KempArc Synergic

AUTOMATED QUALITY AND PRODUCTIVITY

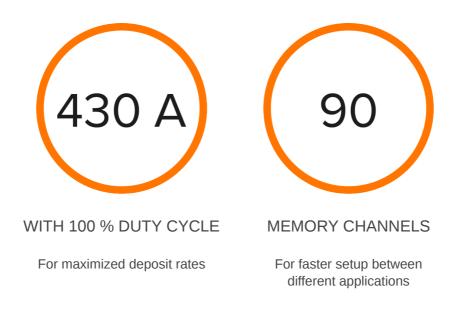**KEMPPI**

Designed for welders

KempArc Synergic

AUTOMATED QUALITY AND PRODUCTIVITY

If you are looking for a productive and reliable robotic welding solution, we have just the thing for you. The compact and powerful **KempArc SYN 500** is designed for synergic MIG/MAG welding automation. Its excellent arc characteristics will deliver high quality welds. All common fieldbus protocols can be used for the robot interface. KempArc SYN 500 is especially well suited for cost-effective retrofit cases and heavy duty applications, delivering 430 A at 100% duty cycle. It is available both in analogue and digital models for integration with different robotic control systems.

KEY BENEFITS

430 A

WITH 100 % DUTY CYCLE

For maximized deposit rates

90

MEMORY CHANNELS

For faster setup between different applications

BENEFITS

- Robot interface integrated in the power source
- Easy programming with the synergic welding programs and 90 memory channels
- Fast fieldbus-based communication guarantees integration with all common robot brands
- Available in digital and analogue models for varied integration possibilities
- Compact and lightweight wire feed mechanism

PRODUCT OPTIONS

KempArc SYN 500 Power source

Synergic MIG/MAG welding automation system, especially well-suited for cost-effective retrofit cases and heavy duty applications. KempArc SYN 500 is available in digital and analogue (AN) models for integration with different robotic control systems.

DT400 Wire feeder

Wire feeder for automated welding with a reliable 4-roll wire feed mechanism and full metal feed rolls. DT400 can be mounted on the back of the robot arm or integrated with any mechanized welding system.

DT400L Wire feeder

Wire feeder for automated welding with a reliable 4-roll wire feed mechanism and full metal feed rolls. DT400 can be mounted on the back of the robot arm or integrated with any mechanized welding system.

DT410 Wire feeder

Wire feeder for automated welding with a reliable 4-roll wire feed mechanism and full metal feed rolls. DT410 can be mounted on the back of the robot arm or integrated with any mechanized welding system.

WiseThin-A

Kemppi Wise welding process for automated welding.

WiseRoot-A

Kemppi Wise welding process for automated welding.

FEATURES

Robotic welding made easy

The synergic curves available from the control panel provide assistance to the programmer in selecting the right parameters. The user can select the thickness of the plate to be welded on the control panel, after which KempArc SYN 500 automatically proposes the suitable welding parameters.

Productive quality welding

KempArc SYN 500's fieldbus-based communication allows fast communication between the robot control system and welding equipment. This increases the productivity of automated welding, where the number of welds can reach thousands per day. Combine this with excellent arc characteristics, and you can be sure to reach high quality welds with minimum downtime.

ACCESSORIES

A7 MIG Gun 500-g

Gas-cooled robotic welding gun package offering exceptional precision. Choose a suitable type from hollow wrist or non-hollow wrist versions to match your needs. This gun can be used with all common robot brands and can be equipped with shock sensor modules.

A7 MIG Gun 500-w

Water-cooled robotic welding gun package offering exceptional precision. Choose a suitable type from hollow wrist or non-hollow wrist versions to match your needs. This gun can be used with all common robot brands and can be equipped with shock sensor modules.

KempCool 10

Cooling unit suitable for use with Kemppi KempArc welding equipment. KempCool 10 performs 1 kW of cooling power with a three liter tank that can be filled with 20%-40% ethanol/water mixture, or any other suitable antifreeze agent.

