	Wire Ø	Inside Ø	Outside Ø	Length	Material	Item no.
		mm	mm	mm			
10.03	Combined liner, carbon teflon	0.6 - 1	1.5	4	3	Carbon teflon	094-013871-00000
10.03	Combined liner, Teflon	0.6 - 1	1.5	4	3	Teflon	094-013800-00000
10.03	Combined liner, carbon teflon	0.6 - 1	1.5	4	4	Carbon teflon	094-013871-00004
10.03	Combined liner, Teflon	0.6 - 1	1.5	4	4	Teflon	094-013800-00004
10.03	Combined liner, Teflon	0.6 - 1	1.5	4	5	Teflon	094-013800-00005
10.03	Combined liner, carbon teflon	1.2 - 1.6	2	4	3	Carbon teflon	094-013828-00000
10.03	Combined liner, Teflon	1.2 - 1.6	2	4	3	Teflon	094-013801-00000
10.03	Combined liner, PA	1.2 - 1.6	2	4	3.5	Polyamid	092-018706-00003
10.03	Combined liner, carbon teflon	1.2 - 1.6	2	4	4	Carbon teflon	094-013828-00004
10.03	Combined liner, Teflon	1.2 - 1.6	2	4	4	Teflon	094-013801-00004
10.03	Combined liner, PA	1.2 - 1.6	2	4	4.5	Polyamid	092-018706-00004
10.04	Steel liner	0.6 - 1	1.5	3.3	3.5	Steel	092-018695-00003
10.04	Steel liner, stainless steel	0.6 - 1	1.5	3.3	3.5	CrNi	092-018696-00003
10.04	Steel liner	0.6 - 1	1.5	3.3	4.5	Steel	092-018695-00004
10.04	Steel liner, stainless steel	0.6 - 1	1.5	3.3	4.5	CrNi	092-018696-00004
10.04	Steel liner	1.2 - 1.6	2	4	3.5	Steel	092-018693-00003
10.04	Steel liner, stainless steel	1.2 - 1.6	2	4	3.5	CrNi	092-018694-00003
10.04	Steel liner, brass	1.2 - 1.6	2	4	3.5	Brass	092-018697-00003
10.04	Steel liner	1.2 - 1.6	2	4	4.5	Steel	092-018693-00004
10.04	Steel liner, stainless steel	1.2 - 1.6	2	4	4.5	CrNi	092-018694-00004
10.04	Steel liner, brass	1.2 - 1.6	2	4	4.5	Brass	092-018697-00004
10.05	Inlet guide for plastic liners	-	-	4	-	-	094-014032-00001

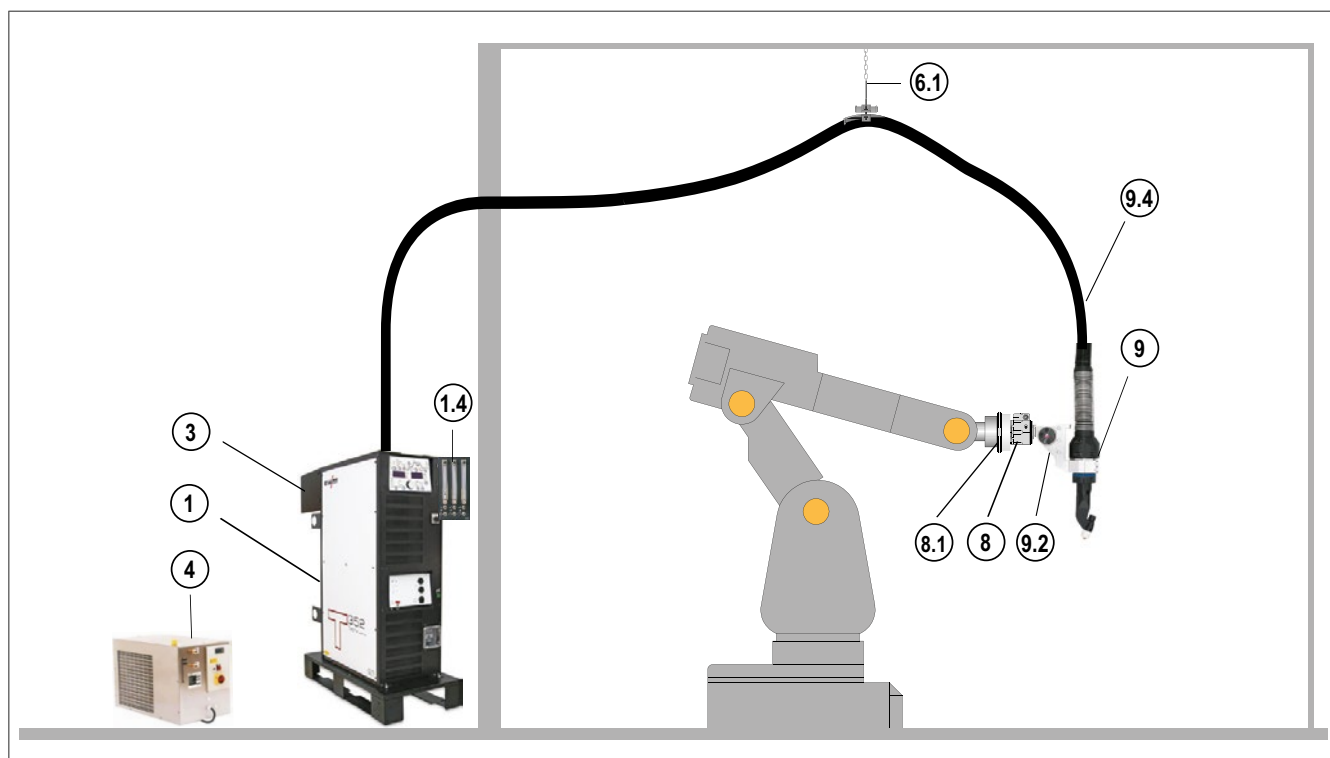
## Options/accessories

Torch accessories	Item no.
HA AWS SP► For mounting support on FT1002W automated welding torch AWS support holder	092-022515-00000

# Overview

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		Microplasma 25 Comfort 2.0 P RC mechanised welding system <b>151</b>

## Tetrix Plasma, water cooled Conventional welding robot system



### **Tetrix 152 Synergic Plasma**

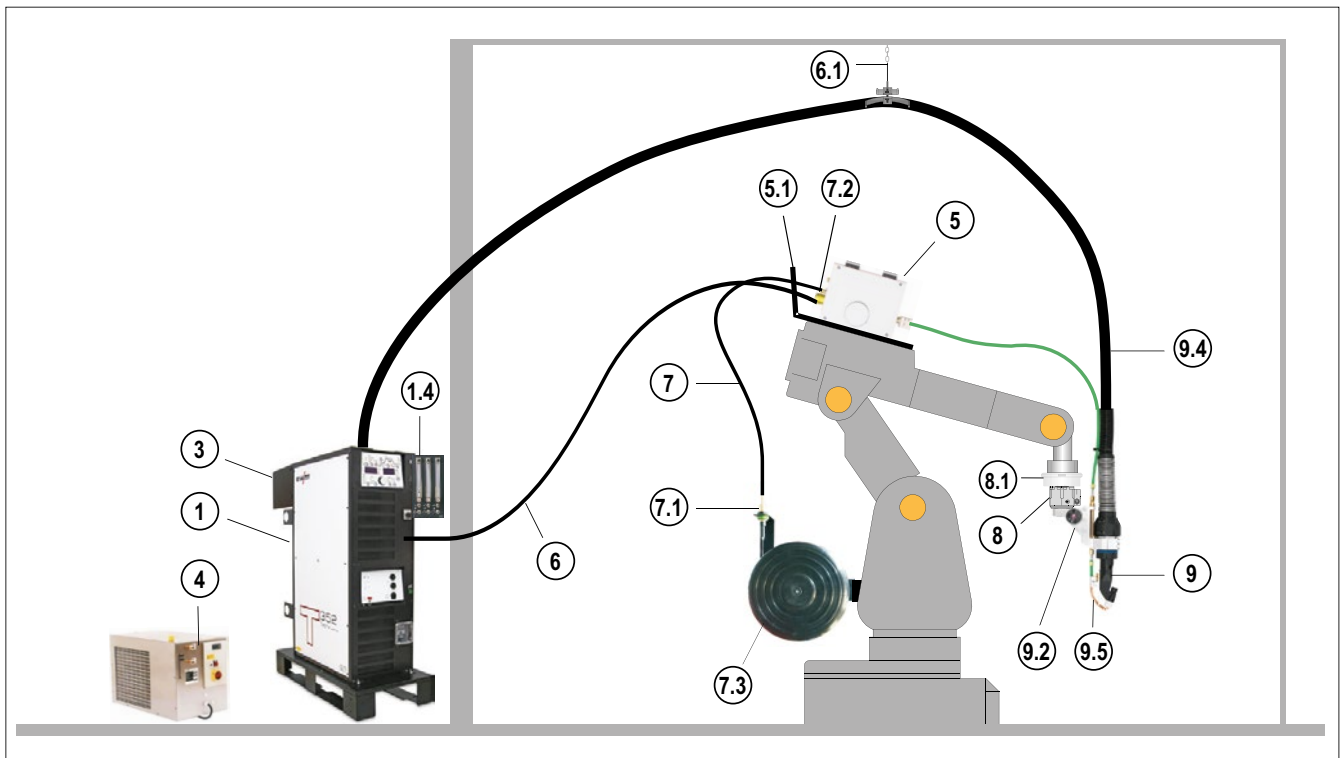
- With Synergic front control
- Water cooled
- Without cold wire
- Example shown: Kuka KR16

### Conventional welding robot system

Type	Designation	Item no.
Tetrix 152 Synergic Plasma	DC plasma welding machine with Synergic control, incl., PALETTE ROB XX2' transport pallet	090-008722-00502
OW CEE 32A	Mains plug, assembled	092-008215-00000
WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
Maxex AR/MIX 200bar 30m <sup>3</sup> G1/4"	Pressure regulator „Maxex“	096-000000-00000
Maxex Hydrogen 200bar 30m <sup>3</sup> G3/8"L	Cylinder pressure regulator	096-000001-00000
GDE 5	Gas metering unit with 3 gas quantity meters	090-008850-00000
GH 2x1/4" 2m	Gas hose	094-000010-00001
G1/4"+G3/8" 2 m		092-000525-00001
Tetrix BUSINT X11 PLASMA DEVICE NET ATCASE	DEVICE NET industrial bus interface in casing, including potential-free voltage supply	090-008690-00000
RK 2	Recooling unit	094-002284-00000
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
		094-000530-00005
		094-000530-00005
		094-000530-00005
HOSE BRIDGE	Hose bridge	092-007857-00000
WS 2x0,5M	Water hoses, two units	092-001953-00001
ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
RSA MEDIUM PLUS	Collision sensor	094-023605-00000
FL ISO 9409-1-A40	Intermediate flange, plastic	094-013347-00500
PT150 TE2.4/PN1.8	Plasma robot welding torch	094-016988-00000
SH PLASMA CT	Segment holder for plasma torch	094-016314-00000
SP CT20 W 4m	Hose package plasma torch	094-016315-00000
ANALYZER	Software for control and status signal analysis	090-008778-00000
PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

## Tetrix Plasma, water cooled Conventional welding robot system Tetrix with cold wire



### Tetrix 352 Synergic Plasma CW

- With Synergic front control
- T drive 4 Rob 3 RE IG3
- Water cooled
- With cold wire
- Example shown: Kuka KR 16 R2010-2

### Conventional welding robot system Tetrix with cold wire

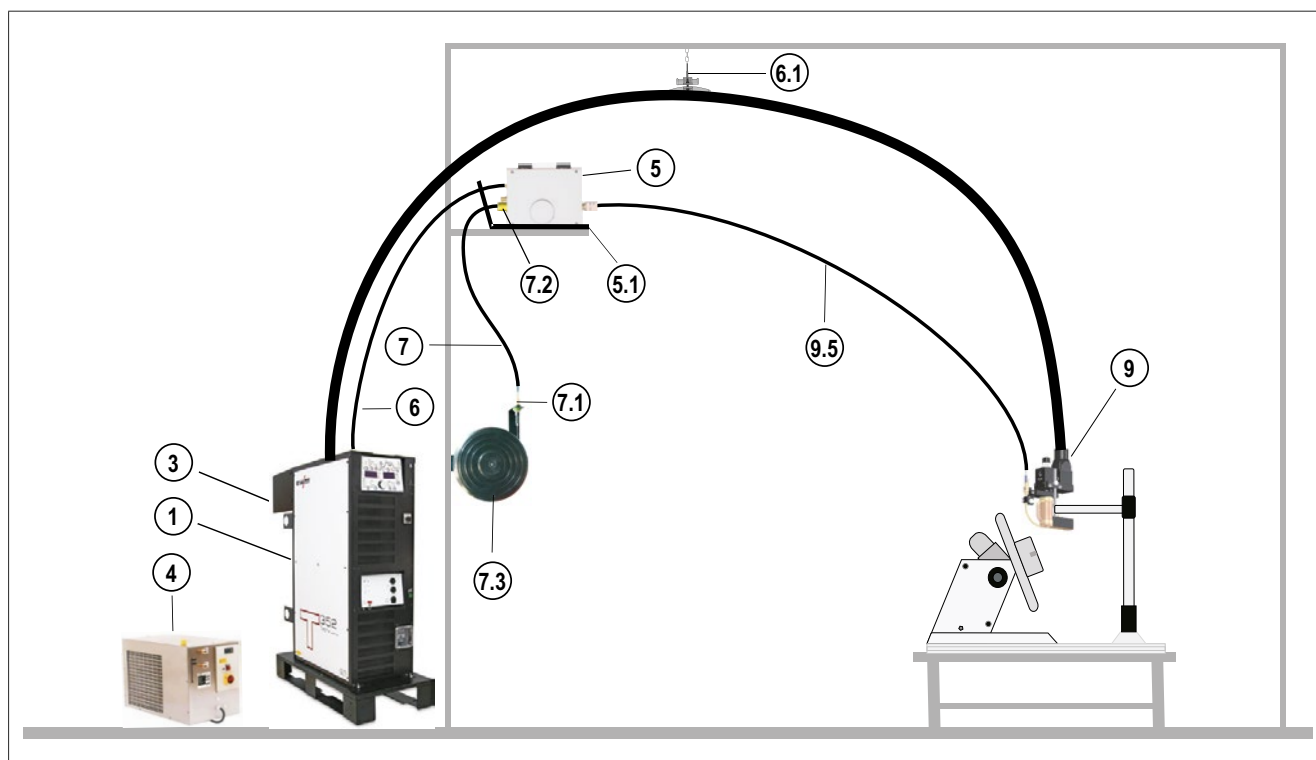


Type	Designation	Item no.
Tetrix 352 Synergic Plasma CW	DC plasma welding machine with Synergic control and connection capability for cold wire, incl. transport pallet, PALETTE ROB XX2'	090-000212-00502
OW CEE 32A	Mains plug, assembled	092-008215-00000
WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
Maxex AR/MIX 200bar 30m <sup>3</sup> G1/4"	Pressure regulator „Maxex“	096-000000-00000
Maxex Hydrogen 200bar 30m <sup>3</sup> G3/8"L	Cylinder pressure regulator	096-000001-00000
GDE 5	Gas metering unit with 3 gas quantity meters	090-008850-00000
GH 2x1/4" 2m	Gas hose	094-000010-00001
G1/4"+G3/8" 2 m		092-000525-00001
RK 2.1	Recooling unit with boosted pump 8 bar	094-002284-02000
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
		094-000530-00005
		094-000530-00005
		094-000530-00005
		094-000530-00005
HOSE BRIDGE	Hose bridge	092-007857-00000
WS 2x0,5M	Water hoses, two units	092-001953-00001
T drive 4 Rob 3 RE IG3	Wire feeder for automated applications, opens on right, IG3 speedometer solution	090-008783-00502
MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
SLP S 7/12 POL 5M	Control cable, standard protective hose	092-007855-52105
ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000
DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
AK300	Wire spool adapter B300	094-001803-00001
RSA MEDIUM PLUS	Collision sensor	094-023605-00000
ZF ISO 9409-1-A50	Intermediate flange, plastic	094-016554-00000
PT250CW ZF1.0/TE5.0/PN4.0	Plasma robot welding torch, cold wire, water-cooled	094-016989-00000
SH PLASMA CT	Segment holder for plasma torch	094-016314-00000
SP CT20 W 4m	Hose package plasma torch	094-016315-00000
AW CW 4 m Quick-Connect S	Cold wire feed, for T drive 4 Rob 3	094-020613-00001
CWF SET 150/250 CT20	Plasma cold wire feed, set	094-016319-00000
Tetrix BUSINT X11 PLASMA ETHERCAT	ETHERCAT industrial bus interface in casing, including external potential-free voltage supply	090-008680-00000
ANALYZER	Software for control and status signal analysis	090-008778-00000
PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

► Image for conceptual purposes. Not all listed items are shown.

## Tetrix Plasma, water cooled

### Mechanised welding system Tetrix 552 Synergic with cold wire, gas control and GN gas



#### **Tetrix 552 Synergic Plasma CW GR**

- Digital gas control
- With Synergic front control
- T drive 4 Rob 3 RE IG3
- Water cooled
- With cold wire
- Welding torch equipped with a gas-cooled gas nozzle
- As demonstrated on a mechanical application

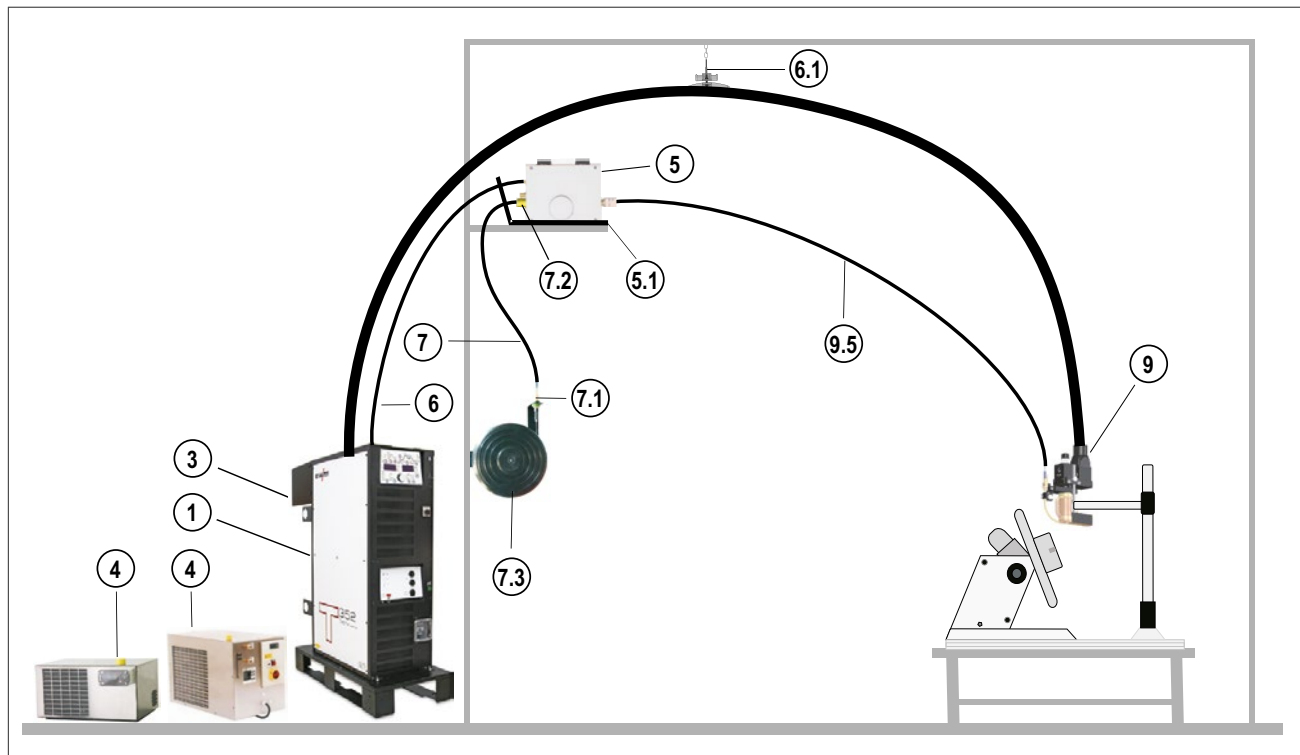
Mechanised welding system Tetrix 552 Synergic with cold wire, gas control and GN gas

Type	Designation	Item no.
Tetrix 552 Synergic Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic control and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000210-00502
OW CEE 63A	Mains plug, assembled	092-008216-00000
WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
Maxex AR/MIX 200bar 30m <sup>3</sup> G1/4"	Pressure regulator „Maxex“	096-000000-00000
Maxex Hydrogen 200bar 30m <sup>3</sup> G3/8"L	Cylinder pressure regulator	096-000001-00000
GH 2x1/4" 2m	Gas hose	094-000010-00001
G1/4"+G3/8" 2 m		092-000525-00001
Tetrix BUSINT X11 PLASMA PRO-FIBUS ATCASE	PROFIBUS industrial bus interface in casing, including potential-free voltage supply	090-008624-00000
RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
		094-000530-00005
		094-000530-00005
		094-000530-00005
HOSE BRIDGE	Hose bridge	092-007857-00000
WS 2x0,5M	Water hoses, two units	092-001953-00001
T drive 4 Rob 3 RE IG3	Wire feeder for automated applications, opens on right, IG3 speedometer solution	090-008783-00502
MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
SLP S 7/12 POL 5M	Control cable, standard protective hose	092-007855-52105
ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000
DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
AK300	Wire spool adapter B300	094-001803-00001
PWM 350-S180 8m	Plasma machine welding torch	094-016544-00008
AW CW 4 m Quick-Connect S	Cold wire feed, for T drive 4 Rob 3	094-020613-00001
CWSS CPL PMW 350-S90/S180	Cold wire feed, short, for gas-cooled gas nozzles, complete	094-016613-00000
MP PMW 350	Mounting plate, for water-cooled gas nozzles, complete	094-016129-00000
CPLUG	Coupling plug	094-013467-00000
CSLEEVE	Coupling socket	094-013466-00000
GD GR.24G PMW/PWM 350	Gas nozzle, plug fitting	094-013817-00000
Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

► Image for conceptual purposes. Not all listed items are shown.

## Tetrix Plasma, water cooled

### Tetrix 552 Synergic mechanised welding system with cold wire, gas control and GN water-cooled



#### **Tetrix 552 Synergic Plasma CW GR**

- Digital gas control
- With Synergic front control
- T drive 4 Rob 3 RE IG3
- Water cooled
- With cold wire
- Welding torch equipped with a water-cooled gas nozzle
- As demonstrated on a mechanical application

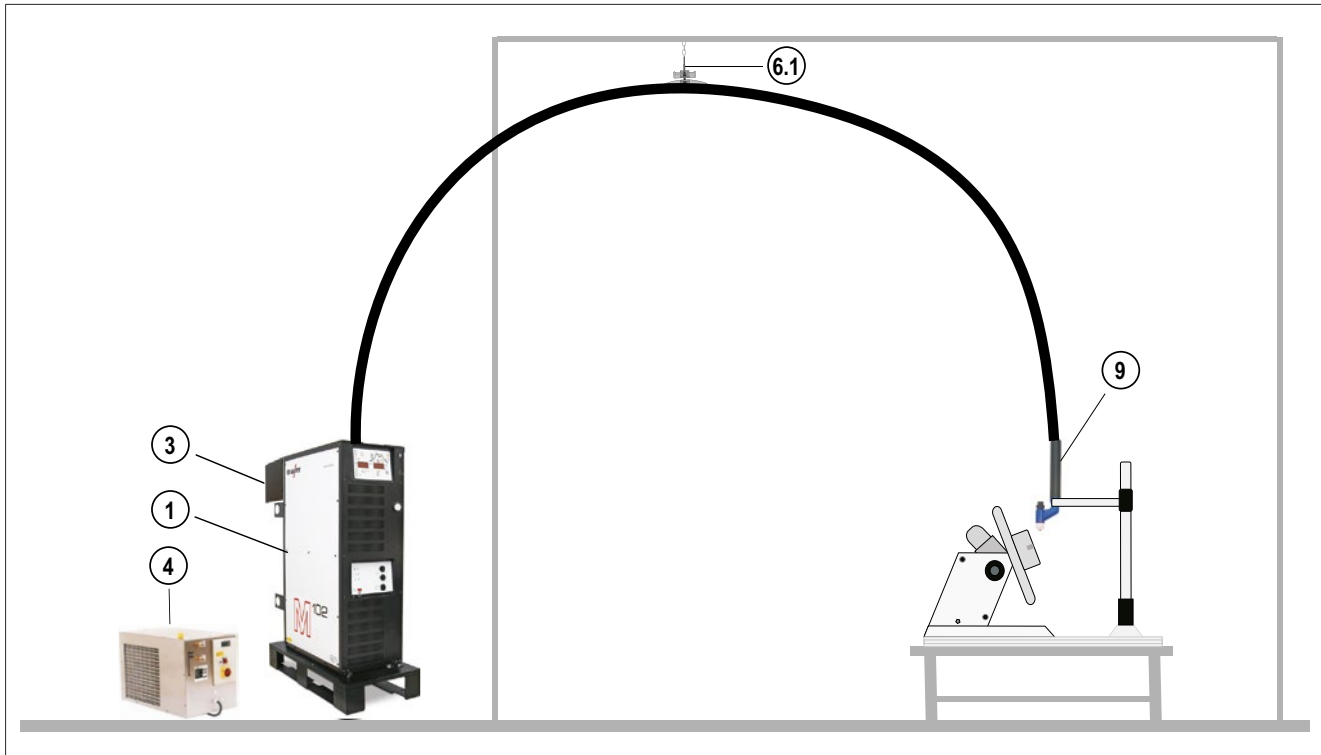
etrix 552 Synergic mechanised welding system with cold wire, gas control and GN water-cooled

Type	Designation	Item no.
Tetrix 552 Synergic Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic control and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000210-00502
OW CEE 63A	Mains plug, assembled	092-008216-00000
WK95/CL 5m	Workpiece lead with cable lug	092-001990-00005
Maxex AR/MIX 200bar 30m <sup>3</sup> G1/4"	Pressure regulator „Maxex“	096-000000-00000
Maxex Hydrogen 200bar 30m <sup>3</sup> G3/8"L	Cylinder pressure regulator	096-000001-00000
GH 2x1/4" 2m	Gas hose	094-000010-00001
G1/4"+G3/8" 2 m		092-000525-00001
Tetrix BUSINT X11 PLASMA PRO-FIBUS ATCASE	PROFIBUS industrial bus interface in casing, including potential-free voltage supply	090-008624-00000
RK 1	Recooling unit	094-002283-00000
RK 3.1	Recooling unit with boosted pump 8 bar	094-002285-02000
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
		094-000530-00005
		094-000530-00005
		094-000530-00005
HOSE BRIDGE	Hose bridge	092-007857-00000
		092-007857-00000
WS 2x0,5M	Water hoses, two units	092-001953-00001
ON DFW RK	Flow monitor connection, retrofit option	092-008266-00000
T drive 4 Rob 3 RE IG3	Wire feeder for automated applications, opens on right, IG3 speedometer solution	090-008783-00502
MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000
ON COOL W ROB3	Retrofit option water cooling ROB 3	092-002384-00000
SLP WS 7/12 POL 5M	Control cable, standard protective hose	092-007855-51105
ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
WIRE CONDUIT 1,8M	Wire guide	094-011515-00004
CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000
DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000
AK300	Wire spool adapter B300	094-001803-00001
PWM 350-S180 8m	Plasma machine welding torch	094-016544-00008
AW CW 4 m Quick-Connect S	Cold wire feed, for T drive 4 Rob 3	094-020613-00001
CWS CPL PMW 350-S90/S180	Cold wire feed, standard, for water-cooled gas nozzles, complete	094-013464-00000
MP PMW 350	Mounting plate, for water-cooled gas nozzles, complete	094-016129-00000
CPLUG	Coupling plug	094-013467-00000
CSLEEVE	Coupling socket	094-013466-00000
GNOZZ GR.29-W-CU PMW 350	Gas nozzle, screw fitting	094-016157-00000
WGD PWM350	Hose set, 4 m, for water-cooled gas nozzles. Can be cut to the required length	094-022661-00000
Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

► Image for conceptual purposes. Not all listed items are shown.

## Tetrix Microplasma, water cooled

### Mechanised welding system Microplasma 102 Synergic RC with cold wire and gas control



#### Microplasma 102 Synergic RC CW GR

- Digital gas control
- With Synergic-RC display
- Water cooled
- Prepared for cold wire
- Example shows a mechanical application

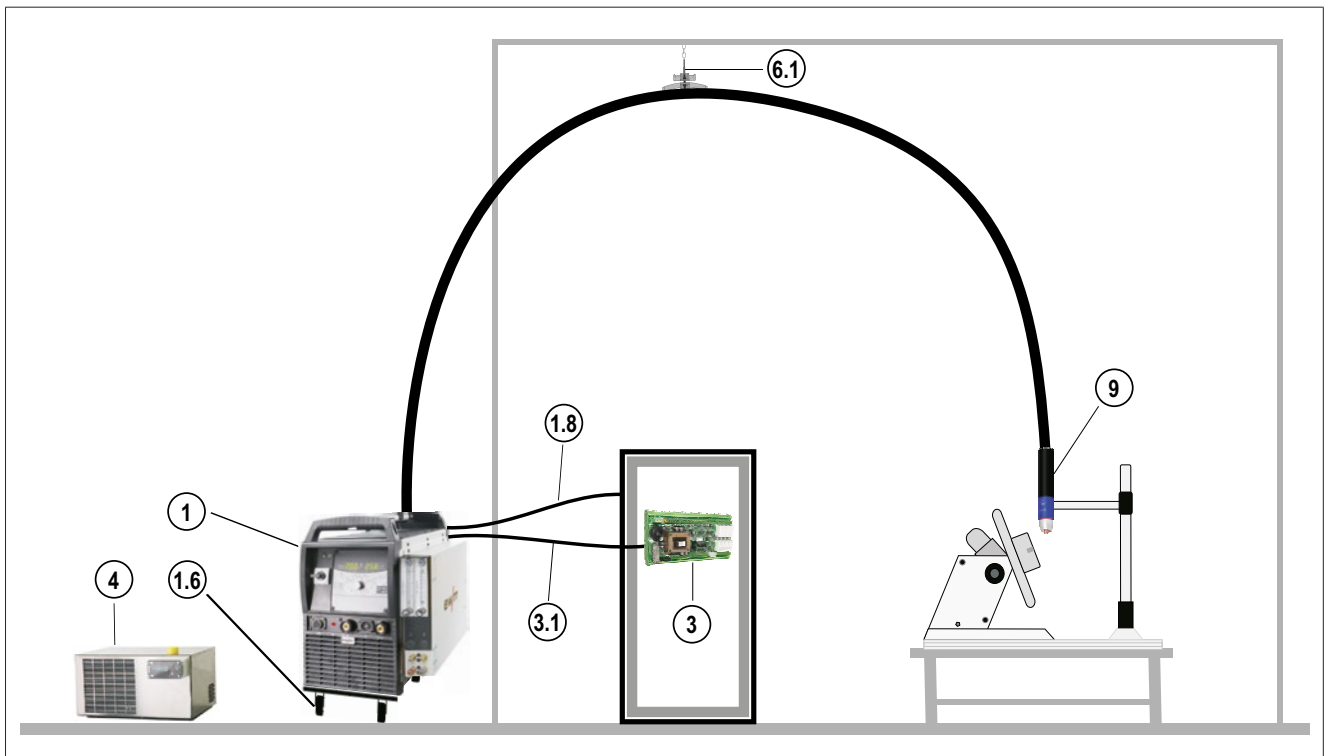
#### Mechanised welding system Microplasma 102 Synergic RC with cold wire and gas control

Type	Designation	Item no.
Microplasma 102 Synergic RC CW GR	Plasma DC welding machine with digital gas control, Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-007026-00502
OW CEE 32A	Mains plug, assembled	092-008215-00000
WK70/CL 5m	Workpiece lead with cable lug	092-002078-00005
Maxex AR/MIX 200bar 30m <sup>3</sup> G1/4"	Pressure regulator „Maxex“	096-000000-00000
Maxex Hydrogen 200bar 30m <sup>3</sup> G3/8"L	Cylinder pressure regulator	096-000001-00000
GH 2x1/4" 2m	Gas hose	094-000010-00001
G1/4"+G3/8" 2 m		092-000525-00001
Tetrix BUSINT X11 PLASMA PRO-FIBUS ATCASE	PROFIBUS industrial bus interface in casing, including potential-free voltage supply	090-008624-00000
RK 2	Recooling unit	094-002284-00000
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
		094-000530-00005
		094-000530-00005
		094-000530-00005
HOSE BRIDGE	Hose bridge	092-007857-00000
WS 2x0,5M	Water hoses, two units	092-001953-00001
ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
PWM 100 3M	Plasma machine welding torch	094-013799-00000
ADAP HILIBO	Banana jack adapter	092-001382-00000
PWH/PWM 100	Consumables box, PWH/PWM 100	094-008270-00000
Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

► Image for conceptual purposes. Not all listed items are shown.

# Tetrix Microplasma, water cooled

## Microplasma 25 Comfort 2.0 P RC mechanised welding system



### Microplasma 25 Comfort 2.0 P RC

- Gas metering unit with two manometers for gas quantity
- With Comfort 2.0 P control
- Water cooled
- With external RINTX12 interface
- As demonstrated on a mechanical application

### Microplasma 25 Comfort 2.0 P RC mechanised welding system

Type	Designation	Item no.
Microplasma 25-2 PG RC	Microplasma welding machine with precision gas metering unit	090-007033-00502
WK25mm <sup>2</sup> Ø 9 mm 230A/60% 4m FIX	Workpiece lead with original FIX clamp	398-000593-00000
Maxex AR/MIX 200bar 30m <sup>3</sup> G1/4"	Pressure regulator „Maxex“	096-000000-00000
Maxex Hydrogen 200bar 30m <sup>3</sup> G3/8"L	Cylinder pressure regulator	096-000001-00000
GH 2x1/4" 2m	Gas hose	094-000010-00001
G1/4"+G3/8" 2 m		092-000525-00001
ON WAK TG.03/TG.04/TG.09/K.02	Wheel assembly kit	092-001356-00000
RA5 19POL 1x 5M	Connection cable, 19-pole, one-sided wire end ferrules	092-001569-00005
RINT X12 STANDARD	Standard robot interface	090-008291-00000
FRV 7POL 5m	Digital 7-pole cable	092-000201-00003
ON PLUG SET RINT X12	Retrofit option EWM plug set for RINT X12/DVINT X11	092-001822-00000
RK 1	Recooling unit	094-002283-00000
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005
UKV4SET 4M		094-000530-00005
UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000
ON ZWIPIA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000
PWM 25 3m	Plasma machine welding torch	394-006510-00000
ADAP3 G1/4-G1/4 LKS	Threaded adapter for connecting 1/4" left-hand thread gas hoses to welding machines with 1/4" right-hand connecting nipples	094-001652-00000
Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

► Image for conceptual purposes. Not all listed items are shown.





