PRODUCT CATALOGUE 2006 2007 EN

KEMPPI
The Joy of Welding

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Content

Kemppi – The Joy of Welding

Kemppi Oy is a pioneer in future welding technologies. Founded in 1949, this family-owned company is one of the world's leading manufacturers of arc welding equipment and related products. Although Kemppi operates all over the world, its headquarters and production plants are still located in Finland. Kemppi maintains sales companies in Finland, Sweden, Norway, Denmark, Germany, France, England, Holland, Australia, Poland, Chile and Russia as well as sales offices in China and Singapore.

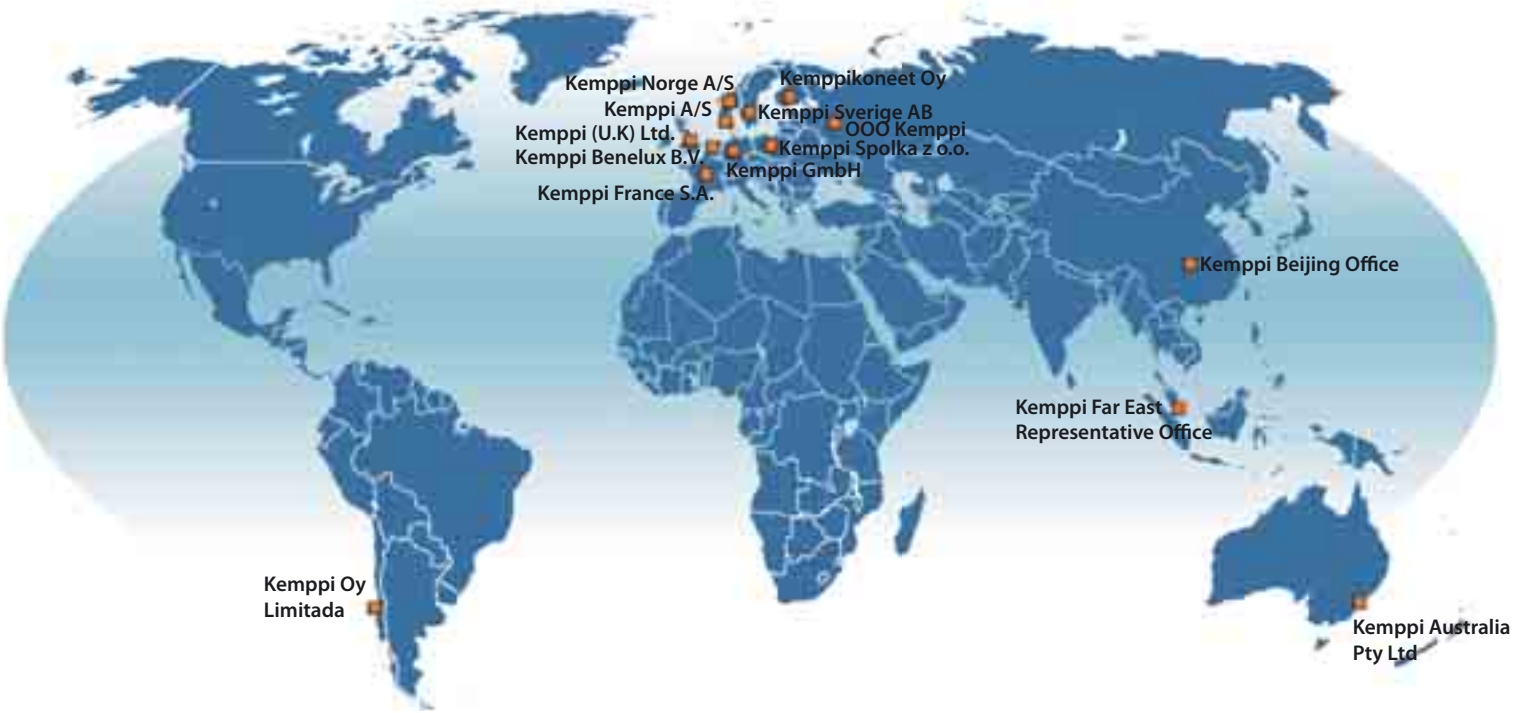

Photo: Aker Yards

Kemppi's values reflect company's development

of almost 60 years. These values form a basis for all of our activities:

Entrepreneurship
From the very beginning our company's success has been based on this value.
Believing in one's own capabilities forms a solid basis for the courage needed in new situations.
There is no entrepreneurship without risk taking.
Difficulties every once in a while are inevitable - true entrepreneurs come out even stronger and keep their spirits high.
Never give up the joy in whatever you do.

Innovation
Curiosity, energy and courage are needed when exploring the unknown.
True genius and madness are close.
Don't be afraid of making a mistake - just remember to learn from it.
Doing things differently from others can bring you far - just look at our own development.

Honesty
For Kemppi-people honesty comes naturally - Finland is known as the world's least corrupted country.
Being honest with yourself is a pre-requisite for being honest with others.
Honesty always pays off.
Honesty is linked with reliability - we keep our promises.

Respect for the individual
We are all different.
A successful team is a combination of people with different qualities.
Good decisions are made when several opinions are heard and taken into consideration.
Understanding what others do and why, makes co-operation easier - both within our international company and with our customers.

Our vision:

"We are the preferred choice for customers by providing the best solutions for productive welding - our focus is on technology leadership, customer service, flexibility and fast reaction speed"


KEMPPI

MIG Welding

MIG/MAG (metal inert gas / metal active gas) welding

MIG/MAG welding is a semiautomatic welding process that can produce moderate to high weld metal deposition. It is suitable for all positions and material thicknesses. The most common welding method in today's welding industry, it is also becoming more and more popular with hobby users.

In MIG welding, wire is fed continuously from a wire spool to the MIG gun. Accordingly, MIG welding is referred to as a semi-automatic welding process. Kempomat and Kempoweld machines are conventional MIG machines with stepped control for the voltage and stepless regulation of the wire feed speed. The Kempact™, WeldForce™, FastMig™, and Kemppi Pro Evolution solutions, which are inverter power sources suited mainly for industrial application, provide stepless voltage and wire feed speed control in both wire feeder and full remote control.

For home and hobby use, the new MinarcMig™ Adaptive 150 and 180 are opening up completely new possibilities in single-phase net supply. These small, lightweight machines also offer one-knob welding power regulation based on the plate thickness used.

Synergic MIG welding

In synergic MIG welding, the user controls the welding power with a single knob on the basis of the base material, shielding gas, and filler wire used.

A synergic MIG welding machine has pre-programmed parameters in machine memory (covering the synergic curve). This decreases the number of user-regulated parameters to just one: welding power. Arc length can be regulated separately, to match the joint type, welding position, and welding application.

The WeldForce™, Kempact™ Pulse 3000, FastMig™ Synergic, and Kemppi Pro Evolution products allow synergic MIG welding.

Pulse MIG welding

Pulse MIG is an extension of the standard MIG welding process. Here, short-duration high-current pulses transform a drop from the filler wire without a short circuit. In this way, spray arc metal transfer conditions are established across the entire operating current range of the equipment. In pulse MIG welding too, synergic control ensures that only welding power needs adjustment.

The main benefits of pulse MIG welding can be seen in its spatter-free weld result, good weld seam form, and ease of use with thin materials. The pulse MIG process is widely used with difficult-to-weld base materials and wires: special steels, aluminium, stainless steels, copper, and nickel-based alloys.

Kempact™ Pulse 3000 and Kemppi Pro Evolution offer synergic pulse MIG welding possibilities.

Double pulse MIG welding

The double pulse MIG process is a variation of pulse MIG welding that applies alternating double pulse MIG parameters. The main purpose of the double pulse welding is to enhance weld quality by improving the weld seam appearance and the weld profile.

The Kempact™ Pulse 3000 and Kemppi Pro Evolution are multi-process welding machines that can be used for pulse MIG and double pulse MIG welding.

Adaptive MIG welding

Conventional MIG/MAG welding is an easy method for both the professional and the non-professional welder to use, with one exception. Making the proper settings may be a tricky task – sometimes it is not so easy to find the right balance between a suitable welding power and the voltage and wire feed speed. There have been several methods developed to make this easier, but previous methods required either making several settings with the aid of tables/manuals or a very good knowledge of welding. One way to avoid these problems is adaptation. Applying this concept, the machine itself performs welding process measurements and makes the decisions on how to balance wire feed speed and voltage. If the machine takes care of the voltage and wire feed speed, the user always gets a stable arc and need select only the proper power level. If designed well, the machine can propose the correct power level for the various material thicknesses.

The MinarcMig™ Adaptive 150 and 180 machines are made according to this idea, and practice has confirmed that our vision of easy welding was correct.

KempoMat

Kempomat 1701 | Kempomat 2100 | Kempomat 2500 | Kempomat 3200 | Kempomat 4200

Benefits

- User friendly
  - Easy voltage and wire feed control
- Quality welds
  - Strong and precise wire feed mechanisation
  - Inductance selection improves arc performance

Main applications

- Light and medium workshops
- Repair and Maintenance
- Installation
- Car repair
- Agriculture

Simplicity and style

Kempomat MIG/MAG machines are step switched machines designed for professionals. Expect superior performance from Kempomat; welding machines with a solid build quality and a reputation built on solid reliability Kempomat range covers compact MIG/MAG machines from 170 to 420 Amp. Kempomat 1701, 2100 and 2500 are designed for light to medium industrial use including repair and maintenance workshops. These machines are equipped with 2-wheel drive wire feed. Kempomat 3200 and 4200 are designed for heavy industrial use and are equipped with 4-wheel drive wire feed mechanism. Kemppi also manufactures a range of quality MIG/MAG guns. Kempomat machines combined with lightweight and well-balanced Kemppi MMT MIG guns provide a perfect solution for sheet metal fabrication and any repair or maintenance work. Kemppi MIG/MAG products guarantee you quality welding and arc performance.

Kempomat 1701 and 2100 are also fitted with an external polarity changing system for gas shielded or gasless wire welding. Kempomat 2100, 2500, 3200 and 4200 are fitted with a choice of inductance settings. Kempomat has a timer unit for cycle arc and spot welding as well as 2/4 T sequence function. The 2/4T welding sequence procedure reduces operator fatigue when welding; increasing productivity and welding quality. Kempomat 1701 is equipped with 8-step voltage control and Kempomat 2100 and 2500 with 10-step control. Kempomat 3200 has a 40-step control and Kempomat 4200 a 56-step control (32 steps in 230V machine). The operation range of Kempomat 2500, 3200 and 4200 can be extended with push-pull welding guns using the Kemppi KMW Syncronizing unit. These models can also be equipped with V/A-meter unit, MSD-1.

Kempomat range:

• Kempomat 1701	230V 1ph
• Kempomat 2100	230/400V
• Kempomat 2500	230/400V
• Kempomat 3200	230/400V
• Kempomat 4200	400V
• Kempomat 4200	230V

Technical Data

KempoMat		2100	2500
Mains voltage	3~400V	380 V -10 %…415 +6 %	380 V -10 %…415 +6 %
	3~230V	220 V -10 %…240 +6 %	220 V -10 %…240 +6 %
Load capacity 40 °C	40% ED	200 A / 23 V (25%)	250 A / 26 V (30%)
	100% ED	100 A / 19 V	140 A / 21 V
Filler wires	ø	0.6…1.2 mm	0.6…1.2 mm
External dimensions	L x W x H	910 x 410 x 820 mm	930 x 440 x 860 mm
Weight		54 kg	80 kg

KempoMat		3200	4200
Mains voltage	3~400V	380 V -10 %…415 +6 %	380 V -10 %…415 +6 %
	3~230V	220 V -10 %…240 +6 %	220 V -10 %…240 +6 %
Load capacity 40 °C	40% ED	320 A / 32 V	420 A / 37.5 V
	100% ED	205 A / 24 V	265 A / 27 V
Filler wires	ø	0.6…1.6 mm	0.6…1.6 mm
External dimensions	L x W x H	970 x 480 x 970 mm	970 x 480 x 970 mm
Weight		118 kg	130 kg

KempoMat		2001	2501	1701
Mains voltage	1~240V	220 V -10 %…240 +6 %	220 V -10 %…240+6 %	1~230 V, 220 V -10 %…240 +6 %
Connection cable, fuse delayed		3 x 2.5 mm² / 20 A	3 x 4.0 mm² / 25 A	3 x 1.5 mm² / 16 A
Load capacity 40 °C	30% ED	200 A / 24 V	250 A / 26.5 V	170 A / 21 V (15%)
	100% ED	110 A /19.5 V	135 A / 20.5 V	76 A / 17.5 V
Filler wires	ø	0.6…1.2 mm	0.6…1.2 mm	0.6…1.2 mm
External dimensions	L x W x H	910 x 420 x 840 mm	910 x 420 x 840 mm	850 x 392 x 750 mm
Weight		76 kg	82 kg	47 kg

Order Information

Kempomat 1701 set (incl.230V power source, KMG 20 - 3 m, earth cable 16 mm², 5 m)	6214171
Kempomat 2100 set (incl. 230/400V power source, MMT 25 - 3m, earth cable 25 mm², 5 m)	KMAT21003MMT
Kempomat 2100 set (incl. 230/400V power source, MMT 25 - 4.5 m, earth cable 25 mm², 5 m)	KMAT21004MMT
Kempomat 2500 set (incl. 230/400V power source, MMT 25 - 3 m, earth cable 25 mm², 5 m)	KMAT25003MMT
Kempomat 2500 set (incl. 230/400V power source, MMT 25 - 4.5 m, earth cable 25 mm², 5 m)	KMAT25004MMT
Kempomat 3200 set (incl. 230/400V power source, MMT 32 - 3 m, earth cable 35 mm², 5 m)	KMAT32003MMT
Kempomat 3200 set (incl. 230/400V power source, MMT 32 - 4.5 m, earth cable 35 mm², 5 m)	KMAT32004MMT
Kempomat 4200 set (incl. 230V power source, MMT 42-3 m, earth cable 50 mm², 5 m)	KMAT42003MMT230
Kempomat 4200 set (incl. 230V power source, MMT 42-4.5 m, earth cable 50 mm², 5 m)	KMAT42004MMT230
Kempomat 4200 set (incl. 400V power source, MMT 42-3 m, earth cable 50 mm², 5 m)	KMAT42003MMT
Kempomat 4200 set (incl. 400V power source, MMT 42 - 4.5 m, earth cable 50 mm², 5 m)	KMAT42004MMT
Kempomat 2001 set (incl. 240V power source, MMT 25 - 3 m, earth cable 35 mm², 5 m)	S6211200
Kempomat 2501 set (incl. 240V power source, MMT 25 - 3 m, earth cable 35 mm², 5 m)	S6211250
KMW sync 2 (sync. unit for push pull gun)	6219150
MSD-1 meter unit / 2500, 3200, 4200	6185666
GH 20 gun holder	6256020
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KEMPOWELD

Benefits

- Easy to use
  - Basic MIG/MAG power regulation
- Productivity and Quality
  - Reliable and robust wire feeding system guarantees excellent results
  - Arc dynamics adjustment
- Reliability
  - Lightweight wire feeder includes controls protected against damage

Main applications

- Metal fabrication workshops
- Steel structure workshops
- Repair and Maintenance

Basic MIG/MAG welding machines with separate wire feed units

Kempoweld is a range of step-controlled MIG/MAG machines with separate wire feed units. The feed units can be mounted on the power source or taken to the work location via fitting longer interconnection cables. Kempoweld benefits from class leading performance, robust construction and simple power regulation. The user selects the required voltage from the power source range switches and then adjusts the wire feed speed to suit.

Kempoweld range

- gas-cooled 320 and 420 A
- water-cooled 320, 420 and 550 A (in-built cooling unit)

Steady and disturbance-free wire feed Wire 200, 400 and 550

Kempoweld wire feed units feature durable and reliable feeding. Two and four roll drive mechanisms include stepless speed control allowing the correct value selection in any application. The automatic wire loading and wire inch controls save time in spool change.

Kempoweld Wire feed models 200, 400 and 550 are designed and built to provide trouble-free service with increased life. Kempoweld wire feed mechanisms and 'user' supplied wire spools are fully enclosed inside the wire feed casing, avoiding contamination from the working environment. Burn-back time regulation is included as standard allowing the operator to control 'wire termination shape' at the end of welding cycle.

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Technical Data

KempoWeld Power sources		3200, 3200W	4200, 4200W	5500W	2501
Mains voltage	3~400V	380 V -10%…415+6%	380 V -10%…415+6%	380 V -10%…415+6%	-
	3~230V	220 V -10%…240+6%	220 V -10%…240+6%	-	1~220 V -10%…240+6%
Connection cable / fuse delayed	200-240V	4 x 2.5 mm² / 20A	4 x 6.0 mm² / 25A	-	3 x 4.0 mm² / 25A
	380-415V	4 x 2.5 mm² / 16A	4 x 2.5 mm² / 16A	4 x 6.0 mm² / 32A	-
Load capacity 40 °C	40% ED	320 A / 32 V	420 A / 37.5 V	550 A / 42 V (60%)	250 A / 26.5 V (30%)
	100% ED	205 A / 24 V	265 A / 27 V	430 A / 36 V	135 A / 20.5 V
Open circuit voltage		15-42 V 40 steps	15-48 V 56 steps (*	18-56 V 32 steps	
External dimensions	L x W x H	3200: 990 x 530 x 880 mm	4200: 990 x 530 x 880 mm	1075 x 480 x 1140 mm	940 x 430 x 750 mm
		3200W: 990 x 530 x 1090 mm	4200W: 990 x 530 x 1090 mm		
Weight		3200: 106 kg	4200: 126 kg	194 kg	66 kg
		3200W: 118 kg	4200W: 138 kg		
			*) 32 steps (230V)		

KempoWeld Wire feeders		Wire 200	Wire400	Wire550
Operating voltage	50/60 Hz	30 V AC	30 V AC	30 V AC
Load capacity 40 °C	40% ED	400 A	400 A	550 A (60%)
	100% ED	260 A	260 A	430 A
Feeding mechanism		2-roll drive	4-roll drive	4-roll drive
Filler wires	ø	0.6…1.6 mm	0.6…1.6 mm	0.6…2.4 mm
External dimensions	L x W X H	570 x 210 x 440 mm	570 x 210 x 440 mm	570 x 210 x 440 mm
Weight		12 kg	12 kg	13 kg

Order Information

Power sources	
Kempoweld 3200,230/400V	621532002
Kempoweld 4200, 230V	6215422
Kempoweld 4200, 400V	6215424
Kempoweld 4200W, 230V	6216422
Kempoweld 4200W, 400V	6216424
Kempoweld 5500W, 400V	6216554
Kempoweld 2501 package*, 240V	S6211255
Wire feeders	
Wire 200 (2-roll drive)	62172001
Wire 400 (4-roll drive)	621740001
Wire 550 (4-roll drive)	621755001
Metering unit	
MSD-1 V/A (standard / 5500 W)	6185666
Synchronizing unit	
KMW Sync 2	6219150
Swing arm KV 400	6185247

Gas-cooled interconnection cables	
KW 50-1.3-GH	6260350
KV 400 50-1.5.GH (with the swing arm)	6260351
MULTIMIG 50-5-GH	626010401
MULTIMIG 50-10-GH	626010601
Water-cooled interconnection cables	
KW 50-1.5-WH	6260352
KV 400 50-1.7-WH (with the swing arm)	6260353
KW 50-5-WH	626035401
KW 50-10-WH	626035601
KW 95-1.5-W	6260391
KW 95-5-WH	6260393
KW 95-10-WH	6260394
KV 400 95-1.9-WH (with the swing arm)	6260392
Branch cable for KMP	3151360
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*Package includes: Wire 200 wire feeder, KMG 25 3m MIG- gun, KW 35-5-GH, 5m interconnection cable, earth cable 5m

MinarcMig™ Adaptive 150, 180

Benefits

- Ease of use with adaptive control
- Weld anywhere – 1~ 230V from net or generator
- Lightweight – made to move
- Good welding characteristic with extra long cables
- Safe and reliable

Main applications

- Thin sheet welding
- Tacking of heavy pipe and plate
- Installation & maintenance
- Repair welding
- Home and hobby

MinarcMig™ Adaptive 150 and 180 machines are made to move

Revolutionary in ease of use, MinarcMig™ is ideal for both professional and hobby use. MinarcMig™, small and lightweight machines, make it easy to 'weld anywhere' and are made to move with you. MinarcMig™ machines have Adaptive Control, which accurately takes care of the welding parametres. Simply select the plate thickness from one knob control, pull the gun trigger and weld. MIG welding has never been so easy!

