

Operation instructions • english
Gebrauchsanweisung • deutsch
Gebruiksaanwijzing • nederlands
Manuel d'utilisation • français

KEMPOMIG KEMPOMIG

FEED 420R FEED 120R



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1. PREFACE

1.1. INTRODUCTION

Congratulations on having purchased this product. Properly installed Kemppi products should prove to be productive machines requiring maintenance at only regular intervals. This manual is arranged to give you a good understanding of the equipment and its safe operation. It also contains maintenance information and technical specifications. Read this manual from front to back before installing, operating or maintaining the equipment for the first time. For further information on Kemppi products please contact us or your nearest Kemppi distributor.

Specifications and designs presented in this manual are subject to change without prior notice.

In this document, for danger to life or injury the following symbol is used:



Read the warning texts carefully and follow the instructions. Please also study the Operation safety instructions and respect them when installing, operating and servicing the machine.

1.2 PRODUCT INTRODUCTION

Kempomig Feed 420R together with Feed 120R is a welding system designed for robotic and automated welding. It consists of Feed 420R with inbuilt robot interface and a robot arm mounted feed unit Feed 120R. These two units are connected with an intermediate cable assembly.

Manual control is possible by using an interchangeable control panel with basic controls and displays for MIG welding and synergetic MIG.

Welding operation is controlled by microprocessor. The wire feed motor includes an amplified tachometer feedback system to ensure accurate wire feed speed.

The interface stage handles all major I/O signals for automated requirements.

1.3. OPERATION SAFETY

Please study these Operation safety instructions and respect them when installing, operating and servicing the machine.

Welding arc and spatters

Welding arc hurts unprotected eyes. Be careful also with reflecting arc flash. Welding arc and spatter burn unprotected skin. Use safety gloves and protective clothing.

Danger for fire or explosion

Pay attention to fire safety regulations. Remove flammable or explosive materials from welding place. Always reserve sufficient fire-fighting equipment on welding place. Be prepared for hazards in special welding jobs, e.g. for the danger of fire or explosion when welding container type work pieces. Note! Fire can break out from sparks even several hours after the welding work has been finished!

Mains voltage

Never take welding machine inside a work piece (eg. container or truck). Do not place welding machine on a wet surface. Always check cables before operating the machine. Change defect cables without delay. Defect cables may cause an injury or set out a fire. Connection cable must not be compressed, it must not touch sharp edges or hot work pieces.

Welding power circuit

Isolate yourself by using proper protective clothing, do not wear wet clothing. Never work on a wet surface or use defect cables. Do not put MIG gun or welding cables on welding machine or on other electric equipment. Do not press MIG gun's switch, if the gun is not directed towards a work piece.