Stand for power source

For easy transport and keeping floor free under welder.

Wire Feed Roll Kit

Robot interface cards

Fieldbus commnucation between power source and robot controller is enabled with modules. The protocol can be chosen based on customer preference. Modules are placed inside the KempArc robot interface chassis.

Interconnection cables for KempArc

The interconnection cable set contains several cables and hoses. The cable set is used for delivering the welding power, shielding gas, cooling liquid, and control signals from the welding power source to the wire feeder. Interconnection cable sets are available in zipper bags or in corrugated sleeves.

Interconnection cable brackets

Earth return cable 70

Wire conduit for wire spools

High quality wire conduit delivers the filler wire smoothly from wire spool to wire feeder. Male connectors on both ends fit to Kemppi feeder and Kemppi wire spool support. Order codes does not include female snap connector for wire spool holder or wire drum. It must be ordered separately. In case of stainless steel or aluminium, a separate chili liner is also required.

Wire conduit for wire drums

Alternative solution for wire conduit when distance between wire feeeder and wire drum is greater than 5 meters. NOTE: When ordering W005195 with the desired length, you also need snap connectors: two male (W005197) and one female (W005189).

Snap connector for wire conduit (male)

Male connector for wire conduit, two pieces needed per conduit.

Snap connector for drum or spool holder (female)

Female connector for the wire drum or spool holder.

Wire spool holder

Suitable for standard 15 kg wire coil. NOTE: Female connector for wire conduit not included. Must be ordered separately.

Protective cover for wire spool

Plastic cover for wire spool holder.

Floor stand for wire spool holder

Floor stand for wire spool holder.

Wire feeder mounting brackets

Brackets for mounting the wire feeder on the robot's 3rd axis. The design is robot model specific. Order code includes metal plates. Insulation rings and Screws are not included if order code begins with W.

Welding gun cleaning station

Regular mechanical cleaning of the internal surfaces of the gas nozzle provides steady and good shielding gas flow for welding. Helps to avoid spatter to form electrical connection bridges between contact tip and the gas nozzle.

TECHNICAL SPECIFICATIONS

POWER SOURCES

KempArc SYN 500 Power source

Product code	KempArc SYN 500 (digital) - 6201500 KempArc SYN 500 (analogue) - 6201500AN
Connection voltage 3~ 50/60 Hz	400 V -15...+20%
Fuse (delayed)	35 A
Minimum generator power	27kVA (60%) 20kVA (100%)
Welding range	10 ... 42 V
Open circuit voltage	50 V
Rated power 60% ED	26,1 kVA
Rated power 100% ED	20,3 kVA
Primary current 50% ED I1max	40,0 A
Primary current 100% ED I1	31,0 A
Connection cable size	6 mm2
Idle power (no load power)	25 W
Efficiency	87%
Power factor	0,9
Voltage supply for auxiliary devices	50 V
Auxiliary device supply fuse (X14, X15)	6, 3 A delayed
Voltage supply for the cooling device	1-ph 400 VAC/250 VA
Max. welding voltage	46 V
Max. output current	430 A (100 %) 500 A (60 %)
Operating temperature range	-20 ... +40 °C
External dimensions LxWxH	590 × 230 × 500 mm
Weight (no accessories)	37 kg
Degree of protection	IP23C
EMC class	A
Storage temperature range	-40 ... +60 °C

WIRE FEEDERS

DT400 Wire feeder

Product code	6203400 / 6203400L
Rated power	100 W
Filler wires	0.8…1.6 mm
Wire feed speed	0…25 m/min
Operating voltage	50 VDC
Operating temperature range	-20…+40ºC
Degree of protection	n IP23S
External dimensions	269 x 175 x 169 mm
EMC class	A
Weight	4.5 kg
Loadability	40°C 100%ED 500 A
Welding gun connector	Euro