MinarcMig™ 150 Adaptive is a high duty Steel specialist. A 150A machine with 35% duty cycle and excellent power and weight ratio makes a class leading machine that's certainly out of the ordinary.

MinarcMig™ 180 Adaptive creates a new dimension in compact MIG machines for Aluminium, Stainless Steel and Fe filler wires. The large and clear LCD user interface indicates the amperes, voltage and wire feed speed selected including material and gas combination, when automatic mode is on. MinarcMig™ 180 Adaptive has a maximum output of 180A with 25% duty cycle.

reddot design award
winner 2006

MinarcMig™ 180 Adaptive

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User interfaces for MinarcMig™ 150 and 180

Easy to use one knob control of MinarcMig™ Adaptive 150 equipped with an arc trimmer.

MinarcMig™ Adaptive 180 with large and clear LCD user interface, which indicates the amperes, voltage and wire speed selected including material and gas combination when automatic mode is on.

Technical Data

MinarcMig™ Adaptive		150	180
Mains voltage	1~ 50/60 Hz	230 V ±15%	230 V ±15%
Rated power		6.9 kVA / 150 A 35%	8.6 kVA / 180 A 25%
	60% ED	5.3 kVA / 120 A	5.3 kVA / 120 A
	100% ED	4.2 kVA / 100 A	4.2 kVA / 100 A
Connection cable, fuse delayed		2.5 mm^2 -S-3.3 m / 16 A	2.5 mm^2 -S-3.3 m / 16 A
Load capacity 40 °C		150 A / 21.5 V 35%	180 A / 23.0 V 25 %
	60% ED	120 A / 20 V	120 A / 20 V
	100% ED	100 A / 19 V	100 A / 19 V
Open circuit voltage		22 - 31 V	15.5 - 42.5V
Power ratio at maximum current		0.58 (150 A / 21.5 V)	0.60 (180 A / 23.0 V)
Efficiency at maximum current		0.80 (150 A / 21.5 V)	0.81 (180 A / 23.0 V)
Welding range		20-150 A / 13.5-22 V	20-180 A / 12-23 V
Spool, max. ø		200 mm	200 mm
Filler wires ø	Fe solid	0.6...1.0 mm	0.6...1.0 mm
	Fe cored	0.8...1.0 mm	0.8...1.0 mm
	Ss	-	0.8...1.0 mm
	Al	-	1.0 mm
External dimensions	L x W x H	400 x 180 x 340 mm	400 x 180 x 340 mm
Weight (incl. gun and cables)		9.4 kg	9.8 kg

Order Information

MinarcMig™ Adaptive 150 (incl. gun, cables, gas hose and shoulder strap)	6108150
MinarcMig™ Adaptive 180 (incl. gun, cables, gas hose and shoulder strap)	6108180
MIG-gun, MMG 18, 3 m	6250180
Earthing cable and clamp, 3 m	6184003
Shielding gas hose, 4,5 m	W001077
Shoulder strap	9592162

KEMPACT™ MIG 2520, 2530

Benefits

- Portability
  - Excellent power / weight ratio
- Versatility
  - Solid wires
  - Cored wires
- Power generator compatible

Main applications

- Thin sheet fabrication
- Repair and maintenance
- Car repairs
- Installations
- Outfitting in shipyards and offshore

Kemppi defines new compact class

Defining a class of compact MIG/MAG machines Kemppi explores further, intelligent power source design and construction, exploiting our knowledge of modern control for welding products. Kempact™ MIG 2520/2530 models provide excellent arc qualities from compact and lightweight packages. Portability and mobility are true advantages and, we invite you to compare the Kempact™ MIG welding performance. Kemppi - Arc Under Control.

Kempact™ MIG 2520 and 2530 models are perfect for applications where portability is an essential consideration. Weighing only 17,5 kg (2520) and 20 kg (2530) Kempact™ models are light to move and excellent for applications where you're always on the move.

Kempact™ MIG machines have superb arc performance. Excellent arc ignition assisted by burn back time technology guarantee satisfaction. No need to cut the ball at the end of wire before welding! Electronic arc dynamics control offers the best arc performance in all situations. Kempact™ MIG inverter based machines are equipped with stepless wire feed speed and voltage control so that users may optimise arc performance. Kempact™ MIG is also designed for use from power generators, extending the field of operation still further.

Change the polarity for gasless flux cored wire welding. Wire inch with 'safety speed' makes the spool change easy and quick with lower safety risk. Kempact™ MIG machines are equipped with 2 wheel wire drive mechanisms providing smooth feeding with Fe, SS and Al wire materials.

The two-wheel transport unit ST7 allows the Kempact™ MIG 2530 to be mounted away from the workshop floor. Kemppi MMT 25 and MMT 27 gas cooled MIG guns are available in 3 m or 4,5 m lengths. MMT MIG guns can be equipped with Kemppi's Patented DL Teflon liner in order to maximise the welding quality with aluminium and stainless steel wire.

Compact and powerful? Kempact™ MIG models are 75% lighter than traditionally constructed machines but high in duty cycle – 250 amps at 40% - now that's real advantage!

Technical Data

Kempact™ MIG		2520	2530
Mains voltage	3~ 50/60 Hz	400 V +/- 15%	400 V +/- 15%
Rated power	40% ED	12 kVA / 250A	12 kVA / 250A
	60% ED	10 kVA / 207 A	10 kVA / 207 A
	100% ED	7.5 kVA / 160 A	7.5 kVA / 160 A
Connection cable / fuse delayed		4 x 1.5mm² -5m / 16 A	4 x 1,5mm² -5m / 16 A
Load capacity 40 °C	40% ED	250 A / 26.5 V	250 A / 26.5 V
	60% ED	207 A / 24 V	207 A / 24 V
	100% ED	160 A / 22 V	160 A / 22 V
Welding range		10 - 30 V	10 - 30 V
Wire feed speed		1 - 18 m/min	1 - 18 m/min
Spool, max. ø		200 mm	300 mm
Filler wires ø	Fe, Ss	0.6...1.0 mm	0.6...1.0 mm
	Cored wire	0.9...1.2 mm	0.9...1.2 mm
	Al	0.9...1.2 mm	0.9...1.2 mm
	CuSi	0.8...1.0 mm	0.8...1.0 mm
External dimensions	L x W x H	510 x 250 x 415 mm	580 x 280 x 440 mm
Weight		17.5 kg	20 kg

Order Information

Kempact MIG 2520 (incl. earth cable 35 mm², 5 m and gas hose 6 m)			6218520
Kempact MIG 2530 (incl. earth cable 35 mm², 5 m and gas hose 6 m)			6218530
Gun holder	GH 30		6256030
Feed rolls	0.6 - 0.8	V-groove	9483070
	0.8 - 1.0	V-groove	9483071
	1.0 - 1.2	U-groove	9483072
	0.8 - 0.9	V-groove, knurled	9483073
	1.0 - 1.2	V-groove, knurled	9483074
	1,0-1,2	V-groove	9483075
MIG-guns	MMT 25	3 m	6252513MMT
	MMT 25	4.5 m	6252514MMT
	MMT 27	3 m	6252713MMT
	MMT 27	4.5 m	6252714MMT
Earth cable	35 mm²	5 m	6184311
Transport units	ST 7		6185290
	P 250		6185268
Lift hook			4298180

KEMPACT™ PULSE 2800 AUTOMOTIVE

Benefits

- Synergic programs for automotive body work
- Productive, spatter free welding
  - MIG brazing
- Easy to use
  - Synergic & Synergic pulse control
- Spot timer
  - Accurate plug welding and brazing
- Portability
  - Excellent output/weight ratio

Main applications

- Car repair
- MIG brazing

Kempact™ Pulse 2800 Automotive – automotive repair specialist

The design of the Kempact™ Pulse 2800 Automotive respects the needs and requirements of the automotive manufacture and repair sector. In today's automotive industry, galvanized and aluminum materials are widely used and the joining of these materials in manufacture and repair is perfectly suited to Kempact™ Pulse 2800 Automotive. The machine provides ready-made synergic and Pulsed Synergic programs for both arc welding and brazing of steel and Aluminium. Pulsed arc welding and brazing provides productive and spatter-free joining of these modern materials.

Both Pulse and Synergic MIG welding are easy with Kempact™ Pulse 2800 Automotive. Thanks to convenient synergic programs, setting welding parameters and the welding itself can be accomplished quickly. The small and light device is easy to transport near the welding site. The six-meter-long WeldSnake™ gun provides additional reach.

Kempact™ Pulse 2800 Automotive is efficient. This 250 A/40 % device allows the welding or brazing of many different materials. It is ideal for joining 0.5-0.8 mm galvanized sheet steel.

Technical Data

Kempact™ Pulse 2800 Automotive

Mains voltage	3~ 50/60 Hz	400 V +-15%
Rated power	40% ED	12 kVA / 250 A
	60% ED	10 kVA / 207 A
	100% ED	7.5 kVA / 160 A
Conn. cable/fuse delayed		4 x 1.5 mm^2 - 5 m / 16 A
Load capacity 40 °C	40% ED	250 A / 26.5 V
	60% ED	207 A / 24 V
	100% ED	160 A / 22 V
Open circuit voltage		56 V
Power ratio at max current		0.69 (250 A / 26 V)
Efficiency at max current		0.84 (250 A / 26 V)
Welding range		8 - 30 V
Feeding mechanism		4-roll feed
Spool max. ø		300 mm
Filler wires ø	Fe	0.6...1.0 mm
	Cored wire	0.9...1.2 mm
	Al	0.9...1.2 mm
	CuSi	0.8...1.0 mm
External dimensions	L x W x H	580 x 280 x 440 mm
Weight		22 kg

Order Information

Kempact™ Pulse 2800 Automotive		6218280
GH 30 Gun holder		6256030
MIG guns	PMT 25, 3 m	6252513
	PMT 25, 4.5 m	6252514
	PMT 27, 3 m	6252713
	PMT 27, 4.5 m	6252714
	PMT 32, 3 m	6253213
	PMT 32, 4.5 m	6253214
	PMT 35, 3 m	6253513
	PMT 35, 4.5 m	6253514
	WS 35, 6 m Al 1.2	6253516A12
	WS 35, 6 m Ss 1.0	6253516S10
Remote control unit	RMT 10	6185475
Earth cable	35 mm^2, 5 m	6184311
Transport unit	ST 7	6185290
	P250	6185268
Lift hook		4298180
Gas hose, 6 m		W000566
Spool adapter, 5 kg		4251270

- Quick and easy to use
- Specially designed for car repair and MIG brazing
- One knob control
- Pre-set synergic programs:
  AlMg, AlSi, CuSi, CuAl, Fe

KEMPACT™ PULSE 3000

Benefits

- Outstanding Power to weight ratio – 22kg/250A
- Excellent Pulse Performance
- Double Pulse, Pulse, Synergic MIG
- 100 user memory channels
- Kemppi WeldSnake™ MIG gun compatible
- Easy-to-use Kemppi Process Manager™
- Power generator compatible
- Polarity change option for cored wires

Main applications

- Thin Sheet fabrication
- Repair & Maintenance
- Installation
- Outfitting

New ideas in pulse-MIG/MAG welding

Are you satisfied with traditional welding equipment solutions? Would you prefer better welding performance across more materials and wider process control? Would a compact welding machine weighing less than a traditional feed unit better meet your welding needs? Yes! ...take a closer look at Kempact™ Pulse 3000. Kempact™ Pulse 3000 defines a new class of Pulsed MIG/MAG machine. With Kempact™ Pulse 3000 Kemppi further explores intelligent power source design, providing users high quality, focused arc control. Portability and mobility are true advantages and Kempact™ Pulse 3000 combines these with truly amazing welding performance. Put Kempact™ Pulse 3000 to the test. Kemppi power source technology made it possible to design Kempact™ Pulse 3000. Weighing only 22 kg, Kempact™ Pulse 3000 offers a unique combination of portability and pulse arc performance. Kemppi Process Manager™ easily guides the operator through a choice of arc control techniques including MIG/ MAG, Synergic MIG/MAG, Pulsed-MIG and Double Pulsed process.

Wide mains voltage tolerance and power generator compatibility allow the maximum field of operation. No matter where you weld, on the shop floor or at site, Kempact™ Pulse 3000 guarantees you have the optimum process control. Kempact™ Pulse 3000 has the most commonly used filler material and shielding gas Pulse programs in the standard delivery specification and the capacity to extend the memory stored library for up to 400 files. The user may store optimum welding parameters to one of 100 memory channels. Up to five channels can be controlled from a Kemppi PMT MIG gun and RMT 10 remote control unit.

Kempact™ Pulse 3000 has a wealth of arc control facilities allowing very smooth and trouble free welding. Special arc start functions including optional Hot and Creep Start guarantee excellent ignition properties with all materials and gases, creating less spatter and post weld cleaning.

Technical Data

Kempact™ Pulse 3000

Mains voltage	3~ 50/60 Hz	400 V ±15%
Rated power	40% ED	12 kVA / 250 A
	60% ED	10 kVA / 207 A
	100% ED	7.5 kVA / 160 A
Conn. cable/fuse delayed		4 x 1.5 mm² - 5 m / 16 A
Load capacity 40 °C	40% ED	250 A / 26.5 V
	60% ED	207 A / 24 V
	100% ED	160 A / 22 V
Open circuit voltage		56 V
Power ratio at max current		0.69
Efficiency at max current		0.84
Welding range		8 - 30 V
Feeding mechanism		4-roll feed
Spool max. ø		300 mm
Filler wires ø	Fe, Ss	0.6...1.0 mm
	Cored wire	0.9...1.2 mm
	Al	0.9...1.2 mm
	CuSi	0.8...1.0 mm
External dimensions	L x W x H	580 x 280 x 440 mm
Weight		22 kg

Cooling unit		**KempactCool 10**
Operating voltage		400 V 50/60 Hz
Connection capacity	100% ED	250 W
Cooling power		1.0 kW
Maximum pressure		450 kPa
Recommended cooling liquid		20 % - 40 % ethanol/water
Tank volume		3 l
External dimensions	L x W x H	580 x 280 x 300 mm
Weight		13 kg

- Quick and easy to use
- One knob control
- 100 user memory channels
- Pre-set synergic programs: AlMg, AlSi, CuSi, Fe, Ss

Order Information

Kempact™ Pulse 3000*			6218300
*package includes: primary supply cable/5 m, earth cable 35 mm² /5 m, gas hose/6 m			
KempactCool 10			6218600
Gun holder	GH 30		6256030
Earth cable	35 mm²	5 m	6184311
Transport units			
ST 7 (for power source and gas bottle)			6185290
P20 (power source, cooling unit and gas bottle)			6185261
P250 (power source)			6185268
Lift hook			4298180
Gas hose		6m	W000566
Wire spool pole			4289880
5 kg spool adapter			4251270

MIG-guns		
PMT 27	3 m	6252713
PMT 27	4,5 m	6252714
PMT 32	3m	6253213
PMT 32	4,5m	6253214
PMT 35	3m	6253513
PMT 35	4,5m	6253514
WS 35	6m Al 1,2	6253516A12
WS 35	6m Ss 1,0	6253516S10
MMT 32	3 m	6253213MMT
MMT 32	4,5 m	6253214MMT
MMT 35	3 m	6253513MMT
MMT 35	4,5 m	6253514MMT

FastMig™ Basic

Benefits

- Increased productivity and quality
  - Stepless voltage and wire feed control
- Easy to handle
  - 70 % lighter than equivalent switch controlled devices
- Consumes 10 % less energy

Main applications

- Medium & heavy metal fabrication workshops
- Steel structure workshops
- Shipbuilding & Offshore
- Repair and Maintenance

Kemppi FastMig™ Basic – pure power for MIG/MAG welding

The Kemppi FastMig™ Basic is designed for the basic MIG/MAG welding needs of heavy and medium heavy industry. Thanks to its stepless controls and digital displays, individual welding parameters can be fine-tuned easily and accurately.

FastMig™ Basic's effective and efficient 300, 400 and 500 ampere power sources are light, modern and compactly built. They are 70 % lighter and consume 10 % less energy than switch-operated power sources with a comparable output.

The MF 29 and MF 33 wire feed units are designed for demanding welding conditions. The double skinned plastic casing is durable, elegant and recyclable and is fitted with a durable 4 x 4 feed roll device to guarantee steady, uninterrupted wire feeding.

The FastMig™ Basic range includes an option to fit the new FastCool 10 water cooling unit, providing effective cooling of liquid cooled MIG/MAG welding guns in heavy duty applications.

The FastMig™ Basic range

- 3 power sources: KM 300, KM 400 and KM 500
- Wire feed units: MF 29 and MF 33
- Cooling unit: FastCool 10
- Transport unit: PM 500

FAST - Formula Arc System Technology

Arc properties guaranteed to increase welding productivity and quality

Technical Data

FastMig™ Power sources		KM 300	KM 400	KM 500
Mains voltage	3~50/60 Hz	400 V -15 %...+20 %	400 V -15 %...+20 %	400 V -15 %...+20 %
Rated power	60% ED	-	-	25.9 kVA
	80% ED	-	18.5 kVA	-
	100% ED	12.9 kVA	16.9 kVA	20.1 kVA
Connection cable/fuse delayed		4 x 6 S - 5 m / 25 A	4 x 6 S - 5 m / 35 A	4 x 6 S - 5 m / 35 A
Load capacity 40 °C	60% ED	-	-	500 A / 39 V
	80% ED	-	400 A / 34 V	-
	100% ED	300 A / 29 V	380 A / 33 V	430 A / 35.5 V
Welding range	MIG	10 V...37 V	10 V...39 V	10 V...42 V
Open circuit voltage		65 V	65 V	65 V
Power ratio at max current		0.9	0.9	0.9
Efficiency at max. current		87 %	87 %	87 %
External dimensions	L x W x H	590 x 230 x 430 mm	590 x 230 x 430 mm	590 x 230 x 430 mm
Weight		34 kg	35 kg	36 kg

FastMig™ Wire feeders		MF 29	MF 33
Operating voltage		24 V DC	24 V DC
Rated power		100W	100W
Load capacity 40 °C	60% ED	520 A	520 A
	100% ED	440 A	440 A
Feeding mechanism		4-roll feed	4-roll feed
Wire feed speed		0...25 m/min	0...25 m/min
Spool, max. ø		200 mm	300 mm
Filler wires ø	Fe, Ss	0.6...1.6 mm	0.6...1.6 mm
	Cored wire	0.8...1.6 mm	0.8...2.0 mm
	Al	1.0...1.6 mm	1.0...2.4 mm
External dimensions	L x W x H	510 x 200 x 310 mm	590 x 240 x 445 mm
Weight		9.4 kg	13.6 kg

FastMig™ Cooling unit		FastCool 10
Operating voltage		1 ~, 50/60 Hz 400 V -15%...+20%
Connection capacity	100% ED	120 W
Cooling power		1.25 kW
Maximum pressure		400 kPa
Recommended cooling liquid		20 % - 40 % ethanol/water
Tank volume		3 l
External dimension	L x W x H	570 x 230 x 280 mm
Weight		13 kg

Order Information

Power sources	FastMig™ KM 300	6033000
	FastMig™ KM 400	6034000
	FastMig™ KM 500	6035000
Wire feeders	MF 29	6063200
	MF 33	6063300
Cooling unit	Fastcool 10	6068100
Transport units	PM 500	6185291
	PM 501 (with PSL 55)	6185292
	P 500	6185265
	T 10*	6185231
Accessories	KWF 200 hanging frame	6185285
	KWF 200 protection slides	6185286
	KWF 300 protection slides	6185287

MIG -guns	MMT 35, 3 m	6253513MMT
	MMT 35, 4.5 m	6253514MMT
	MMT 42, 3 m	6254213MMT
	MMT 42, 4.5 m	6254214MMT
	MMT 42W, 3 m	6254203MMT
	MMT 42W, 4.5 m	6254204MMT
	MMT 52W, 3 m	6255203MMT
	MMT 52W, 4.5 m	6255204MMT
Interconnection cables	KM 70-1.8-WH	6260411
	KM 70-1.8-GH	6260413
	KM 70-10-GH	6260417
	KM 70-10-WH	6260418
	KM 70-20-WH	6260450
	KM 70-20-GH	6260451
	KM 70-30-WH	6260454
	KM 70-30-GH	6260455

Other lengths subject to enquiry

* FastMig™ requires mounting kit, order number W002085

FastMig™ Synergic

Benefits

- Easy to handle
  - Lightweight, compact and modular design
- Versatility
  - Two panel options for each wire feeder
  - Synergic programs library for the most common materials
- Spatterless MIG welding
  - Optional FastROOT™ welding process software product for fast, accurate root closure welding in Fe and Ss materials

Main applications

- Heavy and medium heavy metal fabrication workshops
- Shipyards and Offshore
- Chemical and Process industry
- Steel structure workshops

Kemppi FastMig™ Synergic – All the elements needed for successful MIG/MAG welding from the same device

• Basic welding • Synergic welding • Root pass welding

The FastMig™ Synergic range is suitable for the MIG/MAG welding of all materials in the heavy and medium heavy metal industry. The range is modular, allowing the construction of different welding configurations by varying power source, wire feed and panel options.