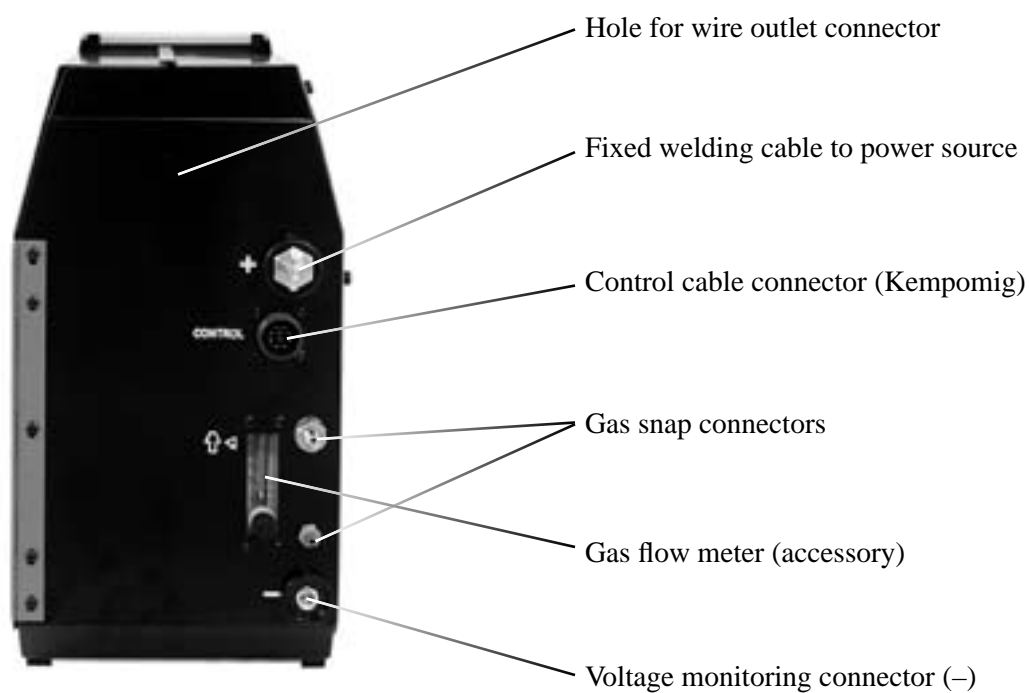
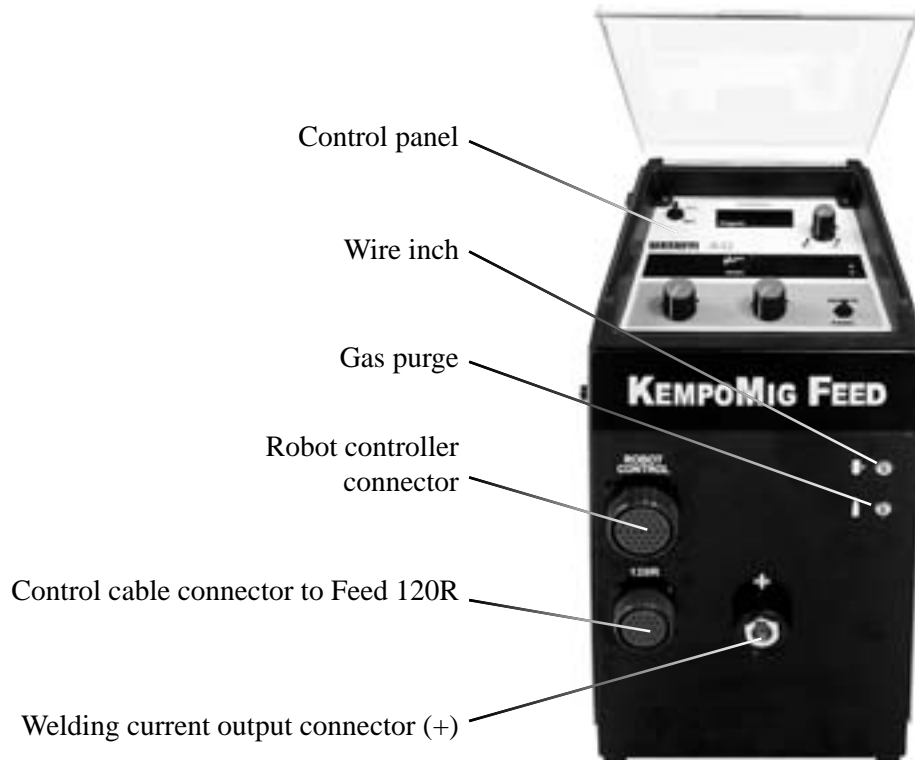
Welding fumes

Take care that there is sufficient ventilation during welding. Take special safety precautions when welding metals which contain lead, cadmium, zinc, mercury or beryllium.