## Overview


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	Tetrix DC Plasma, cold wire, digital gas control	152 - 352 - 552 Synergic CW GR <b>158</b>
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	DC Microplasma, cold wire, digital gas control	102 Synergic RC CW GR <b>162</b>
	DC Microplasma	25-2 - 55-2 - 105-2 PG RC <b>163</b>

## Tetrix DC Plasma 152 - 352 - 552 Synergic

/activArc®



- DC plasma welding machine with Synergic front control
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- No need to purchase additional characteristics – all characteristics for this machine type are included in the scope of delivery ex works
- Current control 5 A to 150 A, 5 A to 350 A or 5 A to 550 A
- Operation requires a GDE4, GDE4.1 or GDE5 gas metering unit
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in combination with BUSINTX11 ATCASE)
- Emergency stop circuit in hardware for safety shut-down
- Medium monitoring for shielding gas/pilot gas pressure
- Non-interchangeable connections for all mediums
- Water flow monitoring
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

Tetrix	152	352	552
<b>Setting range for welding current</b>	5 A - 150 A	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>	–		550 A / 60 %
	150 A / 100 %	350 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	20.3 kVA	20.3 kVA	39.5 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm		
<b>Weight</b>	116 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		


Type	Designation	Item no.
Tetrix 152 Synergic Plasma	DC plasma welding machine with Synergic control, incl.,PALETTE ROB XX2' transport pallet	090-008722-00502
Tetrix 352 Synergic Plasma	DC plasma welding machine with Synergic control, incl.,PALETTE ROB XX2' transport pallet	090-008725-00502
Tetrix 552 Synergic Plasma	DC plasma welding machine with Synergic control, incl.,PALETTE ROB XX2' transport pallet	090-008728-00502

# Tetrix DC Plasma 152 - 352 - 552 Synergic RC

/activArc®



- DC plasma welding machine with Synergic-RC display
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, secondary current, pulse time, pause time; BUSINT: main current, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Current control 5 A to 150 A, 5 A to 350 A or 5 A to 550 A
- Operation requires a GDE4, GDE4.1 or GDE5 gas metering unit
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in combination with BUSINTX11 ATCASE)
- Emergency stop circuit in hardware for safety shut-down
- Medium monitoring for shielding gas/pilot gas pressure
- Non-interchangeable connections for all mediums
- Water flow monitoring
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

Tetrix	152	352	552
<b>Setting range for welding current</b>	5 A - 150 A	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>		–	550 A / 60 %
	150 A / 100 %	350 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	20.3 kVA	20.3 kVA	39.5 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm		
<b>Weight</b>	116 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 152 Synergic RC Plasma	DC plasma welding machine with Synergic RC display, incl. transport pallet, PALETTE ROB XX2'	090-000199-00502
Tetrix 352 Synergic RC Plasma	DC plasma welding machine with Synergic RC display, incl. transport pallet, PALETTE ROB XX2'	090-000200-00502
Tetrix 552 Synergic RC Plasma	DC plasma welding machine with Synergic RC display, incl. transport pallet, PALETTE ROB XX2'	090-000201-00502

## Tetrix DC Plasma, cold wire 152 - 352 - 552 Synergic CW

/activArc®



- DC plasma welding machine with Synergic control and cold wire connection capability
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Prepared for connection of cold wire push/push
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, cold wire speed, secondary current, pulse time, pause time; BUSINT: main current, cold wire speed, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Current control 5 A to 150 A, 5 A to 350 A or 5 A to 550 A
- Operation requires a GDE4, GDE4.1 or GDE5 gas metering unit
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in conjunction with BUSINT ATCASE), wire stick detection (dependent on torch)
- Emergency stop circuit in hardware for safety shut-down
- Medium monitoring for shielding gas/pilot gas pressure
- Non-interchangeable connections for all mediums
- Water flow monitoring
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

Tetrix	152	352	552
<b>Setting range for welding current</b>	5 A - 150 A	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>			550 A / 60 %
	150 A / 100 %	350 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	20.3 kVA	20.3 kVA	39.5 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm		
<b>Weight</b>	116 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 152 Synergic Plasma CW	DC plasma welding machine with Synergic control and connection capability for cold wire, incl. transport pallet, PALETTE ROB XX2'	090-000211-00502
Tetrix 352 Synergic Plasma CW	DC plasma welding machine with Synergic control and connection capability for cold wire, incl. transport pallet, PALETTE ROB XX2'	090-000212-00502
Tetrix 552 Synergic Plasma CW	DC plasma welding machine with Synergic control and connection capability for cold wire, incl. transport pallet, PALETTE ROB XX2'	090-000213-00502

### Options/accessories

Options for retrofitting	Item no.
<b>ON SENSOR UNIT WIRE END</b> Wire end sensor	092-001190-00000



# Tetrix DC Plasma, cold wire 152 - 352 - 552 Synergic RC CW

/activArc®



- DC plasma welding machine with Synergic-RC display and cold wire connection capability
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Prepared for connection of cold wire push/push
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, cold wire speed, secondary current, pulse time, pause time; BUSINT: main current, cold wire speed, secondary current, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Current control 5 A to 150 A, 5 A to 350 A or 5 A to 550 A
- Operation requires a GDE4, GDE4.1 or GDE5 gas metering unit
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in conjunction with BUSINT ATCASE), wire stick detection (dependent on torch)
- Emergency stop circuit in hardware for safety shut-down
- Medium monitoring for shielding gas/pilot gas pressure
- Non-interchangeable connections for all mediums
- Water flow monitoring
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

Tetrix	152	352	552
<b>Setting range for welding current</b>	5 A - 150 A	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>		–	550 A / 60 %
	150 A / 100 %	350 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	20.3 kVA	20.3 kVA	39.5 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm		
<b>Weight</b>	116 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 152 Synergic RC Plasma CW	Plasma DC welding machine with Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000205-00502
Tetrix 352 Synergic RC Plasma CW	Plasma DC welding machine with Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000206-00502
Tetrix 552 Synergic RC Plasma CW	Plasma DC welding machine with Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000207-00502

## Options/accessories

Options for retrofitting	Item no.
<b>ON SENSOR UNIT WIRE END</b> Wire end sensor	092-001190-00000



## Tetrix DC Plasma, cold wire, digital gas control 152 - 352 - 552 Synergic CW GR

/activArc®



- DC plasma welding machine with Synergic control, cold wire connection capability and digital gas control
- Set up on front control or notebook with PC300. NET software
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Prepared for connection of cold wire push/push
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, cold wire speed, secondary current, pulse time, pause time; BUSINT: main current, cold wire speed, secondary current, plasma gas, shielding gas, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Current control 5 A to 150 A, 5 A to 350 A or 5 A to 550 A
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in conjunction with BUSINT ATCASE), wire stick detection (dependent on torch)
- Emergency stop circuit in hardware for safety shut-down
- Non-interchangeable connections for all mediums
- Water flow monitoring
- Digital gas control for shielding gas and plasma gas
- Medium monitoring for shielding gas/pilot gas pressure and flow
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

Tetrix	152	352	552
<b>Setting range for welding current</b>	5 A - 150 A	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>			550 A / 60 %
	150 A / 100 %	350 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	20.3 kVA	20.3 kVA	39.5 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm		
<b>Weight</b>	116 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Tetrix 152 Synergic Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic control and connection capability for cold wire, including transport pallet ,PALETTE ROB XX2'	090-000208-00502
Tetrix 352 Synergic Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic control and connection capability for cold wire, including transport pallet ,PALETTE ROB XX2'	090-000209-00502
Tetrix 552 Synergic Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic control and connection capability for cold wire, including transport pallet ,PALETTE ROB XX2'	090-000210-00502

## Options/accessories

### Options for retrofitting

#### ON SENSOR UNIT WIRE END

Wire end sensor



### Item no.


092-001190-00000

# Tetrix DC Plasma, cold wire, digital gas control 152 - 352 - 552 Synergic RC CW GR

/activArc®



- DC plasma welding machine with Synergic-RC display, cold wire connection capability and digital gas control
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Prepared for connection of cold wire push/push
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, cold wire speed, secondary current, pulse time, pause time; BUS-INT: main current, cold wire speed, secondary current, plasma gas, shielding gas, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Current control 5 A to 150 A, 5 A to 350 A or 5 A to 550 A
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in conjunction with BUSINT ATCASE), wire stick detection (dependent on torch)
- Emergency stop circuit in hardware for safety shut-down
- Non-interchangeable connections for all mediums
- Water flow monitoring
- Digital gas control for shielding gas and plasma gas
- Medium monitoring for shielding gas/pilot gas pressure and flow
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

Tetrix	152	352	552
<b>Setting range for welding current</b>	5 A - 150 A	5 A - 350 A	5 A - 550 A
<b>Duty cycle 40 °C</b>		–	550 A / 60 %
	150 A / 100 %	350 A / 100 %	420 A / 100 %
<b>Open circuit voltage</b>	79 V		
<b>Mains voltage</b>	400 V		
<b>Tolerances</b>	-25 % - +20 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	20.3 kVA	20.3 kVA	39.5 kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>			
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm		
<b>Weight</b>	116 kg		
<b>Standards</b>	IEC 60974-1, -3 and -10 CLA		

Type	Designation	Item no.
Tetrix 152 Synergic RC Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000202-00502
Tetrix 352 Synergic RC Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000203-00502
Tetrix 552 Synergic RC Plasma CW GR	Plasma DC welding machine with digital gas control, Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-000204-00502



## Options/accessories

### Options for retrofitting

#### ON SENSOR UNIT WIRE END

Wire end sensor



### Item no.

092-001190-00000

## DC Microplasma, cold wire, digital gas control 102 Synergic RC CW GR



- DC Microplasma welding machine with Synergic-RC display, cold wire connection capability and digital gas control
- activArc – Precise, focussed arc with reduced heat input and deep penetration for optimum root fusion
- Set up on front control with PC300 software. NET software
- Standard 19-pole connection socket for signal exchange, e.g. collision protection
- Prepared for connection of cold wire push/push
- Optional RINT X12 interface, BUSINT X11 industrial bus interface, PCINT X10 documentation interface (+ QDOC 9000 V2.0 software) and ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS, each with 15 programs, in program mode or RINT X12 welding current, cold wire speed, secondary current, pulse time, pause time; BUS-INT: main current, cold wire speed, secondary current, plasma gas, shielding gas, pulse time, pulse pause time, rise time, fall time, frequency via control voltage or control signal mode
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised applications in the production of machinery, cars, vehicles, containers, equipment and ships
- Current control 0,5 A to 100 A
- Pilot arc current can be set from 5 A to 80 A (if torch and torch hose package are designed for this).
- Plasma spotArc possible
- Phase failure monitoring (in conjunction with BUSINT ATCASE), wire stick detection (dependent on torch)
- Emergency stop circuit in hardware for safety shut-down
- Non-interchangeable connections for all mediums
- Water flow monitoring
- Welding current adjustable in 0.1 A increments
- Digital gas control for shielding gas and plasma gas
- Medium monitoring for shielding gas/pilot gas pressure and flow
- 5 m mains supply lead
- 3 x 400 V mains connection with neutral conductor (TN-S system)
- 100 % tested and free-welded

<b>Setting range for welding current</b>	0.5 A - 100 A
<b>Duty cycle 40 °C</b>	100 A / 100 %
<b>Open circuit voltage</b>	79 V
<b>Mains voltage</b>	400 V
<b>Tolerances</b>	-25 % - +20 %
<b>Mains frequency</b>	50 Hz / 60 Hz
<b>Recommended generator power</b>	6.8 kVA
<b>Protection classification</b>	IP23
<b>Test mark</b>	
<b>EMC class</b>	A
<b>Dimensions (L x B x H)</b>	660 mm x 380 mm x 1250 mm
<b>Weight</b>	116 kg
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A

Type	Designation	Item no.
Microplasma 102 Synergic RC CW GR	Plasma DC welding machine with digital gas control, Synergic RC display and connection capability for cold wire, including transport pallet, PALETTE ROB XX2'	090-007026-00502

### Options/accessories





Options for retrofitting	Item no.
<b>ON SENSOR UNIT WIRE END</b> Wire end sensor	092-001190-00000



# DC Microplasma 25-2 - 55-2 - 105-2 PG RC



- Comfort 2.0 P control, simple operation with click wheel
- DC Microplasma welding machine with Comfort 2.0 P control
- Plasma and TIG welding
- Set up on front control or notebook with PC300. NET software
- Standard-series 19-pole interface for automated welding, for e.g. (Start/stop, current flows, emergency stop)
- Optional RINT X12 interfaces, BUSINT X11 industrial bus interface, ewm Xnet quality management software
- Parameters adjustable via interfaces: 256 JOBS each with 15 programs in program mode or control voltage/control signal mode using RINT X12: welding current, secondary current, pulse time, pause time; BUSINTX11: main current, secondary current, pulse time, pulse pause time, fall time, rise time, frequency
- RINT X12 and BUSINT X11 for installation in external electrical enclosure
- Optimised for automated applications: Unique second generation digital system for reproducible welding results of the highest possible quality, easy to integrate into automated systems
- Automated and mechanised use in machine, car, vehicle, container, equipment, ship, measuring device and fitting construction, electrical industry, air and space travel, nuclear technology
- Current range from 0.3–20 A, 0.3–50 A or 0.3–100 A
- Plasma and TIG welding current adjustable in 0.1 A increments
- Pilot arc current separately adjustable for start phase (2 to 12 A) and welding phase, end-crater and welding break with 3 output settings (2 A, 4 A and 6 A)
- The pilot arc current can be adjusted to the welding process at four operating points (before, during and after welding and during pauses in welding).
- High ignition reliability thanks to open circuit voltage of 95 V
- Temperature, flow and pressure monitoring for the coolant circuit
- Gas metering unit with two gas manometers for shielding gas 3.5–20 l/min and pilot gas 0.1–1.1 l/min
- Medium monitoring for shielding gas/pilot gas pressure before process start
- Optional function module with digital gas control valves
- Optional function module for use with filler wire, for connecting T drive 4 Rob 2 or T drive 4 Rob 3
- Non-interchangeable connections for all mediums
- Water cooled with cool 50 MPW50 cooling unit or RK-series recooling unit
- Can be optionally connected to LAN or WiFi, ewm Xnet compatible
- PC interface for PC300.Net software
- 3.5 m mains supply lead with 16 A shock-proof plug
- 100 % tested and free-welded

Microplasma	25	55	105
<b>Setting range for welding current</b>	0.3 A - 20 A	0.3 A - 50 A	0.3 A - 100 A
<b>Duty cycle 40 °C</b>	–	–	100 A / 60 %
	20 A / 100 %	50 A / 100 %	70 A / 100 %
<b>Open circuit voltage</b>	95 V		
<b>Mains voltage</b>	230 V		
<b>Tolerances</b>	-40 % - +15 %		
<b>Mains frequency</b>	50 Hz / 60 Hz		
<b>Recommended generator power</b>	2 kVA	4.2 kVA	7.8kVA
<b>Protection classification</b>	IP23		
<b>Test mark</b>	   		
<b>EMC class</b>	A		
<b>Dimensions (L x B x H)</b>	625 mm x 377 mm x 531 mm		
	24.6 inch x 14.8 inch x 20.9 inch		
<b>Weight</b>	36.6 kg		
	80.7 lbs		
<b>Standards</b>	IEC 60974-1, -3 and -10 CL.A		

Type	Designation	Item no.
Microplasma 25-2 PG RC	Microplasma welding machine with precision gas metering unit	090-007033-00502
Microplasma 55-2 PG RC	Microplasma welding machine with precision gas metering unit	090-007034-00502
Microplasma 105-2 PG RC	Microplasma welding machine with precision gas metering unit	090-007035-00502

► You can find information about external interface variants in the Accessories chapter

## Options/accessories

### Cooling units

#### Cool 50 MPW50

Cooling unit with centrifugal pump  
Cooling unit for water-cooled welding torches  
Recommended for manual and partially-mechanised welding tasks  
When using Microplasma for automated tasks we recommend the use of a recooling unit  
Modular design, tool-free assembly  
Excellent torch cooling and therefore cost savings on consumables thanks to the high-performance centrifugal pump  
External coolant water filling nozzle with filling level indicator



#### Item no.

090-008818-00502

### Trolley

Transport cart (four wheels) for moving a power source, cooling unit or a tool box and two shielding gas cylinders  
Four rolls  
For transporting a power source, a cooling unit and one or two shielding gas cylinders  
Crane-liftable using four fixing points as standard  
Supplied with roll brakes  
Solid, stable design



#### Item no.

#### Trolley 55-6 DF

090-008826-00000

#### Trolley 55-6

Transport cart (four wheels) for moving a power source, cooling unit or a tool box and one shielding gas cylinder

090-008825-00000

### Options for retrofitting

#### ON WAK TG.03/TG.04/TG.09/K.02

Wheel assembly kit  
Wheel set – facilitates work at frequently changing welding sites



#### Item no.

092-001356-00000











#### ON Filter TG.04/K.02



Dirt filter for air inlet  
Dirt filter for the welding machine and cooling unit  
Set consists of one stainless steel filter element and one plastic bracket  
One set required each for the welding machine and cooling unit.  
Protects welding machine and cooling unit from extreme contamination  
Can be assembled and disassembled without tools for cleaning  
Permanently secured fasteners  
Easy to clean



092-002698-00000

## Options/accessories

Options for welding machines		Item no.
<b>OW 440/460/480 Volt</b> Equipment for 355/405/505 and 351/401/451/501/551 machines for 3x 440/460/480 V mains connection (excluding compact machines from the 355 series or Tetrax AC/DC machines) –factory fitting, no retrofitting Multi-voltage design for operation with mains voltages of 440 V, 460 V and 480 V Not possible with the compact 355 series machines or Tetrax AC/DC welding machines!		092-002647-00001
<b>ON Key Switch Tetrax</b> Key switch <b>► Not possible for Tetrax 300 Comfort machines!</b>		092-001828-00000
<b>Connection cables</b> Connection cable, 19-pole, one-sided wire end ferrules		<b>Item no.</b>
<b>RA5 19POL 1x 5M</b>	 	092-001569-00005
<b>RA10 19POL 1x 10M</b>		092-001569-00010
<b>RA15 19POL 1x 15M</b>		092-001569-00015
<b>RA20 19POL 1x 20M</b>		092-001569-00020
<b>RA25 19POL 1x 25M</b>		092-001569-00025
<b>Welding leads</b> Workpiece lead with cable lug		<b>Item no.</b>
<b>WK70/CL 5m</b>		092-002078-00005
<b>WK70/CL 10m</b>		092-002078-00010
<b>WK95/CL 5m</b>		092-001990-00005
<b>WK95/CL 10m</b>		092-001990-00010
Workpiece lead with cable lug, angled <b>► For use with 1,000 A power sources</b>		
<b>WK95QMM 5m</b>		092-003993-00005
<b>WK95QMM 10m</b>		092-003993-00010
<b>General</b> <b>ADAP HILIBO</b> Banana jack adapter		<b>Item no.</b>
<b>ON AL D13/27</b>		092-001382-00000
Cap for load sockets		092-003282-00000
<b>ADAP 16/25-35 QMM</b> Welding current socket adapter, 9/13 mm (16 mm <sup>2</sup> /35 mm <sup>2</sup> )		094-001780-00000
<b>ADAP3 G1/4-G1/4 LKS</b> Threaded adapter for connecting 1/4" left-hand thread gas hoses to welding machines with 1/4" right-hand connecting nipples		094-001652-00000
<b>Options for retrofitting</b> <b>ON FILTER XX2</b> Dirt filter for air inlet for robot power sources		<b>Item no.</b> 092-002714-00000

Options for retrofitting	Item no.
Mains plug ► Suitable for all machines with a welding current of 350 A and above (except compact Phoenix 355, compact Taurus 355 and Picomig 355)	
<b>32A 5POLE/CEE</b>	094-000207-00000
<b>63A 5POLE/CEE</b>	094-003410-00000
<b>125A 5POLE/CEE</b>	094-025475-00000
<b>ADAP CEE16/SCHUKO</b> Adapter: Earth contact coupling/CEE16A plug	
092-000812-00000	
Mains plug	Item no.
Mains plug, assembled Mains plug, factory fitting (no retrofitting) ► Suitable for all machines with a welding current of 350 A and above (except compact Phoenix 355, compact Taurus 355 and Picomig 355)	
<b>OW CEE 32A</b>	092-008215-00000
<b>OW CEE 63A</b>	092-008216-00000

# Overview

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## Gas metering units for Tetrax plasma machines without digital gas control



- Gas metering unit with 2 gas quantity meters
- Operation of the gas metering units requires upstream fitting of an appropriate CONSTANT pressure regulator
- **Fields of application:**
- Plasma welding, '+' pole: aluminium-based alloys
- Plasma welding, '-' pole: high-alloy steels, nickel, copper, titanium and special alloys

<b>Shielding gas</b>	3.5 l/min - 20 l/min
<b>Pilot arc gas</b>	0.3 l/min - 5.5 l/min
<b>Dimensions (L x B x H)</b>	386 mm x 182 mm x 170 A
<b>Weight</b>	3.76 kg

Type	Designation	Item no.
GDE 4	Gas metering unit with 2 gas quantity meters	090-008848-00000



## Gas metering units for Tetrax plasma machines without digital gas control



- Gas metering unit with 2 gas quantity meters
- Operation of the gas metering units requires upstream fitting of an appropriate CONSTANT pressure regulator
- **Fields of application:**
- Plasma welding, '+ ' pole: aluminium-based alloys
- Plasma welding, '- ' pole: high-alloy steels, nickel, copper, titanium and special alloys

<b>Shielding gas</b>	3.5 l/min - 20 l/min
<b>Pilot arc gas</b>	0.1 l/min - 1.1 l/min
<b>Dimensions (L x B x H)</b>	386 mm x 182 mm x 170 mm
<b>Weight</b>	3.76 kg

Type	Designation	Item no.
GDE 4.1	Gas metering unit with 2 gas quantity meters	090-008849-00000

## Gas metering units for Tetrax plasma machines without digital gas control



- Gas metering unit with 3 gas quantity meters
- Operation of the gas metering units requires upstream fitting of an appropriate CONSTANT pressure regulator
- **Fields of application:**
- Plasma welding, '+' pole: aluminium-based alloys
- Plasma welding, '-' pole: high-alloy steels, nickel, copper, titanium and special alloys

<b>Shielding gas</b>	3.5 l/min - 20 l/min
<b>Pilot arc gas</b>	0.3 l/min - 5.5 l/min
<b>Pilot arc gas 2</b>	0.1 l/min - 1.1 l/min
<b>Dimensions (L x B x H)</b>	386 mm x 234 mm x 170 mm
<b>Weight</b>	5.56 kg

Type	Designation	Item no.
GDE 5	Gas metering unit with 3 gas quantity meters	090-008850-00000

# Overview

Gateway

Gateways

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## Gateways



- Xnet LAN gateway
- **Range of functions:**
- Connecting welding machines without integrated Xnet components to an Xnet system (for all EWM machines with integrated 7-pole interface)
- Data transfer via network cable
- USB interface for data recording and data transfer
- Connection of a barcode scanner possible
- Registration option via Xbutton
- Digital display with click wheel operation
- **The following information is shown on the display:**
- network status, network configuration, nominal/actual welding parameters, JOB information, Xnet monitoring of the welding parameters in real time, WPQR welding data assistant, component information, errors and warnings in the system
- **For using it, an Xnet-machine licence is required**

Type	Designation	Item no.
Xnet LAN Gateway	LAN gateway in external housing	090-008833-00502

► Delivery includes an Xbutton (black). Additional Xbuttons can be found under accessories

### Options/accessories

Xnet hardware	Item no.
<b>SCAN BC 8PoI</b> Scanner For component management in conjunction with Xnet software Scan QR codes and barcodes Scan codes from an LCD screen When connecting to welding machines with integrated Xnet gateway, the optional OW 8-pole scanner is required on the machine side	090-008823-00000





- Xnet WiFi gateway
- **Range of functions:**
- Connecting welding machines without integrated Xnet components to an Xnet system (for all EWM machines with integrated 7-pole interface)
- Data transfer via WiFi or network cable
- USB interface for data recording and data transfer
- Connection of a barcode scanner possible
- Registration option via Xbutton
- Digital display with click wheel operation
- **The following information is shown on the display:**
- network status, network configuration, nominal/actual welding parameters, JOB information, Xnet monitoring of the welding parameters in real time, WPQR welding data assistant, component information, errors and warnings in the system
- **For using it, an Xnet-machine licence is required**

Type	Designation	Item no.
Xnet WiFi Gateway	WiFi gateway in external casing	090-008834-00502
▶ Delivery includes an Xbutton (black). Additional Xbuttons can be found under accessories		

## Options/accessories

Xnet hardware	Item no.
<b>SCAN BC 8Pol</b> Scanner For component management in conjunction with Xnet software Scan QR codes and barcodes Scan codes from an LCD screen When connecting to welding machines with integrated Xnet gateway, the optional OW 8-pole scanner is required on the machine side	090-008823-00000



## Options/accessories

Connection cables	Item no.
Connection cable, 7-pole 7-pole connection cable, suitable for installation in drag chains ► <b>Connection and extension cable for external LAN and WiFi gateway, panel, remote control</b>	
<b>FRV-25 7POL 10m</b>	092-003417-00010
<b>FRV-25 7POL 15m</b>	092-003417-00015
<b>FRV-25 7POL 20m</b>	092-003417-00020
<b>FRV-25 7POL 25m</b>	092-003417-00025
<b>FRV-25 7POL 30m</b>	092-003417-00030
<b>Options for retrofitting</b>	<b>Item no.</b>
<b>Splitter 2x 7POL</b> Distributor box to add to the available 7-pole interfaces on the welding machine	090-008302-00000
<b>ON SH FS.02</b> Scanner holder for attaching to gateway	092-004492-00000
<b>Connection cable extension</b>	<b>Item no.</b>
Digital 7-pole cable Extension for 7-pole remote control with permanently installed cable Connection cable for remote control and gateway without permanently installed cable	
<b>FRV 7POL 0.5m</b>	092-000201-00004
<b>FRV 7POL 1m</b>	092-000201-00002
<b>FRV 7POL 5m</b>	092-000201-00003
<b>FRV 7POL 10m</b>	092-000201-00000
<b>FRV 7POL 15m</b>	092-000201-00005
<b>FRV 7POL 20m</b>	092-000201-00001
<b>FRV 7POL 25m</b>	092-000201-00007

# Overview

<b>Plasma automation</b>			<b>Page</b>
Wire feed units	TIG/plasma	T drive 4 Rob 2	<b>176</b>
		T drive 4 Rob 3	<b>177</b>

## TIG/plasma T drive 4 Rob 2



- Wire feed unit for high cold wire deposition rates up to 10 m/min
- Reproducible wire feed speed thanks to fully digital control with incremental transducer, adjustable in increments of 0.1 m/min
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- Compact machine for simple mounting on or near the robot
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)

<b>Wire feed speed</b>	Wire feed speed , 0,3 m/min - 10 m/min , 0,1 m/min
<b>Wire-feed speed increments</b>	0.1 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	<b>CE EAC</b>
<b>Dimensions (L x B x H)</b>	407 mm x 201 mm x 229 mm
<b>Weight</b>	9.8 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
T drive 4 Rob 2 IG3	Wire feeder for automated applications, IG3 speedometer solution	090-008785-00502

► For replacement rolls and drive rolls for various welding consumables, please refer to the "Wire feeder accessories" chapter.

### Options/accessories

Drive rolls – conversion kits	Item no.
Conversion kit for aluminium Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000
Conversion kit for flux cored wire Includes 2 twin rolls, 2 gears, 2 pressure rolls and 2 spacer rings	
<b>URUE ROE 2DR4R 0.8/0.9+0.8/0.9 SF</b>	092-000410-00000
<b>URUE ROE 2DR4R 1.0/1.2+1.4/1.6 SF</b>	092-000411-00000
<b>URUE ROE 2DR4R 1.4/1.6+2.0/2.4 SF</b>	092-000412-00000
<b>URUE ROE 2DR4R 2.8+3.2 SF</b>	092-000413-00000





# TIG/plasma T drive 4 Rob 3



- Light, compact wire feed unit for high-precision cold wire feed
- Reproducible wire feed speed thanks to fully digital control with rotary transducer, adjustable in increments of 0.1 m/min
- LED display of process status
- 4-roller drive in metal construction with large rollers (37 mm), factory fitted for 1.0-/1.2-mm steel wires
- Tool-free roller changing, captive screws
- With inspection window for checking the wire feeder
- Separate buttons on the front for wire return, gas test and wire inching
- Compact machine for simple mounting on or behind the 3rd robot axis
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital bus system
- Mounting console with strain relief for mounting (optional)
- Assembly PCB panel with strain relief

<b>Wire feed speed</b>	Wire feed speed , 0.1 m/min - 5 m/min , 0.01 m/min , 4
<b>Wire-feed speed increments</b>	0.01 m/min
<b>Factory-installed roll equipment</b>	1,0 + 1,2 mm , Steel
<b>Test mark</b>	
<b>Dimensions (L x B x H)</b>	345 mm x 230 mm x 250 mm
<b>Weight</b>	6.5 kg
<b>Standards</b>	IEC 60974-1, -5 and -10 CL.A

Type	Designation	Item no.
T Drive 4 Rob 3 LI IG3	Wire feeder for automated applications, opens on left, IG3 speedometer solution	090-008784-00502
T drive 4 Rob 3 RE IG3	Wire feeder for automated applications, opens on right, IG3 speedometer solution	090-008783-00502

► For replacement rolls and drive rolls for various welding consumables, please refer to the "Wire feeder accessories" chapter.

## Options/accessories

Drive rolls – conversion kits	Item no.
Conversion kit for aluminium Includes 4 twin rollers, 2 gears and 2 spacer rings	
<b>URUE AL 4ZR4R 0.8+1.0 SF</b>	092-002268-00000
<b>URUE AL 4ZR4R 1.0+1.2 SF</b>	092-002266-00000
<b>URUE AL 4ZR4R 1.2-1.6 SF</b>	092-002269-00000
<b>URUE AL 4ZR4R 2.4-3.2 SF</b>	092-002270-00000
Conversion kit for flux cored wire Includes 2 twin rolls, 2 gears, 2 pressure rolls and 2 spacer rings	
<b>URUE ROE 2DR4R 0.8/0.9+0.8/0.9 SF</b>	092-000410-00000
<b>URUE ROE 2DR4R 1.0/1.2+1.4/1.6 SF</b>	092-000411-00000
<b>URUE ROE 2DR4R 1.4/1.6+2.0/2.4 SF</b>	092-000412-00000



# Overview

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Welding torches	Plasma welding torches	
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## Plasma welding torches PWM 25

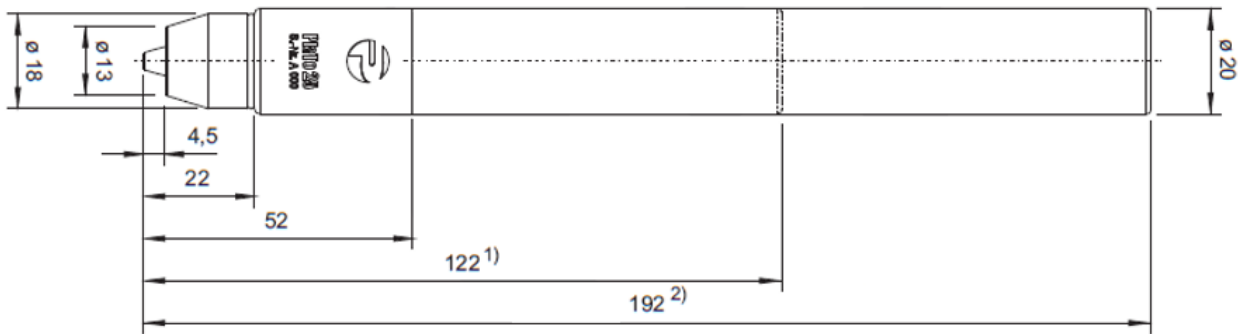


### Mechanised plasma welding torch

- Straight version (pen welding torch)
- Clamping shaft D=20 mm, L=192 mm
- Basic features: 1.0 mm electrode; long 1.0 mm plasma nozzle; long 11 mm gas nozzle
- For thin material thicknesses of 0.05 mm to 1 mm

**Duty cycle DC-  
Pilot arc current**

25 A / 100 %  
Pilot arc current - 4 A - 10 A

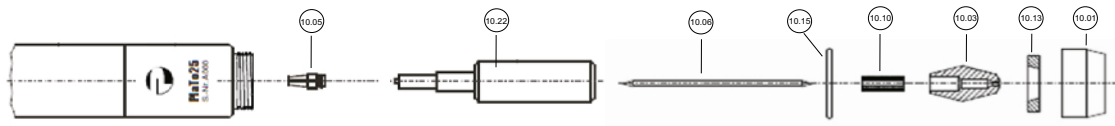


Item	Type	Designation	Length m	Item no.
9	PWM 25 3m	Plasma machine welding torch	3.0	394-006510-00000

► Other lengths available on request

► Use only with RK1 recooling unit

## Consumables/Accessories



Item	Designation	Electro-	Nozzle Ø	Length	Max.	Item no.
		de Ø			welding	
		mm	mm	mm	current	
					A	
10.01	Gas nozzle, long	-	9.5	-	-	094-008240-00000
10.01	Gas nozzle, long	-	11	-	-	094-008239-00000
10.01	Gas nozzle, short	-	11	-	-	094-008237-00000
10.01	Gas nozzle, short	-	12	-	-	094-008238-00000
10.03	Plasma nozzle	-	0.5	-	10	094-009256-00000
10.03	Plasma nozzle, long	-	0.5	-	10	094-009396-00000
10.03	Plasma nozzle	-	0.6	-	15	094-008282-00000
10.03	Plasma nozzle, long	-	0.6	-	15	094-009397-00000
10.03	Plasma nozzle	-	0.8	-	20	094-008243-00000
10.03	Plasma nozzle, long	-	0.8	-	20	094-008252-00000
10.03	Plasma nozzle	-	1	-	25	094-008244-00000
10.03	Plasma nozzle, long	-	1	-	25	094-008253-00000
10.03	Plasma nozzle	-	1.2	-	30	094-008245-00000
10.03	Plasma nozzle, long	-	1.2	-	30	094-008254-00000
10.03	Plasma nozzle	-	1.4	-	40	094-008246-00000
10.03	Plasma nozzle, long	-	1.4	-	40	094-008255-00000
10.03	Plasma nozzle	-	1.6	-	50	094-008247-00000
10.03	Plasma nozzle, long	-	1.6	-	45	094-008256-00000
10.03	Plasma nozzle	-	1.8	-	60	094-008248-00000
10.03	Plasma nozzle, long	-	1.8	-	50	094-008257-00000
10.03	Plasma nozzle	-	2	-	70	094-008249-00000
10.03	Plasma nozzle, long	-	2	-	60	094-008258-00000
10.05	Collet chuck	1	-	-	-	394-007387-00000
10.05	Collet chuck	1.5	-	-	-	394-007388-00000
10.06	Tungsten electrode, special	1	-	51	-	094-019629-00000
10.06	Tungsten electrode, special	1.5	-	51	-	094-008261-00000
10.10	Gas guide insert	1	-	-	-	094-019628-00000
10.10	Gas guide insert	1.5	-	-	-	094-008241-00000
10.13	Gas lens, coarse-pore	-	-	-	-	094-008281-00000
10.13	Gas lens, fine-pore	-	-	-	-	094-008242-00000
10.15	O-ring for gas nozzle	-	-	-	-	094-008236-00000
10.22	Electrode key	1	-	-	-	394-007268-00000
10.22	Electrode key	1.5	-	-	-	394-007269-00000
-	Electrode setting gauge	-	-	-	-	094-008262-00000

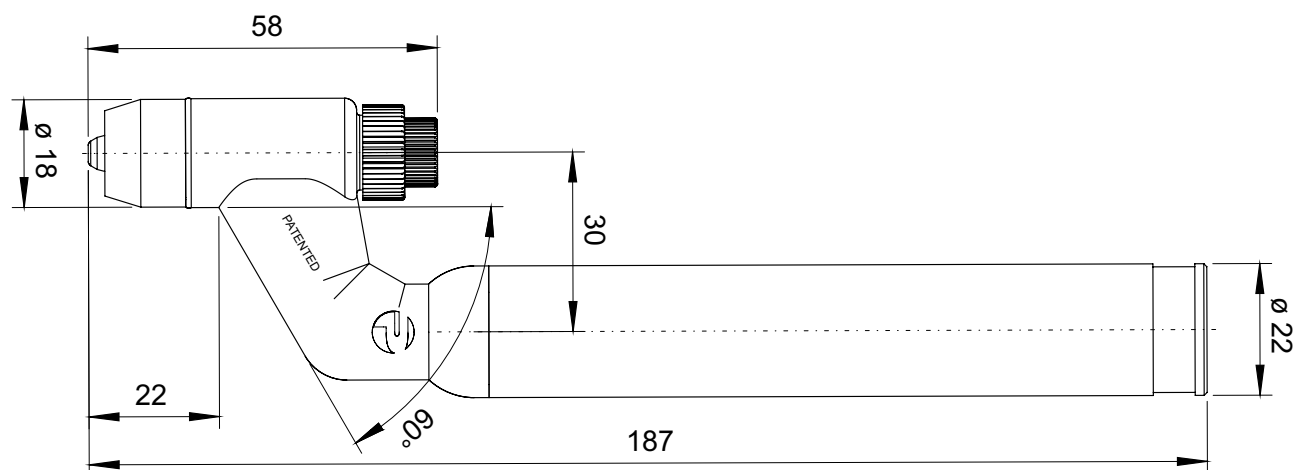
## Plasma welding torches PWM 100



### Mechanised plasma welding torch

- 30-mm recessed mounting shank
- Basic features: 1.5 mm tungsten electrode, long 1.8 mm plasma nozzle, long 11 mm gas nozzle

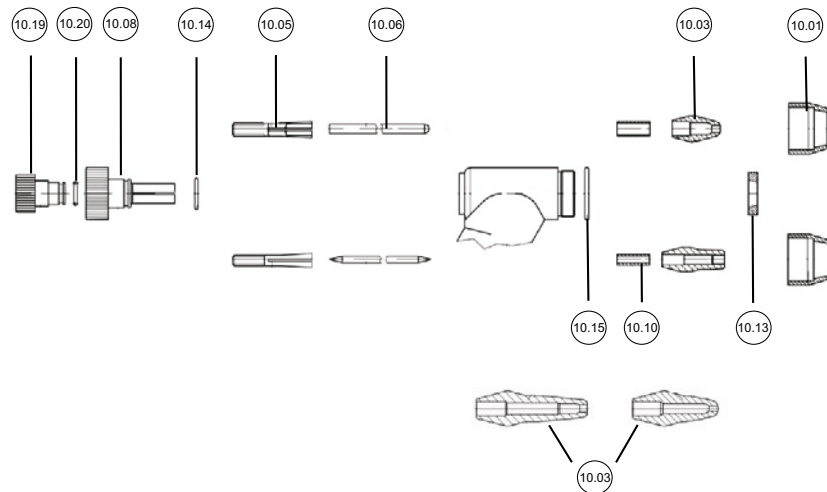
<b>Duty cycle DC-</b>	100 A / 100 %
<b>Duty cycle AC</b>	80 A / 100 %
<b>Duty cycle DC+</b>	35 A / 100 %
<b>Pilot arc current</b>	Pilot arc current - 2 A - 12 A



Item	Type	Designation	Length m	Item no.
9	PWM 100 3M	Plasma machine welding torch	3.0	094-013799-00000

- ▶ Other lengths available on request
- ▶ Use only with RK2/RK3 recooling unit

## Consumables/Accessories



Item	Designation	Electro-	Nozzle Ø	Length	Max.	Item no.
		de Ø	mm	mm	welding	
		mm	mm	mm	current	
					A	
10.01	Gas nozzle, long	-	9.5	-	-	094-008240-00000
10.01	Gas nozzle, long	-	11	-	-	094-008239-00000
10.01	Gas nozzle, short	-	11	-	-	094-008237-00000
10.01	Gas nozzle, short	-	12	-	-	094-008238-00000
10.03	Plasma nozzle	-	0.8	-	20	094-008243-00000
10.03	Plasma nozzle, long	-	0.8	-	20	094-008252-00000
10.03	Plasma nozzle	-	1	-	25	094-008244-00000
10.03	Plasma nozzle, long	-	1	-	25	094-008253-00000
10.03	Plasma nozzle	-	1.2	-	30	094-008245-00000
10.03	Plasma nozzle, long	-	1.2	-	30	094-008254-00000
10.03	Plasma nozzle	-	1.4	-	40	094-008246-00000
10.03	Plasma nozzle, long	-	1.4	-	40	094-008255-00000
10.03	Plasma nozzle	-	1.6	-	50	094-008247-00000
10.03	Plasma nozzle, long	-	1.6	-	45	094-008256-00000
10.03	Plasma nozzle	-	1.8	-	60	094-008248-00000
10.03	Plasma nozzle, long	-	1.8	-	50	094-008257-00000
10.03	Plasma nozzle	-	2	-	70	094-008249-00000
10.03	Plasma nozzle, long	-	2	-	60	094-008258-00000
10.03	Plasma nozzle	-	2.4	-	90	094-008250-00000
10.03	Plasma nozzle	-	3	-	100	094-008251-00000
10.03	Plasma nozzle, long	-	3	-	90	094-008260-00000
10.05	Collet chuck	1.5	-	-	-	094-008235-00000
10.05	Collet chuck	2.4	-	-	-	094-008277-00000
10.06	Tungsten electrode, special	1.5	-	72	-	094-008951-00000
10.06	Tungsten electrode, DC-	2.4	-	75	-	094-008789-00000
10.07	Torch cap	-	-	-	-	094-008263-00000
10.08	Collet casing	-	-	-	-	094-008276-00000
10.10	Gas guide insert	1.5	-	-	-	094-008241-00000
10.10	Gas guide insert	2.4	-	-	-	094-008787-00000
10.13	Gas lens, coarse-pore	-	-	-	-	094-008281-00000
10.13	Gas lens, fine-pore	-	-	-	-	094-008242-00000
10.14	O-ring for collet casing	-	-	-	-	094-008234-00000
10.15	O-ring for gas nozzle	-	-	-	-	094-008236-00000
10.19	Back cap, complete	-	-	-	-	094-008274-00000
10.20	O-ring for back cap	-	-	-	-	094-008233-00000
-	Consumables box, PWH/PWM 100	-	-	-	-	094-008270-00000
-	Electrode setting gauge	-	-	-	-	094-008262-00000

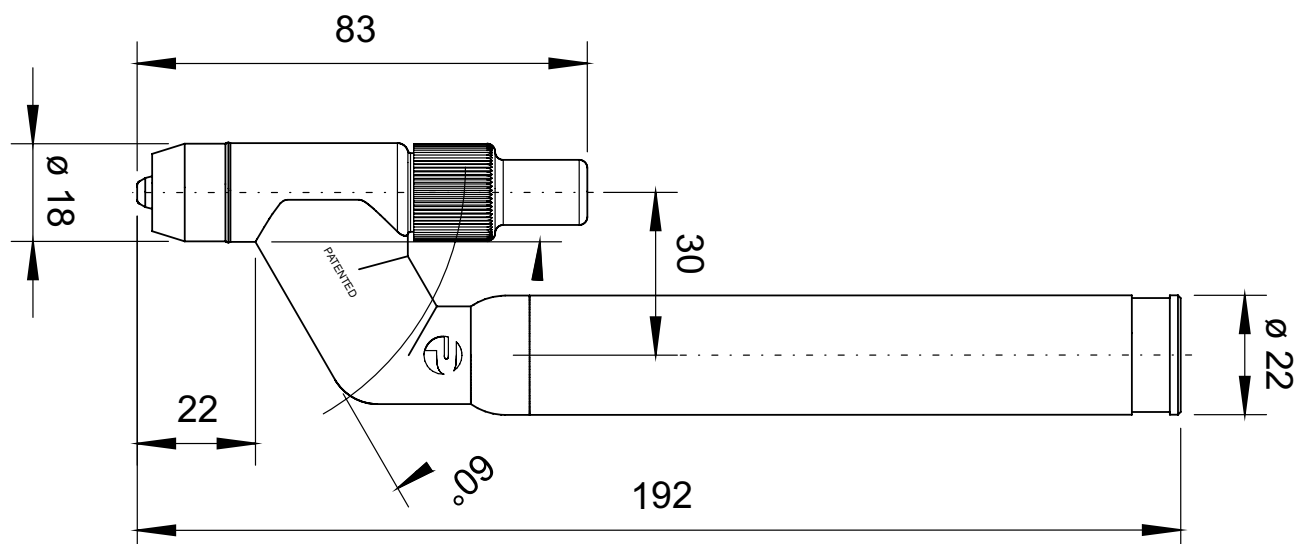
## Plasma welding torches PWM 150



### Mechanised plasma welding torch

- 30-mm recessed mounting shank
- Basic features: 2.4-mm electrode, 2.4-mm plasma nozzle, short 12-mm gas nozzle

<b>Duty cycle DC-</b>	150 A / 100 %
<b>Duty cycle AC</b>	120 A / 100 %
<b>Duty cycle DC+</b>	50 A / 100 %
<b>Pilot arc current</b>	Pilot arc current - 2 A - 12 A

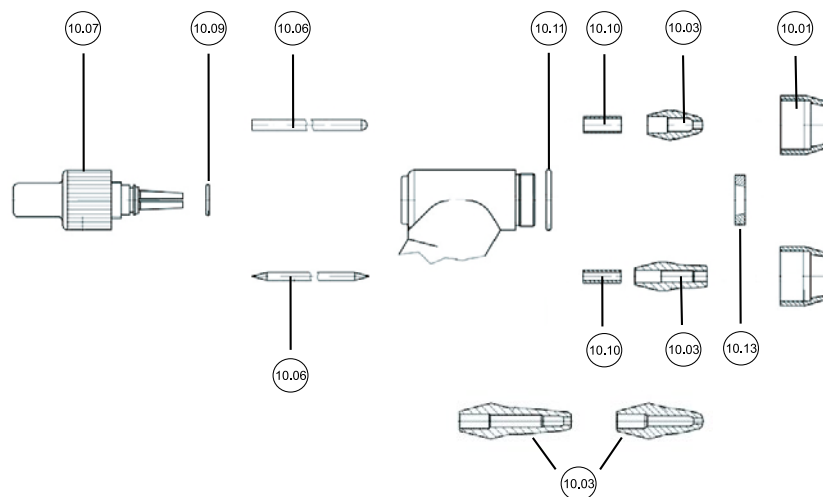


Item	Type	Designation	Length m	Item no.
9	PWM 150 4 m, 2,4 mm	Plasma machine welding torch	4.0	094-008784-00000
9	PWM 150 6m, 2,4 mm		6.0	094-008784-00006

