Kempact RA

Switch on the new standard

Product training

Welding application

- Light to medium fabrication
- Thin sheet fabrication
- Car repair
- Education
- Rental & hire

Kempact RA product family

Kempact RA family includes a choice of eleven models. The number following the Kempact name identifies power source output, power supply and voltage requirements, plus control panel version.

Model number examples:

- 251R = 250 amps, 1 phase 230V, Regular
- 323A = 320 amps, 3ph 415V, Adaptive
- 323R MVU = 320 amps, 3ph Multi-voltage, Regular
- Regular or Adaptive control interface

Models options:

- **181A**
- **251R/251A**
- **253R/253A**
- **323R/323A**
- **253R MVU/253A MVU**
- **323A MVU/323A MVU**

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Kempact RA is feature packed
for efficient, easy and reliable welding

Why buy

- **Modern, energy efficient power source**
- Precise, clean arc ignition
- 35% Duty cycle @ 40ºC
- **WireLine™** service indicator
- Large, clear LCD display
- **GasMate™** chassis design
- Floor level cylinder loading
- **HotSpot™** function
- 2T/4T gun switch latching
- Spot and Cycle arc timer
- **Brights™** cabinet lighting
- Parts storage trays
- 3.5-meter FE welding gun
- **Kemppi 2+** warranty

Energy efficient

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Easy to move

- GasMate™ chassis design makes gas cylinder collection, storage and movement easy around workshop and site.
- The gas cylinder is floor level loaded and secured with a strong fabric webbing system, improving personnel safety.

![KEMPPI - The Joy of Welding]
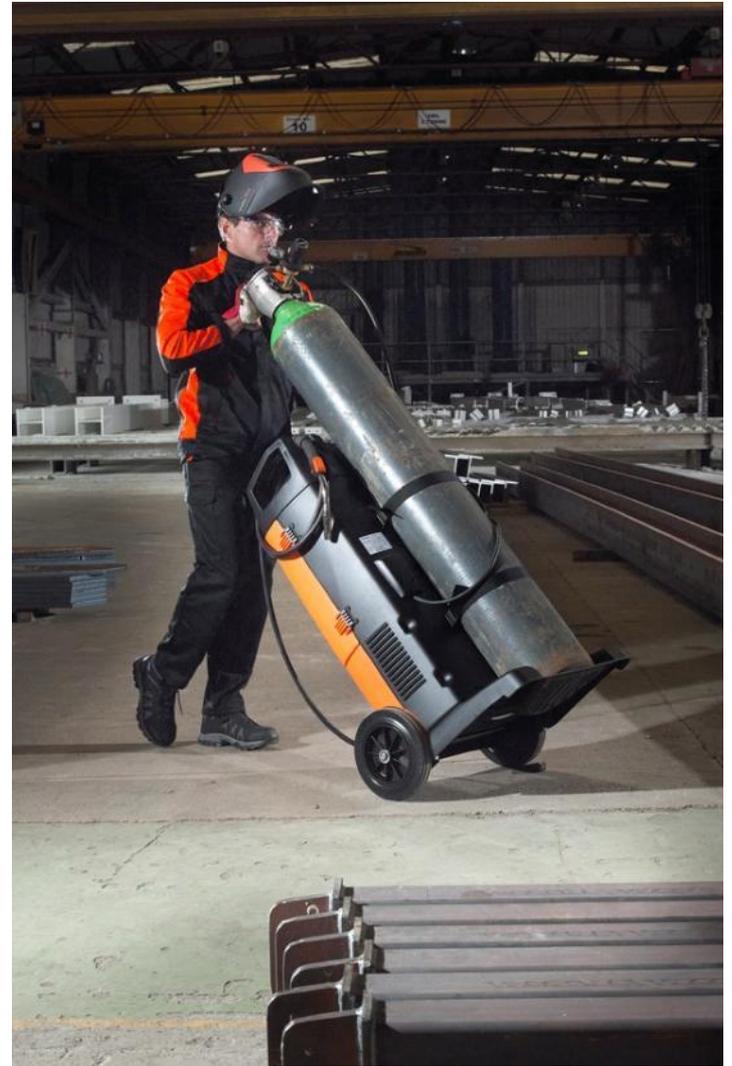
Features and options