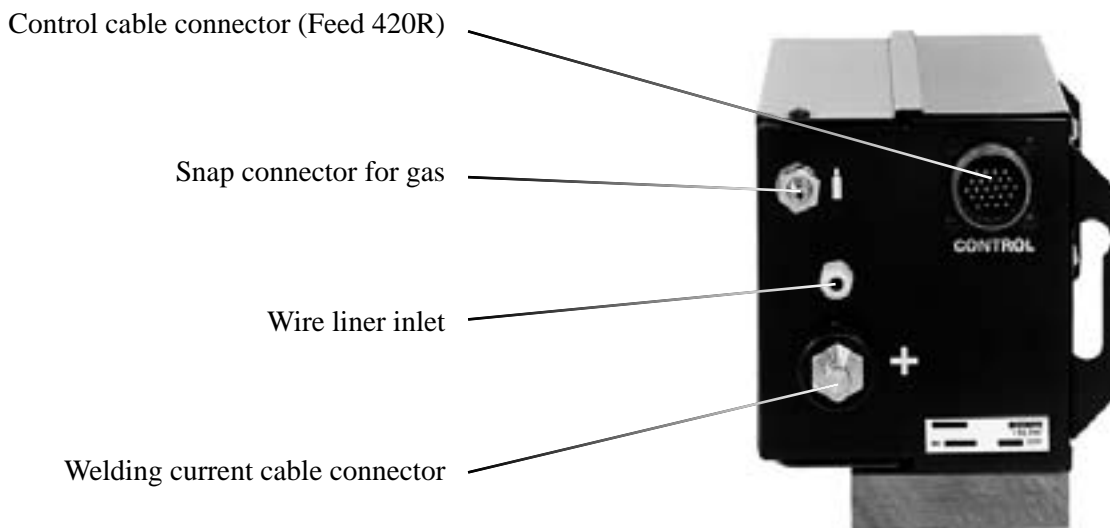
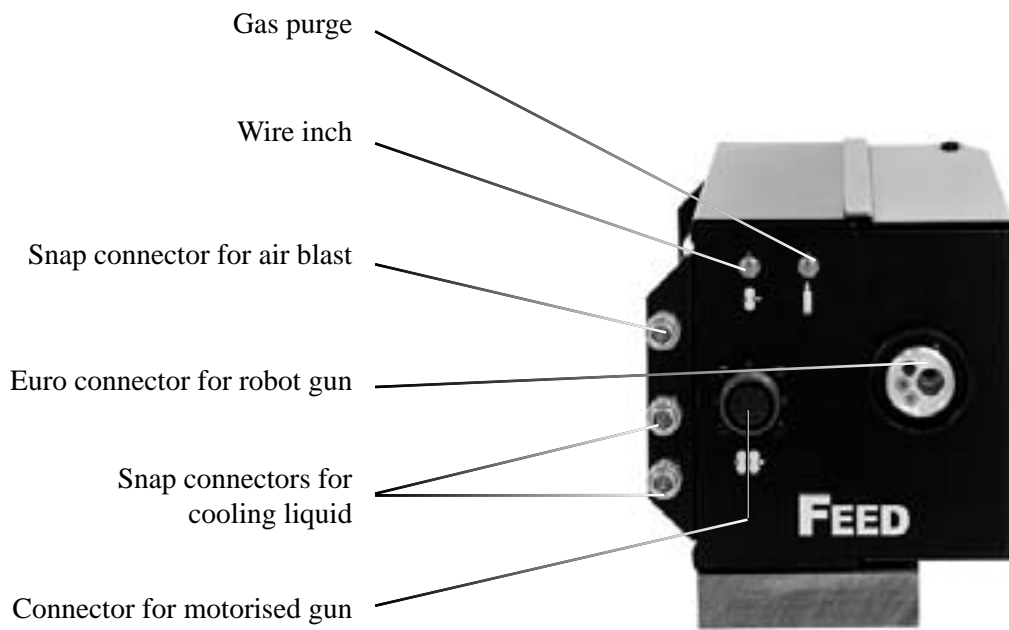
2. INSTALLATION

2.1 OPERATION CONTROL AND CONNECTORS

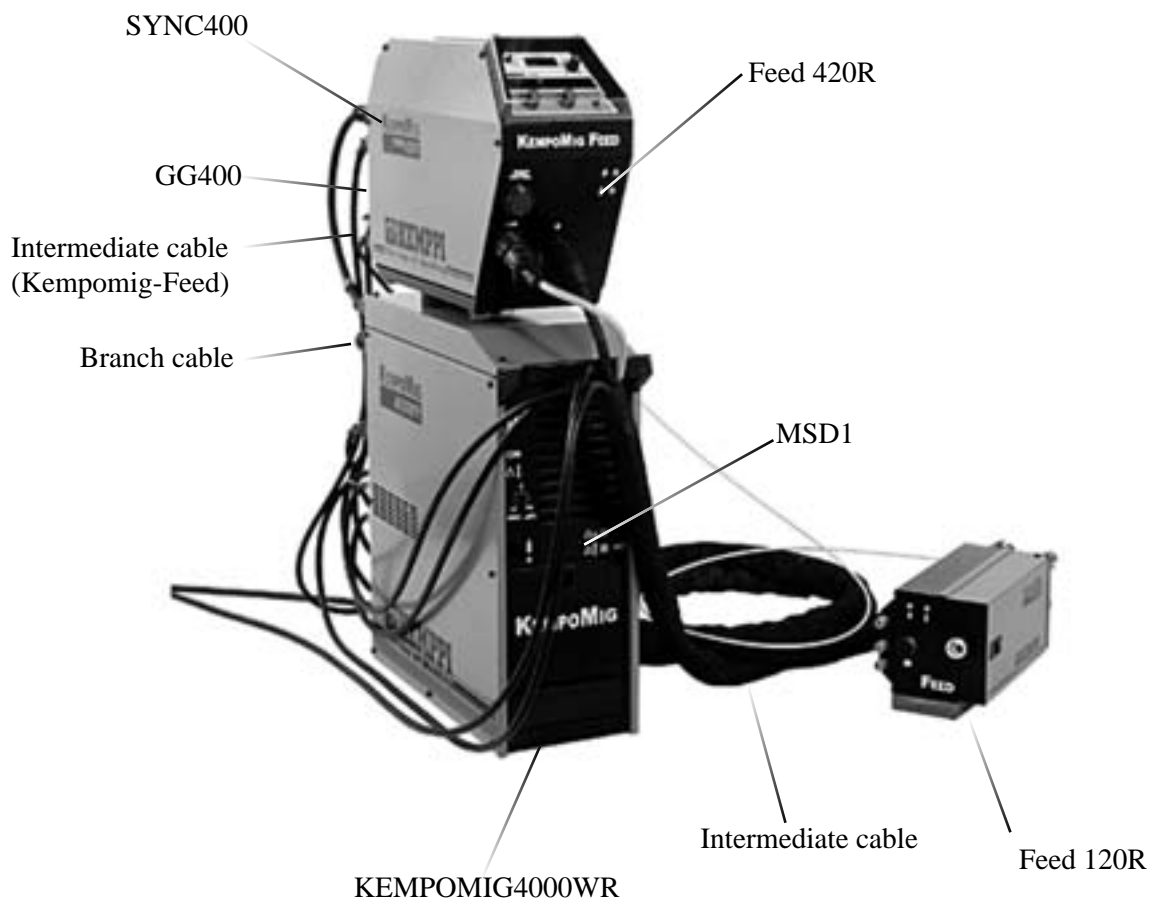
2.1.1. Feed 420R wire feeding control unit