- ▶ Other lengths available on request
- ▶ Use only with RK2/RK3 recooling unit



## Consumables/Accessories



Item	Designation	Electro-	Nozzle Ø	Length	Max.	Item no.
		de Ø			welding	
		mm	mm	mm	A	
10.01	Gas nozzle, long	-	9.5	-	-	094-008240-00000
10.01	Gas nozzle, long	-	11	-	-	094-008239-00000
10.01	Gas nozzle, short	-	11	-	-	094-008237-00000
10.01	Gas nozzle, short	-	12	-	-	094-008238-00000
10.03	Plasma nozzle	-	0.8	-	20	094-008243-00000
10.03	Plasma nozzle, positive terminal	-	1.2	-	-	094-008264-00000
10.03	Plasma nozzle	-	1.4	-	40	094-008246-00000
10.03	Plasma nozzle	-	1.6	-	50	094-008247-00000
10.03	Plasma nozzle, positive terminal	-	1.6	-	-	094-008265-00000
10.03	Plasma nozzle	-	1.8	-	60	094-008248-00000
10.03	Plasma nozzle	-	2	-	70	094-008249-00000
10.03	Plasma nozzle, positive terminal	-	2	-	-	094-008266-00000
10.03	Plasma nozzle, long	-	2.2	-	70	094-008550-00000
10.03	Plasma nozzle	-	2.4	-	90	094-008250-00000
10.03	Plasma nozzle, positive terminal	-	2.4	-	-	094-008267-00000
10.03	Plasma nozzle, long	-	2.6	-	85	094-008551-00000
10.03	Plasma nozzle	-	3	-	100	094-008251-00000
10.03	Plasma nozzle	-	3.2	-	100	094-009126-00000
10.03	Plasma nozzle	-	3.6	-	-	094-009395-00000
10.06	Tungsten electrode, special	1.5	-	72	-	094-008951-00000
10.06	Tungsten electrode, DC-	2.4	-	75	-	094-008789-00000
10.06	Tungsten electrode, DC-	3.2	-	75	-	094-008952-00000
10.07	Clamping module	1.5	-	-	-	094-008557-00000
10.07	Clamping module	2.4	-	-	-	094-009398-00000
10.07	Clamping module	3.2	-	-	-	094-009399-00000
10.10	Gas guide insert	1.5	-	-	-	094-008241-00000
10.10	Gas guide insert	2.4	-	-	-	094-008787-00000
10.13	Gas lens, fine-pore	-	-	-	-	094-008242-00000
10.14	O-ring for collet casing	-	-	-	-	094-008234-00000
-	Consumables box, PWH/PWM 150	-	-	-	-	094-009674-00000
-	Electrode setting gauge	-	-	-	-	094-008262-00000
-	Adjusting and test probe	-	-	27.5	-	094-008556-00000
-	Nozzle key	-	-	-	-	094-008554-00000

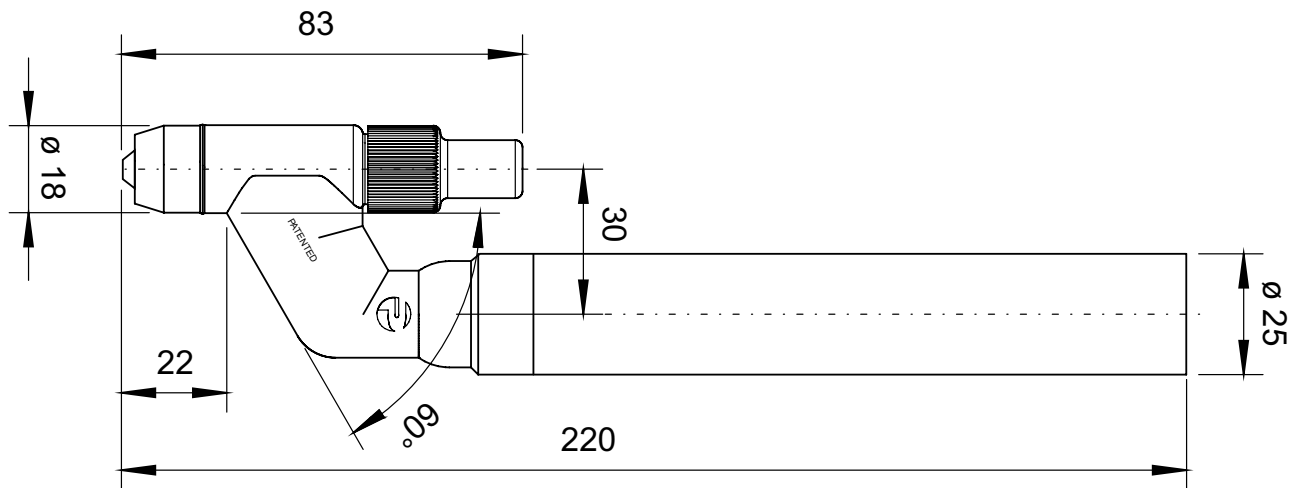
## Plasma welding torches PWM 250



### Mechanised plasma welding torch

- Water-cooled
- 30-mm recessed mounting shank
- Basic features: Short gas nozzle: 12 mm, gas guide insert: Ø 2.4 mm; gas lens, plasma nozzle: Ø 2.4 mm; clamping module: Ø 2.4 mm; tungsten electrode: Ø 2.4 mm

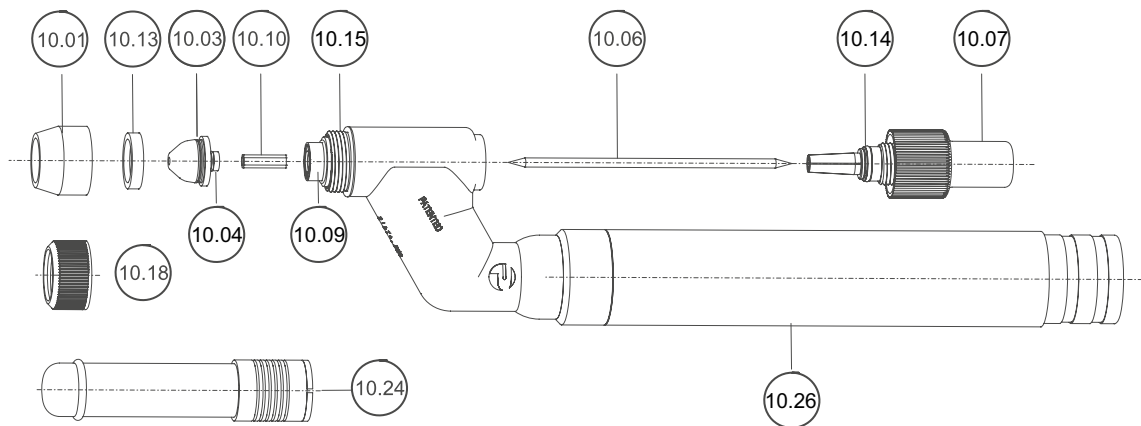
<b>Duty cycle DC-</b>	250 A / 100 %
<b>Plasma gas</b>	0.2 l/min - 1.5 l/min
<b>Pilot arc current</b>	Pilot arc current - 5 A - 12 A
<b>Nozzle Ø</b>	1 mm - 4.2 mm



Item	Type	Designation	Length m	Item no.
9			4.0	094-019224-00000
9	PWM 250	Plasma machine welding torch	6.0	094-019224-00006
9			8.0	094-019224-00008

- ▶ Other lengths available on request
- ▶ Use with RK2.1/RK3.1 recooling unit only

## Consumables/Accessories

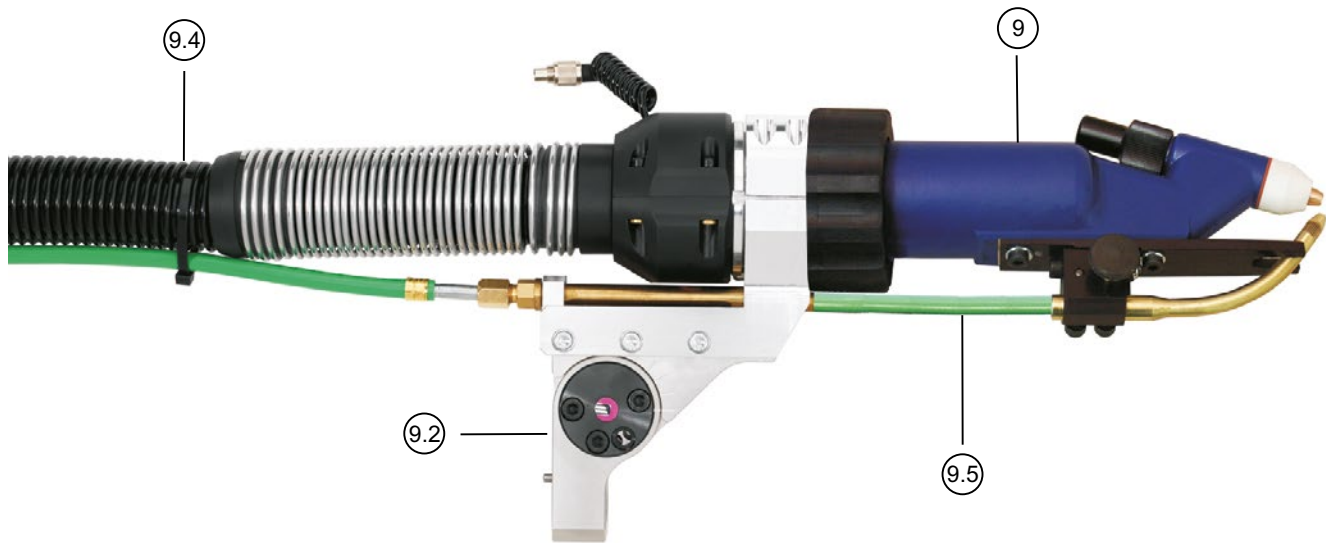


Item	Designation	Electro-	Nozzle Ø	Length	Item no.
		de Ø			
		mm	mm	mm	
10.01	Gas nozzle, short	-	11	-	094-008237-00000
10.01	Gas nozzle, short	-	12	-	094-008238-00000
10.03	Plasma nozzle	-	1	-	094-019228-00000
10.03	Plasma nozzle	-	1.2	-	094-019229-00000
10.03	Plasma nozzle	-	1.4	-	094-019230-00000
10.03	Plasma nozzle	-	1.6	-	094-019231-00000
10.03	Plasma nozzle	-	1.8	-	094-019232-00000
10.03	Plasma nozzle	-	2	-	094-019233-00000
10.03	Plasma nozzle	-	2.2	-	094-019234-00000
10.03	Plasma nozzle	-	2.4	-	094-019235-00000
10.03	Plasma nozzle	-	2.6	-	094-019236-00000
10.03	Plasma nozzle	-	2.8	-	094-019237-00000
10.03	Plasma nozzle	-	3	-	094-019238-00000
10.03	Plasma nozzle	-	3.2	-	094-019239-00000
10.03	Plasma nozzle	-	3.4	-	094-019240-00000
10.03	Plasma nozzle	-	3.6	-	094-019241-00000
10.03	Plasma nozzle	-	3.8	-	094-019242-00000
10.03	Plasma nozzle	-	4	-	094-019243-00000
10.03	Plasma nozzle	-	4.2	-	094-019244-00000
10.06	Tungsten electrode, special	1.5	-	72	094-008951-00000
10.06	Tungsten electrode, DC-	2.4	-	75	094-008789-00000
10.06	Tungsten electrode, DC+/AC	3.2	-	40	094-008268-00000
10.06	Tungsten electrode, DC-	3.2	-	75	094-008952-00000
10.07	Clamping module	1.5	-	-	094-008557-00000
10.07	Clamping module	2.4	-	-	094-009398-00000
10.07	Clamping module	3.2	-	-	094-009399-00000
10.09	O-Ring for plasma nozzle	-	-	-	094-019245-00000
10.09	O-ring	-	-	-	094-019227-00000
10.10	Gas guide insert	1.5	-	-	094-008241-00000
10.10	Gas guide insert	2.4	-	-	094-008787-00000
10.13	Gas lens	-	-	-	094-019246-00000
10.14	O-ring for collet casing	-	-	-	094-008234-00000
10.15	O-ring for gas nozzle	-	-	-	094-008236-00000
10.18	Nozzle cap	-	-	-	094-019247-00000
10.26	Handle	-	-	-	094-019250-00000

### Options/accessories

Accessories	Item no.
PWH 250 Nozzle wrench	094-019248-00000
ADAP PWH 250 Connecting piece	094-019249-00000

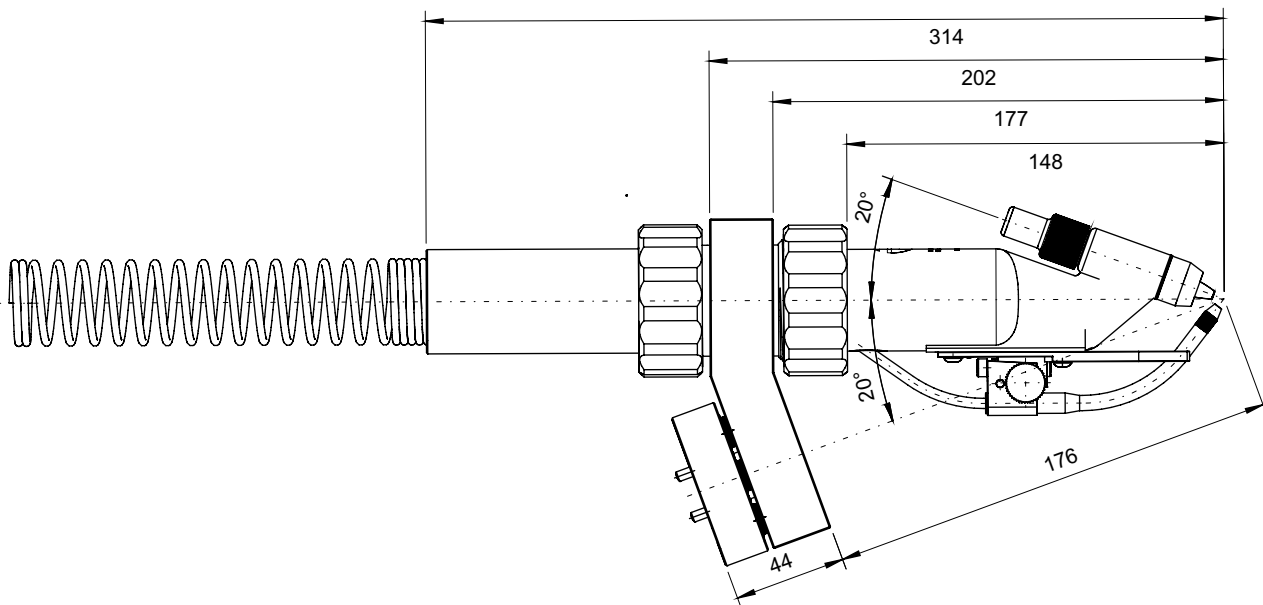
## Plasma welding torches PWM 150 ROB



### Mechanised plasma welding torch

- Maximum power density
- Cold wire feed as option
- Medium interface with quick-change unit
- Basic features: 1.5 mm special electrode, 2.8 mm plasma nozzle, 11 mm long gas nozzle, 1.1 mm wire feed nozzle

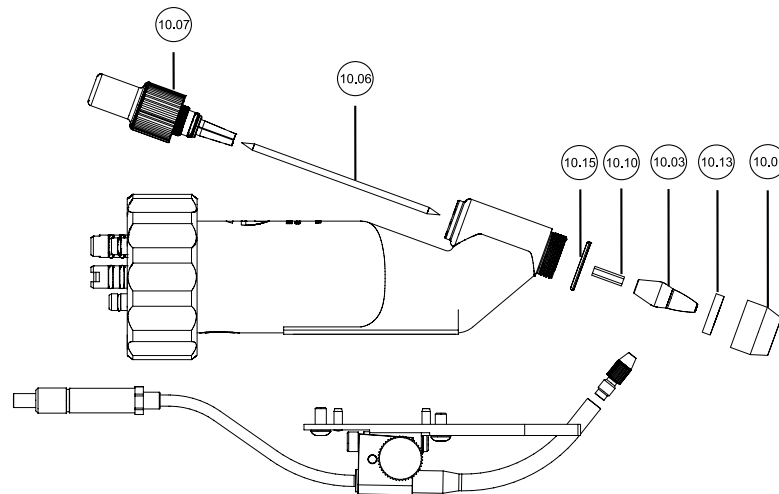
<b>Duty cycle DC-</b>	150 A / 100 %
<b>Duty cycle AC</b>	120 A / 100 %
<b>Duty cycle DC+</b>	50 A / 100 %
<b>Pilot arc current</b>	Pilot arc current - 2 A - 12 A



Item	Type	Designation	Length m	Item no.
9	PWM 150 ROB 20°	Plasma machine welding torch	-	094-021870-00000
9	PWM 150-ROB-20° KD		-	094-008495-00000
9.2	SH PLASMA CT	Segment holder for plasma torch	-	094-016314-00000
9.4	SP CT20 W 4m		4.0	094-016315-00000
9.4	SP CT20 W 6m	Hose package plasma torch	6.0	094-016315-00006
9.4	SP CT20 W 8m		8.0	094-016315-00008
9.5	KDZ PMW 150 ROB TYP III	Cold wire feed	-	094-008496-00000
20.03		Guide for wire feed hose	-	094-016321-00000
20.04	-	Guide tube	-	094-016323-00000
20.06		Plasma torch crown nut	-	094-016325-00000

► Use only with RK2/RK3 recooling unit

## Consumables/Accessories

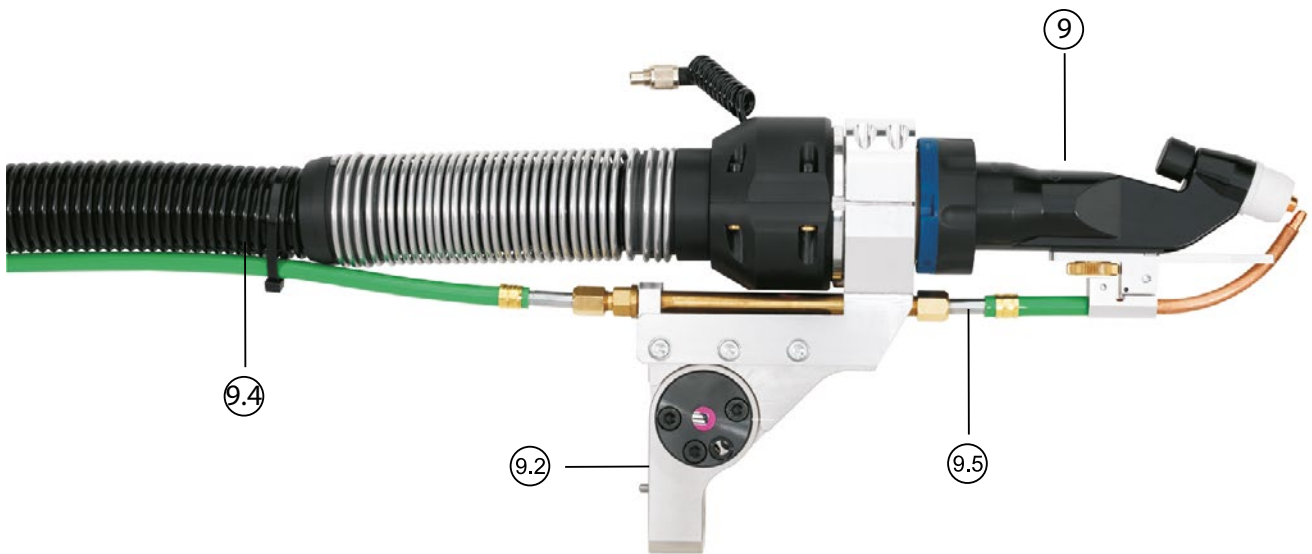


Item	Designation	Electro-	Nozzle Ø	Length	Max.	Item no.
		de Ø	mm	mm	welding	
		mm	mm	mm	A	
10.01	Gas nozzle, long	-	9.5	-	-	094-008240-00000
10.01	Gas nozzle, long	-	11	-	-	094-008239-00000
10.01	Gas nozzle, short	-	11	-	-	094-008237-00000
10.01	Gas nozzle, short	-	12	-	-	094-008238-00000
10.03	Plasma nozzle	-	0.8	-	20	094-008243-00000
10.03	Plasma nozzle, long	-	0.8	-	20	094-008252-00000
10.03	Plasma nozzle, long	-	1	-	25	094-008253-00000
10.03	Plasma nozzle, positive terminal	-	1.2	-	-	094-008264-00000
10.03	Plasma nozzle, long	-	1.2	-	30	094-008254-00000
10.03	Plasma nozzle	-	1.4	-	40	094-008246-00000
10.03	Plasma nozzle, long	-	1.4	-	40	094-008255-00000
10.03	Plasma nozzle	-	1.6	-	50	094-008247-00000
10.03	Plasma nozzle, positive terminal	-	1.6	-	-	094-008265-00000
10.03	Plasma nozzle, long	-	1.6	-	45	094-008256-00000
10.03	Plasma nozzle	-	1.8	-	60	094-008248-00000
10.03	Plasma nozzle, long	-	1.8	-	50	094-008257-00000
10.03	Plasma nozzle	-	2	-	70	094-008249-00000
10.03	Plasma nozzle, positive terminal	-	2	-	-	094-008266-00000
10.03	Plasma nozzle, long	-	2	-	60	094-008258-00000
10.03	Plasma nozzle, long	-	2.2	-	70	094-008550-00000
10.03	Plasma nozzle	-	2.4	-	90	094-008250-00000
10.03	Plasma nozzle, positive terminal	-	2.4	-	-	094-008267-00000
10.03	Plasma nozzle, long	-	2.6	-	85	094-008551-00000
10.03	Plasma nozzle, long	-	2.8	-	-	094-015592-00000
10.03	Plasma nozzle	-	3	-	100	094-008251-00000
10.03	Plasma nozzle, long	-	3	-	90	094-008260-00000
10.03	Plasma nozzle	-	3.2	-	100	094-009126-00000
10.03	Plasma nozzle	-	3.6	-	-	094-009395-00000
10.06	Tungsten electrode, special	1.5	-	72	-	094-008951-00000
10.07	Clamping module	1.5	-	-	-	094-008557-00000
10.07	Clamping module	2.4	-	-	-	094-009398-00000
10.07	Clamping module	3.2	-	-	-	094-009399-00000
10.10	Gas guide insert	1.5	-	-	-	094-008241-00000
10.13	Gas lens, fine-pore	-	-	-	-	094-008242-00000
10.15	O-ring for gas nozzle	-	-	-	-	094-008236-00000
-	Electrode setting gauge	-	-	-	-	094-008262-00000
-	Adjusting and test probe	-	-	27.5	-	094-008556-00000
-	Nozzle key	-	-	-	-	094-008554-00000

## Options/accessories

Torch accessories	Item no.
<b>WFNOZZ PMW 1.1</b> Wire feed nozzle	094-008552-00000
<b>WFNOZZ PMW 1.3</b> Wire feed nozzle	094-008553-00000

## Plasma welding torches PT 150



### Mechanised plasma welding torch

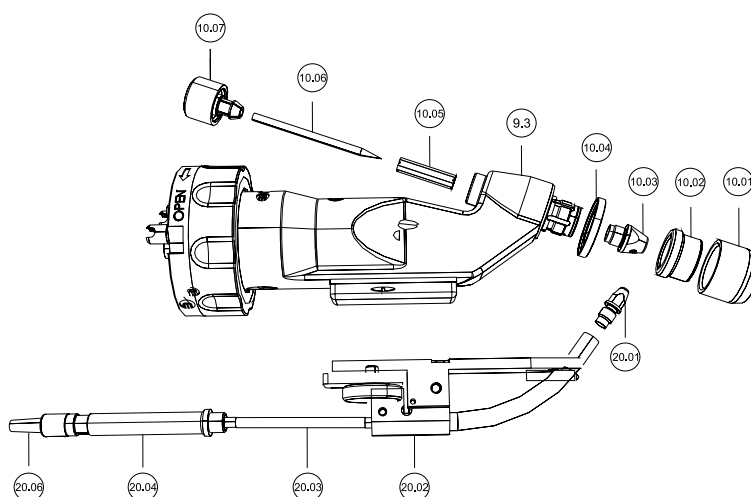
- Excellent gas shielding due to special gas lens enables processing of sensitive materials
- Stable, soft arc ensures spatter-free joining and coating without any need for post-weld work
- Optimum cooling
- Compact design for excellent accessibility
- Basic features: Torch body, 2.4-mm sealing cap, 2.4-mm tungsten electrode, 2.4-mm centring ceramic, insulation ring, 1.8-mm plasma nozzle, gas distributor, shielding gas nozzle, setting gauge

<b>Pilot arc current</b>	Pilot arc current - 2 A - 10 A
<b>Plasma</b>	Plasma - 15 A - 150 A
<b>Nozzle Ø</b>	1.2 mm - 3.6 mm

Item	Type	Designation	Length m	Item no.
9	PT150 TE2.4/PN1.8	Plasma robot welding torch	-	094-016988-00000
9.2	SH PLASMA CT	Segment holder for plasma torch	-	094-016314-00000
9.4	SP CT20 W 4m	Hose package plasma torch	4.0	094-016315-00000
9.4	SP CT20 W 6m		6.0	094-016315-00006
9.4	SP CT20 W 8m		8.0	094-016315-00008
9.5	CWF 150 CT20	Plasma cold wire feed, set	-	094-016318-00000

► Use only with RK2/RK3 recooling unit

## Consumables/Accessories



Item	Designation	Electrode Ø mm	Nozzle Ø mm	Wire Ø mm	Length mm	Item no.
10.01	Plasma torch shielding gas nozzle	-	-	-	-	094-016350-00000
10.01	Plasma torch shielding gas nozzle, long	-	-	-	-	094-016351-00000
10.02	Gas lens	-	-	-	-	094-016349-00000
10.03	Plasma nozzle	-	1.4	-	-	094-016340-00000
10.03	Plasma nozzle	-	1.6	-	-	094-016341-00000
10.03	Plasma nozzle, long	-	1.6	-	-	094-016347-00000
10.03	Plasma nozzle	-	1.8	-	-	094-016342-00000
10.03	Plasma nozzle	-	2	-	-	094-016343-00000
10.03	Plasma nozzle, long	-	2	-	-	094-015515-00000
10.03	Plasma nozzle	-	2.3	-	-	094-016344-00000
10.03	Plasma nozzle	-	2.6	-	-	094-016345-00000
10.03	Plasma nozzle, long	-	2.6	-	-	094-016348-00000
10.03	Plasma nozzle	-	3.6	-	-	094-016346-00000
10.04	Insulation ring 150CT	-	-	-	-	094-016339-00000
10.05	Centring ceramic	-	1.6	-	-	094-016336-00000
10.05	Centring ceramic	-	2.4	-	-	094-016337-00000
10.05	Centring ceramic	-	3.2	-	-	094-016338-00000
10.06	Tungsten electrode	1.6	-	-	57	094-016332-00000
10.06	Tungsten electrode	2.4	-	-	57	094-016333-00000
10.06	Tungsten electrode	3.2	-	-	57	094-016334-00000
10.07	Torch locking cap, long	-	-	-	75	094-016330-00000
10.07	Torch locking cap, long	-	-	-	100	094-016331-00000
10.07	Back cap	1.6	-	-	-	094-016327-00000
10.07	Back cap	2.4	-	-	-	094-016328-00000
10.07	Back cap	3.2	-	-	-	094-016329-00000
20.01	Wire feed nozzle	-	-	0.6	-	094-010126-00000
20.01	Wire feed nozzle	-	-	0.8	-	094-010127-00000
20.01	Wire feed nozzle	-	-	1	-	094-010128-00000
20.01	Wire feed nozzle	-	-	1.2	-	094-010129-00000
20.01	Wire feed nozzle	-	-	1.6	-	094-010130-00000
20.02	Cold wire feed	-	-	-	-	094-016320-00000
20.03	Guide for wire feed hose	-	-	-	-	094-016321-00000
20.04	Guide tube	-	-	-	-	094-016323-00000
20.06	Plasma torch crown nut	-	-	-	-	094-016325-00000
-	Plasma torch threaded pin	-	-	-	-	094-016324-00000
-	Setting gauge for plasma torch	-	-	-	-	094-016352-00000
-	Setting gauge for plasma torch, long	-	-	-	-	094-016353-00000



## Options/accessories

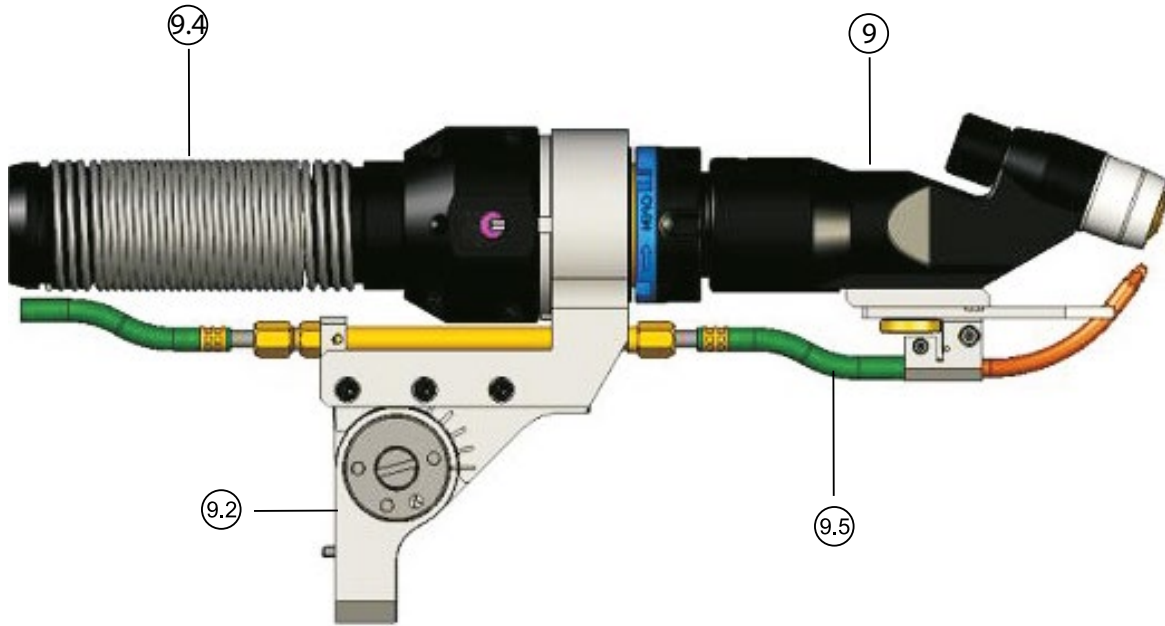
### Torch accessories

**TB 150CT20** Torch body

### Item no.

094-016312-00000

## Plasma welding torches PT 250



### Mechanised plasma welding torch

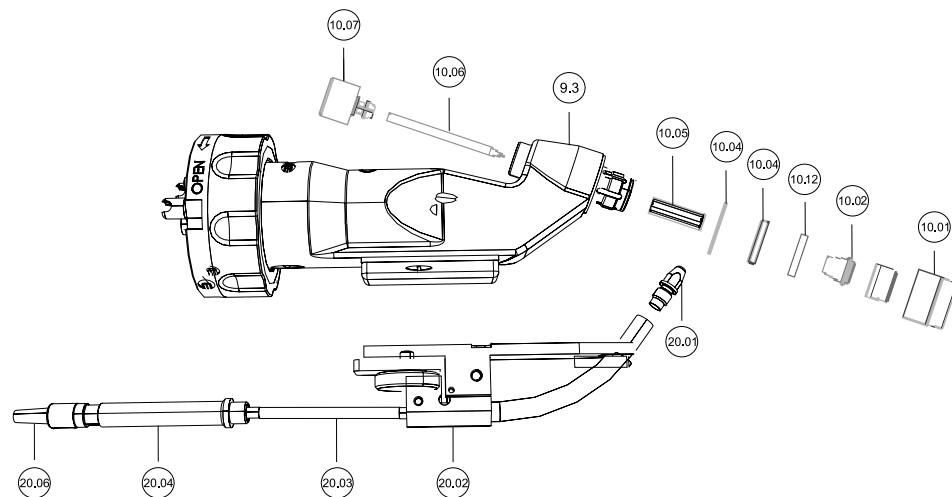
- Excellent gas shielding due to special gas lens enables processing of sensitive materials
- Stable, soft arc ensures spatter-free joining and coating without any need for post-weld work
- Optimum cooling
- Compact design for excellent accessibility
- Basic features: Torch body, 5.0-mm sealing cap, 5.0-mm tungsten electrode, 5.0-mm centring ceramic, insulation ring, distribution ring, gas diffuser, 4.0-mm plasma nozzle, mounting nut, shielding gas nozzle, setting gauge

<b>Pilot arc current</b>	Pilot arc current - 4 A - 15 A
<b>Plasma</b>	Plasma - 80 A - 250 A
<b>Nozzle Ø</b>	3 mm - 4.5 mm

Item	Type	Designation	Length m	Item no.
9	PT250CW ZF1.0/TE5.0/PN4.0	Plasma robot welding torch, cold wire, water-cooled	-	094-016989-00000
9.2	SH PLASMA CT	Segment holder for plasma torch	-	094-016314-00000
9.4	SP CT20 W 4m	Hose package plasma torch	4.0	094-016315-00000
9.4	SP CT20 W 6m		6.0	094-016315-00006
9.4	SP CT20 W 8m		8.0	094-016315-00008
9.5	CWF SET 150/250 CT20	Plasma cold wire feed, set	-	094-016319-00000

► Use with RK2.1/RK3.1 recooling unit only

## Consumables/Accessories



Item	Designation	Electro- de Ø mm	Nozzle Ø mm	Wire Ø mm	Length mm	Item no.
10.01	Plasma torch shielding gas nozzle	-	-	-	-	094-016365-00000
10.02	Gas lens	-	-	-	-	094-016359-00000
10.03	Plasma nozzle	-	3	-	-	094-016360-00000
10.03	Plasma nozzle	-	3.5	-	-	094-016361-00000
10.03	Plasma nozzle	-	4	-	-	094-016362-00000
10.03	Plasma nozzle	-	4.5	-	-	094-016363-00000
10.04	Insulation ring 250CT	-	-	-	-	094-016357-00000
10.05	Centring ceramic	-	-	-	-	094-016356-00000
10.06	Tungsten electrode	1.6	-	-	57	094-016332-00000
10.06	Tungsten electrode	2.4	-	-	57	094-016333-00000
10.06	Tungsten electrode	3.2	-	-	57	094-016334-00000
10.07	Back cap	5	-	-	-	094-016354-00000
10.12	Plasma torch distributor ring	-	-	-	-	094-016358-00000
20.01	Wire feed nozzle	-	-	0.6	-	094-010126-00000
20.01	Wire feed nozzle	-	-	0.8	-	094-010127-00000
20.01	Wire feed nozzle	-	-	1	-	094-010128-00000
20.01	Wire feed nozzle	-	-	1.2	-	094-010129-00000
20.01	Wire feed nozzle	-	-	1.6	-	094-010130-00000
20.02	Cold wire feed	-	-	-	-	094-016320-00000
20.03	Guide for wire feed hose	-	-	-	-	094-016322-00000
20.04	Guide tube	-	-	-	-	094-016323-00000
20.06	Plasma torch crown nut	-	-	-	-	094-016325-00000
-	Plasma torch threaded pin	-	-	-	-	094-016324-00000
-	Torch holder TB250, complete	-	-	-	-	094-016326-00000
-	Mounting nut	-	-	-	-	094-016364-00000
-	Setting gauge for plasma torch	-	-	-	-	094-016366-00000

### Options/accessories

Torch accessories	Item no.
Torch body	094-016313-00000

## Plasma welding torches AMW 250



### TIG pilot arc/AMW 250 plasma welding torch

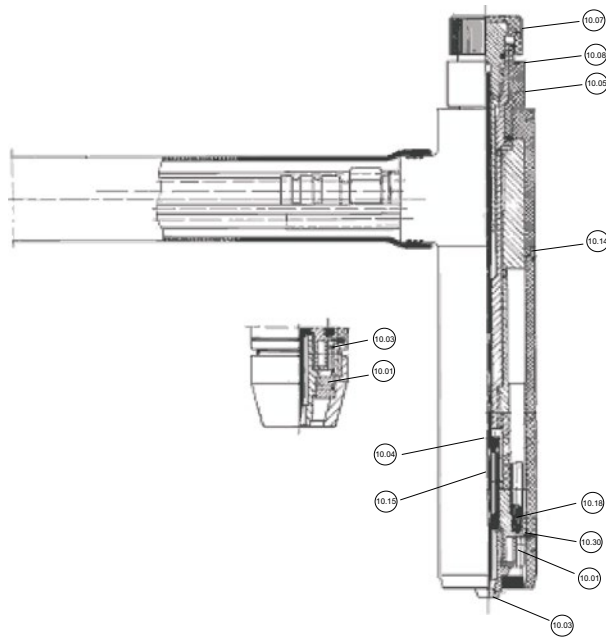
- Water cooled
- Clamping shaft 32 mm
- Basic features: Electrode 3.2 mm, short welding nozzle

<b>Duty cycle DC-</b>	250 A / 100 %
<b>Duty cycle AC</b>	220 A / 100 %

Item	Type	Designation	Length m	Item no.
9	AMW 250 4M	TIG pilot arc/plasma machine welding torch	4.0	094-001752-00004
9	AMW 250 6M		6.0	094-001752-00006
9	AMW 250 8M		8.0	094-001752-00008
9	AMW 250 10M		10.0	094-001752-00010

- ▶ Standard equipment for TIG pilot arc operation.
- ▶ Please order corresponding plasma welding nozzle with gas nozzle 094-001968-00000 for plasma operation!
- ▶ Use only with RK2/RK3 or RK2.1/RK3.1 recooling units

## Consumables/Accessories



Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Inside Ø mm	Item no.
10.01	Gas nozzle, ceramic, complete	-	-	-	-	094-001968-00000
10.01	Gas nozzle, metal, complete	-	-	-	-	094-001970-00000
10.01	Gas nozzle, metal, complete, narrow	-	-	-	-	094-002533-00000
10.01	Gas nozzle	-	-	-	-	394-006131-00000
10.03	Welding nozzle, short	-	-	-	-	094-001967-00000
10.03	Welding nozzle, long	-	-	-	-	094-021011-00000
10.03	Welding nozzle	-	-	2	-	094-001972-00000
10.03	Welding nozzle	-	-	2.8	-	094-001973-00000
10.03	Welding nozzle	-	-	3.2	-	094-001974-00000
10.03	Welding nozzle	-	-	3.5	-	094-001975-00000
10.03	Welding nozzle	-	-	4	-	394-009267-00000
10.03	Welding nozzle	-	-	4	-	094-001969-00000
10.03	Welding nozzle	-	-	4	-	094-002534-00000
10.03	Welding nozzle	-	-	5	-	094-001971-00000
10.04	Insulator	-	-	-	-	094-012326-00000
10.05	Collet	-	-	-	3.2	094-001963-00000
10.05	Collet	-	-	-	4	094-016587-00000
10.06	Tungsten electrode	-	3.2	-	-	094-001956-00000
10.06	Tungsten electrode, special	-	4	-	-	094-017010-00000
10.07	Torch cap	-	-	-	-	094-001965-00000
10.08	Collet body, long thread	-	-	-	3.2	094-001960-00000
10.08	Clamping sleeve housings	-	-	-	4	094-001961-00000
10.09	O-ring	9,5 x 1,6	-	-	-	094-016584-00000
10.09	O-ring	14,0 x 2,0	-	-	-	094-016588-00000
10.14	Insulation tube	-	-	-	-	094-013668-00000
10.15	Centring piece	-	-	-	-	094-001958-00000
10.15	Centring piece	4	-	-	-	094-001959-00000
10.18	Spot welding nozzle holder	-	-	-	-	094-012229-00000
10.27	Connector plug	-	-	-	-	094-021771-00000
10.28	Screw for plasma torch	-	-	-	-	394-006133-00000
10.30	Plasma torch seal	-	-	-	-	394-006132-00000
10.31	Flat seal	-	-	-	-	094-012581-00000
10.31	Flat seal	-	-	-	-	094-012913-00000