- **Strong and durable construction** with pressed steel chassis
- **large and clear LCD control panels** measuring 70 x 190 mm
- **Regular (Manual)** or **Adaptive (Automatic)** control function choice
- **Precise wire drive systems**: 2-roll GT02 for 181/251 models and 4-roll DuraTorque for 253/323 models
- **Inverted gun connection** improves wire feeding and gun life
- **Storage trays** for wire drive roll and gun parts
- **Brights™** wire cabinet lighting, improving visibility in low light conditions
- **WireLine™** service indicator signalling drive system maintenance needs
- **GasMate™** chassis for easy, safe machine movement and cylinder stowage
- **Polarity change terminals** located inside the wire cabinet
- **Particle filter cassette** option for dusty fabrication shops

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Large LCD control panels

- Kempact RA family is equipped with large and clear LCD control panels measuring 70 x 190 mm, set at a convenient work height for easy parameter settings and adjustment

- Choices include **R**egular and **A**daptive control panel interface

Kempact R control panel interface

Kempact A control panel interface

Regular and Adaptive control panels

Regular panel function

- Dynamics control
- Wire feeding speed
- Voltage control
- Spot/Cycle arc timer
- 2T/4T gun switch selection
- Gas selection
- HotSpot™
- Overheating indicator
- WireLine™ service alert

Adaptive panel function

- Dynamics control
- Wire feed speed / Power
- Voltage control / Arc length
- Spot/Cycle arc timer
- 2T/4T gun switch
- Manual/Automatic/HotSpot ™
- Overheating indicator
- WireLine™ service alert
- Post gas symbol
- Material type selector
- Adaptive mode
- Filler wire diameter selection in Adaptive mode
- Crater fill function in Adaptive mode
- Memory channel function
- Material thickness and weld shape display

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Wire feed mechanism

- Wire feed mechanisms are strong and robust, and the wire feed path is positioned in a vertical plain for excellent wire feed quality

- **GT02** 2-roll and **DuraTorque** 4-roll drive system
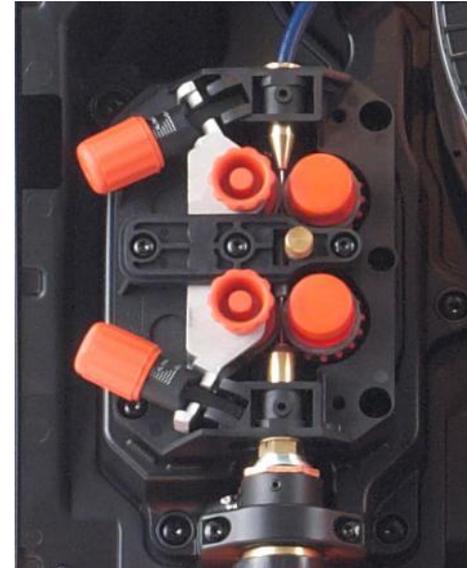
New welding gun

New **FE** welding gun design

- FE 20 3.5–5.0 m
- FE 25 3.5–5.0 m
- FE 27 3.5–5.0 m
- FE 32 3.5–5.0 m
- FE 35 3.5–5.0 m
- FE 42 3.5–5.0 m

HotSpot™ function

- The excellent **HotSpot** function is ideal for vehicle repair and thin sheet fabrication environments, making metal shrinking simple and convenient.