2.1.2. Feed 120R wire feeder

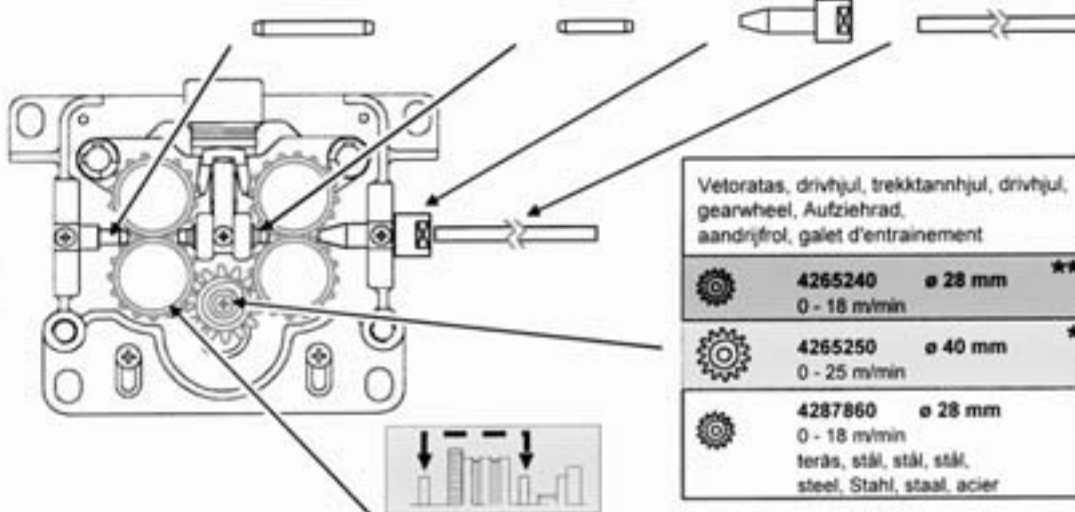


2.2. UNITS, ACCESSORIES, CABLES



2.3 PARTS OF WIRE FEED MECHANISM

FE MC	0.6 - 0.8 mm	3134140 Ø 1,0 Valkoinen, vit, hvit, hvid, white, weiss, wit, blanc	3134120 Ø 2,0 Oranssi, orange, oransje, orange, orange, orange, orange, orange	4266970 Ø 2,0 Muovi, plast, plast, plastic, plastic, Kunststoff, plastic, plastique	4188592 Ø 2,4 Keltainen, gul, gul, gul yellow, gelb, geel, jaune
FC SSFC	0.9 - 1.6 mm	3133700 Ø 2,0 Oranssi, orange, oransje, orange, orange, orange, oranje, orange	3134300 Ø 2,0 Oranssi, orange, oransje, orange, orange, orange, orange, orange		4279070 Ø 3,5 Musta, svart, svart, sort, black, schwarz, zwart, noir
SS AL	0.8 - 1.6 mm	3134290 Ø 2,0 Oranssi, orange, oransje, orange, orange, orange, oranje, orange			