DT400L Wire feeder

Product code	6203400L
Rated power	100 W
Filler wires	0.8…1.6 mm
Wire feed speed	0…25 m/min
Operating voltage	50 VDC
Operating temperature range	-20…+40ºC
Degree of protection	n IP23S
External dimensions	269 x 175 x 169 mm
EMC class	A
Weight	4.5 kg
Loadability	40°C 100%ED 500 A
Welding gun connector	Euro

DT410 Wire feeder

Product code	6203410
Rated power	100 W
Filler wires	0.8…1.6 mm
Wire feed speed	0…25 m/min
Operating voltage	50 VDC
Operating temperature range	-20…+40ºC
Degree of protection	n IP23S
External dimensions	269 x 175 x 169 mm
EMC class	A
Weight	4.5 kg
Loadability	40°C 100%ED 500 A
Welding gun connector	PowerPin

SOFTWARE

WiseThin-A

Product code	9991013

WiseRoot-A

Product code	9991011

ACCESSORIES

KempCool 10

Product code	6208100
	Cooling liquid - 10 liter can - SP9810765
Connection voltage 3~ 50/60 Hz	400 V -15...+20%
Rated power	250 W (100 %)
Rated power 100% ED	250 W
Cooling liquid	20 - 40% Monopropylenglycol - water
Max. pressure at output	0,4 MPa
Operating temperature range	-20 ... +40 °C
External dimensions LxWxH	570 × 230 × 280 mm
Weight (no accessories)	11 kg
Degree of protection	IP23S
EMC class	A
Cooler tank volume	3 l
Cooling power	1 kW
Storage temperature range	-40 ... +60 °C

Stand for power source

Product code	6185295

Wire Feed Roll Kit

Product code	See technical specifications

Robot interface cards

Product code	See technical specifications

Interconnection cables for KempArc

Product code	See technical specifications

Interconnection cable brackets

Product code	See technical specifications

Earth return cable 70

Product code	6184711 (5 m, 70 mm2), 6184712 (10 m, 70 mm2), 6184713 (15 m, 70 mm2)

Wire conduit for wire spools

Product code	See technical specifications

Wire conduit for wire drums

Product code	See technical specifications

Snap connector for wire conduit (male)

Product code	W005197 - two pieces needed per conduit

Snap connector for drum or spool holder (female)

Product code	W005189

Wire spool holder

Product code	W007628 (right), W007629 (left)

Protective cover for wire spool

Product code	SP007940

Floor stand for wire spool holder

Product code	W007356

Wire feeder mounting brackets

Product code	See technical specifications

Welding gun cleaning station

Product code	SP600674
	Equipped with wire cutter, gas nozzle inside reamer and anti-spatter spray unit; order code includes reamer setup for both gas and water cooled nozzles.
Operating voltage	10 to 30 V DC
Weight	22 kg
Nominal pressure	6 bar 88 psi
Nominal flow	Approx. 500 l/min
Operating pressure	6 – 8 bar / 88 - 116 psi
Nominal rotational speed	800 rpm
Max. Wire size	1.6mm (by 6 bar 7 88 psi air pressure)
Ambient temperature	+5° to +50°C
Protection	IP 21
5/2 way valves	
Rated voltage	24 V DC
Power consumption	4.5 W (EACU)
Permitted residual ripple	Vpp < 10%
Continuous current	Max. 200 mA
Current consumption	approx. 4 mA (24 V)
Voltage drop	approx 1.2 V (200 mA)

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Kemppi is the design leader of the arc welding industry. We are committed to boosting the quality and productivity of welding by continuous development of the welding arc and by working for greener and more equal world. Kemppi supplies sustainable products, digital solutions, and services for professionals from industrial welding companies to single contractors. The usability and reliability of our products is our guiding principle. We operate with a highly skilled partner network covering over 70 countries to make its expertise locally available. Headquartered in Lahti, Finland, Kemppi employs close to 800 professionals in 16 countries and has a revenue of 178 MEUR.