## Plasma welding torches AMW 250-1



### TIG pilot arc/AMW 250-1 plasma welding torch

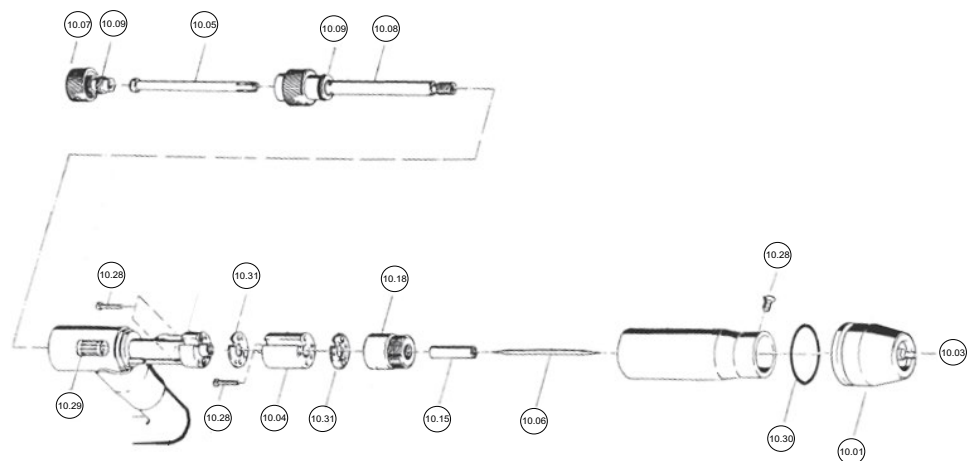
- Water cooled
- Clamping shaft 35 mm
- Basic features: Electrode 3.2 mm, long welding nozzle

<b>Duty cycle DC-</b>	250 A / 100 %
<b>Duty cycle AC</b>	220 A / 100 %

Item	Type	Designation	Length m	Item no.
9	AMW 250-1 4M	TIG pilot arc/plasma machine welding torch	4.0	094-023252-00004
9	AMW 250-1 6M		6.0	094-023252-00006

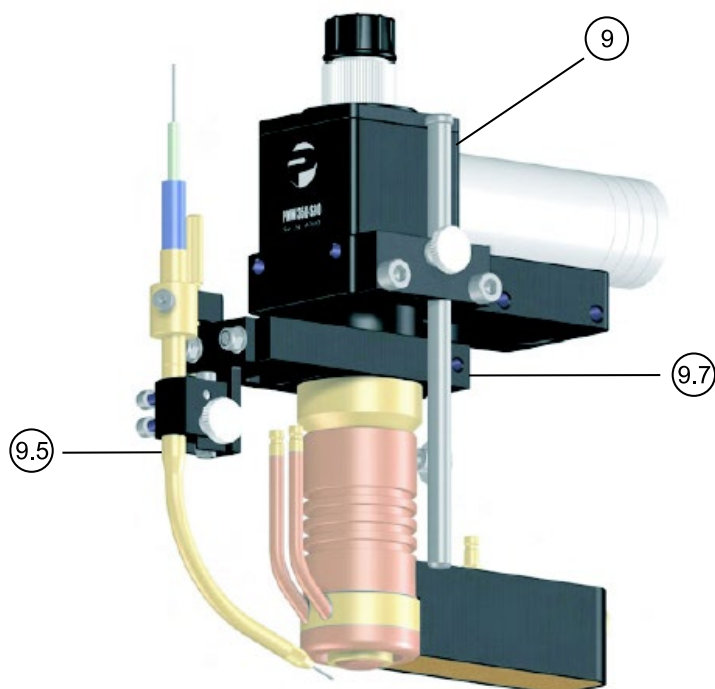
- ▶ Standard equipment for TIG pilot arc operation.
- ▶ Please order corresponding plasma welding nozzle with gas nozzle 094-001968-00000 for plasma operation!
- ▶ Use only with RK2/RK3 or RK2.1/RK3.1 recooling units

## Consumables/Accessories



Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Inside Ø mm	Item no.
10.01	Gas nozzle, ceramic, complete	-	-	-	-	094-001968-00000
10.01	Gas nozzle, metal, complete	-	-	-	-	094-001970-00000
10.03	Welding nozzle	-	-	2	-	094-001972-00000
10.03	Welding nozzle	-	-	2.8	-	094-001973-00000
10.03	Welding nozzle	-	-	3.2	-	094-001974-00000
10.03	Welding nozzle	-	-	3.5	-	094-001975-00000
10.03	Welding nozzle	-	-	4	-	394-009267-00000
10.03	Welding nozzle	-	-	4	-	094-001969-00000
10.03	Welding nozzle	-	-	5	-	094-001971-00000
10.04	Insulator	-	-	-	-	094-012326-00000
10.05	Collet	-	-	-	3.2	094-001963-00000
10.05	Collet body, long thread	-	-	-	3.2	094-016648-00000
10.05	Collet	-	-	-	4	094-016587-00000
10.06	Tungsten electrode	-	3.2	-	-	094-001956-00000
10.06	Tungsten electrode, special	-	4	-	-	094-017010-00000
10.07	Torch cap	-	-	-	-	094-001965-00000
10.08	Clamping sleeve housings	-	-	-	4	094-001961-00000
10.09	O-ring	9,5 x 1,6	-	-	-	094-016584-00000
10.09	O-ring	14,0 x 2,0	-	-	-	094-016588-00000
10.15	Centring piece	-	-	-	-	094-001958-00000
10.15	Centring piece	4	-	-	-	094-001959-00000
10.18	Spot welding nozzle holder	-	-	-	-	094-012229-00000
10.28	Screw for plasma torch	-	-	-	-	394-006133-00000
10.28	Cylinder head bolt	-	-	-	-	044-001277-00000
10.29	Contact strip	-	-	-	-	394-006130-00000
10.30	Plasma torch seal	-	-	-	-	394-006132-00000
10.31	Flat seal	-	-	-	-	094-012581-00000
10.31	Flat seal	-	-	-	-	094-012913-00000
-	Sintered disc	-	-	-	-	094-002294-00000

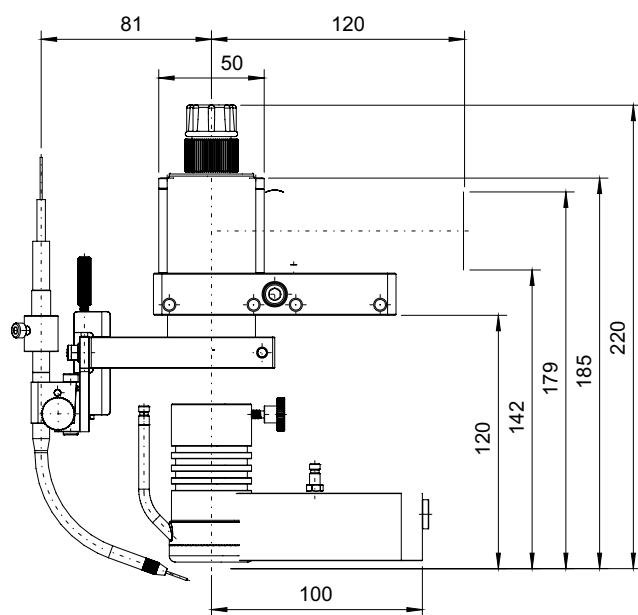
## Plasma welding torches PWM 350-S90



### Mechanised plasma welding torch

- Laminar flow of shielding gas via special trailing gas nozzle or water cooled gas nozzle
- Longer service life of the welding nozzle thanks to intensive cooling
- The position of the electrode relative to the nozzle can be adjusted slightly during welding
- Basic features: 4.0 x 175-mm special electrode, 2.8-mm welding nozzle

<b>Duty cycle</b>	350 A / 100 %
<b>Workpiece diameter</b>	2 mm - 10 mm
<b>Pilot arc current</b>	Pilot arc current - 10 A - 20 A



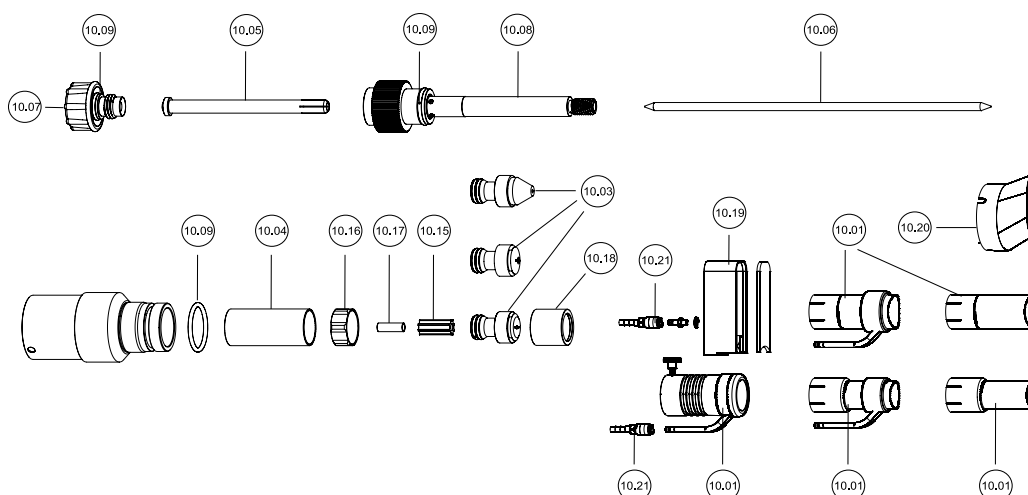


Item	Type	Designation	Length m	Item no.
9	PWM 350-S90 2m		2.0	094-016543-00002
9	PWM 350-S90 4m	Plasma machine welding torch	4.0	094-016543-00000
9	PWM 350-S90 6m		6.0	094-016543-00006
9	PWM 350-S90 8m		8.0	094-016543-00008
9.5	CWS CPL PMW 350-S90/S180		Cold wire feed, standard, for water-cooled gas nozzles, complete	
9.5	CWSS CPL PMW 350-S90/S180	Cold wire feed, short, for gas-cooled gas nozzles, complete		094-016613-00000
9.7	MP PMW 350	Mounting plate, for water-cooled gas nozzles, complete		094-016129-00000
9.7	MPS PMW 350	Mounting plate, short, for gas-cooled gas nozzles, complete	-	094-016592-00000
9.9	CPLUG	Coupling plug		094-013467-00000
9.9	CSLEEVE	Coupling socket		094-013466-00000
-	CWADJ	Transversal wire adjustment		094-013468-00000

► Use only with RK3.1 recooling unit

► The torch is supplied without gas nozzle. Order this part as required.

## Consumables/Accessories

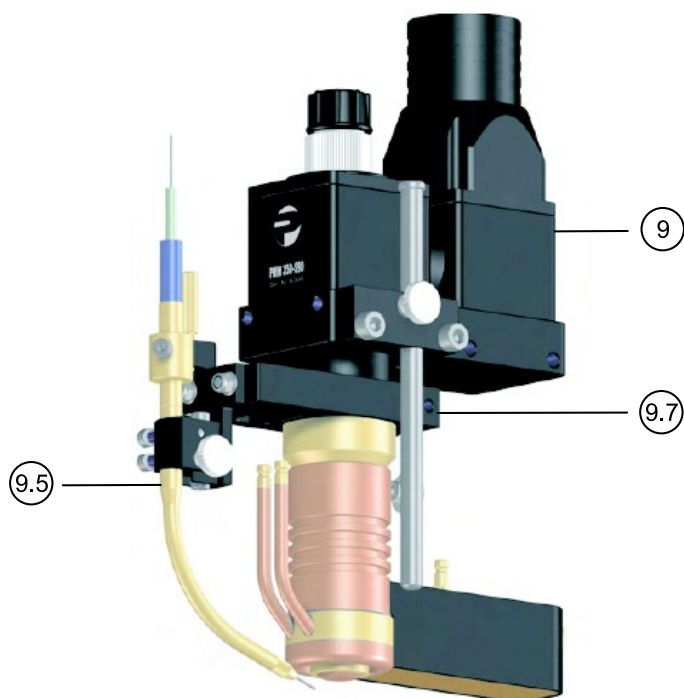


Item	Designation	Size in mm	Electrode Ø mm	Nozzle Ø mm	Inside Ø mm	Max. welding current A	Item no.
10.01	Gas nozzle, plug fitting	24	-	-	-	-	094-013817-00000
10.01	Gas nozzle, plug fitting, gas-cooled	30	-	-	-	-	094-013819-00000
10.01	Gas nozzle, plug fitting, austenitic, stainless steel	24	-	-	-	-	094-013818-00000
10.01	Gas nozzle, plug fitting, austenitic, stainless steel	30	-	-	-	-	094-013820-00000
10.01	Gas nozzle, screw fitting	29	-	-	-	-	094-016157-00000
10.03	Plasma nozzle, long	-	-	1.4	-	-	094-016599-00000
10.03	Plasma nozzle, pointed	-	-	1.6	-	80	094-016593-00000
10.03	Plasma nozzle, long	-	-	1.6	-	-	094-016600-00000
10.03	Plasma nozzle, pointed	-	-	1.8	-	90	094-016594-00000
10.03	Plasma nozzle, long	-	-	1.8	-	-	094-016601-00000
10.03	Plasma nozzle	-	-	2	-	100	094-013805-00000
10.03	Plasma nozzle, pointed	-	-	2	-	100	094-016595-00000
10.03	Plasma nozzle, long	-	-	2	-	-	094-016602-00000
10.03	Plasma nozzle	-	-	2.8	-	180	094-013806-00000
10.03	Plasma nozzle, pointed	-	-	2.8	-	180	094-016596-00000
10.03	Plasma nozzle, long	-	-	2.8	-	-	094-016603-00000
10.03	Plasma nozzle	-	-	3.2	-	240	094-013807-00000
10.03	Plasma nozzle, pointed	-	-	3.2	-	240	094-016597-00000
10.03	Plasma nozzle, long	-	-	3.2	-	-	094-016604-00000
10.03	Plasma nozzle	-	-	3.5	-	280	094-013808-00000
10.03	Plasma nozzle, pointed	-	-	3.5	-	280	094-016598-00000
10.03	Plasma nozzle, long	-	-	3.5	-	-	094-016605-00000
10.03	Plasma nozzle	-	-	4	-	350	094-013809-00000
10.03	Plasma nozzle, long	-	-	4	-	-	094-016606-00000
10.03	Plasma nozzle, long	-	-	4.5	-	-	094-016607-00000
10.04	Insulator	-	-	-	-	-	094-013814-00000
10.05	Collet	-	-	-	4	-	094-016587-00000
10.06	Tungsten electrode, special	-	4	-	-	-	094-017010-00000
10.07	Torch cap	-	-	-	-	-	094-001965-00000
10.08	Clamping sleeve housings	-	-	-	-	-	094-016589-00000
10.09	O-ring	9,5 x 1,6	-	-	-	-	094-016584-00000
10.09	O-ring	14,0 x 2,0	-	-	-	-	094-016588-00000
10.15	Centring piece	-	-	-	-	-	094-013812-00000
10.16	Spacing sleeve	-	-	-	-	-	094-013815-00000
10.17	Sleeve	-	-	-	-	-	094-013813-00000
10.18	Nozzle cap	-	-	-	-	-	094-013816-00000
10.19	Shielding gas trailing shield	-	-	-	-	-	094-016465-00000
10.20	Shielding gas trailing shield	-	-	-	-	-	094-013822-00000
10.21	Quick connect coupling	-	-	-	-	-	094-013821-00000
-	Setting gauge for plasma torch	-	-	-	-	-	094-013825-00000

## Options/accessories

Cold wire feed accessories	Item no.
<b>WFT 70° PMW</b> Wire feed tube	094-012465-00000
<b>WFNOZZ PMW 0.7</b> Wire feed nozzle	094-016591-00000
<b>WFNOZZ PMW 0.9</b> Wire feed nozzle	094-009400-00000
<b>WFNOZZ PMW 1.1</b> Wire feed nozzle	094-008552-00000
<b>WFNOZZ PMW 1.3</b> Wire feed nozzle	094-008553-00000
<b>WFNOZZ PMW 1.7</b> Wire feed nozzle	094-009401-00000
Torch accessories	Item no.
<b>PP PWM350 420A</b> Power package increases duty cycle for PWM 350 plasma machine welding torch to 420A/100%	094-021854-00000
<b>WGD PWM350</b> Hose set, 4 m, for water-cooled gas nozzles. Can be cut to the required length	094-022661-00000
<b>ZS 300X300X120 TETRIX/MP120</b> Plasma torch relay	094-021967-00000
<b>VSP PMW350 TETRIX/MP120 10m</b> Connection hose package	094-021966-00010
<b>VSP PMW350 TETRIX/MP120 16m</b> Connection hose package	094-021966-00000

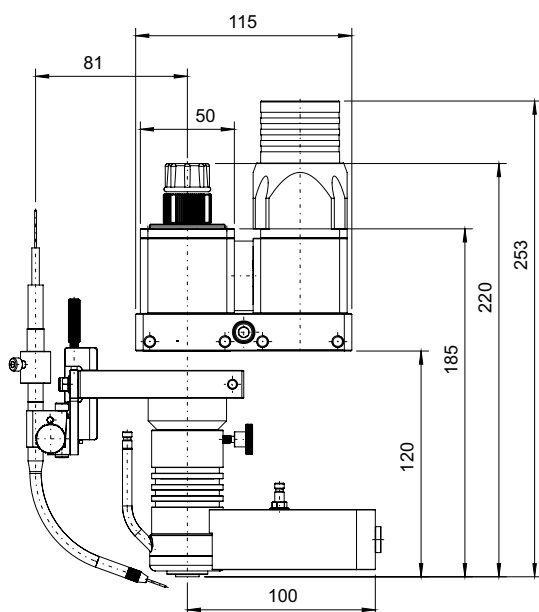
## Plasma welding torches PWM 350-S180



### Mechanised plasma welding torch

- Laminar flow of shielding gas via special trailing gas nozzle or water cooled gas nozzle
- Longer service life of the welding nozzle thanks to intensive cooling
- The position of the electrode relative to the nozzle can be adjusted slightly during welding
- Basic features: 4.0 x 175-mm special electrode, 2.8-mm welding nozzle

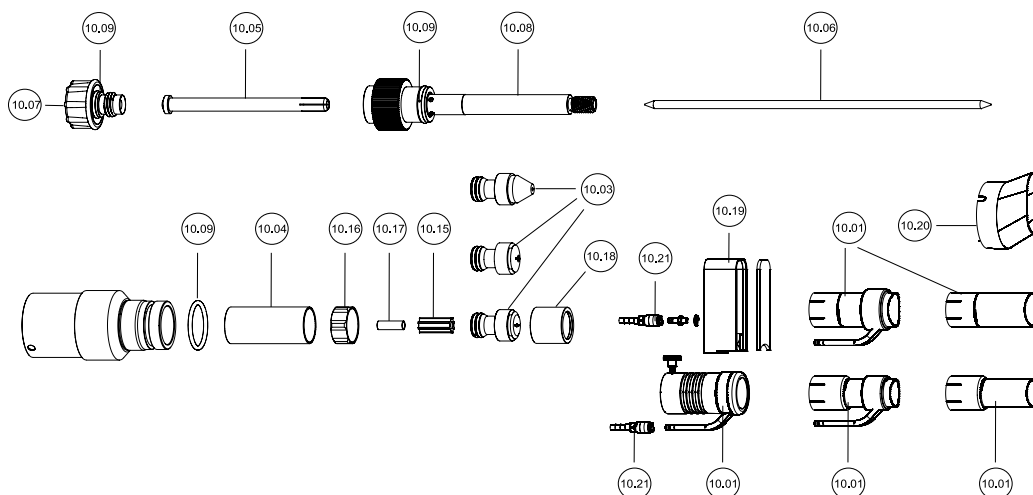
<b>Duty cycle</b>	350 A / 100 %
<b>Workpiece diameter</b>	2 mm - 10 mm
<b>Pilot arc current</b>	Pilot arc current - 10 A - 20 A



Item	Type	Designation	Length m	Item no.
9	PWM 350-S180 0,6m		0.6	094-016544-00060
9	PWM 350-S180 1,5m		1.5	094-016544-00015
9	PWM 350-S180 2m		2.0	094-016544-00002
9	PWM 350-S180 4m	Plasma machine welding torch	4.0	094-016544-00000
9	PWM 350-S180 6m		6.0	094-016544-00006
9	PWM 350-S180 8m		8.0	094-016544-00008
9	PWM 350-S180 10m		10.0	094-016544-00010
9.5	CWS CPL PMW 350-S90/S180	Cold wire feed, standard, for water-cooled gas nozzles, complete		094-013464-00000
9.5	CWSS CPL PMW 350-S90/S180	Cold wire feed, short, for gas-cooled gas nozzles, complete		094-016613-00000
9.7	MP PMW 350	Mounting plate, for water-cooled gas nozzles, complete		094-016129-00000
9.7	MPS PMW 350	Mounting plate, short, for gas-cooled gas nozzles, complete	-	094-016592-00000
9.9	CPLUG	Coupling plug		094-013467-00000
9.9	CSLEEVE	Coupling socket		094-013466-00000
-	CWADJ	Transversal wire adjustment		094-013468-00000

- ▶ Use only with RK3.1 recooling unit
- ▶ The torch is supplied without gas nozzle. Order this part as required.

## Consumables/Accessories



Item	Designation	Size in mm	Electro-	Nozzle Ø	Inside Ø	Max. welding current	Item no.
			de Ø				
			mm	mm	mm	A	
10.01	Gas nozzle, plug fitting	24	-	-	-	-	094-013817-00000
10.01	Gas nozzle, plug fitting, gas-cooled	30	-	-	-	-	094-013819-00000
10.01	Gas nozzle, plug fitting, austenitic, stainless steel	24	-	-	-	-	094-013818-00000
10.01	Gas nozzle, plug fitting, austenitic, stainless steel	30	-	-	-	-	094-013820-00000
10.01	Gas nozzle, screw fitting	29	-	-	-	-	094-016157-00000
10.03	Plasma nozzle, long	-	-	1.4	-	-	094-016599-00000
10.03	Plasma nozzle, pointed	-	-	1.6	-	80	094-016593-00000
10.03	Plasma nozzle, long	-	-	1.6	-	-	094-016600-00000
10.03	Plasma nozzle, pointed	-	-	1.8	-	90	094-016594-00000
10.03	Plasma nozzle, long	-	-	1.8	-	-	094-016601-00000
10.03	Plasma nozzle	-	-	2	-	100	094-013805-00000
10.03	Plasma nozzle, pointed	-	-	2	-	100	094-016595-00000
10.03	Plasma nozzle, long	-	-	2	-	-	094-016602-00000
10.03	Plasma nozzle	-	-	2.8	-	180	094-013806-00000
10.03	Plasma nozzle, pointed	-	-	2.8	-	180	094-016596-00000
10.03	Plasma nozzle, long	-	-	2.8	-	-	094-016603-00000
10.03	Plasma nozzle	-	-	3.2	-	240	094-013807-00000
10.03	Plasma nozzle, pointed	-	-	3.2	-	240	094-016597-00000
10.03	Plasma nozzle, long	-	-	3.2	-	-	094-016604-00000
10.03	Plasma nozzle	-	-	3.5	-	280	094-013808-00000
10.03	Plasma nozzle, pointed	-	-	3.5	-	280	094-016598-00000
10.03	Plasma nozzle, long	-	-	3.5	-	-	094-016605-00000
10.03	Plasma nozzle	-	-	4	-	350	094-013809-00000
10.03	Plasma nozzle, long	-	-	4	-	-	094-016606-00000
10.03	Plasma nozzle, long	-	-	4.5	-	-	094-016607-00000
10.04	Insulator	-	-	-	-	-	094-013814-00000
10.05	Collet	-	-	-	4	-	094-016587-00000
10.06	Tungsten electrode, special	-	4	-	-	-	094-017010-00000
10.07	Torch cap	-	-	-	-	-	094-001965-00000
10.08	Clamping sleeve housings	-	-	-	-	-	094-016589-00000
10.09	O-ring	9,5 x 1,6	-	-	-	-	094-016584-00000
10.09	O-ring	14,0 x 2,0	-	-	-	-	094-016588-00000
10.15	Centring piece	-	-	-	-	-	094-013812-00000
10.16	Spacing sleeve	-	-	-	-	-	094-013815-00000
10.17	Sleeve	-	-	-	-	-	094-013813-00000
10.18	Nozzle cap	-	-	-	-	-	094-013816-00000
10.19	Shielding gas trailing shield	-	-	-	-	-	094-016465-00000
10.20	Shielding gas trailing shield	-	-	-	-	-	094-013822-00000
10.21	Quick connect coupling	-	-	-	-	-	094-013821-00000
-	Setting gauge for plasma torch	-	-	-	-	-	094-013825-00000

## Options/accessories

Cold wire feed accessories	Item no.
<b>WFT 70° PMW</b> Wire feed tube	094-012465-00000
<b>WFNOZZ PMW 0.7</b> Wire feed nozzle	094-016591-00000
<b>WFNOZZ PMW 0.9</b> Wire feed nozzle	094-009400-00000
<b>WFNOZZ PMW 1.1</b> Wire feed nozzle	094-008552-00000
<b>WFNOZZ PMW 1.3</b> Wire feed nozzle	094-008553-00000
<b>WFNOZZ PMW 1.7</b> Wire feed nozzle	094-009401-00000
Torch accessories	Item no.
<b>PP PWM350 420A</b> Power package increases duty cycle for PWM 350 plasma machine welding torch to 420A/100%	094-021854-00000
<b>WGD PWM350</b> Hose set, 4 m, for water-cooled gas nozzles. Can be cut to the required length	094-022661-00000
<b>ZS 300X300X120 TETRIX/MP120</b> Plasma torch relay	094-021967-00000
<b>VSP PMW350 TETRIX/MP120 10m</b> Connection hose package	094-021966-00010
<b>VSP PMW350 TETRIX/MP120 16m</b> Connection hose package	094-021966-00000





# Overview

<b>Accessories</b>		<b>Page</b>	
Interfaces	RINT X12	STANDARD	<b>212</b>
		STANDARD ATCASE	<b>213</b>
		RINT X12 SCO ATCASE	<b>214</b>
	BUSINT X11	TIG	<b>216</b>
		TIG Atcase	<b>217</b>
		Plasma Atcase	<b>219</b>

## Function overview

Outputs:	Available for selection:	Available for selection:
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<ul style="list-style-type: none"> <li>● Emergency stop for collision switch</li> <li>● Current flow signal</li> <li>● Power relay contact</li> <li>● Uactual</li> <li>● Welding voltage measurement</li> <li>● Power supply +15 V</li> <li>● Power supply -15 V</li> <li>● Iactual</li> </ul> <p><b>Input:</b></p> <ul style="list-style-type: none"> <li>● Welding machine emergency stop</li> <li>● Start/stop</li> </ul>	<ul style="list-style-type: none"> <li>● Inching via constant or ramp function</li> <li>● Positive/negative input logic</li> <li>● Non-latched/Special non-latched</li> <li>● Standard/pulse welding</li> </ul> <p><b>Signals:</b></p> <ul style="list-style-type: none"> <li>● Welding process active/finished</li> <li>● Standard/pulse welding activated</li> <li>● Error reset</li> <li>● Shielding gas valve</li> <li>● Compressed air valve</li> <li>● Pilot gas valve (plasma)</li> <li>● Inching active/finished</li> <li>● Reverse inching active/finished</li> <li>● JOB selection active/finished</li> <li>● Program selection</li> <li>● I&gt;0 arc detection</li> <li>● Ready to weld/not ready</li> <li>● Wire stick/no wire stick</li> <li>● Error</li> <li>● Workpiece detection</li> </ul> <p><b>Signal monitoring:</b></p> <ul style="list-style-type: none"> <li>● Welding voltage OK/not OK</li> <li>● Welding current OK/not OK</li> <li>● Wire feed speed OK/not OK</li> <li>● Motor current OK/not OK</li> </ul> <p><b>Control voltage:</b></p> <ul style="list-style-type: none"> <li>● 0 V–10 V wire feed speed</li> <li>● 0 V–10 V arc correction</li> <li>● 0 V–10 V dynamic correction</li> </ul>	<ul style="list-style-type: none"> <li>● JOB mode for automatic selection of welding type and operating mode</li> <li>● Process control via 15 programs or control signals for wire feeder, voltage correction and arc dynamics</li> <li>● Simulation with similar parameters of all process signals for determining cycle times</li> <li>● Fast actual process values for seam tracking available as an option</li> <li>● Workpiece search function (optional integration of fast actual process values required)</li> </ul> <p><b>Signals:</b></p> <ul style="list-style-type: none"> <li>● Manual signals for shielding gas, blow out, wire inching and reverse inching, welding type, operating mode</li> <li>● Safety-related emergency shut-down of processes via software or optional hardware</li> <li>● Safety switch-off in case of interruption in fieldbus connection</li> <li>● Transfer of actual process values for welding voltage, welding and motor current, wire feed speed</li> </ul> <p><b>Signal monitoring:</b></p> <ul style="list-style-type: none"> <li>● Process signals for displaying the arc, process and system state</li> <li>● Error indication</li> <li>● Intelligent arc interruption, wire stick and ignition error detection</li> <li>● Welding voltage</li> <li>● Welding and motor current</li> <li>● Wire feed speed</li> <li>● Single channel message</li> <li>● Collective relay output</li> </ul> <p><b>Outputs:</b></p> <ul style="list-style-type: none"> <li>● Up to four user-defined outputs</li> </ul> <p><b>Inputs:</b></p> <ul style="list-style-type: none"> <li>● Fast, external input for torch collision detection</li> <li>● Three user-defined inputs</li> </ul>
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## Matching EWM interfaces to robot controls from a variety of manufacturers

Manufacturer	Manufacturer		Control type	Interface type	Interface for automated welding	RINT X12	BUSINT X11 PROFIBUS	BUSINT X11 INTERBUS	BUSINT X11 DEVICE NET	BUSINT X11 CAN-OPEN	BUSINT X11 RUGGEDLINE	BUSINT X11 ETHERNET IP	BUSINT X11 PROFINET	BUSINT X11 ETHERCAT
	Control type	Interface type												
REIS	RS5		○	□						●			●	
	RS4		○	●										
PANASONIC	G1/G2		○	●										
OTC	EN 5624		○	●										
MOTOMAN	YRC1000												●	
	DX200			●										
	DX 100			●								□	□	
	NX 100		○	●				■						
	XRC		○	●				●						
	MRC		○	●										
	ERC		○	●										
KUKA	KRC4												■	●
	VKRC2		○	○	□	□	□	□	□	●				
	KRC2		○	○	□	□	□	●	□	□	□			
	VKRC1		○	○	□	□	□	□	□	□	●			
	KRC1		○	○	□	□	□	●	□	□	□			
	KF 30/51		○	●										
KAWASAKI	E01											●		
	D 40		○	●	□	□	□	□	□	□				
	C 40		○	●	□	□	□	□	□	□				
IGM	RCE K6													●
	RT1 K6													●
	RT1 K5			■				●						
	RT K3, K4			●										
FANUC	R-30IB Plus											●		
	R-30IB			■								●		
	R-31C		○	●	□			□				■		
	R-31B		○	●	□			□						
	R-3		○	●	□									
	R-2		○	●	□									
COMAU	C4G			□										
	C3G+			□			□							
ABB	IRC5			□				●				●		
	S4C+			■	■			●						
	S4C		○	●										
	S4		○	●										
	S3		○	●										

●	recommended version
■	possible version
□	possible, contact EWM
○	additional option

► Please note that the table is for guidance purposes on possible configurations only. You must consult your system integrator or robot manufacturer to determine whether the suggested interface version can be used in your application.

## RINT X12 STANDARD



- Robot interface
- For installation in external switching cabinet
- Interface for controlling automated Titan, alpha Q, Phoenix, Taurus and Tetrax machine series in one machine (conversion via jumpers)
- Control signals, analogue: MIG/MAG control voltage for wire feed speed (welding power), arc voltage correction and dynamics – TIG/plasma control voltage: welding current, secondary current, pulse time, pause time
- Control signals, digital: Operating modes, e.g. non-latched, special non-latched, start/stop, gas test 1, 2, inching 1, 2, direction of rotation, inching speed (constant/ramp), welding type (standard MIG/pulse arc MIG welding)
- Status signals, analogue: Current, voltage
- Status signals, digital: Current flowing  $I > 0$ ; ready for welding, stick, error
- JOB selection, up to 510 JOBS available, switching of internal/external JOB selection
- Program selection, 15 programs available
- JOB operation with welding and operating mode per program
- Expanded control signal to parameterise the pulse modes
- Simplified control (signal default setting via jumpers)
- Workpiece search function
- Software-based emergency shut-down signal
- Diagnostic interface for set up, problem analysis and operation of the Analyzer software
- Fast and easy integration into robot systems

<b>Dimensions (L x B x H)</b>	235 mm x 130 mm x 100 mm
<b>Weight</b>	ca.1 kg
<b>Version</b>	Standard

Type	Designation	Item no.
RINT X12 STANDARD	Standard robot interface	090-008291-00000
RINT X12 DV SWITCH	Robot interface including optional wire feeder switching	090-008291-00001
RINT X12 TANDEM	Robot interface including tandem option	090-008291-00002

### Options/accessories

Options for retrofitting	Item no.
<b>ON PLUG SET RINT X12</b> Retrofit option EWM plug set for RINT X12/DVINT X11	092-001822-00000
Cable sets	Item no.
<b>KB MOTOMAN-RINT X12</b> Cable harness for RINT X12 connection to Motoman XRC/NX-100/DX-100/DX-200	094-012212-00003
<b>KB RINT X12 FANUC 34POL</b> Cable assembly	094-009441-00001
<b>KB RINT X12 FANUC 50POL</b> Cable assembly	094-009440-00001

## RINT X12 STANDARD ATCASE



- Interface for controlling automated alpha Q, Phoenix, Taurus and Tetrax machine series in one machine (conversion via jumpers)
- Robot interface in separate casing for fitting to all xx2 casings
- Control signals, analogue: MIG/MAG control voltage for wire feed speed (welding power), arc voltage correction and dynamics – TIG/plasma control voltage: welding current, secondary current, pulse time, pause time
- Control signals, digital: Operating modes, e.g. non-latched, special non-latched, start/stop, gas test 1, 2, inching 1, 2, direction of rotation, inching speed (constant/ramp), welding type (standard MIG/pulse arc MIG welding)
- Status signals, analogue: Current, voltage
- Status signals, digital: Current flowing  $I > 0$ ; ready for welding, stick, error
- JOB selection, up to 510 JOBs available, switching of internal/external JOB selection
- Program selection, 15 programs available
- JOB operation with welding and operating mode per program
- Expanded control signal to parameterise the pulse modes
- Simplified control (signal default setting via jumpers)
- Workpiece search function
- Software-based emergency shut-down signal
- Diagnostic interface for set up, problem analysis and operation of the Analyzer software
- Fast and easy integration into robot systems

### Dimensions (L x B x H)









271 mm x 134 mm x 187 mm

### Weight

ca.3.7 kg

Type	Designation	Item no.
RINT X12 STANDARD ATCASE	Standard robot interface in casing	090-008293-00000
RINT X12 DV SWITCH ATCASE	Robot interface in casing including optional wire feeder switching	090-008293-00001
RINT X12 TANDEM ATCASE	Robot interface in casing incl. tandem option	090-008293-00002

## Options/accessories

ATCASE connection cable	Item no.
<b>RA5 23POL 5M</b> Connection cable, 23-pole, one-sided wire end ferrules	 092-007727-00005
<b>RA5 23POL 10M</b> Connection cable, 23-pole, one-sided wire end ferrules	 092-007727-00010
<b>RA5 28POL 5M</b> Connection cable, 28-pole, one-sided wire end ferrules	 092-007728-00005
<b>RA5 28POL 10M</b> Connection cable, 28-pole, one-sided wire end ferrules	 092-007728-00010
<b>RA5 23/28POL 5M FANUC</b> Connection cable, 23-pole, for Fanuc RJ-3iB/RJ-3iC	 092-007729-00005
<b>RA5 23/28POL 10M FANUC</b> Connection cable, 23-pole, for Fanuc RJ-3iB/RJ-3iC	 092-007729-00010
<b>RA5 23POL 5M MOTOMAN</b> Connection cable, 23-pole, for Motoman XRC/NX-100/DX-100/DX-200	 092-007731-00005
<b>RA5 23POL 10M MOTOMAN</b> Connection cable, 23-pole, for Motoman XRC/NX-100/DX-100/DX-200	 092-007731-00010

## RINT X12 RINT X12 SCO ATCASE











- Robot interface in a separate casing for special applications, for attachment to XX2 casing
- Interface for control of the Tetrix, forceTig and Tetrix Plasma automated machine series with an additional wire
- Extremely easy integration into mechanised systems when using additional wire: Start/stop and I > 0 evaluation are sufficient (parameters set via power source and remote control)
- Connection capability for remote control FR AW1 (090-S08765-03796), for manual control of the additional wire: wire on/off, wire inching, wire return, wire feed speed
- See also description for forceTig welding system – variant 2
- Additional control and status signals are also available, e.g.:
- Status signals, analogue: current, voltage
- Status signals, digital: current flowing I > 0; ready for welding, wire stick, error
- JOB and program selection
- Simplified control (signal default setting via jumpers)
- Software-based emergency shut-down signal
- Diagnostic interface for set-up, problem analysis and operation of the Analyzer software
- For fast and easy integration into mechanised systems

<b>Dimensions (L x B x H)</b>	271 mm x 134 mm x 187 mm
<b>Weight</b>	ca.3.7 kg

Type	Designation	Item no.
RINT X12 SCO ATCASE	SCO robot interface in casing	090-S08293-03795

### Options/accessories

ATCASE connection cable	Item no.
<b>RA5 23POL 5M</b> Connection cable, 23-pole, one-sided wire end ferrules	 092-007727-00005
<b>RA5 23POL 10M</b> Connection cable, 23-pole, one-sided wire end ferrules	 092-007727-00010
<b>RA5 28POL 5M</b> Connection cable, 28-pole, one-sided wire end ferrules	 092-007728-00005
<b>RA5 28POL 10M</b> Connection cable, 28-pole, one-sided wire end ferrules	 092-007728-00010
<b>RA5 23/28POL 5M FANUC</b> Connection cable, 23-pole, for Fanuc RJ-3iB/RJ-3iC	 092-007729-00005
<b>RA5 23/28POL 10M FANUC</b> Connection cable, 23-pole, for Fanuc RJ-3iB/RJ-3iC	 092-007729-00010
<b>RA5 23POL 5M MOTOMAN</b> Connection cable, 23-pole, for Motoman XRC/NX-100/DX-100/DX-200	 092-007731-00005
<b>RA5 23POL 10M MOTOMAN</b> Connection cable, 23-pole, for Motoman XRC/NX-100/DX-100/DX-200	 092-007731-00010



## BUSINT X11 TIG



- Industrial bus interface
- For installation in external switching cabinet
- Integration in manufacturing processes/robot applications, e.g. with DEVICE-NET, CAN-OPEN, ETHERCAT, ETHERNET IP, INTERBUS, PROFIBUS, PROFINET CU, PROFINET LWL, RUGGED LINE and MODBUS TCP systems
- Start/Stop; gas test 1, 2; inching 1, 2; rotation direction; welding type (standard welding, pulsing, AC special pulsing – AC mode only – thermal DC pulsing), JOB mode
- Digital inputs for JOB selection
- Up to 256 JOBS and 15 programs available
- Welding data monitoring: Current, voltage, wire feed speed, armature current
- Control voltage for main current, wire feeder, secondary current, pulse time and pause time
- Diagnostic interface for set up, problem analysis and operation of the Analyzer software
- Optional switching between several cold wire drive units

<b>Dimensions (L x B x H)</b>	235 mm x 130 mm x 100 mm
<b>Weight</b>	ca.1 kg

Type	Designation	Item no.
Tetrix BUSINT X11 PROFINET LWL	PROFINET LWL industrial bus interface	090-008763-00000
Tetrix BUSINT X11 CAN-OPEN	CAN-OPEN industrial bus interface	090-008259-00000
Tetrix BUSINT X11 DEVICE-NET	DEVICE-NET industrial bus interface	090-008258-00000
Tetrix BUSINT X11 INTERBUS	INTERBUS industrial bus interface	090-008256-00000
Tetrix BUSINT X11 PROFIBUS	PROFIBUS industrial bus interface	090-008257-00000
Tetrix BUSINT X11 PROFINET	PROFINET industrial bus interface	090-008260-00000
Tetrix BUSINT X11 ETHERCAT	ETHERCAT industrial bus interface	090-008621-00000
Tetrix BUSINT X11 ETHERNET IP	ETHERNET IP industrial bus interface	090-008622-00000

### Options/accessories

Options for retrofitting	Item no.
<b>ON VOLTAGE SUPPLY IBUS3</b> Retrofit option: external potential-free voltage supply, 24 V	092-008197-00000

Factory-fit options	Item no.
<b>OW DV SWITCH T</b> Operation of two wire feeders in automated systems	00001
<b>OW VOLTAGE SUPPLY IBUS3</b> Factory-fit option: external potential-free voltage supply, 24 V	00008