		0.6 mm	0.8 mm 0.030"	0.9-1.0 mm 0.035"	1.2 mm 0.045-52"	1.4-1.6 mm 1 / 16"	2.0 mm (5 / 64")
FE SS AL	Sileä, slät, slett, glad, plain, glatt, glad, lisse	3133810 Valkoinen, vit, hvit, hvid, white, weiss, wit, blanc		3133210 Punainen, rød, rød, rød, red, rot, rood, rouge		3133820 Keltainen, gul, gul, gul, yellow, gelb, geel, jaune	
FE FC	Pyälletty, räfflat, riflet, riflet, knurled, gerillt, gekarteld, cranté	—		3133940 Punainen, rød, rød, rød, red, rot, rood, rouge		3133990 Keltainen, gul, gul, gul, yellow, gelb, geel, jaune	
AL	U-ura, U-spår, U-spor, U-spor, U-groove, U-Nut, U-groef, gorge U	—		3133960 Punainen, rød, rød, rød, red, rot, rood, rouge		—	
Laakeroitu, med kullager, lager, kugleleje, beared, gelagert, gelagerd, avec roulement à billes		1.0 mm 0.035"	1.0 mm 0.035"	1.2 mm 0.045-52"	1.2 mm 0.045-52"	1.6 mm 1 / 16"	1.6 mm 1 / 16"
FE SS AL	Sileä, slät, slett, glad, plain, glatt, glad, lisse	3138650 Punainen, rød, rød, rød, red, rot, rood, rouge		3137390 Oranssi, orange, oransje, orange, orange, orange, orange, orange		3141120 Keltainen, gul, gul, gul, yellow, gelb, geel, jaune	
FE FC	Pyälletty, räfflat, riflet, riflet, knurled, gerillt, gekarteld, cranté	—		3137380 Oranssi, orange, oransje, orange, orange, orange, orange, orange		3141130 Keltainen, gul, gul, gul, yellow, gelb, geel, jaune	

4289040

* kuuluu toimitusvarustukseen
ingår vid leverans
inkludert i leveransen
inkluderet ved levering
included in delivery
ist im Lieferumfang enthalten
met de zending meegeleverd
compris dans la livraison

* * kuuluu toimitusvarustukseen asennettuna
ingår vid leverans, monterad
inkludert i leveransen, monteret
inkluderet ved levering, monteret
included in delivery, mounted
ist im Lieferumfang enthalten, montiert
met de zending meegeleverd, gemonteerd
compris dans la livraison, monté

2.4. ASSEMBLY OF MIG EQUIPMENT

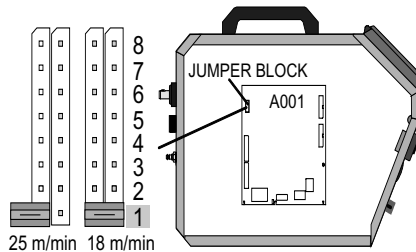
Kempomig power source:

Read paragraph INSTALLATION in the operation instructions (1922430E) for the Kempomig-power source in question.

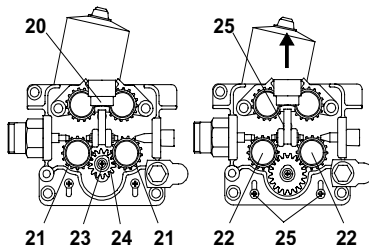
Feed 420R and Feed 120R wire feeding equipment:

1. Mount the wire feeder onto the shaft which is on top of the power source. The shaft must have plastic insulation / bear bushing.
2. Mount control cable of interconnection cable and welding current cable to connectors on the rear wall of Feed 420R. Select the MIG gun's polarity (+ or -) according to welding wire you are using.
3. Mount the MIG gun to EURO connector on the front wall of the Feed 120R.
Use guide tubes and contact tips according to manufacturer's operation instructions.
Accessories which are too tight or otherwise unsuitable for the wire type used will cause wire feed disturbances.
4. If you mount the Feed 420R onto boom, see that the wire feeder unit's chassis is without galvanic contact to boom.
5. Max. wire feed speed
When the unit is delivered the max. wire feed speed is 18 m/min, which is enough for most welding works. If you need a higher speed, you can increase the max. wire feed speed to 25 m/min by replacing the gear wheel on motor shaft to a bigger one as well as through change of jumper on the control card. The big gear wheel (D40) belongs to delivery kit of the Feed 120R.

When necessary speed is changed according to following:



- Open side plate and move JUMPER BLOCK's first coding piece on control card A001 to point 25m/min.
- Open tightening lever (20). Remove lower feed rolls (21). Release screw (23) and its washer. Remove gear wheel D28 (24) from motor shaft.



- Loosen screws (25) (3 pc) 1 twist. Mount the D40 gear wheel onto motor shaft. Screw the screw (23) with its washer back.
- Put feed rolls (21) back to their axles, however don't fasten yet fastening screws of the feed rolls (22).
- Lift the motor so that the tooth gap between gear wheel and both lower feed rolls is approx. 0,2 mm.

- Tighten screws (25). Check gear teeth gaps, when necessary put the motor into a better position. Screw on the mounting screws of feed rolls (22).



Too small a gap between gear wheel and feed rolls will overload motor.

Too big a gap for its part might cause too rapid wearing for teeth of feed rolls and gear wheel.

- Mounting of push-pull gun's synchronizing unit SYNC 400 and gas guard GG is described in the mounting instructions delivered with the units.

2.5. INSTALLATION

2.5.1. Wire feed mechanism (Feed 120R)

Wire feed rolls are available with plain groove, knurled groove and with U groove for different purposes.