The power to weight ratio of the energy-saving FastMig™ Synergic power sources for 300, 400 and 500 amperes is without peer.

The wire feed unit casings are designed for demanding conditions and different environments. Three models are available for 200 mm and 300 mm wire spools. MSF 53 and 57 have shock-proof, recyclable double plastic casings. A powerful engine with precise gears and power transmission guarantee an uninterrupted, reliable wire feed. Two panel options are available for each wire feed device to suite different welding needs.

The FastCool 10 provides effective cooling of liquid cooled MIG/MAG welding guns in heavy duty applications.

FastROOT™ process is an optional FastMig™ software product for fast, accurate root pass welding in Fe and Ss materials (See page 25).

FAST - Formula Arc System Technology

Arc properties guaranteed to increase welding productivity and quality

FastMig™ Synergic panels
- Choose the control level that suits your application

With clear and logical displays, the FastMig™ Synergic range panels have a large number of different features and special functionalities enabling further improvements in welding quality and productivity.

The MSF 53 wire feed unit can be equipped with either the SF 51 panel with basic functionality or the more versatile SF 52 synergic panel while the MSF 55 and 57 wire feed devices can be equipped with the basic SF 54 panel or the synergic SF 53 panel.

Panels 51 and 54 contain e.g. the following basic functions

- Digital displays
- Stepless welding voltage control
- Stepless wire feed control
- MMA welding option
- Gas test
- Wire inch
- MLS™ (Multi Logical System) allows exchangeble panels

In addition to the basic functions, synergic panels 52 and 53 include:

- Crater filling
- Hot start
- Creep start
- Memory locations for storing MIG parameters
- Optional FR-MIG process for root pass welding
- MLS™ (Multi Logical System) allows exchangeble panels

FastMig™ Synergic wire feeders – for different welding environments

MSF 53

- compact and lightweight making it easy to use in tight situations
- material: double skinned durable and impact resistant plastic
- for 200 mm wire spools
- Panels: basic 51, synergic 52

MSF 55

- functional, stylish and lightweight, suits conventional workshop applications
- material: glass fibre reinforced polyamide and aluminium
- for 300 mm wire spools
- Panels: basic 54, synergic 53

MSF 57

- designed for extra tough workshops and site use
- material: double skinned durable and impact resistant plastic
- for 300 mm wire spools
- Panels: basic 54, synergic 53

FastMig™ Synergic -range includes

3 power sources: KMS 300, KMS 400, KMS 500
3 wire feeders: MSF 53, MSF 55, MSF 57
4 panel options: SF 51, 52, 53 and 54
Cooling unit FastCool 10
Transport unit PM 500

Technical Data

FastMig™ Power sources		KMS 300	KMS 400	KMS 500
Mains voltage	3~50/60 Hz	400 V -15 %...+20	400 V -15 %...+20	400 V -15 %...+20
Rated power	60% ED	-	-	26.1 kVA
	80% ED	-	19,5 kVA	-
	100% ED	13.9 kVA	18.5 kVA	20.3 kVA
Connection cable/fuse delayed		4 x 6 S - 5 m / 25 A	4 x 6 S - 5 m / 35 A	4 x 6 S - 5 m / 35 A
Load capacity 40 °C	60% ED	-	-	500 A / 39 V
	80% ED	-	400 A / 34 V	-
	100% ED	300 A / 29 V	380 A / 33 V	430 A / 35.5 V
Open circuit voltage		50 V	50 V	50 V
Power ratio at max current		0.9	0.9	0.9
Efficiency at max current		87 %	87 %	87 %
Welding range	MIG	10 V...37 V	10 V...39 V	10 V...42 V
	MMA	10 A...300 A	10 A...400 A	10 A...500 A
External dimensions	L x W x H	590 x 230 x 430 mm	590 x 230 x 430 mm	590 x 230 x 430 mm
Weight		34 kg	35 kg	36 kg

FastMig™ Wire feeders		MSF 53	MSF 55	MSF 57
Operating voltage		50 V DC	50 VDC	50 VDC
Rated power		100W	100 W	100 W
Load capacity 40 °C	60% ED	520 A	520 A	520 A
	100% ED	440 A	440 A	440 A
Feeding mechanism		4-roll feed	4-roll feed	4-roll feed
Wire feed speed		0...25 m/min	0...25 m/min	0...25 m/min
Spool, max. ø		200 mm	300 mm	300 mm
Filler wires ø	Fe, Ss	0.6...1.6 mm	0.6...1.6 mm	0.6...1.6 mm
	Cored wire	0.8...1.6 mm	0.8...2.0 mm	0.8...2.0 mm
	Al	1.0...1.6 mm	1.0...2.4 mm	1.0...2.4 mm
External dimensions	L x W x H	510 x 200 x 310 mm	620 x 210 x 445 mm	625 x 243 x 476 mm
Weight		9.4 kg	11.1 kg	14 kg
Material		plastic	metal	plastic

FastMig™ Cooling unit		FastCool 10
Operating voltage		1 ~, 50/60 Hz 400 V -15%...+20%
Connection capacity	100% ED	120 W
Cooling power		1.25 kW
Maximum pressure		400 kPa
Recommended cooling liquid		20 % - 40 % ethanol/water
Tank volume		3 l
External dimensions	L x W x H	570 x 230 x 280 mm
Weight		13 kg

FastROOT™

Developed by Kemppi, FastROOT™ welding process is an optional FastMig™ software product for fast, accurate root pass welding in Fe and Ss materials.

The FastROOT™ welding process is only available for use with the FastMig™ SF 52 and SF 53 function panels. The Kemppi FastROOT™ welding process software can be purchased as an up-grade to standard FastMig™ Synergic machines at a later date if required.

FastROOT™ process is an excellent option over conventional root pass welding in MMA, TIG and MIG/MAG.

Order Information

Power sources		
FastMig™ KMS 300		6053000
FastMig™ KMS 400		6054000
FastMig™ KMS 500		6055000
Panels		
SF 51		6085100
SF 52		6085200
SF 53		6085300
SF 54		6085400
FastROOT™ -feature		6265011
Wire feeders		
MSF 53		6065300
MSF 55		6065500
MSF 57		6065700
Cooling unit	FastCool 10	6068100
Transport units	PM 500	6185291
	PM 501 (with PSL 55)	6185292
	P 500	6185265
	T 10*	6185231
Accessories		
Remote control units	R10, 5 m	6185409
	R10, 10 m	618540901
	R20, 5 m	6185419
	RMT 10 (for PMT)	6185475
Remote controlled interconnecting cable, 10 m		6185481
MSF 53 hanging frame (incl. KPS mounting set)		6185285
MSF 55 hanging kit		W001694
MSF 53 protection slides (incl. KPS mounting set)		6185286
Swing arm KV 401 Fastmig MSF 55 and MSF 57		6185248
Gun holder	GH30	6256030

MIG -guns	
PMT 35 3 m	6253513
PMT 35 4,5 m	6263514
PMT 42 3 m	6254213
PMT 42 4,5 m	6254214
PMT 50 3 m	6255013
PMT 50 4,5 m	6255014
PMT 30 W 3 m	6253043
PMT 30 W 4,5 m	6253044
PMT 42W 3 m	6254203
PMT 42W 4,5 m	6254204
PMT 52W 3 m	6255203
PMT 52W 4,5 m	65255204
WeldSnake™ guns on page 33	
Earth cable	
5 m, 50 mm^2	6184511
5 m, 70 mm^2	6184711
Cable for MMA welding	
5 m, 50 mm^2	6184501
5 m, 70 mm^2	6184701
Interconnection cables	
KWF 70-1,8-GH	6260401
KMS 70-1,8-WH	6260410
PROMIG 2/3 70-10-GH	6260326
PROMIG 2/3 70-10-WH	6260334
PROMIG 2/3 70-20-GH	6260327
PROMIG 2/3 70-20-WH	6260337
PROMIG 2/3 70-30-GH	6260330
PROMIG 2/3 70-30-WH	6260340

Other lengths subject to enquiry

* FastMig™ requires mounting kit, order number W002085

WeldForce™

KWF 200S KWF 200 KWF 300S KWF 300

Benefits

- Easy to handle
  - Lightweight, compact and modular design
- Versatility
  - Synergic programs library for the most common materials

Main applications

- Heavy and medium heavy metal fabrication workshops
- Shipyards and Offshore
- Chemical and Process industry
- Steel structure workshops

Productivity, performance and durability

Kemppi WeldForce™ MIG/MAG machine range provides productivity, performance and durability in welding. WeldForce™ is the reliable choice for rough field conditions; incorporating heavy-duty wire feeder and the latest welding power technology and digital control. Choose WeldForce™ on arc performance alone and you will ensure adaptability and variety of process control at the point of application. WeldForce™ is modular by design, allowing customers to choose the specification that best meets their needs. Three power source sizes (350A, 450A, and 550A) and four different feeder options guarantee customer choice by selecting the combination that best suits the application. The new WeldForce™ wire feeders represent new levels of durability in wire feeder design and construction; using impact resistant strong, plastic casing Kemppi ensure significant reductions of wear and tear in case-materials. If you need powerful basic MIG/MAG machines with accurate parameter control or more advanced synergic MIG/MAG, WeldForce™ is the ideal welding solution.

WeldForce™ – maximum arc performance

Kemppi always pays special attention to arc performance and WeldForce™ is no exception. WeldForce™ offers choices in filler material and gas programs selection, providing fine arc control and adjustment in a variety of applications and materials. WeldForce™ includes specific control selections of ignition and weld termination. Hot start, creep start and crater filling controls meet the demands of busy users and the changing workshop needs throughout the working day. WeldForce™ Synergic includes 46 Synergic programs and parameter memory selection guarantees the recording of optimum weld settings.

WeldForce™ range

- Power sources: 350, 450 and 550 A
- Liquid-cooled: 350, 450 and 550 A (with a separate cooling unit)
- Wire feeders KWF 200/200S and KWF 300/300S

All of the gas- and liquid-cooled models are also available as multi-voltage machines (230 / 400V 3ph).

Technical Data

WeldForce™ Power sources		KPS 3500 / 3500MVU	KPS 4500 / 4500MVU	KPS 5500 / 5500MVU
Mains voltage	3~ 50/60 Hz	400 V -15%...+20%	400 V -15%...+20%	400 V -15%...+20%
Mains voltage, MVU	3~ 50/60 Hz	400 V -15%...+20%	400 V -15%...+20%	400 V -15%...+20%
		230 V -10% .. +10%	230 V -10%...+10%	230 V -10%...+10%
Connection cable/fuse delayed		4x6S-5m / 25 A	4x6S-5m / 35 A	4x6S-5m / 35 A
Connection cable/fuse delayed, MVU		4x6S-5m / 35 A	4x6S-5m / 50 A	4x6S-5m / 63 A
Load capacity 40 °C	60% ED	-	450 A	550 A
	80% ED	350 A	420 A	500 A
	100% ED	320 A	380 A	440 A
Open circuit voltage		approx. 65 V	approx. 65 V	approx. 65 V
Welding range	MMA	10-320 A	10-420 A	10-520 A
	MIG	12-37 V	12-39 V	12-42 V
Max. welding voltage		46 V / 300 A	46 V / 400 A	50 V / 500 A
External dimensions	L x W x H	690 x 230 x 520 mm	690 x 230 x 520 mm	690 x 230 x 520 mm
External dimensions, MVU		690 x 230 x 630 mm	690 x 230 x 630 mm	690 x 230 x 630 mm
Weight		37 kg / MVU 45 kg	41 kg / MVU 49 kg	48 kg / MVU 56 kg

WeldForce™ Wire feeders		KWF 200/200S	KWF 300/300S
Operating voltage		50 V DC	50 V DC
Rated power		100 W	100 W
Load capacity 40 °C	60% ED	520 A	520 A
	100% ED	440 A	440 A
Wire feed speed		0-18 (25) m/min	0-18 (25) m/min
Spool, max. ø		200 mm	300 mm
Filler wires ø	Fe, Ss	0.6...1.6 mm	0.6...2.4 mm
	Cored wire	0.8...1.6 mm	0.8...2.4 mm
	Al	1.0...1.6 mm	1.0...2.4 mm
External dimensions	L x W x H	510 x 200 x 310 mm	590 x 240 x 445 mm
Weight		9.4 kg	13.6 kg

Cooling unit	KWU 10
Operating voltage	24 V DC
Connection capacity 100% ED	120 W
Cooling power	1.25 kW
Maximum pressure	400 kPa
Recom. cooling liquid	20 % - 40 % ethanol/water
Tank volume	3 l
Dimensions L x W x H	530 x 230 x 290 mm
Weight	12.5 kg

Order Information

Power sources		
KPS 3500	400V	6131350
KPS 4500	400V	6131450
KPS 5500	400V	6131550
KPS 3500 MVU	230/400V	613135003
KPS 4500 MVU	230/400V	613145003
KPS 5500 MVU	230/400V	613155003
Wire feeders		
KWF 200		6232200
KWF 300		6232300
KWF 200S		6232200S
KWF 300S		6232300S
Water cooling unit		
KWU 10		6262110
Transport units		
P40	6185264	
T400	6185267	
P500 for KWF 300/300S [1])	6185265	
Remote control units		
R20, 5 m	6185419	
R10, 5 m	6185409	
R10, 10 m	618540901	
RMT 10 (for PMT MIG-gun)	6185475	

Interconnection cables	
KWF 70-1,8-GH	6260401
KWF 70-1,8-WH	6260403
KWF 70-5-GH	6260405
KWF 70-5-WH	6260407
PROMIG 2/3 70-10-GH	6260326
PROMIG 2/3 70-10-WH	6260334
Accessories	
KWF 200 hanging frame *	6185285
KWF 200 protection slides *	6185286
KWF 300 protection slides	6185287
KWF 200/300 spool space heater	6185288
KWF Sync 300	6263300
GG200/300 Gas Guard	6237406
KV 400 Swing arm	6185247

* incl. KPS mounting set

[1]) KWF 300 protection slides are needed for mounting

KEMPPI PRO EVOLUTION

Benefits

- Versatile and Flexible
  - panel options
  - power source available for MMA, TIG, MIG/MAG and pulse MIG welding processes
- Optimal Usability
  - clearly marked user panels
  - synergic programs
- Productivity and Quality
  - storing of used parameters
  - monitoring option with Kemppi Pro Weld Data

Main applications

- Heavy and medium heavy metal fabrication workshops
- Shipyards and Offshore
- Chemical and process industry
- Steel structure workshops
- Automotive

Kemppi Pro Evolution – Professional's intelligent tool

Kemppi Pro Evolution is a welding machine that provides profitability, cost-effective production and superior quality. It is the most versatile welding system on the market thanks to its modular design and excellent adjustability. It is easy to install whatever application. With this reliable welding machine the amount of required finishing work is minimized. Kemppi Pro Evolution offers all welding methods including pulse-MIG being an optimal solution for professional use in heavy and medium heavy fabrication industry as well as in shipyards and offshore.

Pro Evolution is a tool for a demanding professional use with powerful and high duty power sources. The high power factor and efficient power sources minimise operation and installation costs. It is very reliable working partner being well tested. Kemppi has carried out hundreds of thousands of tests in laboratories and user trials. No technical detail has been overlooked in Kemppi's bid to provide superior welding performance and reliability. Machine has also good serviceability. Yet powerful, the system is still mobile whilst compact and lightweight.

Versatile functions, modularity

Characteristics of the power source, wire feed unit or TIG unit can all be changed from the function panels. Many functions are as standard, like storing of used welding parameters and automatic thread of MIG wire. Machine has modular design and one can choose the suitable combination for different needs, including different control panels.

Digital control with a professional edge

Full digital control; high internal control speed provides optimal welding characteristics as stable, spatter-free and quiet arc with all welding methods.

Kemppi Pro Data collection

- Welding data collection from Kemppi Pro welding set and analysis of collected data
- With this program the user can change and/or modify welding programs for ML, MX, MXE-panels
- Pro Weld Data system enables PC monitoring and recording of welding parameters during welding. The recorded parameters can be used for WPS documentation or continuous control of welding processes.

For MIG welding, the stationary swing arm provides a wider operation area and prevents damage to the torch cable. The new inclined torch angle also guarantees trouble-free welding in the feeder unit.

Promig 501 Promig 501L Promig 511 Promig 530

Power sources

Basic units in the Kemppi Pro Evolution series are the digital controlled 3200, 4200 and 5200 power sources. They are multi-functional power sources built with inverter technology for all welding methods both in manual and robotic applications. The equipment is extremely powerful, with loadability ratings of 320, 420 or 520 A at 100-70% ED depending on the model. The high internal regulation speed and full digital controls guarantee first-class welding characteristics.

- In MMA welding the power source is controlled through PL or PX function panel (more information on page 56-57).
- In MIG/MAG and pulsed MIG welding the power source is controlled through MIG function panels.
- For TIG unit, TL and TX function panels are available.
  - o No separate function panel for power sources is required.
  - o Protig 410 HF ignition unit ensures excellent and stable arc ignition in TIG welding. Basic or special functions can be chosen from the function panels. This includes the storing of welding parameters. Protig 410 is attached to the top of the power source, and can be transported to the workplace in its standard frame (more information on page 39).

Procool 10

Procool 30

All-purpose wire feeders

The Kemppi Pro Evolution wire feeders Promig 501, 501L, 511 and 530 feature a four-roll feed mechanism. This ensures smooth and secure wire movement with thin and soft Al wires or thick and hard solid wires. The automatic wire thread also makes changing the filler wire coil faster. All function panels can be attached to the wire feeders and include time-saving auxiliary functions.

- The ergonomic swing arm of Promig 511 delivers improved operational range, convenient torch support and torch shielding.
- Promig 530 has inclined torch angle.

Promig 100 Promig 200 Promig 300

- Promig 100 is a compact and highly portable wire feeder for welding up to 30 meters from the main wire feeder.
- Promig 200 and Promig 300 are mobile Evolution wire feeders designed for dock yards and heavy metal industry.

Procool 10 and 30 cooling units

Cooling units Procool 10 and 30 for Kemppi Pro Evolution are designed for cooling MIG welding guns and TIG welding torches in demanding professional use. Procool 30 is used with trolley P40 and is placed under the power source. Procool 10 is used with trolley P30W.