## BUSINT X11 TIG Atcase



- Industrial bus interface in separate casing for fitting to all xx2 casings
- Integration in manufacturing processes/robot applications, e.g. with DEVICE-NET, CAN-OPEN, ETHERCAT, ETHERNET IP, INTERBUS, PROFIBUS, PROFINET CU, PROFINET LWL, RUGGED LINE and MODBUS TCP systems
- Start/Stop; gas test 1, 2; inching 1, 2; rotation direction; welding type (standard welding, pulsing, AC special pulsing – AC mode only – thermal DC pulsing), JOB mode
- Digital inputs for JOB selection
- Up to 256 JOBS and 15 programs available
- Welding data monitoring: Current, voltage, wire feed speed, armature current
- Control voltage for main current, wire feeder, secondary current, pulse time and pause time
- Diagnostic interface for set up, problem analysis and operation of the Analyzer software
- Optionally available with signal conditioning for AVC using fast actual process values (V, I)
- Optional switching between several cold wire drive units

<b>Weight</b>	ca.3.7 kg
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Type	Designation	Item no.
Tetrix BUSINT X11 INTERBUS RUGGED LINE ATCASE	INTERBUS RUGGED LINE industrial bus interface in casing	090-008597-00000
Tetrix BUSINT X11 PROFINET LWL ATCASE	PROFINET LWL industrial bus interface in casing	090-008609-00000
Tetrix BUSINT X11 PROFINET CU ATCASE	PROFINET industrial bus interface in casing, copper	090-008590-00000
Tetrix BUSINT X11 INTERBUS ATCASE	INTERBUS industrial bus interface in casing	090-008586-00000
Tetrix BUSINT X11 PROFIBUS ATCASE	PROFIBUS industrial bus interface in casing	090-008587-00000
Tetrix BUSINT X11 DEVICE NET ATCASE	DEVICE NET industrial bus interface in casing	090-008588-00000
Tetrix BUSINT X11 CAN-OPEN ATCASE	CAN-OPEN industrial bus interface in casing	090-008589-00000
Tetrix BUSINT X11 ETHERCAT ATCASE	ETHERCAT industrial bus interface in casing	090-008619-00000
Tetrix BUSINT X11 ETHERNET IP ATCASE	ETHERNET IP industrial bus interface in casing	090-008627-00000

### Options/accessories

Options for retrofitting	Item no.
<b>ON VOLTAGE SUPPLY SV+/-15</b> Retrofit option: external potential-free voltage supply, 24 V	092-008198-00000
Factory-fit options	Item no.
<b>OW DV SWITCH T</b> Operation of two wire feeders in automated systems	00001
<b>OW AVC</b> Factory-fit option, AVC support	00002
<b>OW VOLTAGE SUPPLY SV+/-15</b> Retrofit option: external potential-free voltage supply, 24 V	00008



## BUSINT X11 Plasma Atcase



- Industrial bus interface in separate casing for fitting to all xx2 casings
- Integration in manufacturing processes/robot applications, e.g. with DEVICE-NET, CAN-OPEN, ETHERCAT, ETHERNET IP, INTERBUS, PROFIBUS, PROFINET CU, PROFINET LWL, RUGGED LINE and MODBUS TCP systems
- Interface for plasma already contains external potential-free voltage supply
- Start/Stop; gas test 1, 2; inching 1, 2; rotation direction; welding type (standard welding, pulsing, AC special pulsing – AC mode only – thermal DC pulsing), JOB mode
- Digital inputs for JOB selection
- Up to 256 JOBS and 15 programs available
- Welding data monitoring: Current, voltage, wire feed speed, armature current
- Control voltage for main current, wire feeder, secondary current, pulse time and pause time
- Diagnostic interface for set up, problem analysis and operation of the Analyzer software
- Optionally available with signal conditioning for AVC using fast actual process values (V, I)
- Optional switching between several cold wire drive units




<b>Weight</b>	ca.3.7 kg
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Type	Designation	Item no.
Tetrix BUSINT X11 PLASMA PRO-FINET KUPFER ATCASE	PROFINET Copper industrial bus interface in casing, including potential-free voltage supply	090-008693-00000
Tetrix BUSINT X11 PLASMA ETHERNET IP	ETHERNET IP industrial bus interface in casing, including potential-free voltage supply	090-008692-00000
Tetrix BUSINT X11 Plasma INTERBUS LWL ATCASE	Interbus LWL industrial bus interface in casing, including potential-free voltage supply	090-008691-00000
Tetrix BUSINT X11 PLASMA PRO-FIBUS ATCASE	PROFIBUS industrial bus interface in casing, including potential-free voltage supply	090-008624-00000
Tetrix BUSINT X11 PLASMA PRO-FINET LWL ATCASE	PROFINET LWL industrial bus interface in casing, including potential-free voltage supply	090-008625-00000
Tetrix BUSINT X11 PLASMA DEVICE NET ATCASE	DEVICE NET industrial bus interface in casing, including potential-free voltage supply	090-008690-00000
Tetrix BUSINT X11 PLASMA ETHERCAT	ETHERCAT industrial bus interface in casing, including external potential-free voltage supply	090-008680-00000

### Options/accessories

Factory-fit options	Item no.
<b>OW DV SWITCH T</b> Operation of two wire feeders in automated systems	00001
<b>OW AVC</b> Factory-fit option, AVC support	00002

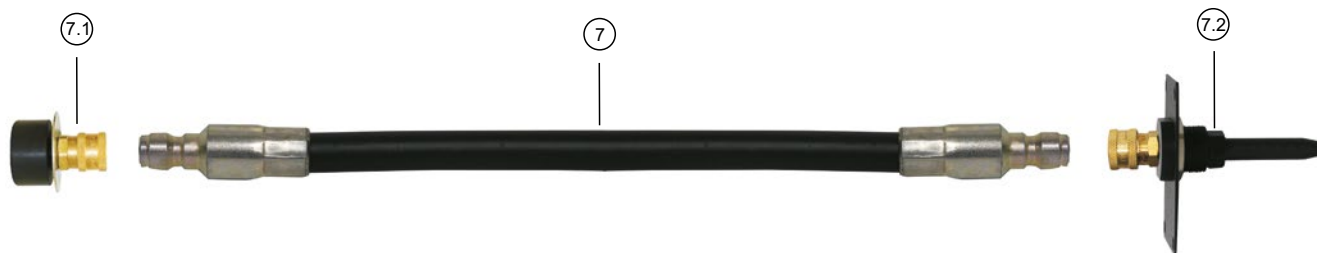
## Options/accessories

Network cable		Item no.
<b>RJ45</b> Plug for network cable		094-020407-00000
<b>KM GL</b> Cable knife Quick and clean insulation stripping of Ethernet and PROFINET cables Individual diameter adjustment for radius adjustment		094-020409-00000
<b>LAN Cable</b> Network cable, sold by the metre For industrial use		094-020408-00500
<b>Connection cables</b> Connection cable, 7-pole 7-pole connection cable, suitable for installation in drag chains <b>► Connection and extension cable for external LAN and WiFi gateway, panel, remote control</b>		<b>Item no.</b> 092-003417-00010 092-003417-00015 092-003417-00020 092-003417-00025 092-003417-00030
<b>FRV-25 7POL 10m</b> <b>FRV-25 7POL 15m</b> <b>FRV-25 7POL 20m</b> <b>FRV-25 7POL 25m</b> <b>FRV-25 7POL 30m</b>		
<b>Connection cable extension</b> Digital 7-pole cable Extension for 7-pole remote control with permanently installed cable Connection cable for remote control and gateway without permanently installed cable		<b>Item no.</b> 092-000201-00004 092-000201-00002 092-000201-00003 092-000201-00000 092-000201-00005 092-000201-00001 092-000201-00007
<b>FRV 7POL 0.5m</b> <b>FRV 7POL 1m</b> <b>FRV 7POL 5m</b> <b>FRV 7POL 10m</b> <b>FRV 7POL 15m</b> <b>FRV 7POL 20m</b> <b>FRV 7POL 25m</b>		

# Overview

Accessories		Page	
Wire guide	Wire feed	WIRE LEAD	222
		WIRE LEAD SOFT	223
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## Wire feed



### Wire lead

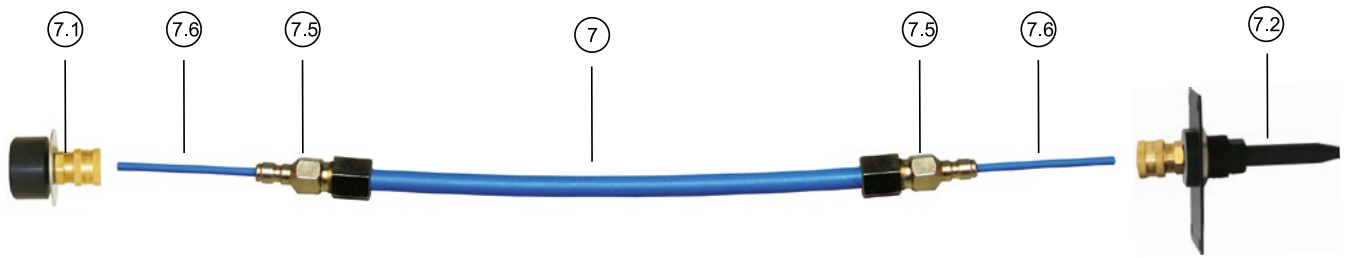
- For steel wire, round wires
- Outside dia.: 13 mm
- Wire dia. up to 1.6 mm

### WIRE LEAD

Item	Type	Designation	Item no.
7	WIRE LEAD 1,5M		094-018280-00000
7	WIRE LEAD 3M		094-018281-00000
7	WIRE LEAD 5M	Wire guide	094-018282-00000
7	WIRE LEAD 6,5M		094-018283-00000
7	WIRE LEAD 8M		094-018284-00000
7	WIRE LEAD 10M		094-018285-00000
7	WIRE LEAD PRO		Wire guide, material sold by the metre
7.1	CONNECTOR BARREL WIRE LEAD	Connection for large spool/drum	094-018277-00000
7.1	CONNECTOR DV-CAB WIRE LEAD	DV-CAB connection	092-007931-00000
7.2	CONNECTOR DRIVE ROB2 WIRE LEAD	Connection set for Wire Lead wire feed to ROB 2	092-007913-00000
7.2	CONNECTOR DRIVE ROB3 WIRE LEAD	Connection set for Rob 3 wire conduit	092-007912-00000
99	CONNECTOR WIRE LEAD PRO	End piece wire guide for material sold by the metre	094-018278-00000

► Two Connector Wire Lead Pro units are needed!

## Wire feed



### Soft wire lead

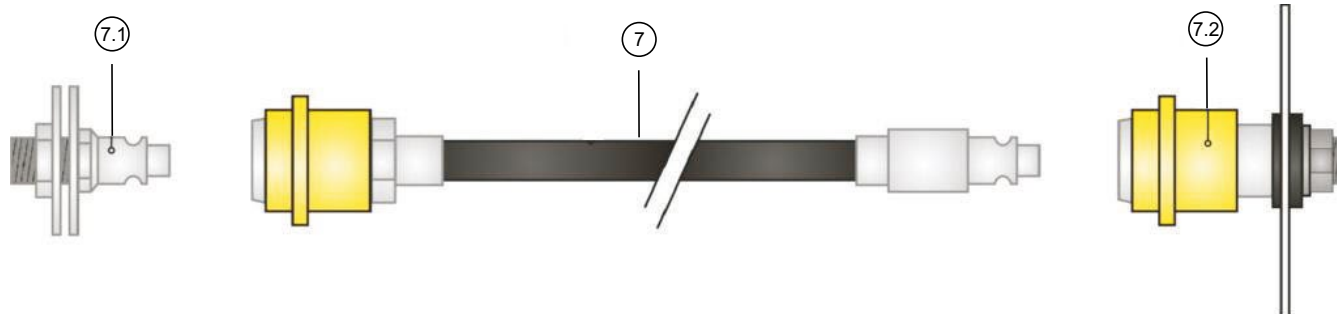
- For aluminium and stainless steel wire, round wires
- Outside dia.: 12 mm
- Wire dia. up to 1.6 mm

### WIRE LEAD SOFT

Item	Type	Designation	Item no.
7	WIRE LEAD SOFT 1,5M		094-020383-00000
7	WIRE LEAD SOFT 3M		094-020383-00001
7	WIRE LEAD SOFT 5M		094-020383-00002
7	WIRE LEAD SOFT 6,5M	Wire guide	094-020383-00003
7	WIRE LEAD SOFT 8M		094-020383-00004
7	WIRE LEAD SOFT 10M		094-020383-00005
7	WIRE LEAD SOFT 12M		094-020383-00006
7	WIRE LEAD SOFT	Wire guide, material sold by the metre	094-020382-00000
7.1	CONNECTOR BARREL WIRE LEAD	Connection for large spool/drum	094-018277-00000
7.1	CONNECTOR DV-CAB WIRE LEAD	DV-CAB connection	092-007931-00000
7.2	CONNECTOR DRIVE ROB2 WIRE LEAD	Connection set for Wire Lead wire feed to ROB 2	092-007913-00000
7.2	CONNECTOR DRIVE ROB3 WIRE LEAD	Connection set for Rob 3 wire conduit	092-007912-00000
7.5	CONNECTOR WIRE LEAD SOFT	End piece wire guide for material sold by the metre	094-020381-00000
7.6	UEDFS WLS 2,5x4,5mm 150mm	Transition liner for soft wire lead	094-020380-00000

► Two units are required from position 7.5 and 7.6!

## Wire feed



### Wire conduit

- Rugged design
- For steel wire, round wires
- Outside dia.: 16 mm
- Wire dia. up to 1.6 mm

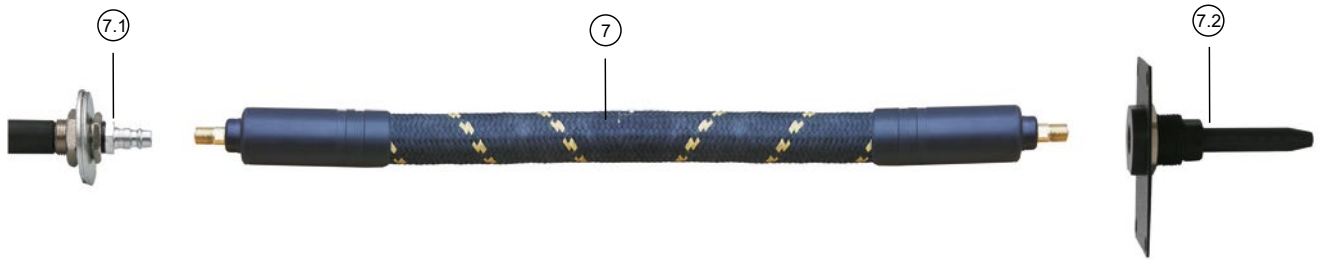
### WIRE CONDUIT

- Wire feed tube with quick connect coupling
- For small to medium-sized lengths and for use in manual operation, mechanisation and automation

Item	Type	Designation	Item no.
7	WIRE CONDUIT 1,8M		094-011515-00004
7	WIRE CONDUIT 2M		094-011515-00006
7	WIRE CONDUIT 3M		094-011515-00000
7	WIRE CONDUIT 3,5M	Wire guide	094-011515-00005
7	WIRE CONDUIT 4,5M		094-011515-00001
7	WIRE CONDUIT 8M		094-011515-00002
7	WIRE CONDUIT 10M		094-011515-00007
7	WIRE CONDUIT 12M		094-011515-00003
7.1	CONNECTOR BARREL	Quick connect coupling for large spool / drum connection	094-011517-00000
7.1	CONNECTOR DV-CAB WIRE CONDUIT	DV-CAB connection	092-007741-00000
7.21	CONNECTOR DRIVE ROB2 WIRE CONDUIT	Connection set for wire feed ROB 2 Wire Conduit	092-008205-00000
7.2	CONNECTOR DRIVE ROB3 WIRE CONDUIT	Connection set for Rob 3 wire conduit	092-007916-00000



## Wire feed



### Masterliner HW

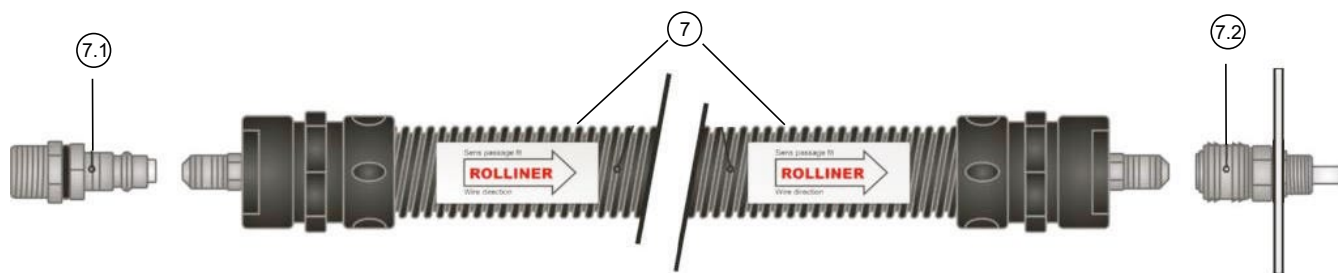
- For all material types, round wires
- Outside dia.: 30 mm
- Wire dia. up to 1.2 mm
- Weight: Approx. 400 g/m

### MASTERLINER

Item	Type	Designation	Item no.
7	Masterliner HD 5m		094-025510-00005
7	Masterliner HD 6m		094-025510-00006
7	Masterliner HD 8m	Wire guide	094-025510-00008
7	Masterliner HD 10m		094-025510-00010
7	Masterliner HD 15m		094-025510-00015
7.1	Masterliner Connector Barrel	Connection for large spool/drum	092-003643-00000
7.1	Masterliner Connector DV-CAP	DV-CAB connection	092-003638-00000
7.2	CONNECTOR DRIVE ROB 2 Masterliner	Connection set for Masterliner wire feed to ROB 2	092-003639-00000
7.2	Masterliner Connector Drive Rob3	Connection set for Rob 3 wire conduit	092-003640-00000

► Other lengths available on request

## Wire feed



### Rolliner

- For all material types, round wires
- Outside Ø: 43 mm
- Wire Ø up to 4.0 mm
- Weight: approx. 500 g/m

### ROLLINER

Item	Type	Designation	Item no.
7	ROLLINER 3,5M		092-002575-00005
7	ROLLINER 5M		092-002575-00000
7	ROLLINER 8M		092-002575-00006
7	ROLLINER 10M	Wire guide with plastic rolls	092-002575-00001
7	ROLLINER 15M		092-002575-00002
7	ROLLINER 20M		092-002575-00003
7	ROLLINER 25M		092-002575-00004
7.1	ROLLINER CONNECTOR BARREL	Connection for large spool/drum	094-014623-00000
7.1	ROLLINER CONNECTOR DV-CAB	DV-CAB connection	092-007930-00000
7.2	CONNECTOR DRIVE ROB2 ROLLINER	Connection set for Rolliner wire feed to ROB 2	092-007917-00000
7.2	ROLLINER CONNECTOR DRIVE ROB3	Connection set for Rob 3 wire conduit	092-007918-00000

► Other lengths available on request

# Overview

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	Wire spool holders <b>230</b>
Wire feed unit accessories	Assembly consoles <b>235</b>
	Intermediate hose packages <b>243</b>

## Wire feed rolls

### Drive roll set for steel

- Spare rolls for steel wire (standard steel model)
- Includes two drive rolls



Type	Designation	Wire Ø mm	Roller diameter mm	PU Units	Item no.
FE 2DR4R 0.6+0.8	Replacement roll set for steel wire	0.6 - 0.8	37	1	092-000839-00000
FE 2DR4R 0.8+1.0		0.8 - 1			092-000840-00000
FE 2DR4R 0.9+1.2		0.9 - 1.2			092-000841-00000
FE 2DR4R 1.0+1.2		1 - 1.2			092-000842-00000
FE 2DR4R 1.2+1.6		1.2 - 1.6			092-000843-00000

### Replacement roll for steel wire

- Spare rolls for steel wire (standard steel model)
- Includes one drive roll



Type	Designation	Wire Ø mm	Roller diameter mm	Item no.
FE 1DR2R 0.6+0.8	Drive roll, 37 mm, for steel	0.6 - 0.8	37	094-003217-00000
FE 1DR2R 0.8+1.0		0.8 - 1		094-003218-00000
FE 1DR2R 1.0+1.2		1 - 1.2		094-003219-00000

### Pressure rolls, steel wire

- Spare pressure rolls, steel, standard

Roller diameter

37 mm



Type	Designation	Item no.	PU Units
FE/AL 2GR4R	2 pressure rolls, smooth, 37 mm	092-000844-00000	1

### Drive roll set for aluminium

- Replacement rolls for aluminium wire
- Includes two drive rolls



Type	Designation	Wire Ø mm	Roller diameter mm	PU Units	Item no.
AL 2ZR4R 0.8+1.0	Drive roll set for aluminium	0.8 - 1	37	1	092-000873-00000
AL 2ZR4R 1.0+1.2		1 - 1.2			092-000828-00000

**Drive roll set for aluminium**

- Replacement rolls for aluminium wire
- Includes four drive rolls



Type	Designation	Wire Ø mm	Roller diameter mm	PU Units	Item no.
AL 4ZR4R 0.8+1.0	Drive roll set for aluminium	0.8 - 1	37	1	092-000869-00000
AL 4ZR4R 1.0+1.2		1 - 1.2			092-000848-00000
AL 4ZR4R 1.2+1.6		1.2 - 1.6			092-000849-00000
AL 4ZR4R 2.4+3.2		2.4 - 3.2			092-000870-00000

**Replacement roll for aluminium wire**

- Replacement rolls for aluminium wire



<b>Wire Ø</b>	0.8 mm - 1 mm
<b>Roller diameter</b>	37 mm

Type	Designation	Item no.
0.8+1.0/U/AL-Z-RO/37mm	Drive roll, 37 mm, for aluminium	094-005428-00000

**Drive roll set for flux cored wire**

- Spare rollers flux cored wire
- Includes two drive rolls



Type	Designation	Wire Ø mm	Wire Ø 2 mm	Roller diameter mm	PU Units	Item no.
ROE 2DR4R 0.8/0.9+0.8/0.9	Drive roll set for flux cored wire	0.8 - 0.9	0.8 - 0.9	37	1	092-000834-00000
ROE 2DR4R 1.0/1.2+1.4/1.6		1 - 1.2	1.4 - 1.6			092-000835-00000
ROE 2DR4R 1.4/1.6+2.0/2.4		1.4 - 1.6	2 - 2.4			092-000836-00000
ROE 2DR4R 2.8+3.2		2.8	3.2			092-000837-00000

**Pressure rolls for flux cored wire**

- Replacement pressure rolls, flux cored wire



<b>Roller diameter</b>	37 mm
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Type	Designation	Item no.
ROE 2GR4R	Pressure rolls for flux cored wire	092-000838-00000

**Wire feed roll, smooth**

<b>Wire Ø</b>	1.2 mm
<b>Roller diameter</b>	20 mm

Type	Designation	Item no.
WFROLL 1.2mm	Wire feed roll, smooth	094-018246-00000

## Wire spool holders

### DV-CAP WALL

- Wall holder for D300 wire spools
- Consists of casing, pin, wire guide connection and mounting accessories



Type	Designation	Item no.
DV-CAP WALL	Wall holder for wire spools, including pin and accessories	092-001985-00000

► The wire feed connection sets are not included in the supply package and must be ordered separately.

### ON DV CAP ROB



- Retrofitting option: Wire spool support for ROB 5
- The wire spool holder makes the wire feeder perfect for mechanised applications
- The wire feeder and wire spool holder are tightly screwed together
- Left and right versions available
- Left version suitable for M drive 4 Rob 3X LI, M drive 4 Rob 5 XR LI, M drive 4 Rob 2X, M drive 4 Rob 2X MF, tigSpeed drive 4 Rob
- Right version suitable for M drive 4 Rob 3X RE, M drive 4 Rob 5 XR RE

Type	Designation	Item no.
ON DV CAP ROB LI	Rob wire spool support, left	092-003217-00000
ON DV CAP ROB RE	Rob wire spool support, right	092-003484-00000

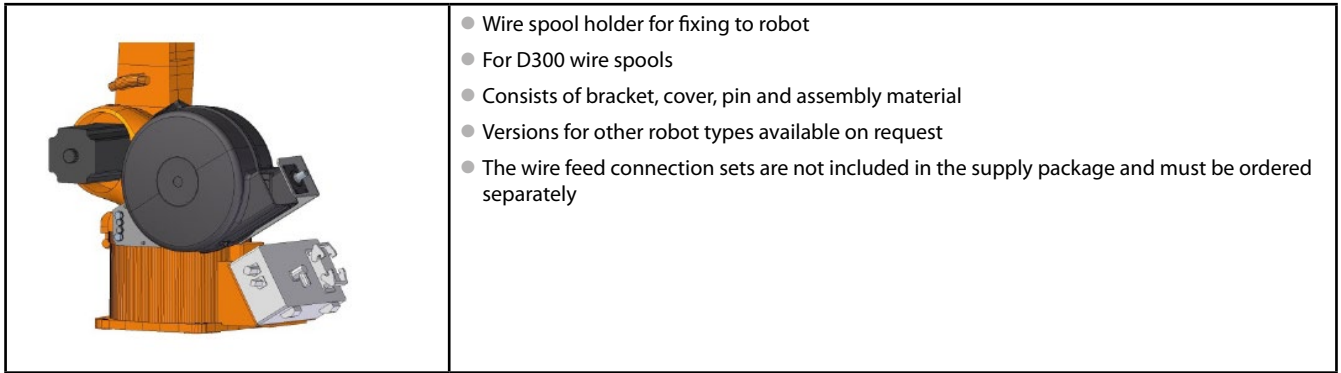
### AK300

- Wire spool adapter for use with a wire basket spool (B 300)



Type	Designation	Item no.
AK300	Wire spool adapter B300	094-001803-00001

## Wire spool holders



## Overview of wire spool holders | robot-specific

Robot manufacturer	Robot types	Item number	Type
ABB	IRB 1600-6/1.2	092-002558-00000	Conventional
ABB	IRB 1600-10/1.2	092-002558-00000	Conventional
ABB	IRB 1600-6/1.45	092-002558-00000	Conventional
ABB	IRB 1600-10/1.45	092-002558-00000	Conventional
ABB	IRB 2600-10/1.85	092-003253-00000	Conventional
ABB	IRB 2600-12/1.65	092-003253-00000	Conventional
ABB	IRB 2600-12/1.85	092-003253-00000	Conventional
ABB	IRB 2600-20/1.65	092-003253-00000	Conventional
ABB	IRB 4600-20/2.5	092-003254-00000	Conventional
ABB	IRB 4600-40/2.55	092-003254-00000	Conventional
ABB	IRB 4600-45/2.05	092-003254-00000	Conventional
ABB	IRB 4600-60/2.05	092-003254-00000	Conventional
ABB	IRB 1410	092-003251-00000	Conventional
ABB	IRB 2400L	On request	Conventional
ABB	IRB 2400/10	092-003252-00000	Conventional
ABB	IRB 2400/16	092-003252-00000	Conventional
ABB	IRB 1600ID	092-002558-00000	Hollow wrist
ABB	IRB 1620ID	092-003255-00000	Hollow wrist
ABB	IRB 1660ID-4/1.55	092-002558-00000	Hollow wrist
ABB	IRB 1660ID-6/1.55	092-002558-00000	Hollow wrist
ABB	IRB 2600ID-8/2.0	*	Hollow wrist
ABB	IRB 2600ID-15/1.85	*	Hollow wrist
ABB	IRB 1520ID-4/1.5	092-003255-00000	Hollow wrist
COMAU	NS-12-1.85	On request	Conventional
COMAU	NS-16-1.65	On request	Conventional
COMAU	NJ-16-3.1	On request	Conventional
COMAU	NJ-40-2.5	On request	Conventional
COMAU	NJ-60-2.2	On request	Conventional
COMAU	RACER 999	092-003256-00000	Conventional
COMAU	Arc4-5-1.95	On request	Hollow wrist
COMAU	SMART5 ARC4	092-003257-00000	Hollow wrist
FANUC	ARC Mate 50iD	*	Conventional
FANUC	ARC Mate 50iD/7L	*	Conventional
FANUC	ARC Mate 0iB	*	Conventional
FANUC	ARC Mate 100iB	On request	Conventional
FANUC	M-710iC/20L	092-003259-00000	Conventional
FANUC	R-2000iA	092-003258-00000	Conventional
FANUC	ARC Mate 100iC/6L	On request	Hollow wrist
FANUC	ARC Mate 100iC/7L	On request	Hollow wrist
FANUC	ARC Mate 100iC/8L	092-002559-00000	Hollow wrist
FANUC	ARC Mate 100iC/10L	On request	Hollow wrist

Robot manufacturer	Robot types	Item number	Type
FANUC	ARC Mate 100iC/10S	092-002559-00000	Hollow wrist
FANUC	ARC Mate 100iC/12	092-002559-00000	Hollow wrist
FANUC	ARC Mate 100iC/12S	On request	Hollow wrist
FANUC	ARC Mate 100iD	*	Hollow wrist
FANUC	ARC Mate 100iD/8L	On request	Hollow wrist
FANUC	ARC Mate 100iD/10L	On request	Hollow wrist
FANUC	ARC Mate 120iC	092-002580-00000	Hollow wrist
FANUC	ARC Mate 120iC/10L	092-002580-00000	Hollow wrist
FANUC	ARC Mate 120iC/12L	092-002580-00000	Hollow wrist
FANUC	ARC Mate 120iD	On request	Hollow wrist
FANUC	ARC Mate 120iD/12L	On request	Hollow wrist
FANUC	ARC Mate 100iC	092-002559-00000	Hollow wrist
FANUC	M-10iA/6L	092-002559-00000	Hollow wrist
FANUC	M-10iA/7L	092-002559-00000	Hollow wrist
FANUC	M-20iA/12L	On request	Hollow wrist
FANUC	M-710iC/12L	092-003259-00000	Hollow wrist
Hyundai	HA006B	On request	Conventional
Kawasaki	RA005L	On request	Conventional
Kawasaki	RA006L	On request	Conventional
Kawasaki	RA010L	092-003261-00000	Conventional
Kawasaki	RA010N	On request	Conventional
Kawasaki	RA020N	On request	Conventional
Kawasaki	RS020N	On request	Conventional
Kawasaki	BA006L	092-003992-00000	Hollow wrist
Kawasaki	BA006N	092-003992-00000	Hollow wrist
KUKA	KR 6 R1820	On request	Conventional
KUKA	KR 6 R1840-2	092-004200-00000	Conventional
KUKA	KR 6 R1820 HP	092-003263-00000	Conventional
KUKA	KR 8 R1620	On request	Conventional
KUKA	KR 8 R1620 HP	092-003263-00000	Conventional
KUKA	KR 8 R2010-2	092-004200-00000	Conventional
KUKA	KR 10 R1420	On request	Conventional
KUKA	KR 10 R1420 HP	092-003263-00000	Conventional
KUKA	KR 10 R1440-2	092-004200-00000	Conventional
KUKA	KR 12 R1810-2	On request	Conventional
KUKA	KR 16 R1610-2	On request	Conventional
KUKA	KR 16 R2010-2	092-004200-00000	Conventional
KUKA	KR 20 R1810-2	On request	Conventional
KUKA	KR 20 R3100	On request	Conventional
KUKA	KR 22 R1610-2	On request	Conventional
KUKA	KR 5	On request	Conventional
KUKA	KR 16	On request	Conventional
KUKA	KR 16-2	On request	Conventional
KUKA	KR 30 L16	092-003262-00000	Conventional
KUKA	KR 50 R2500	092-004047-00000	Conventional
KUKA	KR 90 R3100 extra	On request	Conventional
KUKA	KR 120 R3100-2	092-004047-00000	Conventional
KUKA	KR 240 R2700 prime	092-500000-04869	Conventional
KUKA	KR 6 R1440-2 arc HW E	092-003263-00000	Hollow wrist
KUKA	KR 6 R1820 arc HW	092-003263-00000	Hollow wrist
KUKA	KR 6 R1840-2 arc HW	092-004200-00000	Hollow wrist
KUKA	KR 6 R2100-2 arc HW E	092-003263-00000	Hollow wrist
KUKA	KR 8 R1420 arc HW	092-003263-00000	Hollow wrist
KUKA	KR 8 R1440-2 arc HW	092-004200-00000	Hollow wrist
KUKA	KR 8 R1620 arc HW	092-003263-00000	Hollow wrist

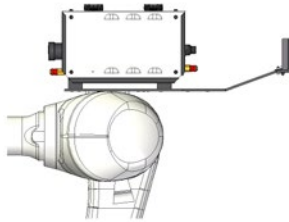


Robot manufacturer	Robot types	Item number	Type
KUKA	KR 8 R1640-2 arc HW	092-004200-00000	Hollow wrist
KUKA	KR 8 R2100 arc HW	092-003263-00000	Hollow wrist
KUKA	KR 5 arc HW	092-002558-00000	Hollow wrist
KUKA	KR 8 R2100-2 arc HW	On request	Hollow wrist
KUKA	KR 16 arc HW	092-003207-00000	Hollow wrist
KUKA	KR 16 L8 arc HW	092-003207-00000	Hollow wrist
Motoman	AR700	*	Conventional
Motoman	AR900	On request	Conventional
Motoman	MC2000II	On request	Conventional
Motoman	K6-C	On request	Conventional
Motoman	HP20	092-001250-00000	Conventional
Motoman	HP20D-6	092-001250-00000	Conventional
Motoman	HP20D	092-001250-00000	Conventional
Motoman	HP20RD	092-001250-00000	Conventional
Motoman	HP20F	092-001250-00000	Conventional
Motoman	HP20D-CR7	092-001250-00000	Conventional
Motoman	UP20	On request	Conventional
Motoman	MH5	*	Conventional
Motoman	MH5L	*	Conventional
Motoman	MH6	*	Conventional
Motoman	MH6-10	*	Conventional
Motoman	MH6S	*	Conventional
Motoman	MH6S-10	*	Conventional
Motoman	MH50	092-001250-00000	Conventional
Motoman	MH50-20	092-001250-00000	Conventional
Motoman	MH50-35	092-001250-00000	Conventional
Motoman	AR1440	092-003210-00000	Hollow wrist
Motoman	AR1730	092-003210-00000	Hollow wrist
Motoman	AR2010	092-003210-00000	Hollow wrist
Motoman	AR3120	092-004027-00000	Hollow wrist
Motoman	MA1440	092-003210-00000	Hollow wrist
Motoman	EA1400	092-002558-00000	Hollow wrist
Motoman	EA1800N	On request	Hollow wrist
Motoman	EA1900	092-001250-00000	Hollow wrist
Motoman	MA1400	092-002558-00000	Hollow wrist
Motoman	MA1550	092-002558-00000	Hollow wrist
Motoman	MA1800	092-001250-00000	Hollow wrist
Motoman	MA1900	092-001250-00000	Hollow wrist
Motoman	MA2010	092-003210-00000	Hollow wrist
Motoman	VA1400	On request	Hollow wrist
Motoman	SSA2000	092-002558-00000	Hollow wrist
Motoman	MH24	092-003265-00000	Hollow wrist
REIS	RV10-6	092-003266-00000	Conventional
REIS	RV20-6	092-003266-00000	Conventional
REIS	RV20-16	On request	Conventional
REIS	RV20-6HW	092-003266-00000	Hollow wrist
UNIVERSAL ROBOTS	URe	*	Conventional
UNIVERSAL ROBOTS	UR10e	*	Conventional
UNIVERSAL ROBOTS	UR16e	*	Conventional

\*Robot too small or poor fastening capability for the wire spool holder. If necessary, use an external DV CAP Wall holder or ON DV CAP ROB wire spool support!

## Assembly consoles

### MONTAGE CONSOLE ROB2

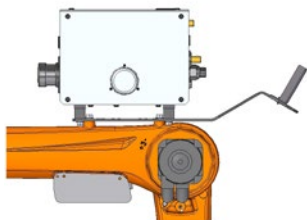


- Console for simple mounting on robot, with strain relief for intermediate hose package
- Fastening holes (drill pattern) for different robot types already available
- Console for mounting of drive 4 Rob 2, drive 4 Rob 2 MF, M drive 4 Rob 2 HS and tigSpeed drive 4 Rob
- For mounting on the robot axis
- Insulated assembly

Type	Designation	Item no.
MONTAGE CONSOLE ROB 2 UNIVERSAL	Mounting console for wire feed unit	092-001746-00000

► Other robot-specific mounting consoles available on request!

### MONTAGE CONSOLE ROB3

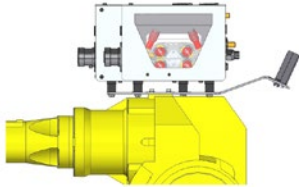


- Console for simple mounting on robot, with strain relief for intermediate hose package
- Fastening holes (drill pattern) for different robot types already available
- Console for mounting drive 4 Rob 3, left or right versions
- Fits on the 3rd robot axis
- Insulated assembly

Type	Designation	Item no.
MONTAGE CONSOLE ROB 3 UNIVERSAL	Mounting console for wire feeder and media separation box	092-002440-00000

► Other robot-specific mounting consoles available on request!

### MONTAGE CONSOLE ROB3 2 DV



- Console for simple mounting on robot, with strain relief for intermediate hose package
- Fastening holes (drill pattern) for different robot types already available
- Console for mounting two drive 4 ROB 3 units or ROB 5, one left version and one right version
- For mounting on the robot axis
- Insulated assembly

Type	Designation	Item no.
MONTAGE CONSOLE ROB3/ROB5 2 DV	Assembly console for two wire feed units on robot	092-002406-00000

► Other robot-specific mounting consoles available on request!

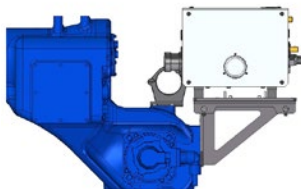
## Overview of consoles and wire feeders for standard robots

Robot manufacturer	Robot types	Load	Wire feeder	Item number
ABB	IRB 1600-6/1.2	6 kg	M drive 4 Rob 5 XR LI/RE	092-002562-00000
ABB	IRB 1600-10/1.2	10 kg	M drive 4 Rob 5 XR LI/RE	092-002562-00000
ABB	IRB 1600-6/1.45	6 kg	M drive 4 Rob 5 XR LI/RE	092-002562-00000
ABB	IRB 1600-10/1.45	10 kg	M drive 4 Rob 5 XR LI/RE	092-002562-00000
ABB	IRB 2600-10/1.85	10 kg	M drive 4 Rob 5 XR LI/RE	092-003232-00000
ABB	IRB 2600-12/1.65	12 kg	M drive 4 Rob 5 XR LI/RE	092-003232-00000
ABB	IRB 2600-12/1.85	12 kg	M drive 4 Rob 5 XR LI/RE	092-003232-00000
ABB	IRB 2600-20/1.65	20 kg	M drive 4 Rob 5 XR LI/RE	092-003232-00000
ABB	IRB 4600-20/2.5	20 kg	M drive 4 Rob 5 XR LI/RE	092-003228-00000
ABB	IRB 4600-40/2.55	40 kg	M drive 4 Rob 5 XR LI/RE	092-003228-00000
ABB	IRB 4600-45/2.05	45 kg	M drive 4 Rob 5 XR LI/RE	092-003228-00000
ABB	IRB 4600-60/2.05	60 kg	M drive 4 Rob 5 XR LI/RE	092-003228-00000
ABB	IRB 1410	5 kg	M drive 4 Rob 5 XR LI/RE	092-003227-00000
ABB	IRB 2400L	7 kg	M drive 4 Rob 5 XR LI/RE	On request
ABB	IRB 2400/10	10 kg	M drive 4 Rob 5 XR LI/RE	092-003227-00000
ABB	IRB 2400/16	16 kg	M drive 4 Rob 5 XR LI/RE	092-003227-00000
COMAU	NS-12-1.85	12 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
COMAU	NS-16-1.65	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
COMAU	NJ-16-3.1	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
COMAU	NJ-40-2.5	40 kg	M drive 4 Rob 5 XR LI/RE	On request
COMAU	NJ-60-2.2	60 kg	M drive 4 Rob 5 XR LI/RE	On request
COMAU	RACER 999	7 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
FANUC	ARC Mate 50iD	7 kg	*	*
FANUC	ARC Mate 50iD/7L	7 kg	*	*
FANUC	ARC Mate 0iB	3 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
FANUC	ARC Mate 100iB	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
FANUC	M-710iC/20L	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
FANUC	R-2000iA		M drive 4 Rob 5 XR LI/RE	092-003147-00000
Hyundai	HA006B	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KAWASAKI	RA005L	5 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KAWASAKI	RA006L	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KAWASAKI	RA010L	10 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KAWASAKI	RA010N	10 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KAWASAKI	RA020N	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KAWASAKI	RS020N	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 6 R1820	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 6 R1820 HP	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 6 R1840-2	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 8 R1620	8 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 8 R1620 HP	8 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 8 R1640-2	8 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 8 R2010-2	8 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 10 R1420	10 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 10 R1420 HP	10 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 10 R1440-2	10 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 12 R1810-2	12 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 16 R1610-2	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 16 R2010-2	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 20 R1810-2	20 kg	M drive 4 Rob 5 XR LI/RE	On request
KUKA	KR 20 R3100	20 kg	M drive 4 Rob 5 XR LI/RE	092-S04023-04913
KUKA	KR 22 R1610-2	22 kg	M drive 4 Rob 5 XR LI/RE	On request
KUKA	KR 5	5 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000

Robot manufacturer	Robot types	Load	Wire feeder	Item number
KUKA	KR 16	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 16-2	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 30 L16	16 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
KUKA	KR 50 R2500	50 kg	M drive 4 Rob 5 XR LI/RE	092-004384-00000
KUKA	KR 90 R3100 extra	90 kg	M drive 4 Rob 5 XR LI/RE	092-004023-00000
Motoman	AR700	8 kg	M drive 4 Rob 5 XR LI/RE	**
Motoman	AR900	7 kg	M drive 4 Rob 5 XR LI/RE	**
Motoman	MC2000II	50 kg	M drive 4 Rob 5 XR LI/RE	On request
Motoman	K6-C	6 kg	M drive 4 Rob 5 XR LI/RE	On request
Motoman	HP20	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	HP20D-6	6 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	HP20D	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	HP20RD	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	HP20F	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	HP20D-CR7	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	UP20	20 kg	M drive 4 Rob 5 XR LI/RE	092-003147-00000
Motoman	MH5	5 kg	M drive 4 Rob 5 XR LI/RE	*
Motoman	MH5L	5 kg	M drive 4 Rob 5 XR LI/RE	*
Motoman	MH6	6 kg	M drive 4 Rob 5 XR LI/RE	**
Motoman	MH6-10	10 kg	M drive 4 Rob 5 XR LI/RE	**
Motoman	MH6S	6 kg	M drive 4 Rob 5 XR LI/RE	**
Motoman	MH6S-10	10 kg	M drive 4 Rob 5 XR LI/RE	**
Motoman	MH50	50 kg	M drive 4 Rob 5 XR LI/RE	092-003244-00000
Motoman	MH50-20	20 kg	M drive 4 Rob 5 XR LI/RE	092-003244-00000
Motoman	MH50-35	35 kg	M drive 4 Rob 5 XR LI/RE	092-003244-00000
REIS	RV10-6	6 kg	M drive 4 Rob 5 XR LI/RE	092-003245-00000
REIS	RV20-6	6 kg	M drive 4 Rob 5 XR LI/RE	092-003245-00000
REIS	RV20-16	16 kg	M drive 4 Rob 5 XR LI/RE	092-003245-00000
UNIVERSAL ROBOTS	UR5e	5 kg	*	*
UNIVERSAL ROBOTS	UR10e	10 kg	*	*
UNIVERSAL ROBOTS	UR16e	16 kg	*	*
*Robot too small or poor mounting options for connecting a wire feeder! Console and wire feeder should be placed near the robot. Alternatively, use the external ON DV CAP ROB wire spool support.				
**Robot potentially too small or poor mounting options for connecting a wire feeder! Testing required depending on the wire feeder, or use an ON DV CAP ROB external wire spool support.				
Consoles for standard robots may need to be amended, expanded or used with additional adapter plates on-site.				