Feed rolls with plain groove: Universal feed roll for welding of all kinds of wires

Feed rolls with knurled groove: Special feed roll for cored wires and steel wires

Feed rolls with U groove: Special feed roll for aluminium wires

Wire feed rolls have two grooves for different filler wire diameters. Correct wire groove is selected by moving selecting washer (28) from one side to another in feed roll.

Feed rolls and wire guide tubes have colour codes in order to make identification easier (see table on page 8).

feed rolls

colour	filler wire \varnothing mm (inch)
white	0.6 and 0.8 (0.030)
red	0.9/1.0 and 1.2 (0.035, 0.045 and 0.052)
yellow	1.4, 1.6 and 2.0 (1/16 and 5/64)
black	2.4 (3/32)

guide tubes

colour	filler wire \varnothing mm (inch)
orange	0.6-1.6 (0.024-1/16)
blue	over 1.6 (over 1/16)

In delivery Feed 120R is equipped with red feed rolls with plain groove and with orange wire guide tubes for welding filler wires of 0.9-1.2 mm (0.035", 0.045" ja 0.052").

2.6. MOUNTING OF MIG WELDING GUN

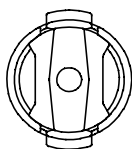
In order to ensure trouble-free welding, check the operation instructions of gun used that wire guide tube and contact tip of gun are according to manufacturer's recommendation, and suitable for wire diameter and type in question. Too tight a wire guide tube might cause for wire feeder unit a bigger stress than normally as well as disturbances in wire feed.



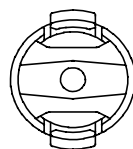
Screw snap connector of gun tight to avoid any voltage losses on connecting surface.

A loose connection will heat gun and wire feeder unit.

2.7. MOUNTING AND LOCKING OF WIRE REEL (ACCESSORY)



LOCKED



OPEN

- Release locking nails of wire reel hub by turning locking knob a quarter of a round.
- Mount the reel at its place. Note rotating direction of reel!
- Lock the reel with locking knob, locking nails of hub remain in outside position and will lock the reel.

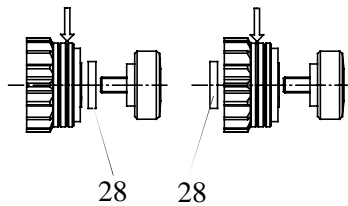


Check the filler wire reel that there are no parts sticking out which could e.g. chafe against chassis or door of wire feeder unit. Dragging parts might expose chassis of wire feeder unit under voltage.

2.8. AUTOMATIC WIRE FEED TO GUN (FEED 120R)

Automatic wire feed makes change of wire reel more rapid. In reel change the pressure of feed rolls need not be released and filler wire goes automatically to correct wire line.

- Make sure that groove of feed roll matches the diameter of welding wire used. Feed roll groove is selected by moving the groove selecting washer (28).



- Release the wire end from reel and cut off the bent length. Be careful that the wire does not spill from the reel to sides!
- Straighten the wire at a length of about 20 cm and see that its end has no sharp edges (file off if necessary). A sharp edge may damage the wire guide tube and contact tip of the welding gun.
- Draw a bit of loose wire from wire reel. Feed wire through back liner to feed rolls. Do not release pressure of feed rolls!
- Press the gun switch and feed a bit wire until wire goes through feed rolls to gun. See that wire is in grooves of both feed roll pairs!
- Press still the gun switch until wire has come through contact tip.

Automatic feed may sometimes fail with thin wires (Fe, Ss: 0,6...0,8 mm, Al, Fc: 0,8...1,0 mm). In case open feed rolls and feed wire manually.

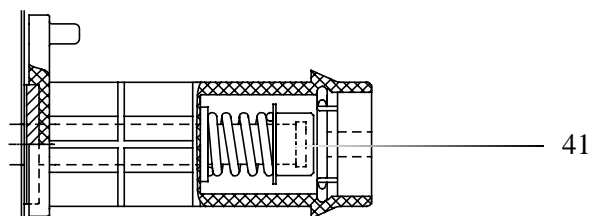
2.9. ADJUSTMENT OF PRESSURE

Adjust the pressure of feed rolls with the control screw (20) so that the wire is fed into the wire guide tube evenly and allows a little braking when coming out from the contact tip without slipping at the feed rolls.



Excessive pressure causes flattening of the filler wire and damage to the coating. It also causes undue wear of the feed rolls as well as friction.

2.10. ADJUSTMENT OF TIGHTNESS OF WIRE REEL BRAKE (ACCESSORY)



Brake force is adjusted through hole in locking device of reel hub by screwing the control screw (41) with screwdriver.