Panels for Promig wire feeders

MC operation panel

- Welding current control
- Selection of welding method
- MMA/MIG dynamics adjustment
- Storage of welding parameters
- Display of welding parameters
- Gas test

ML operation panel

- Pulse-MIG / Synergic MIG control
- Control of welding parameters
- Selector of welding method
- MMA/MIG dynamics control
- Display of welding parameters
- Gas test

MXE operation panel

- Pulse- / Double pulse-MIG
- MMA, MIG/MAG, synergic 1-knob MIG and pulse-MIG welding
- Gas test
- Memory channel
- Start options and user tailored parameters

Technical Data

Kemppi Pro Evolution Power sources		3200 / 3200 MVU	4200 / 4200 MVU	5200 / 5200 MVU
Mains voltage	3~50/60 Hz	400 V -15%…+20%	400 V -15%…+20%	400 V -15%…+20%
Mains voltage, MVU	3~50/60 Hz	400 V -15%…+20%	400 V -15%…+20%	400 V -15%…+20%
		230 V -10%…+10%	230 V -10% …+10%	230 V -10%…+10%
Connection cable, fuse delayed		4 x 6S-5 m / 25 A	4 x 6S-5 m / 35 A	4 x 6S-5 m / 35 A
Connection cable, fuse delayed, MVU		4 x 6S-5 m / 35 A	4 x 10S-5 m / 50 A	4 x 16S-5 m / 63 A
Load capacity 40 °C	70% ED	-	420 A / 19.7 kVA	520 A / 26.6 kVA
	100% ED	320 A / 13.3 kVA	400 A / 18.6 kVA	440 A / 20 kVA
Power ratio at maximum current		0.93	0.93	0.93
Welding range	MMA	10 A…320 A	10 A…420 A	10 A…520 A
	TIG	5 A…320 A	5 A…420 A	5 A…520 A
	MIG	12 V…37 V	12 V…39 V	12 V…42 V
External dimensions	L x W x H	530 x 230 x 520 mm	530 x 230 x 520 mm	530 x 230 x 520 mm
External dimensions, MVU	L x W x H	530 x 230 x 630 mm	530 x 230 x 630 mm	530 x 230 x 630 mm
Weight		37 kg / MVU 45 kg	41 kg / MVU 49 kg	48 kg / MVU 56 kg

ProMig Wire feeders		100	200	300	501, 501L	511	530
Operating voltage		50 V DC	50 V DC	50 V DC	50 V DC	50 V DC	50 V DC
Rated power					100 W	100 W	100 W
Filler wires ø	Fe, Ss	0.6...1.6 mm	0.6...1.6 mm	0.6...1.6 mm	0.6...1.6 mm	0.6...1.6 mm	0.6...1.6 mm
	Cored wire	0.8...2.0 mm	0.8...1.6 mm	0.8...2.0 mm	0.8...2.0 mm	0.8...2.0 mm	0.8...2.0 mm
	Al	1.0...2.4 mm	1.0...1.6 mm	1.0...2.4 mm	1.0...2.4 mm	1.0...2.4 mm	1.0...2.4 mm
External dimensions	L x W x H	575 x 185 x 200 mm	500 x 230 x 315 mm	600 x 225 x 415 mm	620 x 230 x 480 mm	620 x 230 x 670 mm	640 x 230 x 430 mm
Weight		8.9 kg	13 kg	17 kg	22 kg	25 kg	21 kg

Cooling units		ProCool 10	ProCool 30
Operating voltage		50 V DC	50 V DC
Connection capacity	100% ED	120 W	120 W
Maximum pressure		400 kPa	400 kPa
Recommended cooling liquid		20 % - 40 % ethanol/water	20 % - 40 % ethanol/water
Tank volume		3 l	3 l
External dimensions	L x W x H	450 x 190 x 420 mm	610 x 230 x 290 mm
Weight		16 kg	12.5 kg

Order Information

Power sources	
Kemppi Pro Evolution 3200	6131320
Kemppi Pro Evolution 4200	6131420
Kemppi Pro Evolution 5200	6131520
Kemppi Pro Evolution 3200 MVU	613132003
Kemppi Pro Evolution 4200 MVU	613142003
Kemppi Pro Evolution 5200 MVU	613152003
Wire feeders	
Promig 501	6232501
Promig 501L (left)	6232505
Promig 511 with swing-arm	6232511
Promig 530	6232530
Promig100 tandem feeder	6236305
Promig100B special version	6236306
Promig 200	6231520
Promig 300	6231530
Operation panels	
MC	6263501
ML	6263502
MXE	6263504
Water cooling units	
Procool 10	6262012
Procool 30	6262016
Synchronizing unit	
Prosync 50/Promig 100, push-pull gun	6263121
Remote control units	
R 20 (2-knob)	6185419
RMT 10, MIG gun control	6185475
C 100 T, wireless	6185412
External metering device	
PMU 10	6265010
Cables	
Earth and welding cables subject to an enquiry	

Transport units	
P 30 W	6185262
P40	6185264
P 500 (for Promig 501)	6185265
Gun holders	
GH 20	6256020
GH 30	6256030
Lift hooks	
for Promig 501	3135870
for Promig 530	4298180
Intermediate cables for Promig 501, 511, 530	
Water hose (Promig 511, 1.6 m)	4269330
Water hose (Promig 501/530,1.0 m)	4269340
70-5-WH,	6260312
70-10-GH	6260313
70-10-WH	6260314
70-15-GH	6260315
70-15-WH	6260316
Intermediate cables for Promig 100	
50-15-GH	6260211
50-25-GH	6260213
70-15-WH	6260225
70-25-WH	6260227
Intermediate cables for Promig 200, 300	
70-15-GH	6260325
70-20-GH	6260327
70-15-WH	6260335
70-20-WH	6260337
ProWeld Data monitoring system	6265003


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WS42W

KEMPPI MIG GUNS

Technical Data and Order Information

		MMT 25	MMT 27	MMT 32	MMT 35	MMT 42	MMT 30W	MMT 42W	MMT 52W
Load capacity 40 °C Ar + CO_2	35%	250 A	270 A	320 A	350 A	420 A	-	-	-
	100%	-	-	-	-	-	300 A	400 A	500 A
Cooling		gas	gas	gas	gas	gas	liquid	liquid	liquid
Filler wires	ø	0.6 - 1.2 mm	0.6 - 1.2 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm
Length / Order number	3m	6252513MMT	6252713MMT	6253213MMT	6253513MMT	6254213MMT	6253043MMT	6254203MMT	6255203MMT
	4,5m	6252514MMT	6252714MMT	6253214MMT	6253514MMT	6254214MMT	6253044MMT	6254204MMT	6255204MMT

Technical Data and Order Information

		PMT 25	PMT 27	PMT 32	PMT 35	PMT 42	PMT 30W	PMT 42W	PMT 52W
Load capacity 40 °C (A) Ar + CO_2	35%	250 A	270 A	320 A	350 A	420 A			
	100 %						300 A	400 A	500 A
Cooling		gas	gas	gas	gas	gas	liquid	liquid	liquid
Filler wires	ø	0.6 - 1.2 mm	0.6 - 1.2 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm	0.8 - 1.6 mm
Length / Order number	3 m	6252513	6252713	6253213	6253513	6254213	6253043	6254203	6255203
	4.5 m	6252514	6252714	6253214	6253514	6254214	6253044	6254204	6255204

RMT 10 (6185475) remote control unit as an accessory option. See page 75.

Technical Data and Order Information

WeldSnake™		35	30W	42W
Load capacity 40 °C		300 A / 35%	250 A / 100%	300 A / 100%
Filler wires ø	Ss	1.0 mm	1.0 - 1.2 mm	1.0 - 1.2 mm
	Al	1.2 mm	1.2 (1.6) mm	1.2 (1.6) mm
Cooling		Gas	Liquid	Liquid
Order information	6 m Al 1.2	6253516A12	6253046A12	6254206A12
	6 m Ss 1.0	6253516S10	6253046S10	6254206S10
	6 m Ss 1.2	-	6253046S12	6254206S12
	8 m Al 1.2	-	6253048A12	6254208A12
	8 m Ss 1.0	-	6253048S10	6254208S10
	8 m Ss 1.2	-	6253048S12	6254208S12

The order number includes MIG gun + DL-Teflon liner and Contact tips (5 pcs)

RMT 10 (6185475) remote control unit as an accessory option. See page 75.


KEMPPI

TIG WELDING

TIG (tungsten inert gas) welding

In TIG welding, the arc is formed between a tungsten electrode and the base material. The high melting point of tungsten ensures that the arc energy cannot melt the electrode. Argon, used as the shielding gas, is fed through the TIG torch to shield the electrode and molten weld pool.

This type of welding can be done with or without filler wire. If filler wire is used, it is fed to the weld pool separately.

DC TIG welding

The direct-current TIG welding process is used to weld stainless steels and titanium, as well as carbon and low alloy steels. TIG welding is a popular process for applications where high product quality is necessary: piping, food-industry applications, metal furniture, and use in the energy sector.

All Kemppi TIG welding machines are inverters: the MasterTig and MasterTig MLS™, the Kemppi Pro Evolution system, and the new MinarcTig™ 180 all are suitable for DC TIG welding. For home and hobby use, the Minarc 150 MMA machine can be equipped with a TIG torch, allowing TIG welding to be done with the same machine.

The main benefits of TIG welding are a totally spatter-free weld, narrow weld seam, and good visual seam appearance.

AC TIG welding

Alternating-current TIG welding finds its application in work with aluminium and magnesium alloys. The primary area of application for AC TIG welding is use with thin materials, but the process is also used frequently in repair welding for thicker aluminium pieces.

The aluminium oxide layer in the base material surface keeps it free of corrosion but at the same time necessitates the use of AC current in the TIG welding process. Also, aluminium is highly electrically and thermally conductive, making it a difficult material to weld.

All Kemppi AC TIG welding machines function as inverters. The MasterTig AC/DC and MasterTig MLS™ AC/DC machines offer both alternating and direct current. This makes these machines a universal solution, suitable for all base materials that can be welded with TIG.

MIX TIG welding

MIX TIG is a combination of AC and DC TIG. Current is switched between AC and DC at a frequency of about 2 Hz. Weldable materials are the same as in AC TIG welding.

The main application for MIX TIG is welding thin and thick work pieces together, as control of the welding pool is easier than with normal AC welding.

This feature is available in the MasterTig MLS™ 2300 ACDC machine.

MinarcTig™ 180

Benefits

- Quick and easy to use
  - Quality welds
- Portability
- Durability
- Power generator compatible

Main applications

- Installation and Outfitting
- Repair and Maintenance
- Thin sheet metal fabrication workshops
- Chemical and Process industry

MinarcTig™ – the little giant in TIG/MMA welding applications where power and portability are important

The MinarcTig™ 180 is based on the same lightweight, compact design as the Minarc MMA and the award-winning MinarcMig™ Adaptive.

This dual-process machine offers a unique combination for completing various welding tasks. TIG can be used for tasks demanding great accuracy, while MMA offers the possibility to weld thick and demanding joints efficiently. The dual-process TIG/MMA machine expands the field of application greatly – from thick to thin, alloyed to unalloyed, indoor to outdoor. It is suitable for running both demanding root passes and filler passes requiring high productivity.

Fast and user-friendly operation provides a machine that guarantees high productivity in welding. It is an ideal solution for installation, repair, and maintenance workshops in a multitude of manufacturing industries as well as for use in educational institutions and by the do-it-yourself welder.

The MinarcTig™ 180 is a single-phase 230-volt welding machine with a load rating that is the highest in its size class. It can be powered from either a mains supply with a long input cable or a generator, making it useful for on-site mounting work, pipe welding, construction, and the hire industry. MMA welding is possible for all standard materials and electrode types.

Features:

- 'Ready to weld' package includes necessary accessories and functions required in day-to-day TIG welding
- Versatile control panel with an easy-to-use one knob interface
- Electrode ignition pulse and anti-freeze function for MMA welding
- Easy-to-grip carrying handle and a place for the reeled welding cable
- Compatibility for all of Kemppi's optional remote controllers: the hand-held R 10, foot-operated R11F, or torch remote controllers RTC 10 and RTC 20.

Technical Data

		MinarcTig™ 180
Mains voltage		230 Vac +/- 15 % 50/60 Hz
Rated power	TIG	max 6.7 kVA (180 A/17.2 V)
	MMA	max 7.0 kVA (140 A/25.6 V)
Connection cable/fuse		3 x 2.5 mm² - 3 m 16 A delayed
Load capacity 40 °C	35% ED TIG	180 A/17.2 V
	100% ED TIG	120 A/14.8 V
	35% ED MMA	140 A/25.6 V
	100% ED MMA	100 A/24 V
Welding range	TIG	5 A / 10.2 V - 180 A / 17.2 V
	MMA	10 A / 20.4 V - 140 A / 25.6 V
Open circuit voltage		95 V
Power ratio at max current	TIG	0.62
	MMA	0.63
Efficiency at max current	TIG	75%
	MMA	81%
Stick electrodes	MMA	ø 1.5 - 3.25 mm
External dimensions	L x W x H	400 x 180 x 340 mm
Weight		7.8 kg (8.4 kg with supply cable)

Order Information

MinarcTig™ 180	
- incl. powersource, TTC 160 4m, earth cable 16mm² 5m	MINARC180TTC4
- incl. powersource, TTC 160 8m, earth cable 16mm² 5m	MINARC180TTC8
MinarcTig™ 180 VRD AU	
- incl. power source, TTC 160 4m, earth cable 16mm² 5m	MINARC180TTC4AU
- incl. power source, TTC 160 8m, earth cable 16mm² 5m	MINARC180TTC8AU
Cables	
Welding cable, 16 mm² 5 m	6184103
Earth cable, 16 mm² 5 m	6184113
Optional torches	
TTC 160, 4 m	627016004
TTC 160, 8 m	627016008
TTC 220, 4 m	627022004
TTC 220, 8 m	627022008
Gas flow regulation Ar/Watch	6265136
Accessories	
Remote controls for TIG torches	
RTC 10	6185477
RTC 20	6185478
Remote controls	
R 10	6185409
R11F	6185407

MasterTig

Benefits

- Portability
- Quality welds
- Versatility

Main applications

- Installation and Outfitting
- Repair and Maintenance
- Thin sheet metal fabrication workshops
- Chemical and Process industry

MasterTig 2200

The MasterTig 2200 is built for industrial TIG welding. The power source is based on the high-quality, proven design of our MMA 'Master' machines. As the dynamic welding properties are adjustable, it is possible to weld with a wide range of electrode types. As standard, the machine has an adjustable gas pre- and post-flow time, downslope, HF/ contact ignition setting, and 2/4 sequence selection.

The characteristics of the machines can also be tailored with internal settings. These settings include selection of a 'minilog' function, bypass for tack welding automatics, setting of the downslope time of the current, and adjustment of the post-gas timer. These tailored functions make the MasterTig 2200 a true precision tool for improving productivity and weld quality. Special attention has been paid to making the control functions as clear as possible.

The opportunities provided by modern electronics have been combined to extend the ability of the welder, in order to produce high-quality welds in the widest range of circumstances. The machine has been programmed to deliver a constant and stable welding current. With straight DC, use of the pulse function, or the Minilog function combined with pulsed TIG, you can attack the most precise welding tasks with confidence.

Technical Data

MasterTig		2200
Mains voltage		3~380 V -10%…415 V +6%
Rated power	25% ED	220 A / 8.4 kVA
	60% ED	145 A / 5.5 kVA
	100% ED	110 A / 3.5 kVA
Connection cable, fuse delayed		4 x 1.5S - 5m / 10 A
Welding range	MMA	15 A / 20.5V…220 A / 28.8 V
	TIG	5 A / 10V…220 A /18.8 V
Max. welding voltage		35 V / 220 A
Stick electrodes	MMA	ø 1.5…4.0 (5.0) mm
External dimensions	L x W x H	472 x 152 x 385 mm
Weight		16.5 kg

Order Information

Power sources	
Mastertig 2200	613023101
Mastertig 2200S	613023201
Mastertig 2200 Minilog	613023001
Remote control unit	
C 110C	6185410
C 100D	6185413
C 100F foot pedal	6185405
Torches	
Kemppi TTK , page 47	
Extension cables	
for remote control unit, 10 m	6185451
for remote control unit, 25 m	6185452
for remote control unit, 50 m	6185453
for remote control unit C 100F, 10 m	6185310
Transport units	
T110	6185251
T120	6185252

KEMPPI PRO EVOLUTION IN TIG WELDING

Benefits

- Flexibility
  - Panel options
- Easy to move
- Safety
  - No mains voltage in TIG unit
- Productivity, quality
  - Quick pulse

Main applications:

- Repair and Maintenance
- Thin sheet metal fabrication workshops
- Chemical process industry
- Shipbuilding and offshore

Kemppi Pro Evolution HF ignition unit Protig 410

Protig 410 HF ignition unit ensures excellent and stable arc ignition in TIG welding. Basic or special functions can be chosen from the function panels. This includes the storing of welding parameters. Protig 410 is attached to the top of the power source, and can be transported to the workplace in its standard frame.

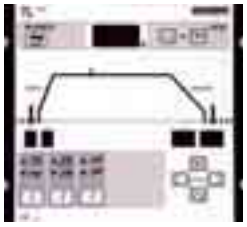
Technical Data

ProTig 410

Operating voltage		50 V DC
Load capacity 40 °C	60% ED	400 A
	100% ED	310 A
Dimensions	L x W x H	615 x 260 x 400 mm
Weight		17 kg

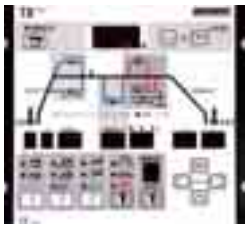
Technical data for power source, see page 30

Operation panels for Protig



TL operation panel

- Control and display of welding parameters
- High frequency/contact ignition
- MMA/TIG welding selector
- Recall of last welded parameters



TX operation panel

- Control and display of welding parameters
- Continuous/spot/pulse welding selector
- Minilog control automatics /2-/4-tact latching function
- Preprogramming and storing of welding parameters
- Learning function

Order Information

Power sources	Kemppi PRO 3200 Evolution	6131320
	Kemppi PRO 4200 Evolution	6131420
	Kemppi PRO 5200 Evolution	6131520
TIG-ignition unit	Protig 410	6271262
Operation panels TIG-welding		
	TL-operation panel	6271265
	TX-operation panel	6271266
Remote control units	R 10 (1-knob)	6185409
	R 10F, foot pedal	6185406
	R 10F, extension cable 10m	6185482
Torches	TTK-TIG torches on page 47	
Water cooling units	Procool 10	6262012
	Procool 30	6262016

Transport units	P 30 W	6185262
	P40	6185264
	P40L	6185264L
Intermediate cables	50-1-G	6271906
	50-1-W	6271907
	50-10-GH	6271913
	50-10-WH	6271914
Cables	Earth and welding cables subject to an enquiry	

MasterTig MLS™

Benefits

- Portability
- Productivity and Quality
  - Quick pulse for minimum distortions and maximum welding speed
- Durability
- Flexibility
  - Panel options
- Power generator compatible

Main applications

- Installation and Outfitting
- Repair and Maintenance
- Thin sheet metal fabrication workshops
- Chemical and Process industry
- Power plant

Welding versatility for professionals – Mastertig MLS™ 2000, 3000, 3003, 4000 and 4003

The Mastertig MLS™ 2000, 3000 and 4000 offer outstanding TIG performance in the most demanding welding environments. Super-efficient and compact, the Mastertig MLS™ is designed for professional welders who expect the most from their welding equipment. The Mastertig MLS™ series builds on the success of Master MLS™ MMA welding machines. That means you benefit from Kemppi's strong track record in innovative welding technology. Machine range is combined with four innovative Kemppi MLS™ operation panels. All operation panels are in front of the machine and digital display makes it very easy to follow the adjusted parameters.

Reliability with outstanding TIG arc performance

The ICS™ (Isolated Cooling System) prevents dust and small metal particles from penetrating the machine's interior. The cooling air flows from the back of the machine forwards, towards the point being welded – this minimizes the intake of particle content. Optional low voltage OCV with Voltage Reduction Device available.

- Air-cooled: 200 (1ph), 300 and 400 A
- Liquid-cooled: 300 and 400 A

Cooling units MasterCool 10, 12

When using water-cooled TIG torches, the Mastertig MLS™ power sources can be supplemented with a Mastercool water unit.

The cooling liquid unit is connected below the power source. You can control the water cooling unit's functions from the power source panel.

Thanks to its simple structure, the unit is reliable and it requires little maintenance.