## Assembly consoles

### MONTAGE CONSOLE ROB3 HW



- Mounting console for hollow shaft robot
- Console for easy mounting behind 3rd robot axis with strain relief for the intermediate hose package
- Slot welds to enable easy, optimal wire feeder positioning
- Wire feeder can be easily pushed back to allow for welding torch or liner exchange
- Insulated assembly

Type	Designation	Item no.
MONTAGE CONSOLE ROB3 MO-TOMAN MA1440/2010/MH24/AR1730	Mounting console for wire feed unit	092-002877-00000

- ▶ An overview of consoles for hollow wrist robots can be found on the next pages.
- ▶ Other robot-specific mounting consoles available on request!

## Overview of consoles and wire feeders for hollow wrist robots

Robot manufacturer	Robot types	Load	Wire feeder	Item number
ABB	IRB 1600ID	4 kg	M drive 4 Rob 5 HW XR LI	092-003230-00000
ABB	IRB 1620ID		M drive 4 Rob 5 HW XR LI	092-003229-00000
ABB	IRB 1660ID-4/1.55	4 kg	M drive 4 Rob 5 HW XR LI	092-003230-00000
ABB	IRB 1660ID-6/1.55	6 kg	M drive 4 Rob 5 HW XR LI	092-003230-00000
ABB	IRB 2600ID-8/2.0	8 kg	M drive 4 Rob 5 HW XR LI	092-003231-00000
ABB	IRB 2600ID-15/1.85	15 kg	M drive 4 Rob 5 HW XR LI	092-003231-00000
ABB	IRB 1520ID-4/1.5	4 kg	M drive 4 Rob 5 HW XR LI	092-003229-00000
COMAU	Arc4-5-1.95	5 kg	On request	On request
COMAU	SMART5	5 kg	M drive 4 Rob 5 HW XR LI	092-003233-00000
FANUC	ARC Mate 100iC/6L	7 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	ARC Mate 100iC/7L	7 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	ARC Mate 100iC/8L	8 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	ARC Mate 100iC/10L	10 kg	On request	On request
FANUC	ARC Mate 100iC/10S	10 kg	M drive 4 Rob 5 HW XR LI	092-003438-00000
FANUC	ARC Mate 100iC/12	12 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	ARC Mate 100iC/12S	12 kg	M drive 4 Rob 5 HW XR LI	092-003235-00000
FANUC	ARC Mate 100iD	12 kg	M drive 4 Rob 5 HW XR LI	092-003745-00000
FANUC	ARC Mate 100iD/8L	8 kg	M drive 4 Rob 5 HW XR LI	092-003745-00000
FANUC	ARC Mate 100iD/10L	10 kg	M drive 4 Rob 5 HW XR LI	092-003745-00000
FANUC	ARC Mate 120iC	20 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	ARC Mate 120iC/10L	12 kg	M drive 4 Rob 5 HW XR LI	092-003745-00000
FANUC	ARC Mate 120iC/12L	12 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	ARC Mate 120iD	25 kg	M drive 4 Rob 5 HW XR LI	092-003745-00000
FANUC	ARC Mate 120iD/12L	12 kg	M drive 4 Rob 5 HW XR LI	092-003745-00000
FANUC	ARC Mate 100iC	10 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	M-10ia/6L	7 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	M-10ia/7L	7 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	M-20ia/12L	12 kg	M drive 4 Rob 5 HW XR LI	092-003208-00001
FANUC	M-710iC/12L	20 kg	M drive 4 Rob 5 HW XR RE	092-003234-00000
Kawasaki	BA006L	6 kg	M drive 4 Rob 5 HW XR LI	092-003991-00000
Kawasaki	BA006N	6 kg	M drive 4 Rob 5 HW XR LI	092-003991-00000
KUKA	KR 6 R1440-2 arc HW E	6 kg	M drive 4 Rob 5 HW XR LI	092-004394-00000
KUKA	KR 6 R1820 arc HW	6 kg	M drive 4 Rob 5 HW XR LI	092-003241-00000
KUKA	KR 6 R1840-2 arc HW	6 kg	M drive 4 Rob 5 HW XR LI	092-003241-00000
KUKA	KR 6 R2100-2 arc HW E	6 kg	M drive 4 Rob 5 HW XR LI	092-004394-00000
KUKA	KR 8 R1420 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-003241-00000
KUKA	KR 8 R1440-2 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-003241-00000
KUKA	KR 8 R1620 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-003856-00000
KUKA	KR 8 R1640-2 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-003241-00000
KUKA	KR 8 R2100 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-003856-00000
KUKA	KR 5 arc HW	5 kg	M drive 4 Rob 5 HW XR LI	092-003238-00000
KUKA	KR 8 R2100-2 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-003856-00000
KUKA	KR 16 arc HW	16 kg	M drive 4 Rob 5 HW XR LI	092-004297-00000
KUKA	KR 16 L8 arc HW	8 kg	M drive 4 Rob 5 HW XR LI	092-004297-00000
Motoman	AR1440	12 kg	M drive 4 Rob 5 HW XR LI	092-003209-00000
Motoman	AR1730	25 kg	M drive 4 Rob 5 HW XR LI	092-003209-00000
Motoman	AR2010	12 kg	M drive 4 Rob 5 HW XR LI	092-003209-00000
Motoman	AR3120	20 kg	M drive 4 Rob 5 HW XR LI	092-004029-00000
Motoman	MA1440	6 kg	M drive 4 Rob 5 HW XR LI	092-003209-00000
Motoman	EA1400	3 kg	M drive 4 Rob 5 HW XR LI	092-003242-00000

## Wire feed unit accessories

Robot manufacturer	Robot types	Load	Wire feeder	Item number
Motoman	EA1800N	15 kg	M drive 4 Rob 5 HW XR LI	On request
Motoman	EA1900	3 kg	M drive 4 Rob 5 HW XR LI	092-S03209-04625
Motoman	MA1400	3 kg	M drive 4 Rob 5 HW XR LI	092-003242-00000
Motoman	MA1550	3 kg	M drive 4 Rob 5 HW XR LI	092-003242-00000
Motoman	MA1800	15 kg	M drive 4 Rob 5 HW XR LI	092-003243-00000
Motoman	MA1900	3 kg	M drive 4 Rob 5 HW XR LI	092-003243-00000
Motoman	MA2010	10 kg	M drive 4 Rob 5 HW XR LI	092-003209-00000
Motoman	VA1400	3 kg	M drive 4 Rob 5 HW XR LI	092-003242-00000
Motoman	SSA2000	3 kg	M drive 4 Rob 5 HW XR LI	On request
Motoman	MH24	24 kg	M drive 4 Rob 5 HW XR LI	092-003209-00000
REIS	RV20-6HW	6 kg	On request	On request



## Intermediate hose packages

### Item numbers and price calculation for robot intermediate hose packages and control lead packages (SLP)

An item code is needed to order robot intermediate hose packages /control cable assembly. It forms the final five digits of the item number. These correspond to the configuration of the hose package. The basic price refers to a hose package length of 1 m.

- Codes for robot intermediate hose packages      Basic item number:      092-007855-ABCDD
- Basic price (length 1m)
- Basic price of hose assembly (length 1m)

Position in item no.	Code	Name
A	0	70 mm <sup>2</sup>
	1	95 mm <sup>2</sup>
	2	2*95 mm <sup>2</sup> , Screw-in power connection
	3	VSLP TORCHBOX
	4	VSLP TORCHBOX + WF
	5	SLP 7/12 pol
	6	SLP 7/12 pol hotwire
	7	VSLP PIPETRUCK
B	0	Gas-cooled (not at SLP)
	1	Water-cooled (always at VSLP)
	2	without gas or water (when using hose assembly)
C	0	No protective hose
	1	Standard protective hose (not at 2* 95QMM)
	2	Ribbed protective hose
DD	01-30; at VSLP 1-15	Indication of length (1 m included in basic price)
		Intermediate hose package
		Control cable assembly

▶ All intermediate hose packages are equipped with the 7-pole and 12-pole control cable.

#### Sample calculations:

95 mm<sup>2</sup> intermediate hose package, water-cooled, no protective hose, 10 m

Position in item no.	Code	Name
A	1	95 mm <sup>2</sup>
B	1	Water-cooled
C	0	No protective hose
DD	10	Length 10 m
		Total surcharges
		Basic price
092-007855- 1 1 0 10		<b>Total price</b>

Control lead package, ribbed protective hose, 12 m

Position in item no.	Code	Name
A	5	SLP 7/12 pol
B	2	without gas or water
C	2	Ribbed protective hose
DD	12	Length 12 m
		Total surcharges
		Basic price
092-007855- 5 2 2 12		<b>Total price</b>

▶ If a control lead package is used, the coding for Position B will always be 2.

## Intermediate hose packages

### 70QMM G 7/12POL



- The gas hoses are diffusion-proof according to EN 559
- Highly flexible and durable
- Intermediate hose package, 7-/12-pole
- Resistant to even high lateral and torsion forces

Type	Designation	Hose package length m	Cross-section mm <sup>2</sup>	Item no.
70QMM GS 7/12 POL 3M	Robot intermediate hose package, gas	3.0	70.0	092-007855-00103
70QMM GS 7/12 POL 5M	cooled, standard protective hose, 7/12-pole	5.0		092-007855-00105
70QMM WS 7/12POL 3M	Robot intermediate hose package, water	3.0	95.0	092-007855-01103
70QMM WS 7/12POL 5M		5.0		092-007855-01105
95QMM WS 7/12 POL 3M	cooled, standard protective hose, 7/12-pole	3.0	95.0	092-007855-11103
95QMM WS 7/12 POL 5M		5.0		092-007855-11105

### 95QMM x 2



- The gas hoses are diffusion-proof according to EN 559
- Highly flexible and durable
- Used on Phoenix 1002 and M drive 4 HS
- Intermediate hose package with ribbed hose
- Screw-in power connection
- Resistant to even high lateral and torsion forces

<b>Hose package length</b>	5 m
<b>Cross-section</b>	95 mm <sup>2</sup>
<b>Version</b>	Ribbed hose

Type	Designation	Item no.
2x95QMM WR 7/12POL 5M	Robot intermediate hose package, 2 x 95 sq mm, water cooled, ribbed hose, 7/12-pole	092-007855-21205

### 95QMM WR 7/12POL



- The gas hoses are diffusion-proof according to EN 559
- Highly flexible and durable
- Intermediate hose package with ribbed hose
- Resistant to even high lateral and torsion forces

<b>Hose package length</b>	5 m
<b>Version</b>	Ribbed hose

Type	Designation	Cross-section mm <sup>2</sup>	Item no.
70QMM GR 7/12 POL 5M	Robot intermediate hose package, gas cooled, ribbed hose, 7/12-pole	70.0	092-007855-00205
95QMM WR 7/12 POL 5M	Robot intermediate hose package, water cooled, ribbed hose, 7/12-pole	95.0	092-007855-11205

**SLP OS 7/12 POL**

- 7/12-pole control cable assembly
- Without protective hose
- Highly flexible and durable
- Resistant to even high lateral and torsion forces

Type	Designation	Hose package length m	PU Units	Item no.
SLP OS 7/12 POL 1M	Control cable, without protective hose	1.0	1	092-007855-52001
SLP OS 7/12 POL 5M		5.0		092-007855-52005
SLP OS 7/12 POL 8M		8.0		092-007855-52008
SLP OS 7/12 POL 10M		10.0		092-007855-52010
SLP OS 7/12 POL 13M		13.0		092-007855-52013
SLP OS 7/12 POL 14M		14.0		092-007855-52014
SLP OS 7/12 POL 15M		15.0		092-007855-52015
SLP OS 7/12 POL 17M		17.0		092-007855-52017
SLP OS 7/12 POL 18M		18.0		092-007855-52018
SLP OS 7/12 POL 20M		20.0		092-007855-52020
SLP OS 7/12 POL 25M		25.0		092-007855-52025
SLP OS 7/12 POL 30M		30.0		092-007855-52030

**SLP S 7/12 POL**

- 7/12-pole control cable assembly
- With standard protective hose
- Highly flexible and durable
- Resistant to even high lateral and torsion forces

Type	Designation	Hose package length m	PU Units	Item no.
SLP S 7/12 POL 1M	Control cable, standard protective hose	1.0	1	092-007855-52101
SLP S 7/12 POL 2M		2.0		092-007855-52102
SLP S 7/12 POL 3M		3.0		092-007855-52103
SLP S 7/12 POL 4M		4.0		092-007855-52104
SLP S 7/12 POL 5M		5.0		092-007855-52105
SLP S 7/12 POL 6M		6.0		092-007855-52106
SLP S 7/12 POL 7M		7.0		092-007855-52107
-		8.0		092-007855-52108
SLP S 7/12 POL 10M		10.0		092-007855-52110
SLP S 7/12 POL 12M		12.0		092-007855-52112
SLP S 7/12 POL 13M		13.0		092-007855-52113
SLP S 7/12 POL 15M		15.0		092-007855-52115
SLP S 7/12 POL 16M		16.0		092-007855-52116
SLP S 7/12 POL 20M		20.0		092-007855-52120
SLP S 7/12 POL 25M		25.0		092-007855-52125

**SLP HW OS 7/12 POL**



- 7/12-pole control cable assembly, hollow wrist robot
- Without protective hose
- Highly flexible and durable
- Resistant to even high lateral and torsion forces

Type	Designation	Hose package length m	Item no.
SLP HW OS 7/12 POL 1M		1.0	092-007855-62001
SLP HW OS 7/12 POL 10M	Control cable assembly, without protective hose, hollow wrist robot	10.0	092-007855-62010
SLP HW OS 7/12 POL 16M		16.0	092-007855-62016
SLP HW OS 7/12 POL 30M		30.0	092-007855-62030

**SLP HW S 7/12 POL**

- 7/12-pole control cable assembly, hollow wrist robot
- With standard protective hose
- Highly flexible and durable
- Resistant to even high lateral and torsion forces

Type	Designation	Hose package length m	Item no.
SLP HW S 7/12 POL 1M		1.0	092-007855-62101
SLP HW S 7/12 POL 2M		2.0	092-007855-62102
SLP HW S 7/12 POL 3M		3.0	092-007855-62103
SLP HW S 7/12 POL 5M	Control cable assembly, standard protective hose, hollow wrist robot	5.0	092-007855-62105
SLP HW S 7/12 POL 10M		10.0	092-007855-62110
SLP HW S 7/12 POL 12M		12.0	092-007855-62112
SLP HW S 7/12 POL 15M		15.0	092-007855-62115
SLP HW S 7/12 POL 18M		18.0	092-007855-62118

**ON ZWIPA-CONNECTION**



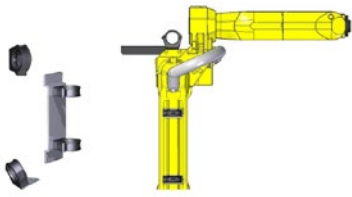
Type	Designation	Item no.
ON ZWIPA-CONNECTION	Retrofit option, third-party intermediate hose package, strain relief	094-007890-00000

**LS KV D=60MM**

Type	Designation	Item no.
LSH, 60 mm	Leather protective hose	094-020777-00000

► Minimum order quantity: 5 m

## Mounting kits



- INTERMEDIATE HOSE PACKAGE MOUNTING KIT
- Kits to mount intermediate hose packages onto robots
- Versions for other robot types available upon request.

Robot manufacturer	Robot types	Version	Load	Item number
ABB	IRB 1600-6/1.2	Standard	6 kg	On request
ABB	IRB 1600-10/1.2	Standard	10 kg	On request
ABB	IRB 1600-6/1.45	Standard	6 kg	On request
ABB	IRB 1600-10/1.45	Standard	10 kg	On request
ABB	IRB 2600-10/1.85	Standard	10 kg	On request
ABB	IRB 2600-12/1.65	Standard	12 kg	On request
ABB	IRB 2600-12/1.85	Standard	12 kg	On request
ABB	IRB 2600-20/1.65	Standard	20 kg	On request
ABB	IRB 4600-20/2.5	Standard	20 kg	On request
ABB	IRB 4600-40/2.55	Standard	40 kg	On request
ABB	IRB 4600-45/2.05	Standard	45 kg	On request
ABB	IRB 4600-60/2.05	Standard	60 kg	On request
ABB	IRB 1410	Standard	5 kg	On request
ABB	IRB 2400L	Standard	7 kg	On request
ABB	IRB 2400/10	Standard	10 kg	On request
ABB	IRB 2400/16	Standard	16 kg	On request
ABB	IRB 1600ID	Hollow wrist	4 kg	092-002569-00000
ABB	IRB 1620ID	Hollow wrist		On request
ABB	IRB 1660ID-4/1.55	Hollow wrist	4 kg	092-004115-00000
ABB	IRB 1660ID-6/1.55	Hollow wrist	6 kg	092-004115-00000
ABB	IRB 2600ID-8/2.0	Hollow wrist	8 kg	092-003056-00000
ABB	IRB 2600ID-15/1.85	Hollow wrist	15 kg	092-003056-00000
ABB	IRB 1520ID-4/1.5	Hollow wrist	4 kg	092-007910-00000
COMAU	NS-12-1.85	Standard	12 kg	On request
COMAU	NS-16-1.65	Standard	16 kg	On request
COMAU	NJ-16-3.1	Standard	16 kg	On request
COMAU	NJ-40-2.5	Standard	40 kg	On request
COMAU	NJ-60-2.2	Standard	60 kg	On request
COMAU	RACER 999	Standard	7 kg	On request
COMAU	Arc4-5-1.95	Hollow wrist	5 kg	On request
COMAU	SMART5 ARC4	Hollow wrist	5 kg	092-003072-00000
FANUC	ARC Mate 50iD	Standard	7 kg	On request
FANUC	ARC Mate 50iD/7L	Standard	7 kg	On request
FANUC	ARC Mate 0iB	Standard	3 kg	On request
FANUC	ARC Mate 100iB	Standard	6 kg	On request
FANUC	M-710iC/20L	Standard	20 kg	092-003246-00000
FANUC	R-2000iA	Standard		On request
FANUC	ARC Mate 100iC/6L	Hollow wrist	7 kg	092-002567-00000
FANUC	ARC Mate 100iC/7L	Hollow wrist	7 kg	On request
FANUC	ARC Mate 100iC/8L	Hollow wrist	8 kg	092-008775-00000
FANUC	ARC Mate 100iC/10L	Hollow wrist	10 kg	On request
FANUC	ARC Mate 100iC/10S	Hollow wrist	10 kg	092-003439-00000
FANUC	ARC Mate 100iC/12	Hollow wrist	12 kg	092-002567-00000
FANUC	ARC Mate 100iC/12S	Hollow wrist	12 kg	092-003247-00000
FANUC	ARC Mate 100iD	Hollow wrist	12 kg	092-003841-00000
FANUC	ARC Mate 100iD/8L	Hollow wrist	8 kg	092-003841-00000
FANUC	ARC Mate 100iD/10L	Hollow wrist	10 kg	092-003841-00000

Robot manufacturer	Robot types	Version	Load	Item number
FANUC	ARC Mate 120iC	Hollow wrist	20 kg	092-002581-00000
FANUC	ARC Mate 120iC/10L	Hollow wrist	12 kg	On request
FANUC	ARC Mate 120iC/12L	Hollow wrist	12 kg	092-002581-00000
FANUC	ARC Mate 120iD	Hollow wrist	25 kg	092-003841-00000
FANUC	ARC Mate 120iD/12L	Hollow wrist	12 kg	092-003841-00000
FANUC	ARC Mate 100iC	Hollow wrist	10 kg	092-002567-00000
FANUC	M-10iA/6L	Hollow wrist	7 kg	092-002567-00000
FANUC	M-10iA/7L	Hollow wrist	7 kg	092-002567-00000
FANUC	M-20iA/12L	Hollow wrist	12 kg	092-002581-00000
FANUC	M-710iC/12L	Hollow wrist	20 kg	092-S03246-04771
Hyundai	HA006B	Standard	6 kg	On request
Hyundai	HH010L	Standard	10 kg	092-S00000-04866
Kawasaki	RA005L	Standard	5 kg	On request
Kawasaki	RA006L	Standard	6 kg	On request
Kawasaki	RA010L	Standard	10 kg	092-004427-00000
Kawasaki	RA010N	Standard	10 kg	On request
Kawasaki	RA020N	Standard	20 kg	On request
Kawasaki	RS020N	Standard	20 kg	On request
Kawasaki	BA006L	Hollow wrist	6 kg	092-008787-00000
Kawasaki	BA006N	Hollow wrist	6 kg	092-008787-00000
KUKA	KR 6 R1820	Standard	6 kg	On request
KUKA	KR 6 R1820 HP	Standard	6 kg	On request
KUKA	KR 6 R1840-2	Standard	6 kg	092-004199-00000
KUKA	KR 8 R1620	Standard	8 kg	On request
KUKA	KR 8 R1620 HP	Standard	8 kg	On request
KUKA	KR 8 R2010-2	Standard	8 kg	092-003910-00000
KUKA	KR 10 R1420	Standard	10 kg	092-003248-00000
KUKA	KR 10 R1420 HP	Standard	10 kg	092-003248-00000
KUKA	KR 10 R1440-2	Standard	10 kg	092-004199-00000
KUKA	KR 12 R1810-2	Standard	12 kg	On request
KUKA	KR 16 R1610-2	Standard	16 kg	On request
KUKA	KR 16 R2010-2	Standard	16 kg	092-003910-00000
KUKA	KR 20 R1810-2	Standard	20 kg	On request
KUKA	KR 20 R3100	Standard	20 kg	092-004022-00000
KUKA	KR 22 R1610-2	Standard	22 kg	On request
KUKA	KR 5	Standard	5 kg	On request
KUKA	KR 16	Standard	16 kg	On request
KUKA	KR 16-2	Standard	16 kg	On request
KUKA	KR 30 L16	Standard	16 kg	On request
KUKA	KR 50 R2500	Standard	50 kg	On request
KUKA	KR 90 R3100 extra	Standard	90 kg	092-004022-00000
KUKA	KR 120 R3100-2	Standard	120 kg	On request
KUKA	KR 6 R1440-2 arc HW E	Hollow wrist	6 kg	092-004199-00000
KUKA	KR 6 R1820 arc HW	Hollow wrist	6 kg	092-003248-00000
KUKA	KR 6 R1840-2 arc HW	Hollow wrist	6 kg	092-004199-00000
KUKA	KR 6 R2100-2 arc HW E	Hollow wrist	6 kg	092-004199-00000
KUKA	KR 8 R1420 arc HW	Hollow wrist	8 kg	092-003248-00000
KUKA	KR 8 R1440-2 arc HW	Hollow wrist	8 kg	092-004199-00000
KUKA	KR 8 R1620 arc HW	Hollow wrist	8 kg	092-003263-00000
KUKA	KR 8 R1640-2 arc HW	Hollow wrist	8 kg	092-004199-00000
KUKA	KR 8 R2100 arc HW	Hollow wrist	8 kg	092-003910-00000
KUKA	KR 5 arc HW	Hollow wrist	5 kg	092-002510-00000
KUKA	KR 8 R2100-2 arc HW	Hollow wrist	8 kg	On request
KUKA	KR 16 arc HW	Hollow wrist	16 kg	092-004296-00000
KUKA	KR 16 L8 arc HW	Hollow wrist	8 kg	092-004296-00000

Robot manufacturer	Robot types	Version	Load	Item number
Motoman	AR700	Standard	8 kg	On request
Motoman	AR900	Standard	7 kg	On request
Motoman	MC2000II	Standard	50 kg	On request
Motoman	K6-C	Standard	6 kg	On request
Motoman	HP20	Standard	20 kg	On request
Motoman	HP20D-6	Standard	6 kg	On request
Motoman	HP20D	Standard	20 kg	On request
Motoman	HP20RD	Standard	20 kg	On request
Motoman	HP20F	Standard	20 kg	On request
Motoman	HP20D-CR7	Standard	20 kg	On request
Motoman	UP20	Standard	20 kg	092-003452-00000
Motoman	MH5	Standard	5 kg	On request
Motoman	MH5L	Standard	5 kg	On request
Motoman	MH6	Standard	6 kg	On request
Motoman	MH6-10	Standard	10 kg	On request
Motoman	MH6S	Standard	6 kg	On request
Motoman	MH6S-10	Standard	10 kg	On request
Motoman	MH50	Standard	50 kg	092-003378-00000
Motoman	MH50-20	Standard	20 kg	092-003378-00000
Motoman	MH50-35	Standard	35 kg	092-003378-00000
Motoman	AR1440	Hollow wrist	12 kg	092-003858-00000
Motoman	AR1730	Hollow wrist	25 kg	092-004135-00000
Motoman	AR2010	Hollow wrist	12 kg	092-004135-00000
Motoman	AR3120	Hollow wrist	20 kg	092-004028-00000
Motoman	MA1440	Hollow wrist	6 kg	092-002879-00000
Motoman	EA1400	Hollow wrist	3 kg	092-002566-00000
Motoman	EA1800N	Hollow wrist	15 kg	092-002564-00000
Motoman	EA1900	Hollow wrist	3 kg	092-002564-00000
Motoman	MA1400	Hollow wrist	3 kg	092-002566-00000
Motoman	MA1550	Hollow wrist	3 kg	092-002566-00000
Motoman	MA1800	Hollow wrist	15 kg	092-002564-00000
Motoman	MA1900	Hollow wrist	3 kg	092-002564-00000
Motoman	MA2010	Hollow wrist	10 kg	092-002880-00000
Motoman	VA1400	Hollow wrist	3 kg	092-003250-00000
Motoman	SSA2000	Hollow wrist	3 kg	092-002566-00000
Motoman	MH24	Hollow wrist	24 kg	092-003249-00000
REIS	RV10-6	Standard	6 kg	On request
REIS	RV20-6	Standard	6 kg	On request
REIS	RV20-16	Standard	16 kg	On request
REIS	RV20-6HW	Hollow wrist	6 kg	092-S00000-03851
UNIVERSAL ROBOTS	URe	Standard	5 kg	*
UNIVERSAL ROBOTS	UR10e	Standard	10 kg	*
UNIVERSAL ROBOTS	UR16e	Standard	16 kg	*

\*Robot too small or poor fastening capability for the mounting kit!





# Overview

Torch accessories		Page	
Torch accessories	Collision sensor	CAT3 PRO	251
		RSA	253
	Robot flange	RSA/CAT2/CAT3	245
		Cobot	249

## CAT3 PRO

## CAT3 PRO TR



- Collision sensor
- Collision sensor for the robot, welding torch or the rig in teach or automatic mode
- Orientation in all directions
- High reset precision after orientation
- Compatible with all standard robot types (via aluminium or plastic intermediate flange) with external torch hose package
- Delivery includes: Collision sensor, helix cable

<b>Diameter</b>	77 mm
<b>Height</b>	106 mm
<b>Weight</b>	960 g

Type	Designation	Item no.
CAT3 PRO TR L	Collision sensor	394-008604-00000
CAT3 PRO TR XL		394-008605-00000

## CAT3 PRO CR



- Collision sensor
- Collision sensor for the robot, welding torch or the rig in teach or automatic mode
- Orientation in all directions
- High reset precision after orientation
- Compatible with all standard robot types (via aluminium or plastic intermediate flange) with external torch hose package
- Delivery includes: Collision sensor, helix cable, holder

<b>Diameter</b>	77 mm
<b>Height</b>	106 mm
<b>Weight</b>	960 g

Type	Designation	Item no.
CAT3 PRO CR L	Collision sensor	394-008602-00000
CAT3 PRO CR XL		394-008603-00000

## HL CAT3 PRO CR



- CAT3 PRO CR torch holder

Type	Type	Designation	Item no.
HL CAT3 PRO CR STD	HL CAT3 PRO CR STD	Standard holder	094-012839-00000
HL CAT3 PRO CR RS	HL CAT3 PRO CR RS	Holder for grid positioning	094-008899-00000

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**HL CAT3 PRO TR**

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- CAT3 PRO TR torch holder

Type	Designation	Item no.
HL CAT3 PRO TR STD	Standard holder	094-024721-00000
HL CAT3 PRO TR RS	Holder for grid positioning	394-008606-00000

## RSA

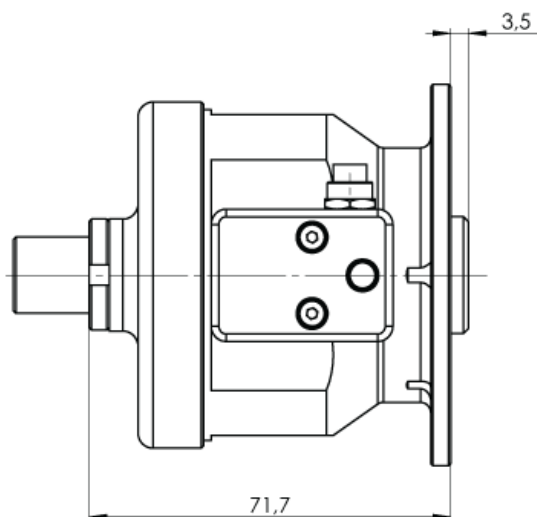
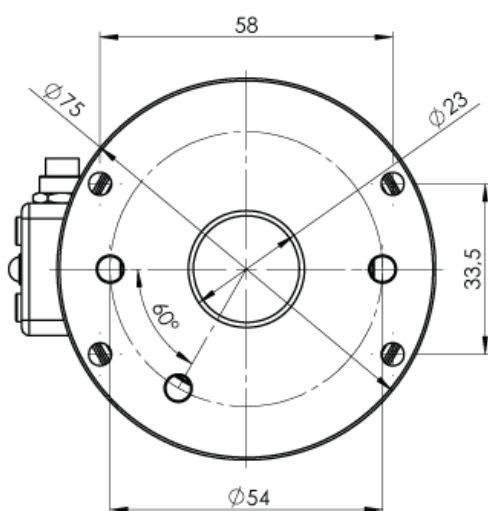
## RSA



- Collision sensor for the robot, welding torch or the rig in teach or automatic mode
- Orientation in all directions
- High reset precision after orientation
- Precise switch points
- Visual function display (LED)
- Three triggering characteristics
- Low weight
- Compatible with all standard robot types (via aluminium or plastic intermediate flange) with external torch hose package
- Flange dimensions are identical to CAT2 and CAT3 versions
- Delivery includes: Collision sensor, bracket, helix cable, assembly material

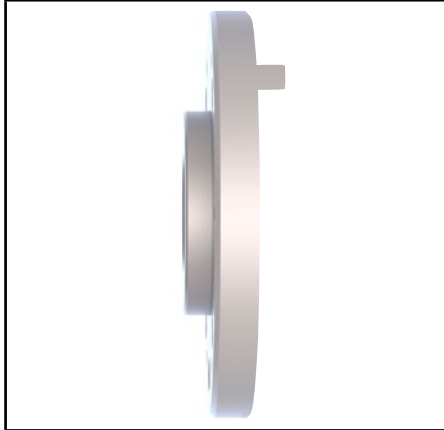
<b>Principle</b>	mechanical
<b>Switching contact</b>	Opening contact max. 24V / 20 mA
<b>Reset precision</b>	+/- 0.2 mm with a distance of 400 mm from the flange
<b>Orientation</b>	+/- 14°
<b>Rotatable</b>	360°
<b>Weight</b>	560 g

Type	Designation	Release torque (Mx, My)		Item no.
		Nm	Nm	
RSA SOFT		7.5	8.0	094-020725-00000
RSA MEDIUM		14.0		094-020726-00000
RSA MEDIUM PLUS	Collision sensor	25.0	11.0	094-023605-00000
RSA STRONG		33.0	22.0	094-020727-00000



## Intermediate flanges

### Robot flange for RSA/CAT2/CAT3



- Intermediate flange for fastening RSA, CAT2 and CAT3 robot collision sensors
- Intermediate flanges made of plastic or aluminium
- Please indicate the robot type for each order
- Only plastic flanges may be used for welding torch series MTR360G and MTR500G

Type	Designation	Item no.
ZF NOCAT	Intermediate flange steel	094-022673-00000
HL CAT3 PRO CR STD	Standard holder	094-012839-00000
SE CAT	Screw set	094-023190-00000
SE CAT	Screw set	094-021505-00000

## Intermediate flange RSA/CAT2/CAT3, aluminium

Robot manufacturer	Robot types	Version	Load	Item number
ABB	IRB 1600-6/1.2	Standard	6 kg	094-010198-00000
ABB	IRB 1600-10/1.2	Standard	10 kg	094-010198-00000
ABB	IRB 1600-6/1.45	Standard	6 kg	094-010198-00000
ABB	IRB 1600-10/1.45	Standard	10 kg	094-010198-00000
ABB	IRB 2600-10/1.85	Standard	10 kg	094-020593-00000
ABB	IRB 2600-12/1.65	Standard	12 kg	094-020593-00000
ABB	IRB 2600-12/1.85	Standard	12 kg	094-020593-00000
ABB	IRB 2600-20/1.65	Standard	20 kg	094-020593-00000
ABB	IRB 4600-20/2.5	Standard	20 kg	094-020593-00000
ABB	IRB 4600-40/2.55	Standard	40 kg	094-020593-00000
ABB	IRB 4600-45/2.05	Standard	45 kg	094-013724-00000
ABB	IRB 4600-60/2.05	Standard	60 kg	094-013724-00000
ABB	IRB 1400	Standard	5 kg	094-010198-00000
ABB	IRB 1410	Standard	5 kg	094-010198-00000
ABB	IRB 2400L	Standard	7 kg	094-020593-00000
ABB	IRB 2400L/10	Standard	10 kg	094-020593-00000
ABB	IRB 2400/16	Standard	16 kg	094-020593-00000
ABB	IRB 1600ID	Hollow wrist	4 kg	-
ABB	IRB 1620ID	Hollow wrist		-
ABB	IRB 1660ID-4/1.55	Hollow wrist	4 kg	094-022612-00000
ABB	IRB 1660ID-6/1.55	Hollow wrist	6 kg	094-022612-00000
ABB	IRB 2600ID-8/2.0	Hollow wrist	8 kg	094-022612-00000
ABB	IRB 2600ID-15/1.85	Hollow wrist	15 kg	094-022612-00000
ABB	IRB 1520ID-4/1.5	Hollow wrist	4 kg	094-022612-00000
COMAU	NS-12-1.85	Standard	12 kg	-
COMAU	NS-16-1.65	Standard	16 kg	-
COMAU	NJ-16-3.1	Standard	16 kg	094-020594-00000
COMAU	NJ-40-2.5	Standard	40 kg	-
COMAU	NJ-60-2.2	Standard	60 kg	-
COMAU	RACER 999	Standard	7 kg	094-013011-00000
COMAU	Arc4-5-1.95	Hollow wrist	5 kg	-
COMAU	SMART ARC4	Hollow wrist	5 kg	-
FANUC	ARC Mate 50iD	Standard	7 kg	094-016556-00000
FANUC	ARC Mate 50iD/6L	Standard	6 kg	094-016556-00000
FANUC	ARC Mate 50iD/7L	Standard	7 kg	094-016556-00000
FANUC	ARC Mate 0iA	Standard	3 kg	094-016556-00000
FANUC	ARC Mate 0iB	Standard	3 kg	094-016556-00000
FANUC	ARC Mate 100iB	Standard	6 kg	-

## Robot flange

Robot manufacturer	Robot types	Version	Load	Item number
FANUC	M-710iC/20L	Standard	20 kg	-
FANUC	R-1000iA/80F	Standard	80 kg	094-022613-00000
FANUC	R-2000iA/165F	Standard	165 kg	094-022613-00000
FANUC	ARC Mate 100iC/6L	Hollow wrist	7 kg	094-020737-00000
FANUC	ARC Mate 100iC/7L	Hollow wrist	7 kg	094-020737-00000
FANUC	ARC Mate 100iC/8L	Hollow wrist	8 kg	094-020737-00000
FANUC	ARC Mate 100iC/10L	Hollow wrist		094-020737-00000
FANUC	ARC Mate 100iC/10S	Hollow wrist	10 kg	094-020737-00000
FANUC	ARC Mate 100iC/12	Hollow wrist	12 kg	094-020737-00000
FANUC	ARC Mate 100iC/12S	Hollow wrist	12 kg	094-020737-00000
FANUC	ARC Mate 100iD	Hollow wrist	12 kg	-
FANUC	ARC Mate 100iD/8L	Hollow wrist	8 kg	-
FANUC	ARC Mate 100iD/10L	Hollow wrist	10 kg	-
FANUC	ARC Mate 120iC	Hollow wrist	20 kg	094-020737-00000
FANUC	ARC Mate 120iC/10L	Hollow wrist	12 kg	094-020737-00000
FANUC	ARC Mate 120iC/12L	Hollow wrist	12 kg	094-020737-00000
FANUC	ARC Mate 120iD	Hollow wrist	25 kg	-
FANUC	ARC Mate 120iD/12L	Hollow wrist	12 kg	-
FANUC	ARC Mate 100iC	Hollow wrist	10 kg	094-020737-00000
FANUC	M-10iA/7L	Hollow wrist	7 kg	094-013011-00000
FANUC	M-20iA	Hollow wrist	20 kg	094-020737-00000
FANUC	M-20iA/12L	Hollow wrist	12 kg	094-020737-00000
FANUC	M-710iC/12L	Hollow wrist	20 kg	094-022614-00000
Hyundai	HR006	Standard		094-017174-00000
Hyundai	HA006L	Standard	6 kg	094-017174-00000
Hyundai	HH020	Standard	20 kg	094-010198-00000
Kawasaki	RA005L	Standard	5 kg	-
Kawasaki	RA006L	Standard	6 kg	-
Kawasaki	RA010L	Standard	10 kg	094-020594-00000
Kawasaki	RA010N	Standard	10 kg	094-013011-00000
Kawasaki	RA020N	Standard	20 kg	-
Kawasaki	RS020N	Standard	20 kg	-
Kawasaki	BA006L	Hollow wrist	6 kg	-
Kawasaki	BA006N	Hollow wrist	6 kg	-
KUKA	KR 6 R1820	Standard	6 kg	094-016556-00000
KUKA	KR 6 R1820 HP	Standard	6 kg	094-016556-00000
KUKA	KR 6 R1840-2	Standard	6 kg	094-022420-00000
KUKA	KR 8 R1620	Standard	8 kg	094-016556-00000
KUKA	KR 8 R1620 HP	Standard	8 kg	094-016556-00000
KUKA	KR 8 R2010-2	Standard	8 kg	094-010150-00000
KUKA	KR 10 R1100-2	Standard	5 kg	094-016556-00000
KUKA	KR 10 R1420	Standard	10 kg	094-016556-00000
KUKA	KR 10 R1420-2	Standard	10 kg	094-016556-00000
KUKA	KR 10 R1440-2	Standard	10 kg	094-022420-00000
KUKA	KR 10 R1420 HP	Standard	10 kg	094-016556-00000
KUKA	KR 12 R1810-2	Standard	12 kg	-
KUKA	KR 16 L6	Standard	6 kg	094-010198-00000
KUKA	KR 16 R1610-2	Standard	16 kg	094-010150-00000
KUKA	KR 16 R2010-2	Standard	16 kg	094-010150-00000
KUKA	KR 20 R1810-2	Standard	20 kg	-
KUKA	KR 20 R3100	Standard	20 kg	094-010150-00000
KUKA	KR 22 R1610-2	Standard	22 kg	-
KUKA	KR 5	Standard	5 kg	094-022420-00000
KUKA	KR 16	Standard	16 kg	094-010150-00000
KUKA	KR 16-2	Standard	16 kg	094-010150-00000
KUKA	KR 30 L16	Standard	16 kg	094-010150-00000
KUKA	KR 50 R2500	Standard	50 kg	094-022614-00000