- Simply fit the carbon electrode set to the FE welding gun and activate the **HotSpot** function on the control panel. When the carbon electrode touches the work piece, an electrical circuit is formed and the carbon electrode gently heats the metals surface. There are 4 different heat settings

- **HotSpot** function can also be used to heat and help release corroded nuts and bolts and other metal components

![KEMPPI - The Joy of Welding]
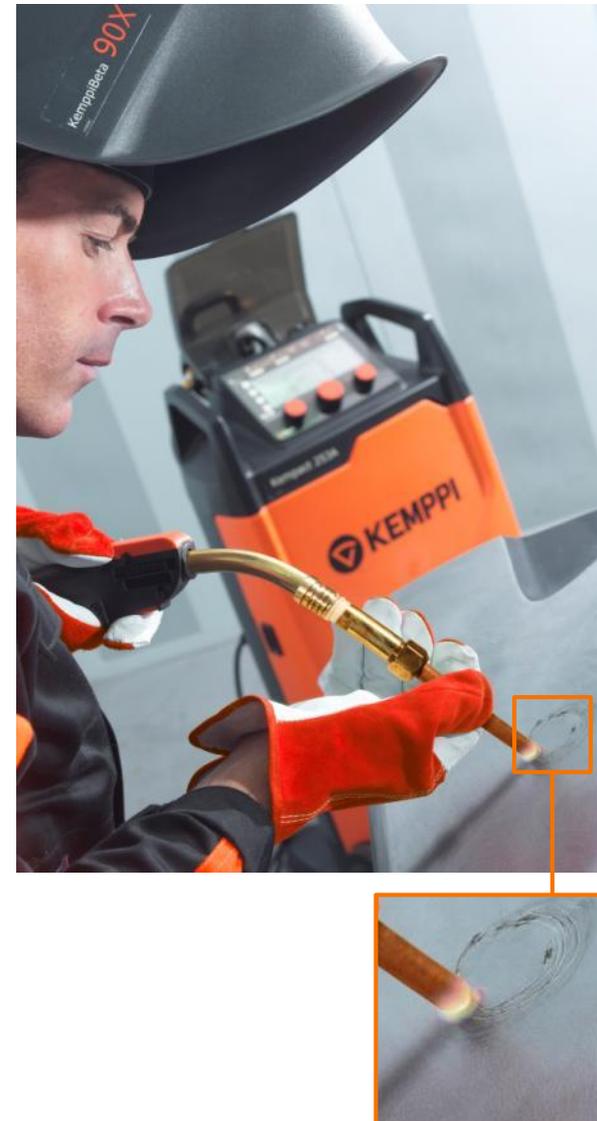
SPOT and CYCLE ARC timer

The **SPOT** and **CYCLE ARC** timer offers two modes of function

- **SPOT** timer regulates the time duration for one spot welding cycle (0.1–9.9 second)
- **CYCLE ARC** timer regulates the machine to a repeating cycle of arc time and pause time (0.1–3 second)

![KEMPPI logo](KEMPPI - The Joy of Welding)

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Brights™ cabinet lightning

- Kempact RA family is equipped with **Brights** LED cabinet lighting, making wire loading easier in the low light conditions found in many welding workshops

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Protection

- Kempact RA is designed to accept a particle filter cassette
- Fitting the particle filter cassette increases service interval times and provides additional protection to your welding machine
- Part code **W005852**
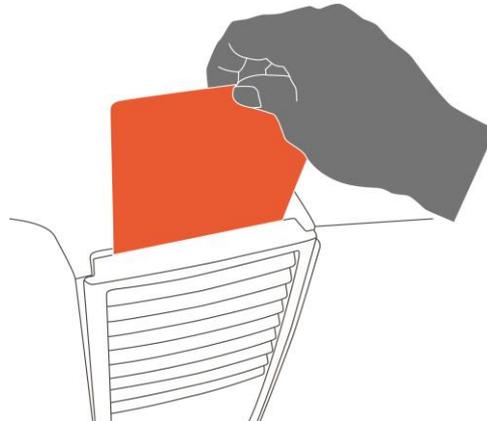
Wire path service indicator