Technical Data

MasterTig MLS™		2000	3000	4000	3003	4003
Mains voltage	3~ 50/60 Hz	1~230 V -10%…+10%	400 V -15%…+20%	400 V -15%…+20%	230 V -15%…+10%	230 V -15%…+10%
Conn. cable/fuse delayed		3 x 2.5S - 3.3m / 16A	4 x 1.5S - 5m / 10A	4 x 2.5S - 5m / 16A	4 x 2.5S - 5m / 20A	4 x 6S - 5m / 32A
Load capacity 40 °C	30% ED TIG	200 A	300 A	400 A	300 A	400 A
	60% ED TIG	150 A	230 A	320 A	230 A	320 A
	100% ED TIG	130 A	200 A	270 A	200 A	270 A
Welding current	TIG	5…200 A	5…300 A	5…400 A	5…300 A	5…400 A
Stick electrodes	MMA	ø 1.5…4.0 mm	ø 1.5…5.0 mm	ø 1.5…6.0 mm	1.5…5.0	1.5…6.0
External dimensions	L x W x H	410 x 180 x 390 mm	500 x 180 x 390 mm	500 x 180 x 390 mm	500 x 180 x 390 mm	500 x 180 x 390 mm
Weight		15 kg	22 kg	23 kg	22 kg	23 kg

Operation panels

- Indication for power connection, overheating and supply voltage
- Digital display
- Local/Remote/Pedal/Torch control, HF/Contact ignition, 2/4T, MMA/TIG, Gas test
- Adjustments for Pre-/Post-gas,Up-slope/Down-slope, limits for pedal control, Arc force and Hot Start for MMA

Cooling units		MasterCool 10	MasterCool 12
Connection voltage	50/60 Hz	400 V -15%…+20%	230 V -15%…+10%
Connection capacity	100% ED	250 W	250 W
Dimensions	L x W x H	500 x 180 x 260 mm	500 x180 x 260 mm
Weight		10 kg	10 kg

MTL

- offers basic MMA and TIG welding features

MTX - Pulse-TIG and 4T LOG

- 4T LOG function with Search Arc for start and Tail Arc to prevent welding faults
- Synergic Pulse TIG - synergic control for Pulse-TIG
- Long Pulse/Quick Pulse - individual setting for pulse current, pulse ratio, frequency and the base current level
- Spot welding

MTM - MINILOG and memory

- Functions as in MTX (except 4T LOG)
- A memory block for storing adjusted values.
- MINILOG to control the weld pool from the torch switch by periodically lowering the welding current below the actual level needed for welding.

MTZ like MTX but with MINILOG

- MTZ operation panel includes Minilog-function, otherwise it is similar to MTX panel
- Spot Welding
- Pulse-TIG: Long Pulse, Quick Pulse and Synergic Pulse
- MINILOG

Order Information

Power sources	Mastertig 2000 MLS™	6112200
	Mastertig 3000 MLS™	6114300
	Mastertig 4000 MLS™	6114400
	Mastertig 3003 MLS™	6112300
	Mastertig 4003 MLS™	6112400
Cooling units	Mastercool 10	6122350
	Mastercool 12	6122360
Operation panels	MTL	6116000
	MTX	6116005
	MTM	6116010
	MTZ	6116015
Torches	Kemppi TTC, page 47	

Transport units	T 100	6185250
	T130	6185222
	T200	6185258
Remote control units	R 10, 10 m	618540901
	R 11F foot pedal	6185407
	R 11T, wireless	6185442
	R 10, 5 m	6185409
Adapters	for TTK-torches, gas-cooled	3148720
	for TTK-torches, water-cooled	3148720 + 3148710
Cables	Remote control cable,10 m (R 10)	6185481

Welding and earth cables subject to an enquiry

MasterTig MLS™ 2300 ACDC

Benefits

- Flexibility
  - Panel options
- Easy to move, light to carry
- Welds all materials
- Power generator compatible
- User personalization
- Productivity and Quality
  - MIX TIG special current mode - thin to thick joining made easy

Main applications

- Installations and Outfitting
- Repair and Maintenance
- Chemical and Process industry
- Shipbuilding and Offshore

MasterTig MLS™ - More power for aluminium welding

More power from a 1 phase supply - This digitally controlled power source incorporates PFC techniques which enable an increase in the output power in comparison with the supply current. With a 16 A fuse the machine gives an amazing 230 A welding current at 40 % duty cycle and in continuous use of 100 %, the current is 170 A. You can even weld heavy, 5 mm thick aluminium sheet with this 1 phase machine, where normally 3 phase machine would be needed.

MasterTig MLS™ 2300 ACDC is powerful, but very small and light. Weighing only 15 kg, the ACDC MLS™ is one of the best power and weight ratios available. Modern design techniques and materials are used in structure, electronics and electro mechanics, delivering a stylish and refined package.

The function control panels follow the full logic principles of DC MLS™ machines, giving unprecedented user opportunities and operable flexibility. The two new ACDC panels (ACS and ACX) have all the features that a TIG welder could possibly need, as well as enabling user customization.

Technical Data

MasterTig MLS™ 2300 ACDC		
Mains voltage	1~ 50/60 Hz	230 V -15%...+15%
Conn. cable, fuse delayed		3 x 2.5 mm² -S-3.3 m / 16 A
Load capacity 40 °C	40 % TIG	5.7 kVA / 230 A
	60 % TIG	4.8 kVA / 200 A
	100 % TIG	3.9 kVA / 170 A
	40 % MMA	6.0 kVA / 180 A
	60 % MMA	4.8 kVA / 150 A
	100 % MMA	3.7 kVA / 120 A
Welding range	TIG	3 A / 10 V...230 A / 19,2 V
	MMA	10 A / 20.5 V ...180 A / 27.2 V
Max. welding voltage		32 V / 180 A (MMA)
Open circuit voltage		58 V DC
Power ratio at max. current		0.99
Stick electrodes	MMA	ø 1.5...4.0 mm
External dimensions	L x W x H	430 x 180 x 390 mm
Weight		15 kg

Cooling unit		Mastercool 20
Connection voltage		230 V -15 %...+15 %
Connection capacity	100% ED	50 W
Cooling power		1.0 kW
Maximum pressure		4,0 bar
Recom. cooling liquid		20 % - 40 % ethanol/water
Tank volume		3 l
External dimensions	L x W x H	500 x 180 x 260 mm
Weight		8 kg

Panels for Mastertig MLS™ 2300 ACDC

ACS panel functions:

- Currents MMA: AC, DC-, DC+ and TIG: AC, MIX, DC-, DC+
- Pregas and Post gas timer
- Hot Start current, current upslope and down slope time
- Current and voltage display, other welding parameters display
- QUICK SETUP
- 2T and 4T (latch function)
- Spark and contact ignition (TIG)
- Choosing remote control and setting the range of adjustment: LO/HI
- Filling function for water-cooled torch (WATER FILL)
- Test function for gas (GAS TEST)

ACX panel functions:

ACX has all ACS functions as standard plus these

- 4T-LOG and MINILOG switch functions
- Start, Minilog, End current
- Spot timer
- Long pulse
- Synergic quick pulse
- "MEMORY" 10 channel memory function

Order Information

Power source		
	Mastertig MLS™ 2300 ACDC	6162300
	Mastertig MLS™ 2300 ACDC VRD AU	6162300AU
Panels	ACS	6162805
	ACX	6162804
Welding cable	16 mm² 5 m	6184103
	25 mm² 5 m	6184201
	25 mm² 10 m	6184202
	35 mm² 5 m	6184301
Earth cable	16 mm² 5 m	6184113
	25 mm² 5 m	6184211
	25 mm² 10 m	6184212
	35 mm² 5 m	6184311
Gas flow meter	AR/clock	6265136
Cooling unit	Mastercool 20	6162900

Torches	TTC 160, 4 m	627016004
	TTC 160, 8 m	627016008
	TTC 160, 16 m	627016016
	TTC 220, 4 m	627022004
	TTC 220, 8 m	627022008
	TTC 220, 16 m	627022016
	TTC 200W, 4 m	627020504
	TTC 200W, 8 m	627020508
	TTC 200W, 16 m	627020516
	TTC 250W, 4 m	627025504
	TTC 250W, 8 m	627025508
	TTC 250W, 16 m	627025516
Remote control	RTC 10	6185477
	RTC 20	6185478
	R 10	6185409
	R11F	6185407
Transport unit	T130	6185222
	T110	6185251

MasterTig AC/DC

Benefits

- Flexibility
  - Panel options
- High productivity due to outstanding AC TIG characteristics and reliable ignition
- Improved quality and welding speed with electronic AC balance control
- Low power consumption
- Welds all materials

Main applications

- Installations and Outfitting
- Repair and Maintenance
- Chemical and Process industry
- Shipbuilding and Offshore

Welding Style, Power & Performance

The Mastertig AC/DC machine range features compact TIG/MMA inverters for AC/DC and DC welding. Proven and reliable electronic designs produce good arc ignition qualities and a stable welding character. Available with a choice of user interfaces, Mastertig AC/DC offers an unrivalled level of process control through clear functions and a large digital display. 'Code-Lock' feature comes as standard providing Mastertig AC/DC customers added security.

Mastertig AC/DC range includes air-cooled 250A and liquid-cooled 250A and 350A (250A machines are also multi-voltage 230/400/460V 3ph) machines. Mastertig AC/DC machines feature high duty cycles and excellent mobility providing the power to get the job done. All models include electronic polarity selection.

Kemppi MLS™ (Multi Logic System) technology is designed to provide choice and control. With three fascia control panel options, quick, accurate and easy parameter adjustments are possible throughout the welding process, delivering a completely new level of customer choice and productivity.

Process control with three optional operation panels

- Clever adjustments with display
- Sophisticated Automatic Balance
- Improved weld quality due to Minilog and Pulse
- Programmable

AC/DC PANEL

- Provides basic TIG and MMA welding functions and adjustments
- Balance
- Broken-arc welding

AC/DC MINILOG

- Basic functions for TIG and MMA welding
- Balance

AC/DC PULSE

- Basic functions
- Balance
- Minilog
- Pulse TIG

Technical Data

MasterTig AC/DC		2500/2500W	3500W
Mains voltage	1~50/60 Hz	-	-
	3~50/60 Hz	230 V / 400V / 460V ±10%	400 ±10%
Fuse, delayed	230V	20 A	-
	400V	16 A (460 V…16 A)	20 A
Load capacity 40 °C	TIG max % ED	250 A (70%)	350 A (60%)
	TIG 100% ED	220 A	280 A
Welding range	TIG DC	3…250 A	3…350 A
	AC	10…250 A	10…350 A
	MMA	10…250 A	10…350 A
External dimensions	L x W x H	690 x 260 x 550 mm (2500), 830 (2500W)	690 x 260 x 870 mm
Weight		39 kg (2500), 65 kg (2500W)	74 kg

Order Information

Power sources	
Mastertig AC/DC 2500	6162500
Mastertig AC/DC 2500W	6162505
Mastertig AC/DC 3500W	6163505
Operation panels	
AC/DC panel	6162801
AC/DC minilog panel	6162802
AC/DC pulse panel	6162803
Torches	Kemppi TTK, page 47
Cables	Welding and earth cables subject to an enquiry.

Transport units	
T120	6185252
T 22	6185256
Gun holder	
GH 20	6256020
Remote control units	
C 100C, 5 m	6185410
C 100D, 5 m	6185413
C 100AC, 10 m	6185417
C 100F, 5 m	6185405


KEMPPIBETA
90A
KEMPPI
The Joy of Welding
TTK 220

KEMPPI TIG-TORCHES

Technical Data and Order Information

		TTC 130	TTC 130F	TTC 160	TTC 160S	TTC 220	TTC 200W	TTC 250W	TTC 250WS
Loading capacity	DC-40% ED	130A	130A	160A	160A	220A	300 A	350 A	250 A
	100% ED	-	-	-	-	-	200 A	250 A	200 A
Electrode sizes ø mm	ø	1.0…2.4	1.0…2.4	1.0…2.4	1.0…2.4	1.0…3.2	1.0…2.4	1.0…4.0	1.0…4.0
Connection to TIG-unit	gas / current	R¼	R¼	R¼	R¼	R¼	R¼	R¼	R¼
	water	-	-	-	-	-	snap conn.	snap conn.	snap conn.
Length / Order number	4 m	627013004	627013104	627016004	627016204	627022004	627020504	627025504	627025704
	8 m	627013008	627013108	627016008	627016208	627022008	627020508	627025508	627025708
	16 m	627013016	627013116	627016016	627016216	627022016	627020516	627025516	627025716

RTC 10 (6185477) and RTC 20 (6185478) remote controls units as an accessory option. See page 75.

Technical Data and Order Information

		TTK 130	TTK 130F	TTK 160	TTK 160S	TTK 220	TTK 220S	TTK 300W	TTK 350W	TTK 250WS
Load capacity 40 °C	DC-40% ED	130 A	130 A	160 A	160 A	220 A	220 A	300 A	350 A	250 A
	DC-100% ED	-	-	-	-	-	-	200 A	250 A	200 A
	AC 40% ED	100 A	100 A	120 A	110 A	160 A	120 A	250 A	300 A	250 A
	AC 100% ED	-	-	-	-	-	-	140 A	200 A	140 A
Electrode sizes ø mm		1.0…2.4	1.0…2.4	1.0…2.4	1.0…2.4	1.0…3.2	1.0…3.2	1.0…2.4	1.0…4.0	1.0…4.0
Connection to TIG-unit	gas/current	R¼	R¼	R¼	R¼	R¼	R¼	-	-	-
	water/current	-	-	-	-	-	-	R3/8	R3/8	R3/8
	gas	-	-	-	-	-	-	R¼	R¼	R¼
Length / Order Number	4 m	627063004	627063104	627066004	627066204	627072004	627072304	627080504	627085504	627075704
	8 m	627063008	627063108	627066008	627066208	627072008	627072308	627080508	627085508	627075708
	16 m	627063016	627063116	627066016	627066216	627072016	627072316	627080516	627085516	627075716

Scratch-start TIG torches

The Kemppi TIG torch range includes three scratch-start TIG torches with shielding gas valves in the neck:

TTM 15V 4 m (V=Valve)
- Can be used in all MMA-welding machines with a small power connector For example Minarc 150
- Loading capacity: 150 A / 35% DC-
- Order number: 6271432

TTM 15V BC 4 m (BC=Big Connector)
- Equal to TTM 15V but equipped with big power connector
- Can be used in all MMA-welding machines with a big power connector For example Master 2200
- Loading capacity: 150 A / 35% DC-
- Order number: 627143201

TTC 220GV 4 m (GV= Gas Valve)
- The torch is equipped with a big power connector
- Designed to be used with the Master 1600 MLS™, Master 2500 MLS™ and Master 3500 MLS™ machines
- The current is on only when the start switch is pressed
- The current is regulated from potentiometer in the handle
- Loading capacity: 220 A / 40% DC-
- Order number: 627022304


MASTER
KEMPPI

MMA Welding

MMA (manual metal arc) welding

Manual metal arc welding also commonly goes by the name 'stick electrode welding'. In the MMA welding process, various types and diameters of coated electrodes are used. This is the most widely used welding process in the world today, although the proportion of MMA use is decreasing as the use of gas-shielded welding processes grows.

The main benefit of MMA welding is that it does not need any shielding gas; protection for the weld pool comes from the melting electrode cover. This is important for those users who prefer welding outdoors.

Another important benefit is that electrodes can be bought everywhere, also in small packages.

Kemppi's range of MMA welding machines offers inverters of DC constant-current type for all user groups, from 150 A of welding current up to 500 A.

Both Minarc 150 for home/hobby use and 'Master' family and multi-process Pro Evolution power sources for industry are available.

MINARC 150, 151

Benefits

- 'Weld Anywhere'
  - Rugged construction and mobility – works with generators and long supply cables
- Superior arc performance
  - Wide range of electrodes, including cellulosic electrodes
- User-friendly design
  - Easy in finding the correct welding values, due to automatic Hot Start and the arc force setting

Main applications

- Repair and maintenance
- Installation and outfitting
- Hobby use

'Weld Anywhere' tool for MMA and scratch TIG use

The Minarc family offers a lightweight MMA welding machine ideal for use in workshop and on-site welding environments. These machines tolerate large fluctuations in input voltage, making them an excellent solution for field conditions with long cables or supply generators. Designed with portability and outdoor use in mind, Minarc machines have a durable casing, are easy to carry with an ergonomic shoulder strap, and have well-protected control knobs. Protection against overload, excess voltage, humidity, and dust ingress yields excellent reliability. TIG welding is made possible with the scratch-TIG function. The Minarc 150 is available with a VRD function as well – offering lower open-circuit voltage for welding in dangerous environments. The Minarc 151 is designed for on-site use with 110-volt transformers.

The Minarc family's superior arc performance stems from high voltage reserves and automatic arc force control. These guarantee that the arc stays stable in all positions, with any current and even with extra-long cables, of up to 50 m. The 'Automatic Hot Start' function provides perfect ignition in all conditions. The U/I-welding characteristic curve has been reformulated; the application for this anti-sticking function is to manage the risk of the MMA electrode sticking to the base material.

The Minarc range covers 150-amp single-phase machines

- Minarc 150 230 V, 1 ph
- Minarc 151 110 V, 1 ph

The ICS™ feature

The Isolated Cooling System keeps metal particles from penetrating the machine's interior. The cooling air flows from the back of the machine, forward – this minimises the intake of particle content. Shielded knobs and the durable casing make the machine excellent for on-site work.

Technical Data

Minarc		**150**
Mains voltage	1ph	230 V ± 15%
Rated power	35% ED MMA	140 A
	100% ED MMA	100 A
	35% ED TIG	150 A
	100% ED TIG	110 A
Connection cable		3 x 2.5 mm², length 3.3 m
Fuse, delayed		16A
Welding range	MMA	10 A / 20.5 V...140 A / 25.6 V
Plug		Schuko
Open circuit voltage		85V
Stick electrodes		ø 1.5...3.25 mm
External dimensions	L x W x H	320 x 123 x 265 mm
Weight		4 kg

Minarc		**150 VRD EURO**	**151**
Mains voltage	1ph	230 V ± 15%	110 V ± 15%
Rated power	35% ED MMA	140 A	140 A
	100% ED MMA	100 A	100 A
	35% ED TIG	150 A	150 A
	100% ED TIG	110 A	110 A
Connection cable		3 x 2,5 mm², length 3.3 m	3 x 6 mm², length 2 m
Fuse, delayed		16A	32A
Plug		Schuko	-
Welding range	MMA	10 A / 20.5 V...140 A / 25.6 V	10 A / 20.5 V...140 A / 25.6 V
Open circuit voltage		30 V	85 V
Stick electrodes		ø 1.5...3.25 mm	1.5...3.25 mm
External dimensions	L x W x H	320 x 123 x 265 mm	320 x 123 x 265 mm
Weight		4 kg	4.4 kg

Order Information

Minarc 150 (includes: Earth and welding cable 16mm², 3m, 3.3 connection cable with Schuko)	6102150
Minarc 151 (includes: Earth and welding cable 16mm², 3m, 2m connection cable)	6101151
Minarc 150 with VRD, Australia (includes:Earth and welding cable 16mm², 3m, 3.3 connection cable with 15 A AU-Plug)	6102150AU
Minarc 120 with VRD, Australia	6102120AU
Minarc 150 with VRD, Europe (includes: Earth and welding cable 16mm², 3m, 3.3 connection cable with European Schuko)	6102150VRD
Accessories	
Earth cable and clamp	6184015
Welding cable and electrode holder	6184005
Carrying strap	9592162
TTM 15V TIG torch	6271432

MASTER MLS™

Benefits

- Reliability
  - Durable and reliable machine for outdoor conditions - shielded knobs, durable casing, ICS™
- Energy saving
  - High efficiency and fan on demand
- Flexibility
  - Panel options
- Quality welds
  - Excellent Arc Characteristics with all types of MMA electrodes even with long cables
  - Remote control

Main applications

- Installation and Outfitting
- Repair and Maintenance
- Shipbuilding and Offshore
- Chemical and Process industry

Master MLS™ – perfect on-site welding

The Master MLS™ family is a range of efficient MMA welding machines. Lightweight and portable, MLS™ machines are constructed for use on work sites and in extreme conditions. Their small size makes it possible to access even very narrow places.