Robot manufacturer	Robot types	Version	Load	Item number
KUKA	KR 60 L30	Standard	30 kg	094-022618-00000
KUKA	KR 60 L45	Standard	45 kg	094-013724-00000
KUKA	KR 90 R3100 extra	Standard	90 kg	-
KUKA	KR 120 R3100-2	Standard	120 kg	-
KUKA	KR 125	Standard	125 kg	094-020733-00000
KUKA	KR 150	Standard	150 kg	094-020733-00000
KUKA	KR 240	Standard	240 kg	094-020733-00000
KUKA	KR 240 R2700 prime	Standard	240 kg	094-020733-00000
KUKA	KR 200-2 comp	Standard	200 kg	094-020733-00000
KUKA	KR 210 R3100 ultra	Standard	210 kg	094-020733-00000
KUKA	KR 6 R1440-2 arc HW E	Hollow wrist	6 kg	-
KUKA	KR 6 R1820 arc HW	Hollow wrist	6 kg	-
KUKA	KR 6 R1840-2 arc HW	Hollow wrist	6 kg	-
KUKA	KR 6 R2100-2 arc HW E	Hollow wrist	6 kg	-
KUKA	KR 8 R1420 arc HW	Hollow wrist	8 kg	-
KUKA	KR 8 R1620 arc HW	Hollow wrist	8 kg	-
KUKA	KR 8 R2100 arc HW	Hollow wrist	8 kg	-
KUKA	KR 5 arc HW	Hollow wrist	5 kg	-
KUKA	KR 8 R2100-2 arc HW	Hollow wrist	8 kg	-
KUKA	KR 16 arc HW	Hollow wrist	16 kg	094-022832-00000
KUKA	KR 16 L8 arc HW	Hollow wrist	8 kg	-

Motoman	AR700	Standard	8 kg	094-022622-00000
Motoman	AR900	Standard	7 kg	094-022622-00000
Motoman	MC2000II	Standard	50 kg	-
Motoman	K6-C	Standard	6 kg	-
Motoman	HC10	Standard	10 kg	-
Motoman	HP20	Standard	20 kg	094-010198-00000
Motoman	HP20D-6	Standard	6 kg	094-013011-00000
Motoman	HP20D	Standard	20 kg	094-013011-00000
Motoman	HP20RD	Standard	20 kg	094-013011-00000
Motoman	HP20F	Standard	20 kg	094-013011-00000
Motoman	HP20D-CR7	Standard	20 kg	094-013011-00000
Motoman	UP20	Standard	20 kg	094-010198-00000
Motoman	MH5	Standard	5 kg	094-022622-00000
Motoman	MH5L	Standard	5 kg	094-022420-00000
Motoman	MH6	Standard	6 kg	094-010198-00000
Motoman	MH6-10	Standard	10 kg	094-010198-00000
Motoman	MH6S	Standard	6 kg	094-010198-00000
Motoman	MH6S-10	Standard	10 kg	094-010198-00000
Motoman	MH50	Standard	50 kg	094-022612-00000
Motoman	MH50-20	Standard	20 kg	094-010198-00000
Motoman	MH50-35	Standard	35 kg	094-022612-00000
Motoman	AR1440	Hollow wrist	12 kg	-
Motoman	AR1730	Hollow wrist	25 kg	-
Motoman	AR2010	Hollow wrist	12 kg	-
Motoman	AR3120	Hollow wrist	20 kg	-
Motoman	MA1440	Hollow wrist	6 kg	094-020737-00000
Motoman	EA1400	Hollow wrist	3 kg	094-020737-00000
Motoman	EA1800N	Hollow wrist	15 kg	094-020737-00000
Motoman	EA1900	Hollow wrist	3 kg	094-020737-00000
Motoman	MA1400	Hollow wrist	3 kg	094-020737-00000
Motoman	MA1550	Hollow wrist	3 kg	094-020737-00000
Motoman	MA1800	Hollow wrist	15 kg	094-020737-00000
Motoman	MA1900	Hollow wrist	3 kg	094-020737-00000
Motoman	MA2010	Hollow wrist	10 kg	094-020737-00000
Motoman	VA1400	Hollow wrist	3 kg	094-020737-00000
Motoman	SSA2000	Hollow wrist	3 kg	-
Motoman	MH24	Hollow wrist	24 kg	094-020737-00000

## Robot flange

Robot manufacturer	Robot types	Version	Load	Item number
NACHI	MZ12	Standard	12 kg	094-010150-00000
OTC	FD-V6	Standard	8 kg	094-010198-00000
OTC	FD-V8	Standard	8 kg	094-010198-00000
OTC	EX-MV16	Standard	16 kg	094-010198-00000
REIS	RV10-6	Standard	6 kg	094-010150-00000
REIS	RV20-6	Standard	6 kg	094-010150-00000
REIS	RV20-16	Standard	16 kg	094-020594-00000
REIS	RV20-6HW	Hollow wrist	6 kg	-
Stäubli	TX2-40	Standard	2 kg	094-022420-00000
UNIVERSAL ROBOTS	URe	Standard	5 kg	394-009129-00000
UNIVERSAL ROBOTS	UR10e	Standard	10 kg	394-009129-00000
UNIVERSAL ROBOTS	UR16e	Standard	16 kg	394-009129-00000

\*Other intermediate flanges available upon request.

## Intermediate flange RSA/CAT2/CAT3, plastic

Robot manufacturer	Robot types	Version	Load	Item number
ABB	IRB 1600-6/1.2	Standard	6 kg	094-013347-00000
ABB	IRB 1600-10/1.2	Standard	10 kg	094-013347-00000
ABB	IRB 1600-6/1.45	Standard	6 kg	094-013347-00000
ABB	IRB 1600-10/1.45	Standard	10 kg	094-013347-00000
ABB	IRB 2600-10/1.85	Standard	10 kg	094-020981-00000
ABB	IRB 2600-12/1.65	Standard	12 kg	094-020981-00000
ABB	IRB 2600-12/1.85	Standard	12 kg	094-020981-00000
ABB	IRB 2600-20/1.65	Standard	20 kg	094-020981-00000
ABB	IRB 4600-20/2.5	Standard	20 kg	094-020981-00000
ABB	IRB 4600-40/2.55	Standard	40 kg	094-020981-00000
ABB	IRB 4600-45/2.05	Standard	45 kg	094-016372-00000
ABB	IRB 4600-60/2.05	Standard	60 kg	094-016372-00000
ABB	IRB 1400	Standard	5 kg	094-013347-00000
ABB	IRB 1410	Standard	5 kg	094-013347-00000
ABB	IRB 2400L	Standard	7 kg	094-020981-00000
ABB	IRB 2400L/10	Standard	10 kg	094-020981-00000
ABB	IRB 2400/16	Standard	16 kg	094-020981-00000
ABB	IRB 1600ID	Hollow wrist	4 kg	094-022615-00000
ABB	IRB 1620ID	Hollow wrist	4 kg	094-022615-00000
ABB	IRB 1660ID-4/1.55	Hollow wrist	4 kg	094-016371-00000
ABB	IRB 1660ID-6/1.55	Hollow wrist	6 kg	094-016371-00000
ABB	IRB 2600ID-8/2.0	Hollow wrist	8 kg	094-016371-00000
ABB	IRB 2600ID-15/1.85	Hollow wrist	15 kg	094-016371-00000
ABB	IRB 1520ID-4/1.5	Hollow wrist	4 kg	094-016371-00000
COMAU	NS-12-1.85	Standard	12 kg	-
COMAU	NS-16-1.65	Standard	16 kg	-
COMAU	NJ-16-3.1	Standard	16 kg	094-016370-00000
COMAU	NJ-40-2.5	Standard	40 kg	-
COMAU	NJ-60-2.2	Standard	60 kg	-
COMAU	RACER 999	Standard	7 kg	094-022616-00000
COMAU	Arc4-5-1.95	Hollow wrist	5 kg	-
COMAU	SMART ARC4	Hollow wrist	5 kg	-
FANUC	ARC Mate 50iD	Standard	7 kg	094-016367-00000
FANUC	ARC Mate 50iD/6L	Standard	6 kg	094-016367-00000



Robot manufacturer	Robot types	Version	Load	Item number
FANUC	ARC Mate 50iD/7L	Standard	7 kg	094-016367-00000
FANUC	ARC Mate 0iA	Standard	3 kg	094-016367-00000
FANUC	ARC Mate 0iB	Standard	3 kg	094-016367-00000
FANUC	ARC Mate 100iB	Standard	6 kg	-
FANUC	M-710iC/20L	Standard	20 kg	-
FANUC	R-1000iA/80F	Standard	80 kg	094-016373-00000
FANUC	R-2000iA/165F	Standard	165 kg	094-016373-00000
FANUC	ARC Mate 100iC/6L	Hollow wrist	7 kg	094-013478-00000
FANUC	ARC Mate 100iC/7L	Hollow wrist	7 kg	094-013478-00000
FANUC	ARC Mate 100iC/8L	Hollow wrist	8 kg	094-013478-00000
FANUC	ARC Mate 100iC/10L	Hollow wrist		094-013478-00000
FANUC	ARC Mate 100iC/10S	Hollow wrist	10 kg	094-013478-00000
FANUC	ARC Mate 100iC/12	Hollow wrist	12 kg	094-013478-00000
FANUC	ARC Mate 100iC/12S	Hollow wrist	12 kg	094-013478-00000
FANUC	ARC Mate 100iD	Hollow wrist	12 kg	394-006458-00000
FANUC	ARC Mate 100iD/8L	Hollow wrist	8 kg	394-006458-00000
FANUC	ARC Mate 100iD/10L	Hollow wrist	10 kg	394-006458-00000
FANUC	ARC Mate 120iC	Hollow wrist	20 kg	094-013478-00000
FANUC	ARC Mate 120iC/10L	Hollow wrist	12 kg	094-013478-00000
FANUC	ARC Mate 120iC/12L	Hollow wrist	12 kg	094-013478-00000
FANUC	ARC Mate 120iD	Hollow wrist	25 kg	394-006458-00000
FANUC	ARC Mate 120iD/12L	Hollow wrist	12 kg	394-006458-00000
FANUC	ARC Mate 100iC	Hollow wrist	10 kg	094-013478-00000
FANUC	M-10iA/7L	Hollow wrist	7 kg	094-022616-00000
FANUC	M-20iA	Hollow wrist	20 kg	094-013478-00000
FANUC	M-20iA/12L	Hollow wrist	12 kg	094-013478-00000
FANUC	M-710iC/12L	Hollow wrist	20 kg	094-022618-00000
Hyundai	HR006	Standard		394-006124-00000
Hyundai	HA006L	Standard	6 kg	394-006124-00000
Hyundai	HH020	Standard	20 kg	On request
Kawasaki	RA005L	Standard	5 kg	-
Kawasaki	RA006L	Standard	6 kg	-
Kawasaki	RA010L	Standard	10 kg	094-016370-00000
Kawasaki	RA010N	Standard	10 kg	094-022616-00000
Kawasaki	RA020N	Standard	20 kg	-
Kawasaki	RS020N	Standard	20 kg	-
Kawasaki	BA006L	Hollow wrist	6 kg	-
Kawasaki	BA006N	Hollow wrist	6 kg	-
KUKA	KR 6 R1820	Standard	6 kg	094-016367-00000
KUKA	KR 6 R1820 HP	Standard	6 kg	094-016367-00000
KUKA	KR 6 R1840-2	Standard	6 kg	094-022421-00000
KUKA	KR 8 R1620	Standard	8 kg	094-016367-00000
KUKA	KR 8 R1620 HP	Standard	8 kg	094-016367-00000
KUKA	KR 8 R2010-2	Standard	8 kg	094-016554-00000
KUKA	KR 10 R1100-2	Standard	5 kg	094-016367-00000
KUKA	KR 10 R1420	Standard	10 kg	094-016367-00000
KUKA	KR 10 R1420-2	Standard	10 kg	094-016367-00000
KUKA	KR 10 R1420 HP	Standard	10 kg	094-016367-00000
KUKA	KR 10 R1440-2	Standard	10 kg	094-022421-00000
KUKA	KR 12 R1810-2	Standard	12 kg	-
KUKA	KR 16 L6	Standard	6 kg	-
KUKA	KR 16 R1610-2	Standard	16 kg	094-016554-00000
KUKA	KR 16 R2010-2	Standard	16 kg	094-016554-00000
KUKA	KR 20 R1810-2	Standard	20 kg	-
KUKA	KR 20 R3100	Standard	20 kg	094-016554-00000
KUKA	KR 22 R1610-2	Standard	22 kg	-
KUKA	KR 5	Standard	5 kg	094-022421-00000

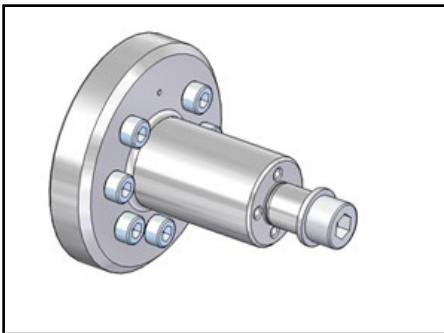
## Robot flange

Robot manufacturer	Robot types	Version	Load	Item number
KUKA	KR 16	Standard	16 kg	094-016554-00000
KUKA	KR 16-2	Standard	16 kg	094-016554-00000
KUKA	KR 30 L16	Standard	16 kg	094-016554-00000
KUKA	KR 50 R2500	Standard	50 kg	094-022618-00000
KUKA	KR 60 L30	Standard	30 kg	094-022618-00000
KUKA	KR 60 L45	Standard	45 kg	094-016372-00000
KUKA	KR 90 R3100 extra	Standard	90 kg	-
KUKA	KR 120 R3100-2	Standard	120 kg	-
KUKA	KR 125	Standard	125 kg	094-021015-00000
KUKA	KR 150	Standard	150 kg	094-021015-00000
KUKA	KR 240	Standard	240 kg	094-021015-00000
KUKA	KR 240 R2700 prime	Standard	240 kg	094-021015-00000
KUKA	KR 200-2 comp	Standard	200 kg	094-021015-00000
KUKA	KR 210 R3100 ultra	Standard	210 kg	094-021015-00000
KUKA	KR 6 R1440-2 arc HW E	Hollow wrist	6 kg	-
KUKA	KR 6 R1820 arc HW	Hollow wrist	6 kg	094-022621-00000
KUKA	KR 6 R1840-2 arc HW	Hollow wrist	6 kg	094-022621-00000
KUKA	KR 6 R2100-2 arc HW E	Hollow wrist	6 kg	-
KUKA	KR 8 R1420 arc HW	Hollow wrist	8 kg	094-022621-00000
KUKA	KR 8 R1620 arc HW	Hollow wrist	8 kg	-
KUKA	KR 8 R2100 arc HW	Hollow wrist	8 kg	-
KUKA	KR 5 arc HW	Hollow wrist	5 kg	094-022621-00000
KUKA	KR 8 R2100-2 arc HW	Hollow wrist	8 kg	-
KUKA	KR 16 arc HW	Hollow wrist	16 kg	094-022833-00000
KUKA	KR 16 L8 arc HW	Hollow wrist	8 kg	094-022621-00000
Motoman	AR700	Standard	8 kg	094-022623-00000
Motoman	AR900	Standard	7 kg	094-022623-00000
Motoman	MC2000II	Standard	50 kg	-
Motoman	K6-C	Standard	6 kg	-
Motoman	HC10	Standard	10 kg	394-008436-00000
Motoman	HP20	Standard	20 kg	094-013347-00000
Motoman	HP20D-6	Standard	6 kg	094-022616-00000
Motoman	HP20D	Standard	20 kg	094-022616-00000
Motoman	HP20RD	Standard	20 kg	094-022616-00000
Motoman	HP20F	Standard	20 kg	094-022616-00000
Motoman	HP20D-CR7	Standard	20 kg	094-022616-00000
Motoman	UP20	Standard	20 kg	094-013347-00000
Motoman	MH5	Standard	5 kg	094-022623-00000
Motoman	MH5L	Standard	5 kg	094-022421-00000
Motoman	MH6	Standard	6 kg	094-013347-00000
Motoman	MH6-10	Standard	10 kg	094-013347-00000
Motoman	MH6S	Standard	6 kg	094-013347-00000
Motoman	MH6S-10	Standard	10 kg	094-013347-00000
Motoman	MH50	Standard	50 kg	094-016371-00000
Motoman	MH50-20	Standard	20 kg	094-013347-00000
Motoman	MH50-35	Standard	35 kg	094-016371-00000
Motoman	AR1440	Hollow wrist	12 kg	-
Motoman	AR1730	Hollow wrist	25 kg	-
Motoman	AR2010	Hollow wrist	12 kg	-
Motoman	AR3120	Hollow wrist	20 kg	-
Motoman	MA1440	Hollow wrist	6 kg	094-013478-00000
Motoman	EA1400	Hollow wrist	3 kg	094-013478-00000
Motoman	EA1800N	Hollow wrist	15 kg	094-013478-00000
Motoman	EA1900	Hollow wrist	3 kg	094-013478-00000
Motoman	MA1400	Hollow wrist	3 kg	094-013478-00000
Motoman	MA1550	Hollow wrist	3 kg	094-013478-00000
Motoman	MA1800	Hollow wrist	15 kg	094-013478-00000
Motoman	MA1900	Hollow wrist	3 kg	094-013478-00000
Motoman	MA2010	Hollow wrist	10 kg	094-013478-00000

Robot manufacturer	Robot types	Version	Load	Item number
Motoman	VA1400	Hollow wrist	3 kg	094-013478-00000
Motoman	SSA2000	Hollow wrist	3 kg	-
Motoman	MH24	Hollow wrist	24 kg	094-013478-00000
NACHI	MZ12	Standard	12 kg	094-016554-00000
OTC	FD-V6	Standard	8 kg	094-013347-00000
OTC	FD-V8	Standard	8 kg	094-013347-00000
OTC	EX-MV16	Standard	16 kg	-
REIS	RV10-6	Standard	6 kg	094-016554-00000
REIS	RV20-6	Standard	6 kg	094-016554-00000
REIS	RV20-16	Standard	16 kg	094-016370-00000
REIS	RV20-6HW	Hollow wrist	6 kg	-
Stäubli	TX2-40	Standard	2 kg	094-022421-00000
UNIVERSAL ROBOTS	URe	Standard	5 kg	-
UNIVERSAL ROBOTS	UR10e	Standard	10 kg	-
UNIVERSAL ROBOTS	UR16e	Standard	16 kg	-

\*Other intermediate flanges available upon request.

## Cobot flange



- Classification of intermediate flanges and holders for AMT automated welding torch and MTR PP robot welding torch.

	<b>Automated welding torches AMT</b>	<b>Robot welding torch MTR PP</b>
	Intermediate flange 094-027802-00000 +	Intermediate flange 094-027802-00000 +
	Holders 094-012839-00000 +	Holders 094-012839-00000 +
	Torch holder AMT 092-019400-00000	Standard holder MTR 094-010162-00500
<b>Cobots</b>		
Doosan M0609, M0617, M1013, M1509	x	x
Fanuc CRX-10iA	x	x
Hanwha HCR-5A	x	x
Hanwha HCR-12A	x	x
Universal Robots 5e	x	x
Universal Robots 10e	x	x
Yaskawa HC 10DT	On request	On request

More cobot-specific intermediate flanges available upon request.

# Overview

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## Cool series

### cool82 U44



- Powerful cooling unit with centrifugal pump
- Especially sturdy metal casing
- Coolant connections at rear
- High-performance pump, pressure switch, temperature-controlled pump and fan
- Recommended up to 10 m intermediate hose package

<b>Cooling capacity at 1 l/min.</b>	1600 W (1l/min)
<b>Tank capacity</b>	7 l
<b>Flow rate</b>	5 l/min
<b>Coolant outlet pressure</b>	3.5 bar
<b>Protection classification</b>	IP23
<b>Safety marking</b>	CE EAC UK
<b>Dimensions (L x B x H)</b>	650 mm x 370 mm x 250 mm
<b>Weight</b>	ca.24 kg
<b>Standards</b>	IEC 60974-1, -2 and -10 CL.A

Type	Designation	Item no.
cool82 U44	Cooling unit for robot machines with pressure controller	090-008268-00502

### cool82 U44



- Powerful cooling unit with centrifugal pump
- Especially sturdy metal casing
- Coolant connections at rear
- High-performance pump, flow monitor, temperature-controlled pump and fan
- Recommended up to 10 m intermediate hose package

<b>Cooling capacity at 1 l/min.</b>	1600 W (1l/min)
<b>Tank capacity</b>	7 l
<b>Flow rate</b>	5 l/min
<b>Coolant outlet pressure</b>	3.5 bar
<b>Protection classification</b>	IP23
<b>Safety marking</b>	CE UK
<b>Dimensions (L x B x H)</b>	650 mm x 370 mm x 250 mm
<b>Weight</b>	ca.24 kg
<b>Standards</b>	IEC 60974-1, -2 and -10 CL.A

Type	Designation	Item no.
cool82 U44	Cooling unit for robot machines with flow monitor	090-008791-00502

## COOL82 U45



- Powerful cooling unit with centrifugal pump
- Reinforced model
- Especially sturdy metal casing
- Coolant connections at rear
- High-performance pump, pressure switch, temperature-controlled pump and fan
- Reinforced centrifugal pump and excellent cooling capacity
- Recommended e.g. for long intermediate hose packages over 15 m

<b>Cooling capacity at 1 l/min.</b>	1800 W (2l/min) 1600 W (1l/min)
<b>Tank capacity</b>	7 l
<b>Flow rate</b>	20 l/min
<b>Coolant outlet pressure</b>	4.5 bar
<b>Protection classification</b>	IP23
<b>Safety marking</b>	CE EAC UK
<b>Dimensions (L x B x H)</b>	650 mm x 370 mm x 250 mm
<b>Weight</b>	27.5 kg
<b>Standards</b>	IEC 60974-1, -2 and -10 CL.A

Type	Designation	Item no.
cool82 U45	Cooling unit for robot machines with pressure controller, reinforced version	090-008280-00502

## cool82 U45 / U45 2DV



- Powerful cooling unit with centrifugal pump
- Reinforced model
- Especially sturdy metal casing
- Coolant connections at rear
- High-performance pump, flow monitor, temperature-controlled pump and fan
- Reinforced centrifugal pump and excellent cooling capacity
- Recommended e.g. for long intermediate hose packages over 15 m

<b>Cooling capacity at 1 l/min.</b>	1800 W (2l/min) 1600 W (1l/min)
<b>Tank capacity</b>	7 l
<b>Flow rate</b>	20 l/min
<b>Coolant outlet pressure</b>	4.5 bar
<b>Protection classification</b>	IP23
<b>Safety marking</b>	CE EAC UK
<b>Dimensions (L x B x H)</b>	650 mm x 370 mm x 250 mm
<b>Weight</b>	27.5 kg
<b>Standards</b>	IEC 60974-1, -2 and -10 CL.A

Type	Designation	Item no.
cool82 U45	Cooling unit for robot machines with flow meter, reinforced version	090-008792-00502
cool82 U45 2DV	Cooling unit for robot machines with flow monitor, reinforced version, two connections for 2 wire feeders, for example	090-008280-13502

## ON FILTER COOL

Type	Designation	Item no.
ON FILTER COOL	Dirt filter for air inlet for cool 82	092-008771-00000

## Cool series

**KF 23E 10°C, 5 l**

- Coolant for water-cooled welding machines and cooling units

**Freezing point**

-10 °C

**Contents**

5 l

Type	Designation	Item no.
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005

**KF 23E-200, -10°**

- Coolant for water-cooled welding machines and cooling units

**Freezing point**

-10 °C

**Contents**

200 l

Type	Designation	Item no.
KF 23E-200	Coolant up to -10 °C (14 °F), 200 l	094-000530-00001

**Frostschutzprüfer**

Type	Designation	Item no.
TYP1	Frost protection tester	094-014499-00000



## blueCool -10°



- Coolant for water-cooled welding machines and cooling units
- Easy transport and storage
- Not subject to mandatory labelling
- No hazard class
- Increased corrosion protection thanks to corrosion inhibitors
- Extended durability compared to standard coolants
- Biodegradable
- Very low electrical conductivity
- Can be used on any EWM welding machine
- Detailed technical information and instructions for use can be found in the safety data sheet
- For existing systems, flush with water before exchanging the coolant

**Freezing point** -10 °C

Type	Designation	Freezing point °C	Contents l	Item no.
blueCool -10 5 l	"blueCool" coolant to -10 °C (-14 °F), 5 l	-10	5.0	094-024141-00005
blueCool -10 25 l	"blueCool" coolant to -10 °C (-14 °F), 25 l	-10	25.0	094-024141-00025
FSP blueCool	blueCool frost protection tester/refractometer	-	-	094-026477-00000

## blueCool -30°



- Coolant for water-cooled welding machines and cooling units
- Easy transport and storage
- Not subject to mandatory labelling
- No hazard class
- Increased corrosion protection thanks to corrosion inhibitors
- Extended durability compared to standard coolants
- Biodegradable
- Very low electrical conductivity
- Can be used on any EWM welding machine
- Detailed technical information and instructions for use can be found in the safety data sheet
- For existing systems, flush with water before exchanging the coolant

**Freezing point** -30 °C

Type	Designation	Freezing point °C	Contents l	Item no.
blueCool -30 5 l	Coolant up to -30 °C (-22 °F), 5 l	-30	5.0	094-024142-00005
blueCool -30 25 l	Coolant up to -30 °C (-22 °F), 25 l	-30	25.0	094-024142-00025
FSP blueCool	blueCool frost protection tester/refractometer	-	-	094-026477-00000

## RK series

### RK 1



- High-performance recooling unit with fully thermal motor compressor
- Rear connections
- Coolant drain valve and coolant level indicator
- Temperature control and LED display
- Powerful pump, temperature-controlled fan

<b>Cooling capacity at a flow temperature of 20 °C</b>	900 W (at 25°C)
	500 W (at 32°C)
<b>Tank capacity</b>	6 l
<b>Max. ambient temperature</b>	32 °C
<b>Mains voltage</b>	1 x 230 V
<b>Version</b>	Standard
<b>Dimensions (L x B x H)</b>	565 mm x 440 mm x 345 mm
<b>Weight</b>	42 kg

Type	Designation	Item no.
RK 1	Recooling unit	094-002283-00000

### RK 2/3



- High-performance recooling unit with fully thermal motor compressor
- Connection on the front side
- Coolant drain valve and coolant level indicator
- Temperature control and LED display
- Powerful pump, temperature-controlled fan

<b>Tank capacity</b>	15 l
<b>Max. ambient temperature</b>	32 °C
<b>Version</b>	Standard
<b>Dimensions (L x B x H)</b>	750 mm x 450 mm x 500 mm
<b>Weight</b>	85 kg

Type	Designation	Cooling capacity at a flow temperature of 20 °C	Cooling capacity at a flow temperature of 20 °C	Mains voltage	Item no.
		W (at 25°C)	W (at 32°C)	V	
RK 2	Recooling unit	2300	1400	1 x 230	094-002284-00000
RK 3		3300	2400	3 x 400	094-002285-00000

### RK 2.1/3.1



- High-performance recooling unit with fully thermal motor compressor
- Connection on the front side
- Coolant drain valve and coolant level indicator
- Temperature control and LED display
- Heavy-duty 8 bar pump, temperature-controlled fan

<b>Tank capacity</b>	15 l
<b>Max. ambient temperature</b>	32 °C
<b>Version</b>	Heavy-duty pump
<b>Dimensions (L x B x H)</b>	750 mm x 450 mm x 500 mm
<b>Weight</b>	85 kg

Type	Designation	Cooling capacity at a flow temperature of 20 °C	Cooling capacity at a flow temperature of 20 °C	Mains voltage	Item no.
		W (at 25°C)	W (at 32°C)	V	
RK 2.1	Recooling unit with	2000	1300	1 x 230	094-002284-02000
RK 3.1	boosted pump 8 bar	3300	2300	3 x 400	094-002285-02000

**RK10**

- Powerful recooling unit
- Rear connections
- Coolant drain valve and coolant level indicator
- Temperature control and LED display
- Powerful pump, temperature-controlled fan

<b>Cooling capacity at 1 l/min.</b>	1300 W (at 25°C)
	1000 W (at 40°C)

<b>Tank capacity</b>	7 l
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<b>Dimensions (L x B x H)</b>	370 mm x 518 mm x 700 mm
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<b>Weight</b>	65 kg
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<b>Version</b>	Heavy Duty
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Type	Designation	Item no.
RK10	Recooling unit	094-027244-00000

**RK20**

- Powerful recooling unit
- Rear connections
- Coolant drain valve and coolant level indicator
- Temperature control and LED display
- Powerful pump, temperature-controlled fan

<b>Cooling capacity at 1 l/min.</b>	2500 W (at 25°C)
	2000 W (at 40°C)

<b>Tank capacity</b>	15 l
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<b>Dimensions (L x B x H)</b>	542 mm x 467 mm x 850 mm
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<b>Weight</b>	70 kg
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<b>Version</b>	Heavy Duty
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Type	Designation	Item no.
RK20	Recooling unit	094-027245-00000

**RK30**

- Powerful recooling unit
- Rear connections
- Coolant drain valve and coolant level indicator
- Temperature control and LED display
- Powerful pump, temperature-controlled fan

<b>Cooling capacity at 1 l/min.</b>	3800 W (at 25°C)
	3000 W (at 40°C)

<b>Tank capacity</b>	45 l
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<b>Dimensions (L x B x H)</b>	781 mm x 659 mm x 1152 mm
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<b>Weight</b>	125 kg
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<b>Version</b>	Heavy Duty
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Type	Designation	Item no.
RK30	Recooling unit	094-027247-00000

## RK series

## KF 23E 10°C, 5 l

- Coolant for water-cooled welding machines and cooling units



Freezing point

-10 °C

Contents

5 l

Type	Designation	Item no.
KF 23E-5	Coolant up to -10 °C (14 °F), 5 l	094-000530-00005

## KF 23E-200, -10°

- Coolant for water-cooled welding machines and cooling units



Freezing point

-10 °C

Contents

200 l

Type	Designation	Item no.
KF 23E-200	Coolant up to -10 °C (14 °F), 200 l	094-000530-00001

## TYP1



Type	Designation	Item no.
TYP1	Frost protection tester	094-014499-00000

### blueCool -10°



- Coolant for water-cooled welding machines and cooling units
- Easy transport and storage
- Not subject to mandatory labelling
- No hazard class
- Increased corrosion protection thanks to corrosion inhibitors
- Extended durability compared to standard coolants
- Biodegradable
- Very low electrical conductivity
- Can be used on any EWM welding machine
- Detailed technical information and instructions for use can be found in the safety data sheet
- For existing systems, flush with water before exchanging the coolant

**Freezing point** -10 °C

Type	Designation	Freezing point °C	Contents l	Item no.
blueCool -10 5 l	"blueCool" coolant to -10 °C (-14 °F), 5 l	-10	5.0	094-024141-00005
blueCool -10 25 l	"blueCool" coolant to -10 °C (-14 °F), 25 l	-10	25.0	094-024141-00025
FSP blueCool	blueCool frost protection tester/refractometer	-	-	094-026477-00000

### blueCool -30°



- Coolant for water-cooled welding machines and cooling units
- Easy transport and storage
- Not subject to mandatory labelling
- No hazard class
- Increased corrosion protection thanks to corrosion inhibitors
- Extended durability compared to standard coolants
- Biodegradable
- Very low electrical conductivity
- Can be used on any EWM welding machine
- Detailed technical information and instructions for use can be found in the safety data sheet
- For existing systems, flush with water before exchanging the coolant

**Freezing point** -30 °C

Type	Designation	Freezing point °C	Contents l	Item no.
blueCool -30 5 l	Coolant up to -30 °C (-22 °F), 5 l	-30	5.0	094-024142-00005
blueCool -30 25 l	Coolant up to -30 °C (-22 °F), 25 l	-30	25.0	094-024142-00025
FSP blueCool	blueCool frost protection tester/refractometer	-	-	094-026477-00000

### ON DFW RK

- Connection for flow monitor FL200 at RK 1-3



Type	Designation	Item no.
ON DFW RK		092-008266-00000
ON DFW RK FT	Flow monitor connection, retrofit option	092-S08266-04168

## RK series

### HOSE BRIDGE

- Hose bridge
- For operating gas-cooled torches on water-cooled welding machines



Type	Designation	Item no.
HOSE BRIDGE	Hose bridge	092-007857-00000

### WS 2x0,5M



Type	Designation	Item no.
WS 2x0,5M	Water hoses, two units	092-001953-00001

### UKV4SET 4M



Type	Designation	Item no.
UKV4SET 4M	Hose connection set to connect a cooling unit	092-000587-00000

### SET 2 Y-PART

Type	Designation	Item no.
SET 2 Y-PART	Water connection set, 2x Y-Part	092-S09218-04188

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**LFMG HANNA PRIMO 5**

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- Conductivity measuring device for measurement of TDS and conductivity
- LCD display for low battery alerts, automatic temperature compensation (ATC), automatic shutoff and automatic calibration



Type	Designation	Item no.
LFMG HANNA PRIMO 5	Conductivity measuring device	092-004216-00000

## Pallet, trolley

### PALETTE ROB



- Steady and stable design thanks to the welded structure
- Suitable for use with forklifts

**Trolley dimensions L x W x H in mm**

785 mm x 495 mm x 200 mm

**Trolley weight**

28.5 kg

Type	Designation	Item no.
PALETTE ROB XX2	Transport pallet for power source and add-on module	090-008275-00000

### TROLLY ROB



- Steady and stable design thanks to the welded structure

**Trolley dimensions L x W x H in mm**

785 mm x 495 mm x 200 mm

**Trolley weight**

28.5 kg

Type	Designation	Item no.
TROLLY ROB XX2	Transport cart for a power source with an add-on module	090-008278-00000

► For power sources without pre-installed pallet



## Spare parts set

### SERVICE SYSTEM SS01



- Spare parts starter kit for service technicians for maintenance and repairs to EWM machines and EWM torches
- Covers machine, torch and automation
- **Machine spare parts:** Casing screws, spacers, gas valves, ring screws, rotary knobs, tank caps, filter sieves, connecting pieces, couplings, safety fuses, push-buttons, switches, connection sockets, contact pins, protective dust caps, caps for openings in casings, jumpers, plug connectors, protective caps, strain reliefs
- **Torch spare parts:** Microswitches, push-button springs, cable lugs, single-ear clamps, control cable plugs and contacts, connecting nipples, screws, cylindrical pins
- Approx. 2000 items total
- The assortment boxes can be ordered separately and the contents may be ordered in packing units (see spare parts catalogue)

Type	Designation	Item no.
SERVICE SYSTEM SS02	Spare parts starter set, two boxes	092-002469-00001

### BOX 1-2



- Spare parts starter kit, separate boxes
- Box 1 contains assortment boxes 1–4
- Box 2 contains assortment boxes 5–8

Type	Designation	Item no.
BOX 1	Spare parts starter kit, box 1	092-007781-00001
SBOX 2	Spare parts starter kit, box 2	092-007786-00001

### Service Case 1-8



- Separate assortment boxes
- The contents can be ordered separately or in packing units (see replacement parts catalogue)

Type	Designation	Version	Item no.
SERVICE CASE SC01	Assortment box 1: Screws, hexagon spacers	Assortment box 1: Screws, hexagon spacers	092-007782-00001
SERVICE CASE SC02	Assortment box 2: Rotary dials and covers, gas valves, spacers, lifting eyes	Assortment box 2: Rotary dials and covers, gas valves, spacers, lifting eyes	092-007783-00001
SERVICE CASE SC03	Assortment box 3: Hose clamps, couplings, filters, pressure controllers, quick connect coupling, tank covers	Assortment box 3: Hose clamps, couplings, filters, pressure controllers, quick connect coupling, tank covers	092-007784-00001
SERVICE CASE SC04	Assortment box 4: Safety fuses	Assortment box 4: Safety fuses	092-007785-00001
SERVICE CASE SC05	Assortment box 5: Burndy pin/socket contact, connection sockets	Assortment box 5: Burndy pin/socket contact, connection sockets	092-007787-00001
SERVICE CASE SC06	Assortment box 6: Minifit/old Burndy pin/socket contacts	Assortment box 6: Minifit/old Burndy pin/socket contacts	092-007788-00001
SERVICE CASE SC07	Assortment box 7: Blind caps/caps	Assortment box 7: Blind caps/caps	092-007789-00001
SERVICE CASE SC08	Assortment box 8: Switches, triggers, jumpers, drive pinions, strain relief, automatic cutouts	Assortment box 8: Switches, triggers, jumpers, drive pinions, strain relief, automatic cutouts	092-007790-00001

## A3-SH test machine

### A3-SH SET



- Test machine for repetition tests of arc welding machines as per IEC EN 60974-4 (VDE 0544-4), as well as electrical operating material as per VDE 0701-0702.
- For single-phase machines with 230 V connection voltage and three-phase machines from 230 V to 400 V/32 A.
- Pre-installed automatic testing routines for EWM machines
- Universal test routines also for testing other manufacturers' machines
- Extensive database functions
- Free software updates for changes or modifications to testing procedures
- Test logs with your company logo
- **Delivery includes:**
- Test Machine A3-SH
- Measuring leads
- 230 V connecting cable/AC
- USB cable
- EWM-specific test log/A3-S Remote database software
- Factory calibration certificate

Type	Designation	Item no.
A3-SH SET	Test machine for repetition test	090-008210-00000



## Calibration device

### Calibration device



- Calibration device for validation of arc welding systems as per IEC EN 60974-14 (replacement for BS EN 50504/VDE 0544-50), portable
- Analogue display of measurement data from mains input current and mains input voltage
- Digital display of measurement data from welding current, welding voltage, open circuit voltage (as per BS EN IEC 60974-1) and ambient temperature
- Delivery includes: Calibration device, 2 x measuring leads for external voltage measurement (2 m), 4 x load cables (4 m/95 mm<sup>2</sup>)
- A power source load is additionally required for standard-compliant validation, see LS 600A 090-008059-00101.
- You will receive authorisation to use the EWM validation protocols after completing the optional EWM service training, "Validation as per IEC EN 60974-14"! **Participation is highly recommended.**

<b>Connection load</b>	600 A / 60 % 500 A / 100 %
<b>Weight</b>	25 kg
<b>Test mark</b>	CE UK
<b>Protection classification</b>	IP23
<b>EMC class</b>	A

Type	Designation	Item no.
KLE 2	Calibration device	090-008297-00502

### Calibration costs

- Perform verification
- Professional documentation and identification
- Preparation of a report

Type	Designation	Item no.
KOS60	Calibration costs per welding machine	KOS-S00018-00000
KOSV38	Calibration certificate	KOS-V00038-00000

### Miete KLE

Type	Designation	Item no.
KLE+LS600A WEEKLY RENTAL	Weekly rental LS600A, incl. calibration unit and TESTO 470	KOS-S00019-00000
KLE+LS600A MONTHLY RENTAL	Monthly rental LS600A, incl. calibration unit and TESTO 470	KOS-S00020-00000