- **WireLine** service symbol reminds the user that routine maintenance of the wire feed path is required
- **WireLine** service indication is signalled by a Spanner symbol in the display

Technical data 1ph models

		Kempact 181A		Kempact 251R, 251A
Connection voltage	50/60Hz	230V ±15% 1~	50/60Hz	230V ±15% 1~
Rated power at max. current	50% ED I1max (180A)	5 kVA	30% ED I1max (250A)	8.5kVA
Supply current	50% ED I1max (180A)	22A	30% ED I1max (250A)	36A
	100% EDI1eff (140A)	16A	100% EDI1eff (150A)	17A
Connection cable	H07RN-F	3G1.5 (1.5mm^2, 5m)	H07RN-F	3G2.5 (2.5mm^2, 5m)
Fuse	Type C	16A	Type C	20A
Welding range		10V/20A - 26V/180A		10V/20A - 29V/250A
No load voltage		36V		36V
Idle power		35W		35W
Power factor at max.	180A/23V	0.99	250A/26.5V	0.99
Efficiency at 100% ED	140A/21V	0.82	150A/21.5V	0.82
Wire feed speed adjustment range		1.0-14.0m/min		1.0-18.0m/min
Voltage adjustment range		8.0-26.0V		8.0-29.0V
Filler wires	Fe solid	0.8…1.2 mm		0.8…1.2 mm
	Fe cored wires	0.8…1.2 mm		0.8…1.2 mm
	Ss	0.8…1.2 mm		0.8…1.2 mm
	Al	1.0…1.2 mm		1.0…1.2 mm
	CuSi	0.8…1.0 mm		0.8…1.0 mm
Wire spool	max	300 mm/ 20 kg		300 mm/ 20 kg
Shielding gases		CO_2, Ar, Ar+CO_2 mixed		CO_2, Ar, Ar+CO_2 mixed
External dimensions	LxWxH	623x579x1070 mm	LxWxH	623x579x1070 mm
Weight	Not including gun and cables	44 kg	Not including gun and cables	44 kg
Temperature class		F(155 C)		F(155 C)
EMC class		A		A
Degree of protection		IP23S		IP23S
Operating temperature range		-20…+40 °C		-20…+40 °C
Storage temperature range		-40…+60 °C		-40…+60 °C
Standards		IEC 60974-1		IEC 60974-1
		IEC 60974-5		IEC 60974-5
		IEC 60974-10		IEC 60974-10
		IEC 61000-3-12		IEC 61000-3-12

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Technical data 3ph models

		Kempact 253R, 253A		Kempact 323R, 323A
Connection voltage	50/60Hz	400V ±15% 3~	50/60Hz	400V ±15% 3~
Rated power at max. current	40% ED I1max (250A)	8.5 kVA	35% ED I1max (320A)	12 kVA
Supply current	40% ED I1max (250A)	11.9A	35% ED I1max (320A)	17.2A
	100% EDI1eff (150A)	6.1A	100% EDI1eff (190A)	8.2A
Connection cable	H07RN-F	4G1.5 (1.5mm^2, 5m)	H07RN-F	4G1.5 (1.5mm^2, 5m)
Fuse	Type C	10A	Type C	10A
Welding range		10V/20A - 31V/250A		10V/20A - 32.5V/320A
No load voltage		41V		45V
Idle power		25W		25W
Power factor at max.	250A/26.5V	0.93	320A/30V	0.94
Efficiency at 100% ED	150A/21.5V	0.88	190A/23.5V	0.86
Wire feed speed adjustment range		1.0-18.0m/min		1.0-20.0m/min
Voltage adjustment range		8.0-31.0V		8.0-32.5V
Filler wires	Fe solid	0.8…1.2 mm		0.8…1.2 mm
	Fe cored wires	0.8…1.2 mm		0.8…1.2 mm
	Ss	0.8…1.2 mm		0.8…1.2 mm
	Al	1.0…1.2 mm		1.0…1.2 mm
	CuSi	0.8…1.0 mm		0.8…1.0 mm
Wire spool	max	300 mm/ 20 kg		300 mm/ 20 kg
Shielding gases		CO_2, Ar, Ar+CO_2 mixed		CO_2, Ar, Ar+CO_2 mixed
External dimensions	LxWxH	623x579x1070 mm	LxWxH	623x579x1070 mm
Weight	Not including gun and cables	44 kg	Not including gun and cables	44 kg
Temperature class		F(155 C)		F(155 C)
EMC class		A		A
Degree of protection		IP23S		IP23S
Operating temperature range		-20…+40 °C		-20…+40 °C
Storage temperature range		-40…+60 °C		-40…+60 °C
Standards		IEC 60974-1		IEC 60974-1
		IEC 60974-5		IEC 60974-5
		IEC 60974-10		IEC 60974-10