The Master MLS™ range covers the 160 A (one-phase), 250 A, and 350 A. The Master MLS™ 250 A and 350 A welding machines are available also as 230-volt three-phase models. The basic MLS™ machine can be equipped with an operation panel (MEL or MEX), allowing the operator to adjust the welding characteristics for each type of work.

The ICS™ (Isolated Cooling System) feature prevents dust and small metal particles from penetrating the machine's interior. Cooling air flows from the back of the machine forward – toward the point being welded – and thus minimises the intake of particle content. The shielded knobs and durable casing make these machines excellent for on-site work. 'Master' machines are flexible and meet the demands of on-site jobs requiring TIG welding with contact ignition (lift arc method). Full adjustability makes it possible to fine-tune the arc characteristics for each electrode type, with arc force adjustment and hot start providing greater flexibility. The correct welding values can be selected with ease, thanks to digital displays, user-friendly panels, and advanced electrode type selection. Master MLS™ machines are also generator-compatible.

Operation panels

The MEL panel includes the most common features used in MMA welding. MEX operation panel offers possibility for controlling the welding values based on electrode type selection rather than conventional welding current, arc force and hot start individual settings for each weld case.

MEL operation panel

- Three warning lights (power on, overheating, under or over voltage of supply)
- The remote control or the panel control
- The welding current or alternatively the arc voltage is shown in a clear digital display, which shows both the set values and the values used
- Hot Start and the Arc Force controls
- Welding method MMA / contact TIG

MEX operation panel

- Three warning lights (power on, overheating, under or over voltage of supply)
- Electrode selection
- Digital display
- Memory channels
- Panel control or remote control or TIG torch (RTC 10) control
- Hot Start and the Arc Force controls
- Welding method MMA / Contact TIG / Arc gouging / Broken Arc

Technical Data

Master MLS™		1600	2500	3500
Mains voltage	3~50/60 Hz	1~230V -10%…+10%	400V -15%…+20%	400V -15%…+20%
Connection cable, fuse delayed		3 x 2.5 S - 3.3m / 16 A	4 x 1.5 S - 5m / 10 A	4 x 2.5 S - 5m / 16 A
Load capacity 40 °C	40% ED MMA	160 A (35%)	250 A	350 A
	100% ED MMA	120 A	160 A	220 A
Welding range	MMA	10…160 A	10…250 A	10…350 A
Open circuit voltage		80 V	80 V	80 V
Stick electrodes		ø 1.5…4.0 mm	ø 1.5…5.0 mm	ø 1.5…6.0 mm
External dimensions	L x W x H	410 x 180 x 390 mm	500 x 180 x 390 mm	500 x 180 x 390 mm
Weight		14 kg	20 kg	21 kg

Master MLS™		2503	3503
Mains voltage	3~50/60 Hz	230V -15%…+15%	230V -15%…+15%
Connection cable fuse delayed		4 x 2.5 S - 5m /20 A	4 x 6 S - 5m / 32 A
Load capacity 40 °C	40% ED MMA	250 A	350 A
	100% ED MMA	160 A	220 A
Welding range	MMA	10…250 A	10…350 A
Open circuit voltage		80 V	80 V
Stick electrodes		ø 1.5…5.0 mm	ø 1.5…6.0 mm
External dimensions	L x W x H	500 x 180 x 390 mm	500 x 180 x 390 mm
Weight		20 kg	21 kg

Order Information

Power sources	Master 1600 MLS™	6102160
	Master 2500 MLS™	6104250
	Master 3500 MLS™	6104350
	Master 2503 MLS™	6102250
	Master 3503 MLS™	6102350
Operation panels	MEL	6106000
	MEX	6106010
Scratch-start TIG torches on page 47		

Remote control units	R10, 5m	6185409
	R10, 10m	618540901
	R11T wireless	6185442
	R11F foot pedal	6185407
Remote control cables	10 m for R 10	6185481
	R10, 10m	618540901
Transport units	T100	6185250
	T110	6185251
	T130	6185222

MASTER

Benefits

- Reliability
  - Durable and reliable machine for outdoor conditions
- Energy saving
  - High efficiency
- Quality welds
  - Remote control options

Main applications

- Installation and Outfitting
- Repair and Maintenance
- Shipbuilding and Offshore
- Chemical and Process industry

Master 2200

Master 2200 has been designed to meet today's needs with MMA welding applications requiring direct current. The technology and reliability of the Master machines have been designed to serve their user for a long time. The inverter technology employed in the machines has been perfected to be lasting and reliable. The supply voltage of the Master 2200 is 400 V and is best suited for the manufacturing industry, where portability of the welding set is a serious requirement.

Master 5001

Master 5001 is a 500 Amp inverter CC/CV power source suitable for MMA welding, for carbon arc gouging, for TIG welding with Contact TIG and for MIG / MAG with voltage-sensing wire feeder. Voltage-sensing wire feeder is a feeder that operates on arc voltage. Master 5001 operates on CV mode (Constant Voltage) with voltage-sensing feeder so it is suitable for short arc and spray MIG/MAG. Due to its high current and excellent welding properties as well as its small size and light weight it is very suitable for site welding as well as for repair and production welding. In order to enable easy monitoring of welding current the machine is equipped with visible displays for welding current and welding voltage.

Technical Data

Master		2200	5001
Mains voltage	3~50/60 Hz	380 V -10%…415V +6%	400 V±10%
Connection cable, fuse delayed		4 x 1.5 mm²S / 10A	4 x 6S-5m / 35A
Load capacity 40 °C	25% ED	220 A	-
	60% ED	145 A	500 A (80%)
	100% ED	110 A	440 A
Max. welding voltage		35V / 220A	50V / 500A
Stick electrodes		ø 1.5…4.0 mm	ø 1.5…6.0 mm
External dimensions	L x W x H	472 x 152 x 302 mm	530 x 230 x 520 mm
Weight		12.5 kg	48 kg

Order Information

Power sources	Master 2200	613022101
	Master 5001	6130512
Remote control units	C 100C - 5m	6185410
	C 100D - 5m	6185413
Cables		
Welding and earth cables subject to an enquiry.		
Torches		
Scratch-start TIG torches on page 47		
Extension cable for remote control unit	10 m	6185451
	25 m	6185452
	50 m	6185453
Transport units	T100	6185250
	T110	6185251
	T120 (Master 5001)	6185252

KEMPPI PRO EVOLUTION IN MMA WELDING

Kemppi Pro Evolution is a multi-process welding machine for DC. It welds all MMA electrodes, including cellulosic electrodes. Constant current (CC) characteristics are used in normal MMA welding. The power source keeps the current value stabile, regardless of changes in the arc length.

- Automatic Hot Start - Makes perfect first and re-ignition of electrode
- Automatic arc dynamics - Stable arc throughout the whole current range, minimum amount of spatters and excellent arc welding characteristics
- Generous voltage response - Voltage reserve for cellulosic electrodes, high efficiency and superduplex electrodes etc.
- Anti-freeze - Works when electrode sticks to base material, re-ignition of electrode without damaging electrode head.

Benefits

- Reliability
  - Durable and reliable machine for outdoor conditions
- Energy saving
  - High efficiency
- Quality welds
  - Remote control options

Main applications

- Installation and Outfitting
- Repair and Maintenance
- Shipbuilding and Offshore
- Chemical and Process industry

Kemppi Pro Evolution in MMA welding

- Kemppi Pro Evolution 3200
- Kemppi Pro Evolution 4200
- Kemppi Pro Evolution 5200

Panels for MMA welding

The PL-operation panel for MMA welding

- Control of welding current
- Control of MMA dynamics
- Display of welding parameters

The PX-operation panel for MMA welding

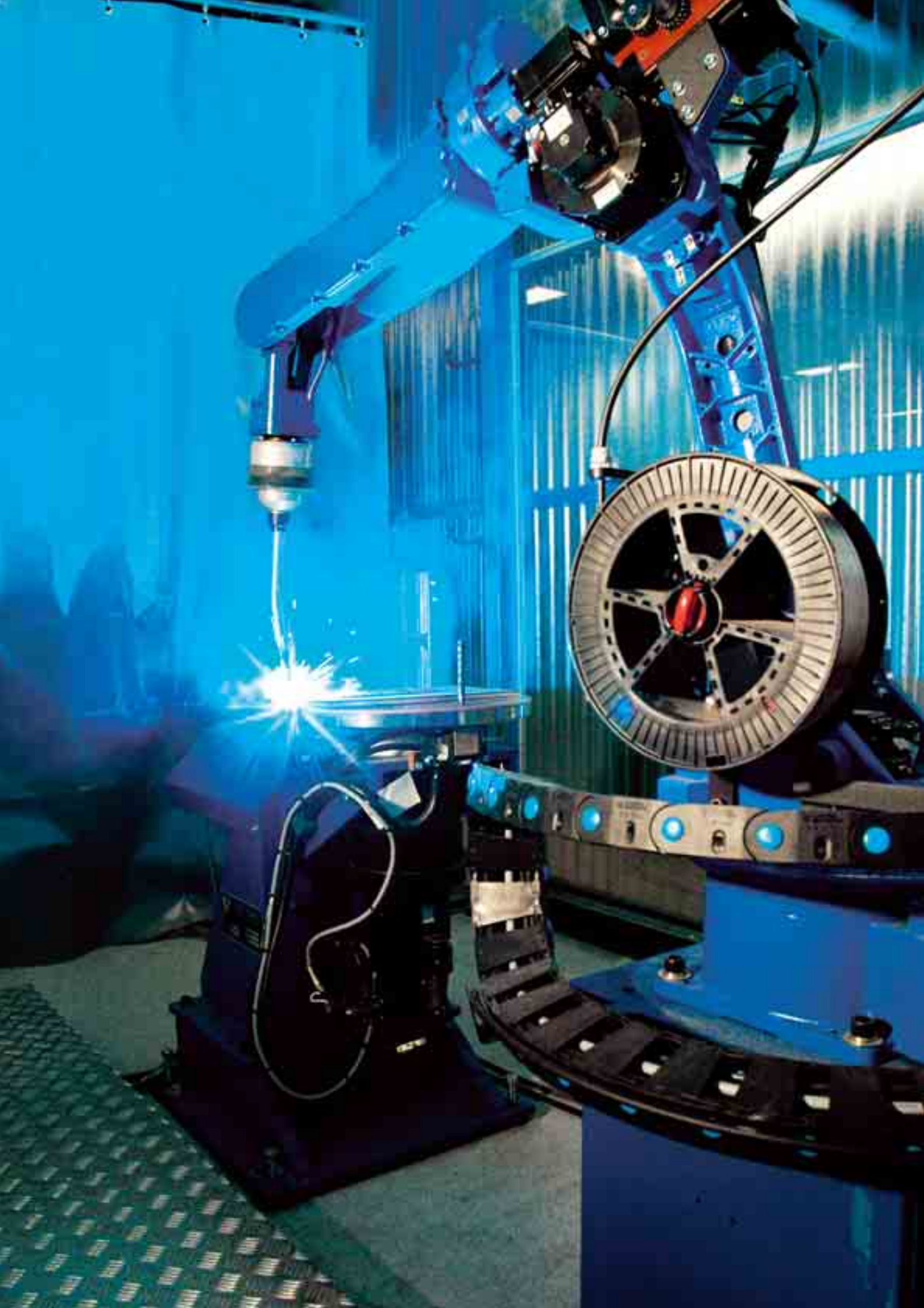
- Control of welding current
- Tack welding/MMA/carbon arc gouging selector
- Adjustment of start pulse/MMA dynamics
- Display of welding parameters

Technical Data

Kemppi Pro Evolution Power sources		3200	4200	5200
Mains voltage	3~50/60 Hz	400 V-15%…+20%	400 V-15%…+20%	400 V-15%…+20%
Connection cable, fuse delayed		4 x 6S-5 m /25 A	4 x 6S-5 m /35 A	4 x 6S-5 m /35 A
Load capacity 40 °C	70% ED	-	420 A / 19.7 kVA	520 A / 26.6 kVA
	100% ED	320 A / 13.3 kVA	400 A / 18.6 kVA	440 A / 20 kVA
Welding range	MMA	10 A…320 A	10 A…420 A	10 A…520 A
Power ratio at maximum current		0.93	0.93	0.93
External dimensions	L x W x H	530 x 230 x 520 mm	530 x 230 x 520 mm	530 x 230 x 520 mm
Weight		37 kg	41 kg	48 kg

Order Information

Power sources	Kemppi Pro Evolution 3200	6131320
	Kemppi Pro Evolution 4200	6131420
	Kemppi Pro Evolution 5200	6131520
Operation panels	PL-operation panel	6185801
	PX-operation panel	6185802
Remote control unit	R 10 (1-knob) - 5m	6185409
Transport unit	T 10	6185231
Cables	PRO remote control extension cable, 10m	6185482
	Earth and welding cables subject to an enquiry.	



SOLUTIONS

FOR WELDING AUTOMATION

Solutions for welding automation

Kemppi offers solutions for welding automation as well as manual welding. For welding automation, Kemppi makes available a comprehensive range of products, covering the full range of customer goals and applications. Kemppi's robotic products are specially developed for automation demands, even if the core of the system, the power source, is similar to that used for manual welding.

Solution for push-pull and multi-torch application

Up to four torch or two push-pull systems may be connected to the power source. One welding interface (Promig 520R or 540R) may be run push-pull torch, or two separate wire feeding units may be used (Promig 120R). Two welding interfaces can be connected to one power source. These combinations are made possible with the optional synchronisation unit (Prosync 50).

Selection table

Power source and interface			Wire feeder	Operation panels	Features														
DOUBLE PULSE	DIGITAL	PRO EVOLUTION AND PROMIG 540R-MXE	PROMIG 120R	MXE -panel	125	64	Yes	O	Yes	Yes	Yes	Yes	O	440 400 320	50 46 46	Yes	O	4	O
		PRO EVOLUTION AND PROMIG 520R-MXE	PROMIG 120R	MXE -panel	125	64	Yes	O	Yes	Yes	Yes	Yes	O	440 400 320	50 46 46	Yes	O	4	O
PULSE	ANALOG	PRO EVOLUTION AND PROMIG 520R	PROMIG 120R	ML- panel	24	-	Yes	O	No	Yes	Yes	No	No	440 400 320	50 46 46	Yes	O	4	O
NORMAL MIG		PRO EVOLUTION AND PROMIG 520R	PROMIG 120R	MC- panel	No	5	Yes	O	No	Yes	No	No	No	440 400 320	50 46 46	Yes	O	4	O
		KEMPOMIG 4000R/RW	FEED 120R		23	No	No	No	No	Yes	No	No	No	300	40	No	O	1	O
					Synergc curves	Memory channels	Seam searching	Seam tracking	Special functions	Dynamic regulation	Pulse welding	Double pulse welding	Additional curves	Max. current (100%)	Max. voltage	Process Monitoring	Gas sensor	Number of torches	Push-Pull wire feeding

O = Optional, Special functions includes adjustable creep and hot start and crater filling etc.

ANALOGUE PROMIG 520R FOR AUTOMATION

Benefits

ProMig 520R MC panel

- Cost-effective package for basic welding
- Quick selection of welding parameters
- Easy creation of the optimal solution for the application
- Ease of upgrading

ProMig 520R ML panel

- Inox welding
- Ease of managing variable welding processes
- Ease of managing different materials
- Well-controlled welding processes

Main applications

- Basic welding applications
- Heavy-duty steel welding
- Inox welding (ML)

Robot welding system ProMig 520R

The ProMig 520R robotic welding system is a comprehensive welding interface for automated welding. No modifications are required in connecting the interface to the most common types of robot controller, which saves installation time and money. The small overall size and compact construction of the system together offer a very small footprint in any robotic cell design.

The full range of welding characteristics can be selected directly from the robot controller as standard. Any of the Kemppi Pro or Kemppi Pro Evolution fully microprocessor-controlled inverter power sources can be used, for full utilisation of this model's comprehensive range of excellent welding properties.

The ProCool has internal detection of coolant overheating, electrical failure, and water pressure values. If a cooling unit other than the ProCool is used, its internal flow-pressure switch can be connected to the 520R interface unit.

ProMig 520R

The ProMig 520R Interface can handle a maximum of 37 input/output signals, easily meeting the needs of most robotic welding configurations. All functions and adjustments, as well as overall welding operation, are microprocessor-controlled, ensuring accurate wire feed speed and welding programme control in normal, channel-change, synergic, or synergic pulse MIG welding. Manual control of welding parameters and programmes is possible by means of MC or ML operation panels. Touch sensing is a standard feature of the 520R. The output signal from touch sensing may be used to check whether the wire is stuck to the work piece at the end of each weld. Weld current monitoring for through-arc seam tracking is available as an option.

Analogue and digital I/O earthing are fully isolated from each other, eliminating interference-related problems. Welding voltage monitoring is available as an option. The in-built automatic troubleshooting system directs the user to possible fault causes. Intelligent jumper functions allow the user to tailor the interface and the welding system. The system is easy to service and maintain with quickly replaceable main components. Printed circuit boards and components are located to allow easy testing and removal. The ProMig 520R interface has a built-in test mode for interface input/output testing, enabling each I/O channel to be tested either manually or automatically.

ProMig 120R

The four-wheel ball-bearing wire drive mechanism in the ProMig 120R ensures trouble-free and positive wire feeding. The tachometer feedback system in the wire feed motor ensures accurate regulation of wire feed speed. Microprocessor control of wire feed speed uses the amplified tacho feedback signal.

Compatibility

The analogue ProMig 520R may be mounted on all major robot brands. There is available a special version and detailed instructions for ABB, Fanuc, Comau, Kawasaki, Kuka, Motoman, and Reis robots. It can be mounted on other robot brands as well.

MC operation panel

- 5 memory channels
- Dynamic regulation
- In-built seam searching
- 3 different power sources and 2 water coolers, as with all ProMig machines
- Possibility of upgrade to ML

ML operation panel

- Material selection: Fe, SS, Al
- 24 synergic curves
- Pulse welding
- Welding process selection
- Built-in seam searching

Technical Data

Wire feeders		ProMig 120R	ProMig 520R
Supply voltage		50 V DC	50 V DC
Load capacity 40 °C	60% ED	500 A	-
	100% ED	390 A	-
Spool (optional)	max. ø	-	300 mm
Operation principle		4-roll drive	
Wire feed speed m / min		0…18 (25)	
Filler wires	ø	0.6…2.4 mm	
Dimensions	L x W x H	319 x 152 x 167 mm	620 x 230 x 480 mm
Weight		8 kg	20 kg
Push-pull, motor max current		2 A (programmable)	
Maximum Input/Output capacity	digital inputs/outputs		14 / 6
	analog inputs / outputs		2 / 4

Technical data for power source, see page 30

Order Information

Power sources	Kemppi Pro Evolution 3200	6131320
	Kemppi Pro Evolution 4200	6131420
	Kemppi Pro Evolution 5200	6131520
Control unit	ProMig 520R	6231510
Wire feed unit	ProMig 120R	6236320
Cooling units	ProCool 10 (separate)	6262012
	ProCool 30 (tower)	6262016
Operation panels	MC	6263501
	ML	6263502
Synchronizing unit	Prosync 50	6263121

Voltage sensor		4289560
Wire reel hub		4289880
Intermediate cable assembly	5 m	6260421
	10 m	6260425
Feeding rolls		
Metallic ø 1,0 (1 pc)		W002024
Metallic ø 1,2 (1 pc)		W002025
Ball beared plastic ø 1,0 (1 pc)		3137390
Seam searching kit		W002139
Connector kit 520R		W002140

Analogue ProMig 520R MXE for Automation

Benefits

- Excellent aluminium welding
- Spatter-free welding
- Stable and robust arc starts
- On-line process monitoring

Main applications

- Highly demanding welding applications
- Aluminium welding
- Stainless steel welding

The ProMig 520R MXE is an advanced robot interface for aluminium, stainless steel, and mild steel welding. The ProMig 520R MXE is the analogue brother of the ProMig 540R.

The Kemppi Pro Evolution Robotics Range offers excellent welding characteristics and versatility; details of the full Kemppi Pro Evolution range are available separately.