### LS 600A



- Power source load for arc simulation
- For standard-compliant loading of arc welding systems during validation as per DIN EN IEC 60974-14 (replacement for DIN EN 50504/VDE 0544-50) or for loading power sources for service purposes
- Allows static loading of arc welding systems without igniting an arc.
- **Very straightforward handling:**
- no tedious setting of the operating point.
- Simple toggling of the standard characteristics (MMA, TIG, MIG/MAG)
- **Delivery includes:**
- load simulation device, load cable bridge

<b>Connection load</b>	600 A / 60 % 500 A / 100 %
<b>Maximum connection voltage</b>	DC, 120 V AC, 50 V
<b>Weight</b>	139.5 kg
<b>Test mark</b>	CE UK EAC
<b>Protection classification</b>	IP23
<b>EMC class</b>	A

Type	Designation	Item no.
LS 600A	Load simulation device	090-008059-00101

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**TESTO 470**

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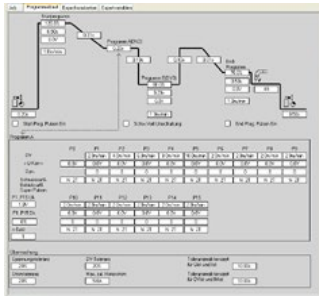


- Measuring device for measuring rotation speeds, speeds and lengths
- For validation of wire feeders compliant with EN 50504 (VDE 0544-50)
- Saving of average, max. and min. values and the last measurement value
- Measurement spacing up to 600 mm (optical measurement)
- Easy one-hand operation

Type	Designation	Item no.
TESTO 470	Measuring instrument for rotational speeds, velocities and lengths	098-005120-00000

## PC300 XQ, Analyzer, QDOC, Xnet, WPQ Manager

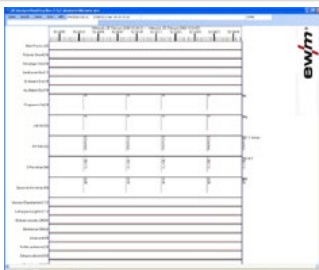
### PC300 XQ Set



- Welding parameter software
- Windows interface makes operation straightforward
- Structured operating menus and levels for changing, setting and programming all welding parameters
- Management of up to 510 JOBS in a database with easy-to-use search options
- Exchange of JOBS to and from the welding machine
- Online data exchange, i.e. data is visualised in PC300 and mapped directly to the welding process (ideal for training and test welding purposes)
- Integrated password protection to protect against unauthorised changes
- Display of the actual values for the welding voltage and current, wire feed speed, wire feeder motor armature current and welding power using digital screen displays with bar graph and hold function
- Connection to a standard serial COM interface on the welding machine
- Default settings for welding data monitoring
- Always up to date due to standard update function for new welding parameters
- Ideal for data backup via easy exchange between power source and PC
- EWM Backup Tool – simple backup function of JOB and system configuration.
- EWM PC300 Light Version – simple operation, compressed to the most important functions.
- EWM Config Tool – configuration of system components.
- System requirements: Windows 7 (32-/64-bit), Windows Vista, Windows XP SP3, .NET Framework 2.0 installed (will be installed at the same time where applicable), Intel Pentium (or comparable) CPU with at least 1.7 GHz, 512 MB RAM, min. 300 MB free hard disk space, USB 1.1 or USB 2.0 for installation the software, USB 1.1 or USB 2.0 port for connection to welding machine

Type	Designation	Item no.
PC300 XQ Set	PC300 XQ welding parameter software set, including CMSTICK, cable and SECINT X10 USB interface	090-008777-00000

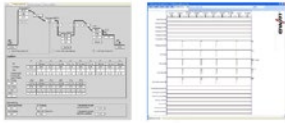
### ANALYZER



- Analysis software for control data
- Can be used with BUSINT X11 fieldbus interfaces for the alpha Q, Phoenix and Tetrix welding systems
- Can be used with RINT X12 analogue/digital interfaces for the alpha Q, Phoenix and Tetrix welding systems
- Non-time based display and representation of the currently used data profile (BUSINT X11 only)
- Display and representation of all activation and status signals in a compressed form and as a time-based logic diagram
- Storage and re-display of recorded signal sequences
- Signal editor
- Display of additional information about the state of the fieldbus and the welding machine (BUSINT X11 only)
- Display of machine type, performance class and software version of the process control
- EWM Config Tool - configuration of system components
- System requirements: Windows 7 (32-/64-bit), Windows Vista, Windows XP SP3, .NET Framework 2.0 installed (will be installed at the same time where applicable), Intel Pentium (or comparable) CPU with at least 2.4 GHz, min. 2 GB RAM, min. 4 GB free hard disk space, USB 1.1 or USB 2.0 for installation of software, USB 1.1 or USB 2.0 port for connection to welding machine; SECINT X10-USB PC connection cable, ADAPT X10 adaptor cable for use with BUSINT X11 and RINT X12 interfaces for installation in electrical enclosure

Type	Designation	Item no.
ANALYZER	Software for control and status signal analysis	090-008778-00000

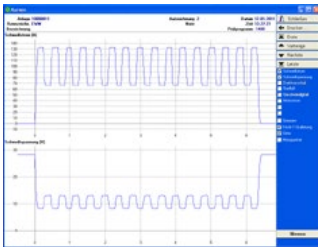
### Set PC300 XQ / ANALYZER



- Welding parameter software PC300 + Analyzer software to analyse control data
- Only one USB dongle required to operate both programs

Type	Designation	Item no.
Set PC300 XQ / ANALYZER	Set comprising PC300 XQ and Analyzer software	090-008779-00000

### Set QDOC9000-2



- Welding data documentation software
- Windows interface makes operation straightforward
- Quality control for welding production
- Suitable for creating welding instructions
- Also ideal for welding tasks requiring documentation
- Important tool in welding training
- Recording, monitoring and documentation of:
  - Welding voltage
  - Welding current
  - Wire feed motor armature current
  - Wire feed speed
- Adaptable, printable forms
- Easy export of data
- High-performance database-driven data functions
- System requirements: Windows 7 (32/64-bit), Windows Vista, Windows XP SP3, .NET Framework 2.0 installed (will be installed at the same time where applicable), Intel Pentium (or comparable) CPU with at least 2.4 GHz, 2 GB RAM, min. 4 GB free hard disk space, CD-ROM drive for installing software, USB 1.1 or USB 2.0 port for connection to welding machine

Type	Designation	Item no.
QDOC9000 V2.0	Set consisting of interface, documentation software, connection lead	090-008713-00000

### xNet 1.0



- Software product for quality assurance in welding production
- Xnet Basis Set consisting of USB dongle with serial number, installation file and software usage licence

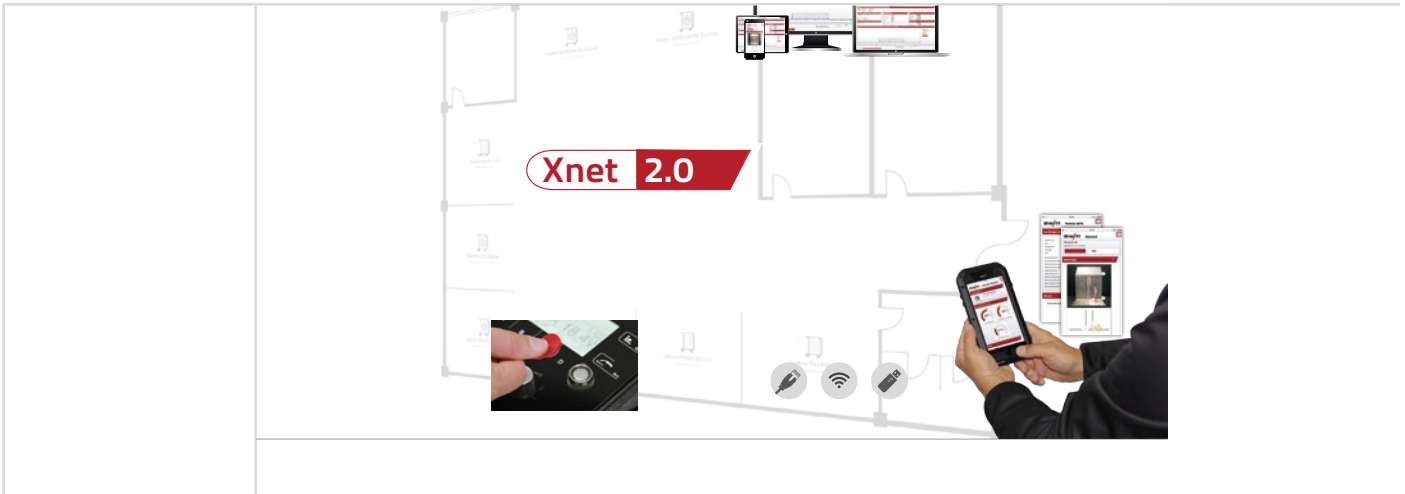
Type	Designation	Item no.
Xnet Basis Set	Xnet Basis Set consisting of USB dongle with serial number, installation file and software usage licence	091-008836-00000







# Structure of an Xnet system

## Step 1 Configuring the software according to customer requirements



More information can be found in the Xnet price list and in the online shop: [www.ewm-sales.com/Xnet](http://www.ewm-sales.com/Xnet)

## Step 2 Configuring the hardware according to customer requirements

From page 198	EWM machines	Machines from other manufacturers
	<p>Xnet retrofitting for all EWM welding machines with 7-pole, digital interface</p> 	

## Step 3 Defining the number of machine usage licences

	Not required
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## Step 4 Commissioning and training by EWM

From page 199	
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■ For detailed questions about Xnet: [xnet@ewm-group.com](mailto:xnet@ewm-group.com)

## Xnet

### Xnet Extended-Set LAN



- Xnet retrofitting set for LAN consisting of:
  - One Xnet LAN gateway in a robust industry-compatible casing
  - One machine usage licence
  - One network cable (10 m)
  - One 7-pole connection cable (5 m)
- **Range of functions:**
  - Connecting welding machines without integrated Xnet components to an Xnet system (for all EWM machines with integrated 7-pole interface)
  - Data transfer via network cable
  - USB interface for data recording and data transfer
  - Connection of a barcode scanner possible
  - Registration option via Xbutton
  - Digital display with click wheel operation
  - Showing the following information on the display: network status, network configuration, nominal/actual welding parameters, JOB information, Xnet monitoring of the welding parameters in real time, WPQR welding data assistant, component information, errors and warnings in the system
  - *We offer bulk prices, use the price advantage*

Designation	Item no.
Xnet retrofitting set LAN: One machine licence, one LAN gateway, one network cable (10 m), one 7-pole connection cable (5 m), including connection for barcode scanner	091-008833-00001

### Xnet Extended-Set WiFi



- Xnet retrofitting set for WiFi consisting of:
  - One Xnet WiFi gateway in a robust industry-compatible casing
  - One machine usage licence
  - One 7-pole connection cable (5 m)
- **Range of functions:**
  - Connecting welding machines without integrated Xnet components to an Xnet system (for all EWM machines with integrated 7-pole interface)
  - Data transfer via WiFi or network cable
  - USB interface for data recording and data transfer
  - Connection of a barcode scanner possible
  - Registration option via Xbutton
  - Digital display with click wheel operation
  - Showing the following information on the display: network status, network configuration, nominal/actual welding parameters, JOB information, Xnet monitoring of the welding parameters in real time, WPQR welding data assistant, component information, errors and warnings in the system
  - *We offer bulk prices, use the price advantage*

Designation	Item no.
Set: One machine licence, one Wi-Fi gateway, one 7-pole connection cable (5 m)	091-008834-00001

### Universal logger Base



- Complete set for connecting Xnet to all manufacturers' welding machines
- Parameter recording of: Welding current and voltage, wire feed speed and welding time
- **Set contents:** External measuring unit, voltage measurement adapter, ammeter cable
- With the Xnet Universal logger, welding machines from all manufacturers can be connected to an Xnet gateway and the Xnet software.
- Almost all Xnet functions can be used, such as e.g.:
  - Real-time display, recording and documentation of the welding parameters
  - Consumption calculation
  - Welding machine maintenance
  - Bar code scanning
  - WPQ Manager
  - Welder management
- Two different options are available for recording the wire feed speed of the connected welding machine:
  - 1) Mathematical calculation of the wire feed speed based on the measured welding current without an additional EMU WF 1 sensor wire sensor
  - 2) Metrological recording of the wire feed speed using the wire sensor EMU WF 1 sensor

Designation	Item no.
Complete set for connecting Xnet to all manufacturers' welding machines	091-008842-00000

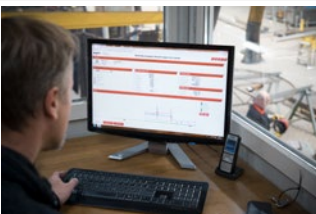
### Universal logger DGC



- Complete set including gas measurement for connecting Xnet to all manufacturers' welding machines
- Parameter recording of: Welding current and voltage, wire feed speed, welding time and shielding gas quantity
- Set contents: External measuring unit including gas quantity measurement, voltage measurement adapter, ammeter cable, gas hose
- With the Xnet Universal logger, welding machines from all manufacturers can be connected to an Xnet gateway and the Xnet software.
- Almost all Xnet functions can be used, such as e.g.:
  - Real-time display, recording and documentation of the welding parameters
  - Consumption calculation
  - Welding machine maintenance
  - Bar code scanning
  - WPQ Manager
  - Welder management
- Two different options are available for recording the wire feed speed of the connected welding machine:
  - 1) Mathematical calculation of the wire feed speed based on the measured welding current without an additional EMU WF 1 sensor wire sensor
  - 2) Metrological recording of the wire feed speed using the wire sensor EMU WF 1 sensor

Designation	Item no.
Complete set including gas measurement for connecting Xnet to all manufacturers' welding machines	091-008843-00000

### Xnet Workshop



- The main goal of the workshop is to be able to use the full extent of Xnet and for participants to be able to determine the potential for their own companies. Participants must recognise the advantages of using the system in their daily work. At the same time, customer suggestions for future updates are noted and identified. The workshop forms the basis of implementation of the Xnet system in the ongoing welding production process. To sum up, the workshop, along with the EWM experts, helps to recognise daily benefits, reduce costs and increase the day-to-day efficiency. The result of the decision will prove the correctness of your decision and open up new possibilities for cooperation with EWM.

Designation	PE	Item no.
Xnet workshop „Working efficiently with Xnet“	stk	KOS-V00076-00000
Hourly rate for installation and commissioning of the Xnet system	std	KOS-V00028-00000

► More Xnet components such as scanners and Xbutton sets can be found in the Xnet price list and in the online shop!



# Overview

## Degaussing

Degauss

Set Degauss 600

## Page

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## Degaussing prior to welding



### Degauss 600

Magnetism is not desired where steel is welded. Undesired residual magnetism in steel parts results in an unstable and deflected arc. The effect may be so great that welding is impossible.

When using the Degauss 600, you can degauss your materials and workpieces. Following the easy installation of the components at the workpiece, the continuous degaussing process will automatically be completed within the shortest possible time.

The effect of the degaussing will show immediately in the subsequent welding process. Your welding results speak for themselves: The arc is stable and no longer deflected, there are no unnecessary arc striking spots, sidewalls are fused without lack of fusion, perfect results without rework or scrap are achieved.

#### Your benefits

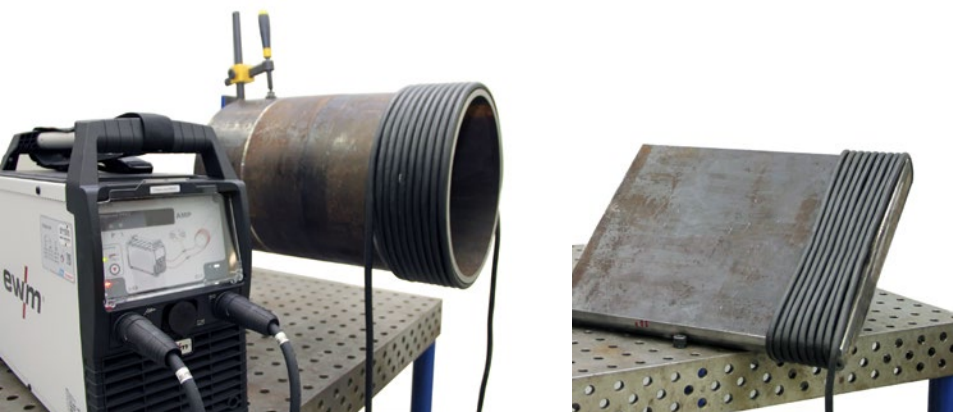
- / Degaussing of magnetic materials and workpieces
- / Single button operation – automatic degaussing
- / Stable welding process without magnetic deflection – perfect welding result without finishing work



## Your benefits

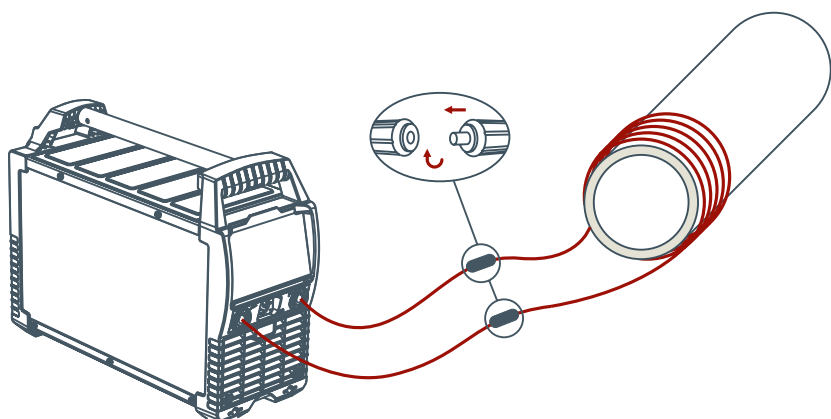
### User's advantages

- / No deflection of the arc by residual magnetism in the workpiece
- / Avoidance of lack of fusion due to insufficient side-wall fusion
- / Minimisation of finishing work
- / Cost-efficient and high-quality results
- / Degaussing of pipes and metal sheets



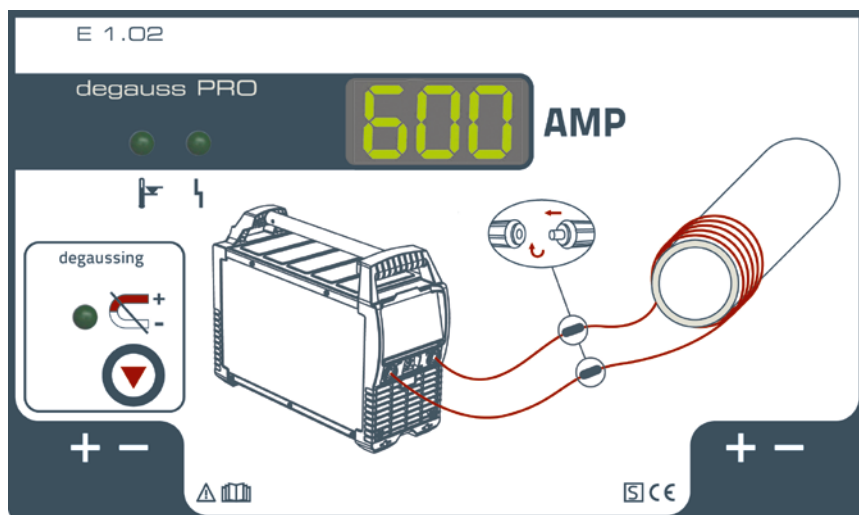
### Very straightforward handling

- / The set includes all components required for degaussing
- / Quick connection at the pipe by means of three load cables
- / Single button operation
- / Automatic degaussing process
- / Use at -25 °C to +40 °C with mains voltage tolerances of +/-20%
- / Portable and robust



### Degauss 600

- / Compact degaussing power source suitable for use at the construction site
- / Single button operation
- / Automatic degaussing process



## Degauss Set Degauss 600



- Set: Degauss 600 degaussing machine, two 5 m load cables (35 mm<sup>2</sup>) and one 20 m load cable (35 mm<sup>2</sup>), RT DGS1 remote control including 5 m connection cable
- **Degauss – automatic degaussing process before welding:**
- dependable degaussing for better welding results through stable welding process without magnetic deflection, minimisation of finishing work
- **activgauss (10–250 A) – degaussing during welding:**
- avoids moving up of magnetic field during the welding process in case of very long and strongly magnetised components
- Quick connection to the component thanks to the practical load cable set
- Unlimited generator operation even with long mains leads thanks to high mains voltage tolerances
- Robust design suitable for construction site use
- Impact-resistant casing
- Inspected protection against splash water (IP-34s)
- Portable, shoulder strap
- **RT DGS1 remote control – controls degaussing during welding (activgauss):**
- activates the activgauss function
- Infinitely adjustable current for generation of the required opposing magnetic field
- Pole reversing switch, start/stop function
- Operation directly at the welding site
- **Recommended accessories:** FIM1-4 magnetic field meter for measuring magnetic direct and alternating fields
- **Advantages of degaussing:**
- No deflection of the arc by residual magnetism in the workpiece
- Prevention of lack of fusion due to insufficient sidewall fusion
- Minimisation of finishing work
- Cost-efficient and high-quality results

<b>Mains voltage (tolerances)</b>	3 x 400 V (-25 % - +20 %)
<b>Mains fuses (slow-blow)</b>	3
<b>Degaussing current</b>	10 A - 600 A
<b>cos φ</b>	0.99
<b>Efficiency</b>	90 %
<b>Weight, machine</b>	25 kg
	55.1 lbs
<b>EMC class</b>	A
<b>Insulation class</b>	H
<b>Protection class</b>	IP34s
<b>Approvals</b>	CE UK EAC S

Type	Designation	Item no.
Set Degauss 600	Set: Degauss 600 degaussing machine, two 5 m load cables (35 mm <sup>2</sup> ) and one 20 m load cable (35 mm <sup>2</sup> ), RT DGS1 remote control including 5 m connection cable	091-002065-00502



## Options/accessories

### Remote controls

#### RT DGS1

Degauss remote control

Remote control with a polarity reversing switch and start/stop function for Degauss 600

Remote control activates additional function – generation of an opposing magnetic field during the welding process

Infinitely adjustable current (0% to 100%) to produce the required opposing magnetic field directly at the welding site

Cable not supplied in delivery, please order connection cable separately



**Item no.**

090-008806-00000

### Accessories

#### Set LC 35 mm<sup>2</sup>

Set: Two 5-metre load cables (35 mm<sup>2</sup>) and one 20-metre load cable (35 mm<sup>2</sup>) for degaussing



**Item no.**

092-002921-00000

#### FIM1-4 Set

Set: magnetic field meter, including Hall effect sensor

Magnetic field meter for measuring magnetic direct and alternating fields

Three possible measuring ranges: 20 mT, 200 mT and 2000 mT

Hand-held unit for operation with mains, battery or power-pack

LCD digital display

Measuring accuracy:  $\pm 2\%$  of measured value  $\pm 1$  digit using internal calibration voltage, better than  $\pm 1\%$  of measured value  $\pm 1$  digit using calibrated comparison magnet

Resolution: 0.01 mT

Output:  $\pm 199.9$  mV analogue output corresponding to 1,999 digits, connection for analogue display, X-Y plotter and A-D converter

Operating time: about 100 hours with dry-cell battery, about 50 hours with power-pack charge (power pack not included)



**Item no.**

092-002937-00000

# Services

## General information

The global economy is changing continuously. Markets evolve, requirements change, opportunities arise and fade away. Companies that are committed to supporting their customers in this kind of environment must be one thing above all, flexible.

For this reason, the EWM Group is continually expanding its worldwide presence. Our advanced manufacturing, service and training sites in key industrial and growth regions reinforce our dedication to be as close to our customers as absolutely possible. Continuous expansion of our network with EWM sales offices as well as committed sales and service partners ensures global availability and optimum customer service for the customers who use our products.

We believe that acting in our customers' interests means accepting their challenges as our own. That is why we continuously optimise our product and service offerings. Innovative power electronics, the latest information technology and comprehensive expertise in application issues flow into each of our four service areas and combine to create complete solutions for arc welding that offer real added value.

This price list gives you an overview of the wide range of services from EWM so that you can get the best possible results from our products.

### Conditions

- All prices in this price list are net prices excluding any applicable sales or value-added tax and are not subject to any additional discounts.
- The prices remain valid until a new price list is released.
- Subject to technical modification.
- We deliver products and services on the basis of our "General Terms and Conditions of Sale" which can be found at [www.ewm-group.com](http://www.ewm-group.com).

### Sales and service partners

- Please visit our website at [www.ewm-group.com](http://www.ewm-group.com) to find the sales and service partner closest to you.

## Services

### Customised machine configuration

#### Included in delivery

- Order one or more weld-ready systems and configure them precisely to your requirements by adding relevant accessories and options. Of course, we are also happy to advise you beforehand about the optimum configuration for your welding task. We will assemble the system at our factory according to your specifications and test the system before delivery. The following services are included (varies according to machine type and composition):
- Mounting and assembly of trolley, cooling unit, multi-voltage module, pivot support and other accessories.
- Connection of the intermediate hose package to power source and wire feeder.
- Changing of the wire feed rollers and optimisation of the wire feed roller for your preferred wire.
- Configuration of welding torch: Gas and contact tip plus liner on MIG/MAG torches, tungsten electrode, gas nozzle and collet body on TIG torches.
- Filling of coolant container, connection of mains plug (European standard), gas supply, workpiece lead, etc.
- A trained employee will use pre-programmed JOBS (welding tasks) to perform a test weld using the wire/gas combination that you specify.

#### Costs

KOS25	Customised configuration with assembly for portable and compact systems	KOS-V00123-00000
KOS26	Customised configuration with assembly for decompact systems	KOS-V00122-00000

## Services

### Commissioning

#### Included in delivery

- On-site assembly of individual components
- Connection of the hose packages and welding cables
- Connection of the supply lines (e.g. gas, mains, compressed air connection, etc.)
- Insert and inch in the welding filler (MIG/MAG)
- Adjust the wire feed system and the gas quantity
- Explanation of basic functions and test welding
- Tips on servicing and maintaining the machine
- If requested (and following written or verbal agreement), we will be happy to provide additional training after commissioning (see Chapter Instruction/Basic Training).

#### Costs

Type	Designation	Item no.
KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003
KOS49-01	Automated welding: Hourly rate for welding experts, electrical engineers, process supervision	KOS-V00013-00001
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

► The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

## Services

### Instruction/basic training

#### Duration: 1 hour

#### Included in delivery

- In combination with the “customised machine configuration”, we offer you on-site commissioning. On the agreed date we commission your system at the place of installation, adjust the parameters to your current application and instruct you on the functions of the system.

#### Costs

KOS27	Commissioning: 1 hour	KOS-V00027-00000
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

- ▶ The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

#### Duration: 2 hours

#### Included in delivery

- This detailed two-hour instruction/basic training is designed to give you a more in-depth overview of the functionality and performance of our machines. Building upon the one-hour instruction, all functions on the welding machine are explained in detail. We closely examine your configuration and applications in order to jointly optimise the welding process with you.

#### Costs

KOS29	Instruction/basic training: 2 hours	KOS-V00029-00000
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

- ▶ The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

# Services

## Machine updates

### Included in delivery

- Delivery of the machine to EWM Service in Mündersbach or on-site update
- Check of the existing software/machine version
- Machine updated to the latest software version

### Costs

- You will be charged for replacement circuit boards and time spent. Freight costs for delivery and return will be charged according to the volume of the goods being sent.

### Notes

- Replacement circuit boards and any other necessary parts and software are invoiced according to the currently valid price list or, if available, the valid price quotation.

Type	Designation	Item no.
KOS29	Machine update, hourly rate for welding experts, electrical engineers	KOS-S00015-00000
KOS29-I	Machine update, hourly rate for development staff, technicians/engineers	KOS-S00015-I0000
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

- The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

# Services

## Calibration

### Included in delivery

- Our calibration service is designed for those with the highest quality expectations.
- One of our service technicians uses a calibration device to adjust your welding machine. We are also happy to provide this service on-site.

### Costs

- Freight costs for delivery and return will be charged according to the volume of the goods being sent.
- Determining welding parameters under load
- Correction of deviations
- Documentation of measurement values
- Quality assurance for reproducible welding results

KOS60	Calibration costs per welding machine	KOS-S00018-00000
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

- The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

## Services

### Parameter determination/characteristics/process optimisation

#### Parameter determination

##### Included in delivery

- The welding machine required for the following services plus common gases and welding consumables are provided by EWM.
- If special gases, parent metals and consumables are needed for parameter determination/finding of characteristics, these must be provided in adequate quantities.
- You are required to deliver to your site at no charge your supplied samples, as well as the gases, parent metals and welding consumables. The freight costs for the return delivery are calculated based on the volume of goods dispatched.
- Any parts and software required will also be charged as per the quotation or the current price list.
- Parameters adjusted to your requirements

##### Costs

Type	Designation	Item no.
KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003
KOS3-I	Hourly rate for development staff, technicians/engineers	KOS-A00000-I0002

#### Preparing a characteristic

- You will receive from us a characteristic optimised for your requirements from our data pool.

##### Costs

Type	Designation	Item no.
KOS51	Fixed price per characteristic	KOS-A00007-00001

#### Creating a new characteristic at our site

##### Included in delivery

- We create for you a new, customised characteristic in accordance with your requirements (welding task, parent metal, welding consumable, gas, etc.)

##### Costs

Type	Designation	Item no.
KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003

#### Process optimisation

##### Included in delivery

- Process optimisation or new determination according to your requirements.
- Because any process optimisation requires a customised solution, we are unable to give a more precise description here.

##### Costs

Type	Designation	Item no.
KOS49	Manual welding: hourly rate for welding experts, electrical engineers	KOS-V00013-00000
KOS49-01	Automated welding: Hourly rate for welding experts, electrical engineers, process supervision	KOS-V00013-00001
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003
KOS49-I	Hourly rate for development staff, technicians/engineers	KOS-V00013-I0000
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

► The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!



## Services

### Demonstrations/training

#### Demonstrations/demonstration machines

##### Included in delivery

- We demonstrate for you the main features and functions as well as the performance capabilities of the machines.
- Welding on sample panels to demonstrate the various functions is included, highlighting the advantages to the user.
- Please bear in mind that a demonstration does not represent any form of training and cannot replace a training course.
- We can provide you with a machine for a long-term test. To do this, we conclude a contract with you for limited-time use of the machine in return for a fee.

##### Costs

KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003
KOS3-I	Hourly rate for development staff, technicians/engineers	KOS-A00000-I0002
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

► The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

#### Training courses/advanced training courses/presentations

##### Included in delivery

- We offer our customers and sales partners training courses on our products, we present all new developments in our training news, we conduct welding training with different materials and help you develop excellence when it comes to service.
- An updated training calendar with detailed information about individual training events is available at [www.ewm-group.com](http://www.ewm-group.com) in the Download area under the Service heading.

##### Costs

- Free of charge in Mündersbach for sales partners
- On-site: Free of charge for sales partners, plus any travel costs, accommodation and expenses incurred, purchase of workpieces, welding consumables, gases, etc.
- On-site: Plus any costs for travel and accommodation as well as expenses incurred, purchase of workpieces, welding consumables, gases, etc.

TRAINING 1	Standard training courses (according to training calendar)	KOS-V00017-00000
TRAINING 2	Special training courses (topics at customer's request not already covered in training calendar)	KOS-V00017-00001
TRAINING 3	Expert training courses (highly specialised, by development staff)	KOS-V00017-00002
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

► Please note that for cancellations received less than 7 days before the start of the training course, the full course fee is payable, and for complimentary courses, €50.00 is payable for each participant.

## Services

### Service: Servicing and repair (incl. repetition test)

#### Included in delivery

- Repair or servicing, including repetition test, on-site or at EWM.

#### Costs

- The cost for this service is calculated from the work expense plus any applicable material costs. Spare parts required for repairs will be calculated upon the basis of the currently valid price list or a valid price quotation, to the extent not covered by our warranty terms (see Chapter Warranty Declaration).
- Freight costs for delivery and return will be charged according to the volume of the goods being sent.

#### Notes

- If requested, we will be happy to provide a cost estimate for the service. Cost estimates are invoiced at a flat rate of €50.00 (KOS-S00011-00000).
- These costs are not applied if the repair work is carried out.

Type	Designation	Item no.
KOS15	Hourly rate for electrical engineers	KOS-S00001-00000
KOS2	Hourly rate for test	KOS-S00002-00000
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

- The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

# Services

## Metallurgic testing

### At the EWM site

#### Included in delivery

- Non-destructive and destructive test of your welding samples
- Metallurgic testing of your welded sample
- Extensive report with results of the test

#### Costs

- Freight costs for delivery and return will be charged according to the volume of the goods being sent.

KOS54	Hourly rate for metallurgic testing	KOS-A00009-00000
KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003
KOS3-I	Hourly rate for development staff, technicians/engineers	KOS-A00000-I0002

- The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

## Services

### Welding tests/sample welds

#### At EWM's site

##### Included in delivery

- Welding of samples with our machines
- Welding report with results
- The welding machine required and the standard gases and welding consumables are provided by EWM.
- If we will need special gases, parent metals and consumables for your sample welds, these must be provided in adequate quantities.

##### Costs

- Freight costs for delivery and return will be charged according to the volume of the goods being sent.

Type	Designation	Item no.
KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003

#### On-site

##### Included in delivery

- Welding of samples with our machines
- Welding report with results

##### Costs

- Freight costs for delivery and return will be charged according to the volume of the goods being sent.

Type	Designation	Item no.
KOS3	Manual welding: hourly rate for welding experts, electrical engineers	KOS-A00000-00002
KOS4-I	Automated welding: Hourly rate for welding experts, electrical engineers, test welding	KOS-A00000-I0003
KOS24	Mileage allowance	KOS-S00010-00000
KOS57	Hourly rate for travel expenses for technicians and engineers	KOS-V00057-00000

- The hourly rates given exclude any travel and accommodation costs incurred, as well as expenses!

## Services

### Rent/leasing/financing

Are you interested in a welding machine and would like to receive a price quotation? We are available to help at any time and will be happy to work with you to create a rental or leasing contract adapted to your requirements.

Welding machines are capital investments. For this reason, the decision to purchase such a product is influenced not only by good welding characteristics, but also to a large extent by a good return on investment. However, at first glance returns often appear insufficient.

For example, short-term, seasonal peaks in orders, special orders or other special occasions (training, welder tests, etc.) may cause capacity bottlenecks in your production, but the temporary nature of these events does not justify the procurement costs of a new machine, causing the investment to appear not worthwhile.

In other cases, you may have an urgent need to expand long-term capacity, but find it impossible to finance the purchase at the current time. Or perhaps you simply want to experience the quality of our machines over a longer period of time before making a purchase decision.

In order to react flexibly to all of these scenarios, we offer you the option of renting or leasing one or several welding machines as an alternative to a direct purchase.

#### • **Renting EWM welding machines**

- Cover short-term production bottlenecks with the latest EWM technology.
- Durations and rent are agreed individually.
- At the end of the contract duration, return the machine without surcharges or choose to purchase the machine with partial accounting of previous rental payments.
- Tax advantages: Rental payments may be deducted as operational expenses.

#### • **Leasing EWM welding machines**

- Transparent, uniform rates facilitate reliable planning
- Individualised determination of leasing rates, durations and closing charges
- Pay-as-you-earn: The leasing rates are incurred parallel to the use of the machine and can therefore be financed from the profits.
- This allows you to make a large investment without committing a large amount of capital.
- Tax advantages: Leasing charges may be deducted as operational expenses.

## Services

### General assembly and service conditions

The setup, commissioning or repair of systems supplied, and the instruction of operating staff on those systems, are undertaken on acceptance of the following conditions. The Assembly and Service Terms and Conditions are based on our General Terms and Conditions of business. These terms supplement and specify the general terms for the areas of assembly and service.

- The ordering party shall ensure that all preparations required for on-site completion of assembly work are carried out to ensure that the work can be started immediately on arrival. The connections for operating power and water must be provided up to the supply point, among other things. If the setup and commissioning of systems is delayed or prevented due to circumstances not under our control, the ordering party shall bear the costs for sending the personnel (travel costs, hourly rates, daily allowance, etc.) Not included in our services are electrical cabling at the installation site from the switching cabinet to the individual power consumers including installation material, prop supports, building, plastering and painting work, pneumatic and water installations, roofing and other building and additional work required. Any crane and scaffolding work required shall be carried out by the customer.
- The assembly and service rates, unless otherwise agreed, are calculated on the basis of time (incl. travel and waiting time) and costs. The following are also subject to charges: Allowances, accommodation, travel expenses and preparation costs required for assembly. For assembly work abroad, the additional costs, e.g. for obtaining visas, for any medical examination costs and immunisations, will be billed at cost. If additional safety tests are required for the work, e.g. radiation passport, these formalities must be completed in advance by the ordering party. The use of materials will be charged at cost + sales tax at the relevant prices valid at the time. The calculation will be carried out based on the work documentation from our engineers. The engineers are required to present their work documentation on completion of work (for extended assignments on a weekly basis) to our customers for signature. This shall also apply for flat-rate assembly work. For extended assemblies, monthly partial invoices will be generated. Time and materials required for assembly and service are acknowledged by signature, making them binding for both sides. If the ordering party refuses to sign, it shall submit a written declaration immediately to that respect. If our staff are not able to obtain the signature for any other reason, the details given on the customer service invoice shall be assumed to be agreed upon. Our engineers are not authorised to submit legally binding declarations on our behalf. All agreements not covered by the assembly and service conditions shall require written confirmation.
- Cost proposals are produced to the best of our knowledge, but are not binding. Should the price given in advance increase significantly during the maintenance work, consultation will be sought. Generation of a cost estimate is subject to a flat charge (€50.00 per estimate) but will be reimbursed when the associated contract is signed. The prices given in the cost estimates are valid for one month. Maintenance jobs with a low value are also carried out without providing a cost estimate in advance.
- Wage costs: Per working hour (worktime, waiting time, travel time and preparation time for staff on-site and office staff), based on 40 hours per week of 5 working days. Overtime and surcharges are not charged by EWM!
- Expenses are charged in accordance with the relevant regional regulations on travel costs.
- Travel and freight costs: We calculate the actual outlay incurred for transporting staff, their tools and their luggage, if incurred via public transport. When using motor vehicles (cars and service vehicles) we calculate €0.60/km. When using the train, we calculate 2nd class for travel in both directions. Flight costs will be charged at Business Class. Freight costs, for travel in both directions, for machines sent in for maintenance will be billed to the customer.
- Overnight stays will be charged at cost. Daily allowances and overnight stays are also charged for Sundays and holidays when the engineer is not working and does not travel home for cost reasons.
- The payment conditions in our general terms and conditions of business and delivery shall apply over and above any other agreements made where applicable. Unless written authorisation is provided, our engineers are not authorised to receive payments on our behalf. The payment due date for all services shall be 14 days net.
- Our services are provided in the German or English language. Should other languages be required, an interpreter should be procured by the customer!
- These general assembly and service terms and conditions shall apply from January 1, 2012. All previous assembly and service conditions are hereby invalidated.

## Services

### Disposal of old equipment

Germany's Used Electrical Equipment Law (Elektro-Altgeräte-Gesetz) stipulates that this machine does not belong in domestic waste. The machine contains valuable raw materials, which should be recycled, and electronic components, which must be disposed of. Do not dispose of the machine in household waste! Observe local regulations on disposal!

EWM participates in an approved waste disposal and recycling scheme and is registered in the National Register for Waste Electric Equipment (EAR) with reference number WEEE DE 57686922.

Please contact EWM regarding the options for returning your used electrical equipment: [info@ewm-group.com](mailto:info@ewm-group.com)

Machines can also be returned to EWM sales partners across Europe.

### Manufacturer's declaration to end user

- According to European provisions (Directive 2012/19/EU of the European Parliament and the Council of 13 August 2012), used electric and electronic equipment may no longer be placed in unsorted municipal waste. It must be collected separately. The symbol depicting a waste container on wheels indicates that the equipment must be collected separately. Please help to protect the environment and ensure that this machine is placed in the appropriate collection category when you no longer wish to use it.
- German law (reform of the law governing the distribution, taking back and environmentally correct disposal of electric and electronic equipment [ElektroG] dated 20 October 2015) states that you are required to place used machines in a collection system separate from unsorted municipal waste. It is possible that legally authorised disposal authorities will also collect used equipment from private households.
- Please refer to your local waste collection calendar or ask your state or municipal government about options available in your area for returning or collecting used equipment.

### Compliance with RoHS requirements

- We, EWM AG in Mündersbach, Germany, hereby confirm that all products which we supply to you that are subject to the RoHS Directive comply with RoHS requirements (Directive 2011/65/EU).

### Packaging return

- German packaging legislation states that EWM is obliged to take back product packaging and guarantee its recycling or disposal. We work with an approved disposal system to meet these requirements.
- Packaging can be returned to any EWM sales partner after purchase. Please contact EWM directly in the case of machines purchased online.



WE ARE WELDING

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## #WEAREWELDING

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The content of this document has been researched, prepared and reviewed with all reasonable care. The information provided is subject to change; errors excepted.