Adjust brake force so high that the wire does not become too loose on the reel so that it would spill from the reel when the rotation of the reel stops. Need for brake force is increased with increase of the wire feed speed.

Since the brake loads the motor for its part, you should not keep it unnecessarily tight.

2.11. GROUND CABLE

Fasten earthing clamp of ground cable carefully, preferably direct to welding piece. Contact surface of clamp should always be as large as possible.

Clean the fastening surface from paint and rust!



Use 50 mm² cables in your MIG equipment. Thinner cross-sectional areas might cause overheating of connectors and insulations.

Make sure that the welding gun in your use is designed for max. welding current needed!

Never use a damaged welding gun!

2.12. SHIELD GAS



Handle gas bottle with care. There is a risk for injury if gas bottle or bottle valve is damaged!

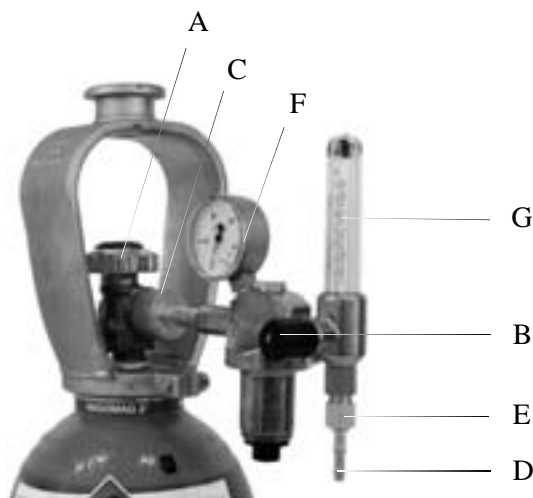
For welding stainless steels, mixed gases are normally used. Check that the gas bottle valve is suitable for the gas. The flow rate is set according to the welding power used in the job. A suitable flow rate is normally 8 - 10 l/min. If the gas flow is not suitable, the welded joint will be sporous. Contact your local Kemppi dealer for choosing gas and equipment.

2.12.1. Installing gas bottle



Always fasten gas bottle properly in vertical position in a special holder on the wall or on a carriage. Remember to close gas bottle valve after having finished welding.

Parts of gas flow regulator



- A Gas bottle valve
- B Press regulation screw
- C Connecting nut
- D Hose spindle
- E Jacket nut
- F Gas bottle pressure meter
- G Gas hose pressure meter

The following installing instructions are valid for most gas flow regulator types:

1. Step aside and open the bottle valve (A) for a while to blow out possible impurities from the bottle valve.
2. Turn the pressure regulation screw (B) of the regulator until no spring pressure can be felt.
3. Close needle valve, if there is one in the regulator.
4. Install the regulator on bottle valve and tighten connecting nut (C) with a wrench.
5. Install hose spindle (D) and jacket nut (E) into gas hose and tighten with hose clamp.
6. Connect the hose with the regulator and the other end with the wire feed unit. Tighten the jacket nut.
7. Open bottle valve slowly. Gas bottle pressure meter (F) shows the bottle pressure. Note! Do not use the whole contents of the bottle. The bottle should be filled when the bottle pressure is 2 bar.
8. Open needle valve if there is one in the regulator.
9. Turn regulation screw (B) until hose pressure meter (G) shows the required flow (or pressure). When regulating flow amount, the power source should be switched on and the gun switch pressed simultaneously.

Close bottle valve after having finished welding. If the machine will be out of use for a long time, unscrew the pressure regulation screw.

3. FEED 420R FUNCTIONS

3.1. FUNCTION PANEL



3.2. SELECTION OF WELDING PROCESS



Synergic MIG / MAG welding (1-knob MIG): MIG welding, where wire feed speed defines values of other welding parameters enabling power level adjustment of welding from one control knob. Dependence of welding parameters from wire feed speed is defined by choice of synergic curve for filler wire and gas being used.

MIG / MAG welding with independent wire feed and voltage controls.

3.3. BASIC ADJUSTMENTS, BASIC DISPLAYS



(1) Wire feed speed adjustment by MIG / MAG. Welding power adjustment by synergic 1-knob MIG.

(2) Welding voltage adjustment by MIG/MAG. Arc length adjustment by synergic 1-knob MIG.

(3) Wire feed speed in m/min, plate thickness display in mm. Note! you can select the plate thickness display only by synergic 1-knob MIG.

With the selecting switch (4) is selected which variable is visible in the display. The plate thickness display is an informative thickness display for welding plates when making horizontal vertical fillet welds.

(5) Set value display for welding voltage by MIG and 1-knob MIG, V.

This display is also used as display for MIG welding dynamics, -9...0...9.