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Technical data MVU models

		Kempact 253 MVU		Kempact 323 MVU
Connection voltage	50/60Hz	230V -15% ... 400V +15%	50/60Hz	230V -15% ... 400V +15%
Rated power at max. current	40% ED I1max (250A)(230V)	9 kVA	35% ED I1max (320A)(230V)	13.5 kVA
	40% ED I1max (250A)(400V)	8.5 kVA	35% ED I1max (320A)(400V)	12.5 kVA
Supply current	40% ED I1max (250A)(230V)	22.2A	35% ED I1max (320A)(230V)	33.3A
	40% ED I1max (250A)(400V)	12.3A	35% ED I1max (320A)(400V)	17.8A
	100% EDI1eff (150A)(230V)	10.8A	100% EDI1eff (190A)(230V)	14.8A
	100% EDI1eff (150A)(400V)	6.2A	100% EDI1eff (190A)(400V)	8.3A
Connection cable	H07RN-F	4G1.5 (1.5mm^2, 5m)	H07RN-F	4G1.5 (1.5mm^2, 5m)
Fuse	Type C (230V)	16A	Type C (230V)	16A
	Type C (400V)	10A	Type C (400V)	10A
Welding range		10V/20A - 31V/250A		10V/20A - 32.5V/320A
No load voltage		46V		50V
Idle power		35W		35W
Power factor at max.	250A/26.5V (230V)	0.94	320A/30V (230V)	0.94
	250A/26.5V (400V)	0.93	320A/30V (400V)	0.94
Efficiency at 100% ED	150A/21.5V (230V)	0.79	190A/23.5V (230V)	0.80
	150A/21.5V (400V)	0.82	190A/23.5V (400V)	0.83
Wire feed speed adjustment range		1.0-18.0m/min		1.0-20.0m/min
Voltage adjustment range		8.0-31.0V		8.0-32.5V
Filler wires	Fe solid	0.8…1.2 mm		0.8…1.2 mm
	Fe cored wires	0.8…1.2 mm		0.8…1.2 mm
	Ss	0.8…1.2 mm		0.8…1.2 mm
	Al	1.0…1.2 mm		1.0…1.2 mm
	CuSi	0.8…1.0 mm		0.8…1.0 mm
Wire spool	max	300 mm/ 20 kg		300 mm/ 20 kg
Shielding gases		CO_2, Ar, Ar+CO_2 mixed		CO_2, Ar, Ar+CO_2 mixed
External dimensions	LxWxH	623x579x1070 mm	LxWxH	623x579x1070 mm
Weight	Not including gun and cables	44 kg	Not including gun and cables	44 kg
Temperature class		F(155 C)		F(155 C)
EMC class		A		A
Degree of protection		IP23S		IP23S
Operating temperature range		-20…+40 °C		-20…+40 °C
Storage temperature range		-40…+60 °C		-40…+60 °C
Standards		IEC 60974-1		IEC 60974-1
		IEC 60974-5		IEC 60974-5
		IEC 60974-10		IEC 60974-10

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