The ProMig 520R MXE is a field bus interface for automated welding and may be used with any Kemppi Pro Evolution product as power source and the standard ProMig 120R feeder. The ProMig 540R includes an MXE operation panel, so it is suitable for MIG / synergic MIG / synergic pulsed MIG / double pulse MIG use. The welding set can be gas- or water-cooled.

The ProMig 520R MXE interface can handle a maximum of 37 I/O signals, easily matching the requirements of most robotic welding configurations. All functions and adjustments, as well as overall welding operation, are microprocessor-controlled, ensuring accurate wire feed speed and welding programme control.

Touch sensing is a standard feature of the 520R MXE. The output signal from touch sensing may be used to determine whether the wire is stuck to the work piece at the end of each weld. Weld current monitoring for through-arc seam tracking is available as an option. Analogue and digital I/O earthing are fully isolated from each other, eliminating problems related to interference. Welding voltage monitoring is available as an option.

The ProMig 520R MXE includes 63 memory channels in which users can store welding parameters and recall those from the robot programme. By using the ProMig 520R MXE, automation users can make full use of advanced welding features and functions of the welding power source such as double pulse welding, creep start, hot start, and crater fill.

Promig 120R

The four-wheel ball-bearing wire drive mechanism in the ProMig 120R ensures trouble-free and positive wire feeding. The tachometer feedback system in the wire feed motor ensures accurate wire feed speed regulation. The microprocessor controls wire feed speed on the basis of the amplified tacho feedback signal.

Compatibility

The ProMig 520R MXE may be mounted on all major robot brands. There are two versions (0 and 24 volts) to meet the demands of the various robot controllers.

MXE operation panel

- Double pulse welding
- Adjustable special functions (e.g., crater filling functions)
- 64 memory channels
- 125 synergic curves
- Up to 4 torches from one power source
- Possibility of welding process monitoring

Technical Data

Wire feeders		ProMig 120R	ProMig 520R MXE
Supply voltage		50 V DC	50 V DC
Load capacity 40 °C	60% ED	500 A	-
	100% ED	390 A	-
Spool (optional)	max. ø	-	300 mm
Operation principle		4-roll drive	
Wire feed speed m / min		0…18 (25)	
Filler wires	ø	0.6…2.4 mm	
Dimensions	L x W x H	319 x 152 x 167 mm	620 x 230 x 480 mm
Weight		8 kg	20 kg
Push-pull, motor max current		2 A (programmable)	
Maximum Input/Output capacity	digital inputs/outputs		16 / 6
	analog inputs / outputs		3 / 4

Technical data for power source, see page 30

Order Information

Power sources	Kemppi Pro Evolution 3200	6131320
	Kemppi Pro Evolution 4200	6131420
	Kemppi Pro Evolution 5200	6131520
Control units	ProMig 520R MXE (0-active)	6231510MXFA
	ProMig 520R MXE (1-active)	6231510MXKU
Wire feed unit	ProMig 120R	6236320
Cooling units	ProCool 10 (separate)	6262012
	ProCool 30 (tower)	6262016
Synchronizing unit	Prosync 50	6263121

Voltage sensor		4289560
Wire reel hub		4289880
Intermediate cable assembly	5 m	6260421
	10 m	6260425
Feeding rolls		
Metallic ø 1,0 (1 pc)		W002024
Metallic ø 1,2 (1 pc)		W002025
Ball beared plastic ø 1,0 (1 pc)		3137390
Seam searching kit		W002139
Connector kit 520R		W002140

DIGITAL PROMIG 540R FOR AUTOMATION

Benefits

- Excellent aluminium welding
- Spatter-free welding
- Stable and robust arc starts
- On-line process monitoring
- Fewer mechanical components
- Longer MTBF
- Ease of tailoring
- Ease of plug-and-play use

Main applications

- Advanced welding applications
- Aluminium welding
- Stainless steel welding
- MIG brazing

Plug & play with field bus

The field bus is a digital, serial, two-way communication system that serves as the robot's interface with the welding equipment. With this type of interface, complex wiring and associated items are no longer needed.

The Kemppi Pro Evolution Robotics Range offers excellent welding characteristics and versatility; details of the full Kemppi Pro Evolution range are available separately.

The ProMig 540R is a field bus interface for robotic welding that may be used with any Kemppi Pro Evolution unit as power source and the standard ProMig 120R feeder. The ProMig 540R includes an MXE operation panel, making it suitable for MIG / synergic MIG / synergic pulsed MIG welding. The welding set can be gas- or water-cooled. The field bus protocols are supported by incorporating the 'any bus card' into the 540R unit. The user then selects the correct field bus card type for the requirements.

The ProMig 540R includes 63 memory channels in which users can store welding parameters and recall those from the robot programme. With the ProMig 540R, automation users can make full use of advanced welding properties and functions of the welding power source such as double pulse welding, creep start, hot start, and crater fill. The ProMig 540R allows flexible use of different methods for setting parameters.

The user selects the field bus protocol with a separate field bus card. The ProMig 540R has the following field bus options:

- DeviceNet
- PROFIBUS
- Interbus Copper Cable
- Interbus Fibre Optic

Promig 120R

The four-wheel ball-bearing wire drive mechanism in the ProMig 120R ensures trouble-free and positive wire feeding. The tachometer feedback system in the wire feed motor ensures accurate regulation of wire feed speed. The microprocessor controls wire feed speed according to the amplified tacho feedback signal.

Compatibility

Field bus communication makes the ProMig 540R compatible with all robot brands.

MXE operation panel

- Features like those of the ProMig 520R MXE
- Perfect interface for advanced aluminium applications
- Possibility of advanced process monitoring
- Ease of switching field bus communication protocol
- Long-distance wire feeding with sub-feeders

MXE automotive operation panel

- Design specifically for automotive industry applications and materials
- Wide selection of MIG brazing curves
- Digital field bus communication
- Possibility of advanced process monitoring
- Long-distance wire feeding with sub-feeders

Technical Data

Wire feeders		ProMig 120R	ProMig 540R
Supply voltage		50 V DC	50 V DC
Load capacity 40 °C	60% ED	500 A	-
	100% ED	390 A	-
Spool (optional)	max. ø	-	300 mm
Operation principle		4-roll drive	
Wire feed speed m / min		0…18 (25)	
Filler wires	ø	0.6…2.4 mm	
Dimensions	L x W x H	319 x 152 x 167 mm	620 x 230 x 480 mm
Weight		8 kg	20 kg
Push-pull, motor max current		2 A (programmable)	

Technical data for power source, see page 30

Order Information

Power Sources	Kemppi Pro Evolution 3200	6131320
	Kemppi Pro Evolution 4200	6131420
	Kemppi Pro Evolution 5200	6131520
Control units	ProMig 540R (incl. MXE panel)	6231540
	ProMig 540R Automotive	6231540AM
Wire feed unit	ProMig 120R	6236320
Cooling units	ProCool 10 (separate)	6262012
	ProCool 30 (tower)	6262016
Interfaces	Devicenet	9774120DEV
	Profibus	9774120PRF
	Interbus (copper cable)	9774120IBC
	Interbus Fiber Optic	9774120IBO

Cables	between 540R and 120R 5m	6260421
	between 540R and 120R 10m	6260425
Transport units	P 40	6185264
	P 30W	6185262
Feeding rolls		
Metallic ø 1,0 (1 pc)		W002024
Metallic ø 1,2 (1 pc)		W002025
Ball beared plastic ø 1,0 (1 pc)		3137390
Seam searching kit		W002139
Connector kit 540R		W002141

KempoMig for Automation

Benefits

- Modern and economical system
- Ease of control due to synergic programmes
- Ease of maintenance
- Simple interface, easy to plug and play

Main applications

- Sheet metal applications
- Short, rapid welds
- Basic welding applications

The easy, economical plug-and-play solution

The steady growth of robotic welding has created new challenges for welding machine manufacturers, driving the development of new and more economical equipment. Workshops performing sheet metal and mild steel welding find an increasing need for an economical, modern MIG/MAG welding set that can be easily and quickly interfaced with welding robots. Automated welding imposes great technical demands on welding machines; the welding set must respond quickly as welding parameter requirements change, and equipment that provides a choice of parameter functions and greater arc control should widen customer choice during operation.

KempoMig equipment is a simple, modern, and economical solution for robotic welding. It covers robotic MIG/MAG welding applications of up to 400 amps (300 A / 100%). The KempoMig set is easy to control and includes synergic MIG/MAG (1-MIG) programmes for a wide range of materials. It is available in gas- and water-cooled versions, enabling use in heavy-duty applications.

The analogue-type signal level of inputs and outputs is 24 V, and a key benefit of the KempoMig set is that the activity level of inputs (0 V / 24 V active) can be automatically recognised, depending on signal configurations in different robot brands.

The compact wire feeder Feed 120R is equipped with ball-bearing-type feed rollers that contribute to a stable wire feed and good weld quality.

The KempoMig robotic welding set includes:

- Feed 420R interface
- Feed 120R feeder on the robot arm
- KempoMig power source (gas- or water-cooled)
- Interconnection cable between Feed 120R and Feed 420R
- Interconnection cable between KempoMig and Feed 420R

Feed 120R

The four-wheel ball-bearing wire drive mechanism in the Feed 120R ensures trouble-free and positive wire feeding. The tachometer feedback system in the wire feed motor ensures accurate wire feed speed regulation. Microprocessor control adjusts wire feed speed according the tacho feedback signal.

Features

- 23 synergic curves
- Water and gas cooling
- Fast reaction time
- Dynamic regulation
- Good arc performance

Technical Data

Power sources		**KempoMig 4000R**	**KempoMig 4000WR**
Mains voltage		400 V +10%...-15%	400 V +10%...-15%
Mains cable / fuse		4 x 2.5 mm² / 16 A	4 x 2.5 mm² / 16 A
Load capacity 40 °C	50% ED	400 A / 36 V MIG	400 A / 36 V MIG
	100% ED	300 A / 29 V MIG	300 A / 29 V MIG
Voltage range		10 - 40 V	10 - 40 V
Max. welding voltage		40 V / 400 A	40 V / 400 A
Dimensions	L x W x H	640 x 240 x 720 mm	640 x 240 x 720 mm
Weight		46 kg	57 kg

Wire feeders		**Feed 420R Interface**	**Feed 120R feeder**
Supply voltage		30 VAC	Motor voltage 0...30 Vdc, no separate auxiliary voltage
Output capability		-	500 A / 60%
Load capacity 40 C°		MIG 400 A 50%	-
Robotic connection		37 pin	-
Dimensions	L x W x H	570 x 210 x 440 mm	319 x 152 x 167 mm
Weight		15 kg	8 kg

Order Information

KempoMig gas-cooled 400 A set with 5m cable	KMIG4000R5
KempoMig 4000 R	6227400R
Feed 420 R	6236420
Feed 120 R	6236120
Cable between 420R and 120R, 5m	6260421
Cable between KempoMig and 420R	6260182
KempoMig gas-cooled 400 A set with 10m cable	KMIG4000R10
KempoMig 4000 R	6227400R
Feed 420 R	6236420
Feed 120 R	6236120
Cable between 420R and 120R, 10m	6260425
Cable between KempoMig and 420R	6260182
KempoMig water-cooled 400 A set with 5 m cable	KMIG4000WR5
KempoMig 4000 WR (in-built cooling unit)	6227400WR
Feed 420 R	6236420
Feed 120 R	6236120
Cable between 420R and 120R, 5m	6260421
Cable between KempoMig and 420R	6260182

KempoMig water-cooled 400A set with 10m cable	KMIG4000WR10
KempoMig 4000 WR (in-built cooling unit)	6227400WR
Feed 420 R	6236420
Feed 120 R	6236120
Cable between 420R and 120R, 10m	6260425
Cable between KempoMig and 420R	6260182
Accessories	
SYNC 400	6263120
Wire spool hub	4289880
GG 400 gas guard	6237405
Feeding rolls	
Metallic ø 1,0 (1 pc)	W002024
Metallic ø 1,2 (1 pc)	W002025
Ball beared plastic ø 1,0 (1 pc)	3137390
Connector kit 520R	W002140

Monitoring

Benefits

- Simultaneous monitoring of up to 64 manual or automated welding machines
- Accurate on-line information on welding parameters, duty cycle, and production costs
- Alarm and filtering functions that ensure fast reaction in the event of quality deviations

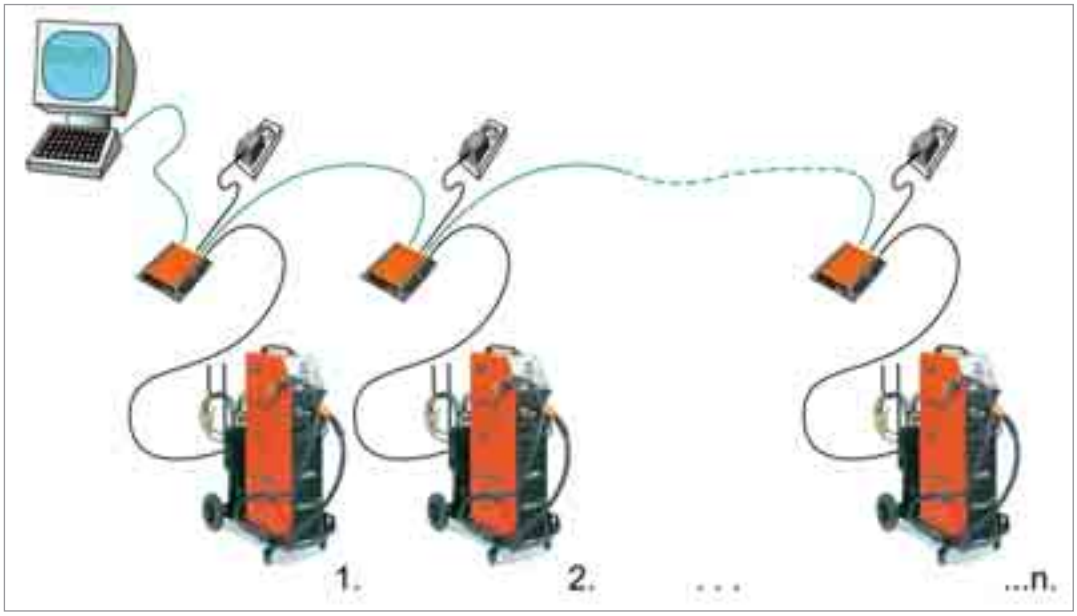
Main applications

- Productivity follow-up
- Deviation tracking and monitoring of quality
- Production cost analyses

Why is monitoring essential?

With ever tightening international competition and the increasing demands of modern production operations, the acquisition and level of knowledge become increasingly important. The cost structure and schedules of welding production do not allow for a comprehensive inspection programme, nor can the quality of welds be 100% tested using non-destructive test methods (NDT) afterward. Consequently, quality must be achieved by doing the right things in the right way and ensuring that this remains the case. In response to these needs, Kemppi offers the PRO-PC interface for monitoring single units and the Pro Weld Data Network for monitoring multiple units (up to 64). The use of monitoring programmes makes it possible to ensure consistent quality, monitor productivity, and create a tool for the further development of production. Monitoring the condition of equipment allows for easy scheduling of preventive maintenance, thus ensuring efficient, uninterrupted production.

Pro Weld Data Network



Kemppi Data Monitoring is a data monitoring system for Kemppi Pro product family

Kemppi Pro Weld Data software together with DLI 20 and PC units establishes an integrated Data Monitoring System. The Interbus-field bus is used for data transmission in Data Monitoring System. Pro DLI 20 collects simultaneously the welding data from data bus of Pro welding machines and send via Interbus-field bus to host computer (PC). The data is monitored with Pro Weld Data Software in PC.

Kemppi Pro Weld Data software to improve your weld quality

Kemppi Pro and Kemppi Pro Evolution user is able to register and analyze easily welding values and weld quality with Pro Weld Data program. This program receives and controls data to serial port during welding through Pro PC Interface. Pro Weld Data shows welding data, draws in real time graphical form: voltage, current, Wire feed speed and Wire feed motor current. Pro Weld Data does not only register the welding parameters but it also calculates welding energy, heat input, wire consumption and the welding costs like gas, filler material, energy, labour and total costs. Pro Weld Data is an excellent tool also for creating WPS (Welding Procedure Specification). Hierarchy in program structure guarantees that individual weld is easy to trace and individual files can be seen clearly in the PC display, so it is simple to control the jobs and welds. Pro Weld Data Sofware gives a new dimension for the quality control of the welding process.

Order Information

Pro Weld Data Network

Pro Weld Data	6265003
Interbus host card desktop (incl. interbus software)	9774110
Interbus host card laptop (incl. interbus software)	9774111
DLI 20 interface (needed for each power source)	6265008

Cabling between PC and DLI 20 depends on application and site. Cable is a special cable for Interbus, code no 9720770 (per meter)

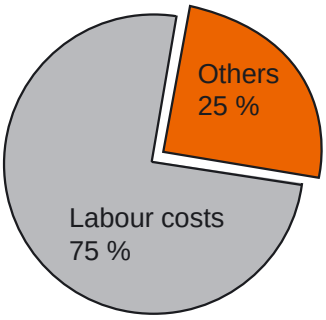
Order Information

Pro PC Interface 1 m(5 m)

PRO-PC Interface	6265006, (6265007)
DLI 10	
RS-cable	
PRO-cable, 1 m (5 m)	

KEMPPI ARC SYSTEM™

Kemppi ARC System™
– Analyse Refine Control



Labour costs are the major part of the welding costs, about 75%. The remaining 25% come from consumables, gas, energy and capital costs of equipment .

When you ask a welder, supervisor or production manager about the company's welding arc time, you often get replies such as 'between 30 and 60 per cent'. These replies are mainly based on a general feeling, as the real arc time is never really measured. A welder's work is seldom mere welding but includes sheet metal work, tack welding, grinding and so on. For this reason, the actual arc time is probably closer to 15 or 20 per cent, depending on the work and the objects welded.

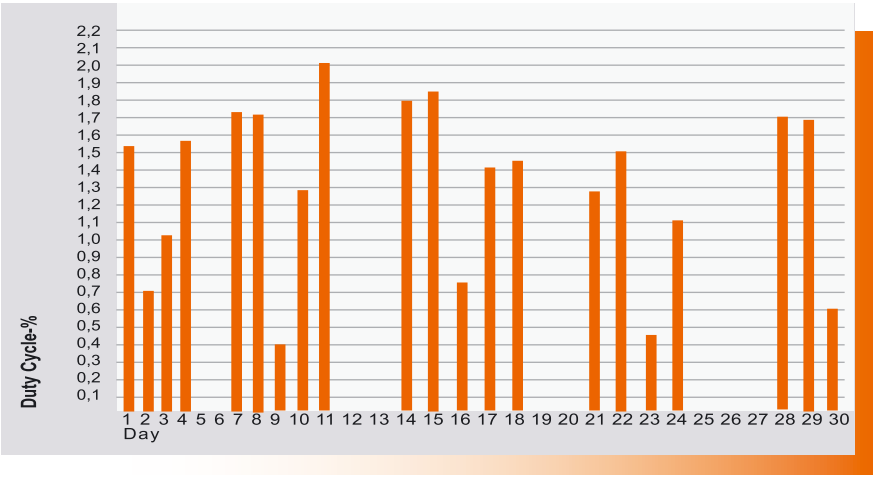
In their efforts to increase welding productivity companies have traditionally concentrated on mechanisation, robotics and automation. However, manual welding still today represents a major part of welding in many companies. Kemppi Arc System™ has been especially designed to help companies increase the productivity and quality of their manual welding.

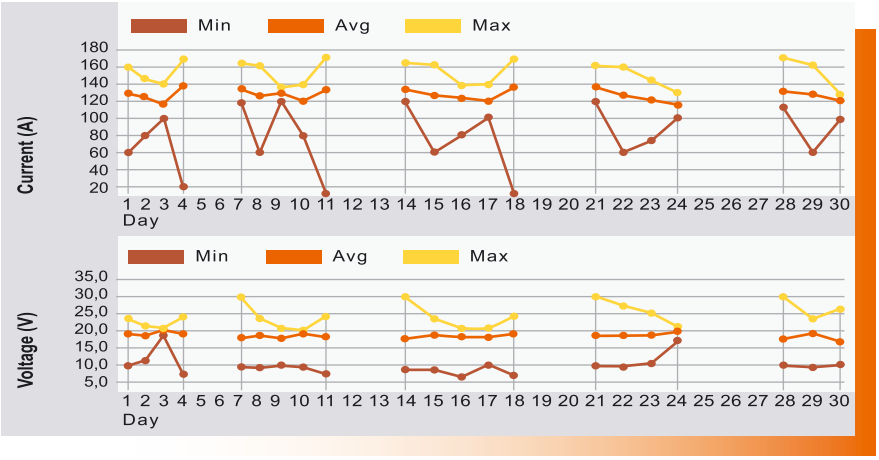
Kemppi Arc System™ is based on wireless communication and software for analysing the retrieved data and creating proposals for action. The system enables, e.g., maintenance actions based on actual service needs instead of elapsed calendar time only, and better targeting of the data collected on the products, welding place, and welder.

There are different complementary technologies for wireless communication. The different technologies ensure that the data from all machines can be collected in the system, even if wireless communication is prevented by closed structures.

Possible technologies for data collection

– separate network
– Ethernet network
– portable data collection





For further information please contact
Kemppi Oy / Customer Service,
e-mail: export@kemppi.com

Welding Helmets

Benefits

- Weld without restraint!
- Full protection against arc radiation and spatter
- Perfect visibility with a flip-front lens
- Auto Darkening lens (models 90 A, 90 X)
- Optimized viewing area
- Lightweight, balanced and comfortable
- Durable, resistant and reliable
- Protects chin, ears and throat
- Interchangeable filter lenses
- Modern design

Alfa Welding Helmet

Kemppi Alfa is a welding helmet for arc welding, carbon arc gouging and plasma cutting, used to protect the welder's eyes and face against arc radiation and welding spatter. In the upper position of the flip-up welding filter lens, protection during de-slagging is possible.

Beta Welding Helmet

Kemppi Beta gives you full protection without compromising your visibility or comfort. Kemppi's Beta welding helmets have been designed to let you focus on the task at hand. To weld with optimum visibility without the need to intermittently remove or adjust your helmet. To make it easier for you to maneuver into tight positions without compromising your safety, and to deliver maximum comfort throughout. Kemppi Beta comes with a spring mounted flip-front lens. Lift the filter lens and keep working. The 100 % clear safety lens underneath is safety assured for grinding.

Kemppi Beta Auto Darkening welding helmets 90 A and 90 X

The Beta 90 A comes with fixed shade and sensitivity (shade 3/ 11). The Beta 90 X comes with shade and sensitivity adjustments. It easily adjusts for MMA, MIG or TIG arcs (shades 4/9-13). This model is the perfect choice for the most demanding welding applications.

Shade number selection for arc welding filter (EN169)

Welding process	Current in amperes																			
	15		20	30		40	60		80	100		125	150		175	200		225	250		275	300		350	400		450	500
MMA				9			10			11						12					13				14		
MIG, steel								10			11					12					13				14		
MIG, aluminium								10			11					12			13				14			15	
TIG, all materials		9			10				11				12			13			14								
MAG (CO2 welding)							10			11			12			13					14					15	
Garbon arc gouging													10			11		12			13			14		15	
Plasma cutting															11				12				13				

Technical Data

	BETA 60	BETA 90	BETA 90 A	BETA 90 X
Welding filter size	60 x 110 mm	90 x 110 mm	90 x 110 mm	90 x 110 mm
Viewing area	60 x 110 mm	90 x 110 mm	46.5 x 95 mm	46.5 x 95 mm
Filter shade range	EN 8 - 14	EN 8 - 14	EN 3 / 11	EN 4 / 9 -13
Sensitivity	-	-	Fixed	Adjustable
Switching time	-	-	0.0005 s	0.00015 s
Delay (dark ->bright)	-	-	0.2 s	0.4 s

Order Information

Welding helmet	Alfa	9873010
	Beta 60	9873040
	Beta 90	9873045
	Beta 90 A	9873046
	Beta 90 X	9873047
Welding filter lens	60 x 110 mm EN 8	9873161
	60 x 110 mm EN 9	9873171
	60 x 110 mm EN 10	9873181
	60 x 110 mm EN 11	9873191
	60 x 110 mm EN 12	9873202
	60 x 110 mm EN 13	9873211
	60 x 110 mm EN 14	9873212
	90 x 110 mm EN 8	9873241
	90 x 110 mm EN 9	9873242
	90 x 110 mm EN 10	9873243
	90 x 110 mm EN 11	9873244
	90 x 110 mm EN 12	9873245
	90 x 110 mm EN 13	9872146
	90 x 110 mm EN 14	9873247

Protection glass	Alfa	60 x 110 mm	9873149
Protection plate	Alfa, polycarb.	60 x 110 mm	9873155
	Beta 90X	51 x 107 x 1.0	9873251
	Beta 60	60 x 110 x 1.0	9873252
	Beta 90, 90A, 90X	90 x 110 x 1.0	9873253
Safety plate	Beta 60, 90, 90A, 90X	90 x 110 x 1.5	9873254
Magnifying glas	Beta,1.0	51 x 108 mm	9873260
	Beta, 1.5	51 x 108 mm	9873261
	Beta, 2.0	51 x 108 mm	9873262
	Beta, 2.5	51 x 108 mm	9873263
Colourful Protection plate	Beta, polycarb. DIN 3	90 x 110 x 1.0	9873255
Auto darkening welding filter	Beta 90 A, DIN 3/11	90 x 110	9873051
	Beta 90 X, DIN 4/9-13	90 x 110	9873052
Viewing lens	Alfa		9873157
Glass retaining spring	Alfa		9873014
Filter retaining spring	Beta 60		3149840
	Beta 90, 90 A, 90 X		3149850
Headband	Alfa		9873012
	Beta		4306370
Sweatband			9873018

Welding Accessories

Earth clamps/Connection				
	Kemppi 200, 200A	25…35 mm, cable shoe connection Ø 6 mm		9871531
	Kemppi 350, 350A	50…70 mm, cable shoe connection Ø 6mm copper braiding between the jaws		9871540
	Kemppi 500, 500A	70…95 mm, cable shoe connection Ø 8 m copper braiding between the jaws		9871541
	Kemppi G- 600, 600A	35…120 mm, cable connection with hexa-conal screw, body of brass		9871560
Electrode holders		A 60/35% ED, Current rating	Weight (g) / Cable size (mm^2)	
	KEMPPI 300	150 / 200 , 300A	321 / 16…25	9871021
	KEMPPI 400	200/250, 400A	421 / 16…25	9871031
	KEMPPI 500	250/300, 500A	500 / 35…50	9871041
	KEMPPI 600	300/400, 600A	855 / 50…70	9871051
	MYKING 200	200 A	285 / 10…25	9871060
	MYKING 450	450 A	485 / 35…70	9871070
	MYKING 600	600 A	535 / 50…70	9871080
	In all electrode holders: body of brass, cable fastening with hexaconal screw			
Gun Holders				
	GH 10			6256010
	GH 20			6256020
	GH 30			6256030
	The holders are primarily meant to be mounted on the welding machines, but also on transport units or on welding tables, to all Kemppi MIG / TIG welding machines			
Cable connectors	Current durability A	Cable mm^2	Order number, male	female
	200	10…25	9771650	9771626
	250	35	9771671	9771628
	315	50	9771670	9771627
	400	70	9771680	9771629
	500	95	-	9771630
	600	95	9771681	-
	BRANCH CONNECTORS	70/90	1 male, 2 female	9771637
Gas guard	GG 400			6237405
	is an accessory to be used with wire feeders to control the gas flow and to guard the gas, gas flow regulation range 5-25 l/min, if there is no sufficient gas pressure GG 400 will stop the welding.			

Remote Control Units


C100D


C100C


C100AC

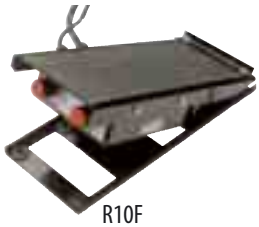

R10


R20


R11T

Model	C100C	C100C	C100AC	C100D	C100D	R10	R10	R20	R20	R11T
Length	5 m	10 m	10 m	5 m	10 m	5 m	10 m	5 m	10 m	
Order number	6185410	6185411	6185417	6185413	6185414	6185409	618540901	6185419	6185419E	6185442
FastMig™ Synergic						X	X	X	X	
WeldForce™						X	X	X	X	
Kemppi Pro Evolution						X	X	X	X	
ProTig						X	X			
Kemppi Pro Evolution MMA						X	X			
MinarcTig™						X	X			
MasterTig MLS™						X	X			X
MasterTig MLS™ 2300 ACDC						X	X			
MasterTig AC/DC	X	X	X	X	X					
Master MLS™						X	X			X
Master	X	X		X	X					


C100F


R10F


R11F


C100T

Model	C100F	R10F	R11F	C100T	
Length	5 m	5 m	5 m		
Order number	6185405	6185406	6185407	6185412	
Kemppi Pro Evolution				X	
ProTig		X			
Kemppi Pro Evolution MMA				X	
MinarcTig™			X		
MasterTig	X				
MasterTig MLS™			X		
MasterTig MLS™ 2300 ACDC			X		
MasterTig AC/DC	X				
Master 5001				X	

Gun/torch compatible remote controls

RMT 10	For PMT guns	6185475
RTC 10	For TTC torches	6185477
RTC 20	For TTC torches	6185478

Transport Units


T 100


T 110


T 120


T 130


T 200

	T 100	T 110	T 120	T 130	T 200
Net weight	20 kg	18 kg	33 kg	23 kg	28 kg
Order number	6185250	6185251	6185252	6185222	6185258
Master MLS™					
1600, 2500, 3500	■	■		■	
MasterTig MLS™					
2000	■	■		■	
3000, 4000	■	■		■	■
3000, 4000 with MasterCool 10	■			■	■
Master, MasterTig					
2200	■	■	■		
Master 5001			■		
MasterTig AC/DC					
2500, 2500W, 3500W			■		
MasterTig MLS™ 2300 ACDC		■		■ (with MasterCool 20)	


P 20


P 40/P 40 L


P 30W


P 500

	P 20	P 40/P 40 L	P 30W	P 500
Net weight	25 kg	23 kg	38,5 kg	7,2 kg
Order number	6185261	6185264 (L)	6185262	6185265
Kemppi Pro Evolution				
3200, 4200, 5200	■			
3200, 4200, 5200 + ProMig / ProTig		■ (P 40)		
3200, 4200, 5200 + ProMig / ProTig +ProCool 30		■ (PSL 55)		
3200, 4200, 5200 + ProMig / ProTig +ProCool 10			■	
ProMig 200, 300, 501				■
KempoWeld / Wire				■
WeldForce™	■	■	■	■
Kempact™ Pulse 3000 + Kempact™ Cool 10	■			
FastMig™ Basic + Synergic				■

T 10

T 22

ST 6

PM 500

PM 501

	T 10	T 22	ST 6	PM 500	PM 501
Net weight	18 kg	25 kg	17 kg	23 kg	25 kg
Order number	6185231	6185256	6185221	6185291	6185292
WeldForce™	■				
MasterTig AC/DC					
2500, 2500W, 3500W		■			
Kemppi Pro Evolution					
3200, 4200, 5200	■				
Master 5001	■				
FastMig™ Basic + Synergic	■*			■	
FastMig™ Basic + Synergic (used with PSL 55 auxiliary unit)					■

* FastMig™ T10 requires mounting kit, order number W002085

T 120

ST 5

T 400

ST 7

P 250

	T 120	ST 5	T 400	ST 7	P 250
Net weight	33 kg	17 kg	40 kg	17 kg	7,2 kg
Order number	6185252	6185219	6185267	6185290	6185268
Kemppi Pro Evolution					
3200, 4200, 5200	■				
3200, 4200, 5200 + Promig / Protig					
KempoWeld / Wire			■		
MinarcMig™ Adaptive 150, 180		■			
WeldForce™			■		
Kempact™ MIG 2520, 2530				■	■
Kempact™ Pulse 3000, 2800 Automotive				■	■
Kempact™ Pulse 3000 + KempactCool 10					■

Arc Under Control

Welding equipment that keeps the arc under control

The purpose of a Kemppi welding machine is to produce a failure-free arc, ensuring high work productivity and high weld quality for the customer. Kemppi welding machines **keep the arc under control** because our machines **continuously analyse the changes in the arc** and compare against the pre-set values. Based on that comparison, the machine automatically controls the arc and adjusts the settings to ensure optimal welding results. A 100% Kemppi guarantees good arc control features.

Reliable welding equipment performance is imperative when considering **productivity**. The machine must work **without failure** and **ease of use** is of primary importance when the operator needs to set the welding parameter values. **Design quality** and strength in these areas help to guarantee the quality of the weld produced and also productivity of welding. Researched and verified by Kemppi's real customer needs, the importance of the arc has become more emphasised. The arc is a visible part of welding, which we can both see and hear. It is possible to distinguish some errors in the arc through listening. Eyesight lets us view the quality of the seam both during and after the welding process.

However, we can't only use our senses in the **development arc control features for welding machines**; instead, this requires, for example an oscilloscope to measure the electrical phenomena in the arc. Is using such measurement devices enough in the development of an arc control system? For Kemppi it is not, and therefore we have invested heavily in research equipment, including in a new **high-speed digital video camera**.

The new high-speed camera enables **detailed monitoring and analysis of the arc** in different situations. At the same time, it provides information on the behaviour of the molten weld pool for different basic materials. An oscilloscope can be used in connection with the video picture to retrieve the electric variables of the process. The research results can be used in development of new products and creation of new innovations for control of welding processes.

Kemppi's product promise **'Arc Under Control'** is based on facts discovered in our research. The knowledge gained is transferred to our products. The **'100% Kemppi'** label is the guarantee of quality, which can be seen in the Kemppi arc. The high-quality welding result provides our customers with enhanced productivity and high product quality. We at Kemppi take our responsibility for producing welding equipment that keeps the 'Arc Under Control'.

Standards & Norms


DET NORSKE VERITAS

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Kemppi Oy is committed to technical excellence that is testified with ISO 9001 quality management system received already in 1990 and ISO 14001 environmental management system since 2001. **All Kemppi welding machines and accessories have CE marking.** CE mark indicates that a product complies with all European directives and essential harmonized standards for health, safety, environment and consumer protection that may apply to that product.

Kemppi welding machines are designed and manufactured by Kemppi Oy in Finland in conformity with following IEC and EN-standards:

EN 60974-1	Safety requirements for arc welding equipment
IEC 60974-1	Part 1 Welding power source
IEC / EN 60974-2	Welding power source - Part 2: Liquid cooling systems
IEC / EN 60974-5	Welding power source - Part 5: Wire feeders
IEC / EN 60974-7	Welding power source - Part 7: Welding torches
IEC / EN 60974-10	Welding power source - Part 10: Electromagnetic Compatibility (EMC) Requirements

Critical electronic components are carefully selected and tested by Kemppi in accordance with Kemppi's own standard requirements. Electronic units are manufactured and tested by Kemppi. After final assembly all machines are tested in Kemppi's production. Kemppi's production department keeps test files available for 10 years.

Kemppi's mission is that Customers rank Kemppi's products and services to be the best on the market.

Operating temperature

Kemppi welding machines have a wide operation temperature from -20˚C to +40˚C, so machines are suitable for even the extreme conditions.

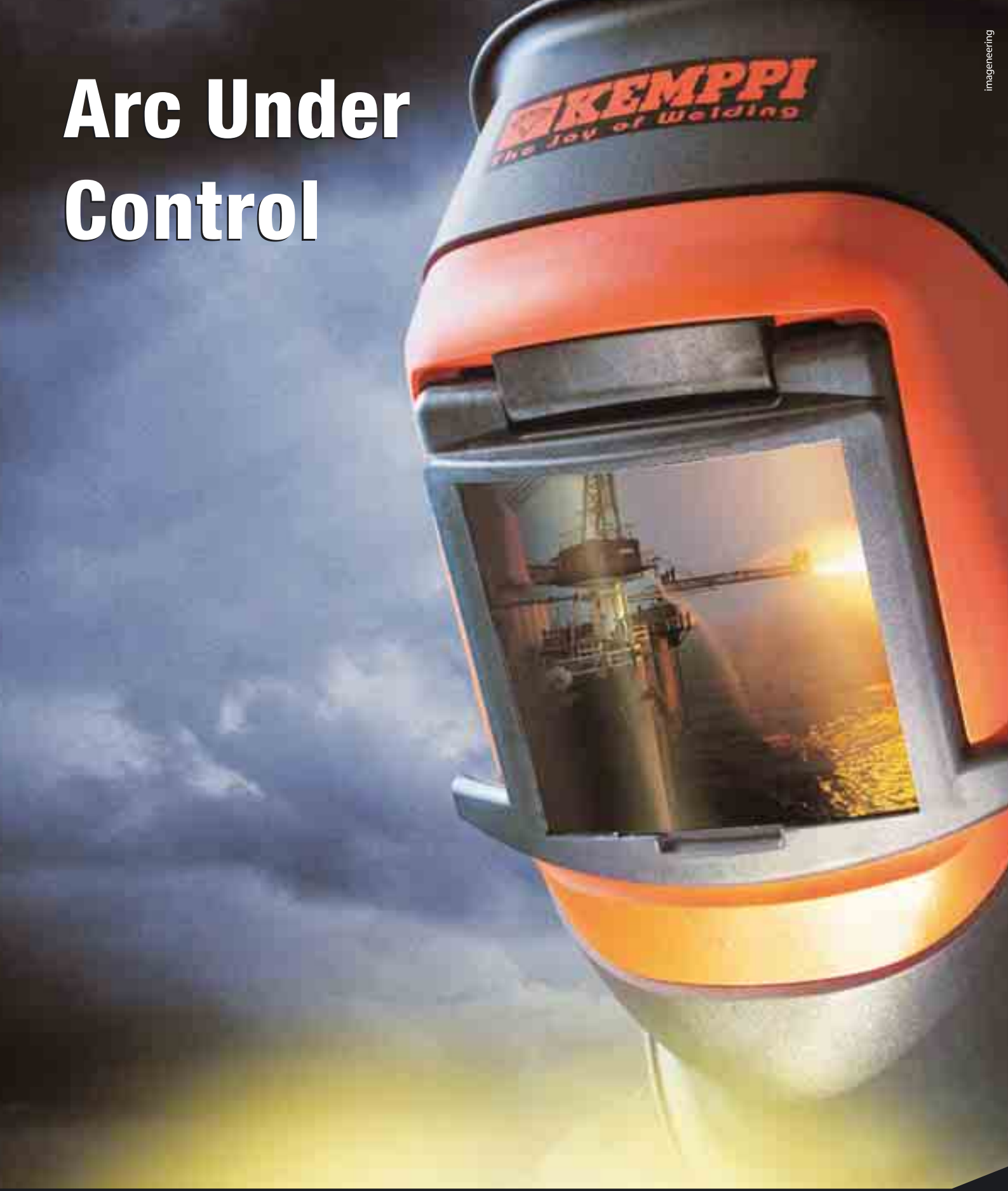
Degree of protection

Degree of protection for Kemppi machines is IP 23C. IP classification, degree of protection is shown as two digits: The first digit 2 indicates guarding protection during operation and handling for solid bodies with a diameter bigger than 12 mm. The second digit 3 indicates equipment is protected against water spray falling at up to 60 degrees from the vertical.

Duty cycle

Rated power of Kemppi welding machines is given as amperage based on the duty cycle percentage. The duty cycle has been tested and its performance characteristics are given for the temperature of +40°C. Therefore the actual duty cycle value can be higher in normal room temperature. Duty cycle 60% means 6 min arc time and 4 min rest time.

Arc Under Control



imagenering

Whatever your mission, trust Kemppi to adapt to the job on hand. Just select from our wide offering and you're set to achieve the highest quality in the shortest possible job time. Kemppi – performance everywhere.

KEMPPI
The Joy of Welding

For more information, please contact your Kemppi dealer or visit **www.kemppi.com**