3.4. MIG WELDING DYNAMICS ADJUSTMENT



With MIG welding dynamics adjustment, you can influence welding stability and spatter amount. Zero setting is recommended basic setting. Values → min (-1...-9), softer arc for reduced spatter amount. Values → max (1...9), harder arc for increased stability and when 100 % CO₂ shielding gas is used in welding of steel.

3.5. SELECTING SWITCH OF MAIN CONTROLS



Remote control, basic controls are made from robotic control unit.

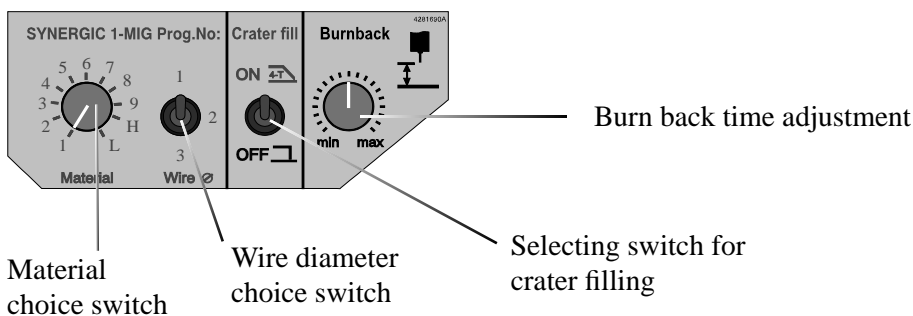
Local control, basic controls are made from potentiometers of the panel.

3.6. DISPLAY OF SELECTED 1-KNOB MIG SYNERGETIC PROGRAM



The display shows number for 1-knob MIG program which has been selected with selecting switches on the synergy panel. If on display is visible '—', you have not selected any 1-knob MIG program. Then welding is prevented. By normal MIG / MAG welding the display is black.

3.7. 1-KNOB MIG SYNERGY PANEL



1-MIG synergy panel is in the reel cabinet. On the MIG synergy panel there are selecting switches for 1-knob MIG synergic curve, selecting switch for 1-knob MIG crater filling as well as potentiometer for burn back time adjustment.

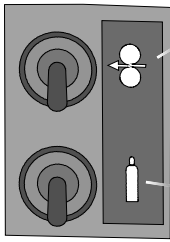
3.8. BURN BACK TIME ADJUSTMENT

Burn back time is adjusted steplessly. The value for burn back time is selected according to material in question so that the filler wire will not stick on the weld piece at the weld end, and also that there will not become too big a "ball" at the wire tip. The burn back time is changed automatically as correct according to changes of the wire feed speed.

3.9. SELECTION OF 1-KNOB IG SYNERGETIC CURVE

Feed 420R includes preset programs for synergic 1-knob MIG welding of the most common materials. The preset programs are presented in the enclosed table. On reel cabinet door of Feed 420R there is a guide sticker, which tells positions of selecting switches and program numbers.

Material choice switch	Wire diameter choice switch	Program number	∅	Wire material	Shielding gas
1	1	11	0.8	Fe	100% CO ₂
1	2	12	1.0	Fe	100% CO ₂
1	3	13	1.2	Fe	100% CO ₂
2	1	21	0.8	Fe	Ar15-25% CO ₂
2	2	22	1.0	Fe	Ar15-25% CO ₂
2	3	23	1.2	Fe	Ar15-25% CO ₂
3	1	--		no program	
3	2	--		no program	
3	3	33	1.2	Metal cored wire	Ar15-25% CO ₂
4	1	--		no program	
4	2	--		no program	
4	3	43	1.2	Rutile flux cored wire	Ar15-25% CO ₂
5	1	51	0.8	Ss316	Ar25% CO ₂ , 0 ₂
5	2	52	1.0	Ss316	Ar25% CO ₂ , 0 ₂
5	3	53	1.2	Ss316	Ar25% CO ₂ , 0 ₂
6	1	--		no program	
6	2	62	1.0	AlMg5, AlMg4, 5Mn	100% Ar
6	3	63	1.2	AlMg5, AlMg4, 5Mn	100% Ar
7	1	--		no program	
7	2	72	1.0	AlSi5	100% Ar
7	3	73	1.2	AlSi5	100% Ar
8	1	--		no program	
8	2	--		no program	
8	3	83	1.2	SsFCR	Ar15-25% CO ₂
9	1	91	0.8	CuSi3	100% Ar
9	2	92	1.0	CuSi3	100% Ar
9	3	--		no program	
H	1	--		no program	
H	2	H2	1.0	Ss309	Ar2% CO ₂ , 0 ₂
H	3	H3	1.2	Ss309	Ar2% CO ₂ , 0 ₂
L	1	L1	0.8	Fe	Ar8%CO ₂
L	2	L2	1.0	Fe	Ar8%CO ₂
L	3	L3	1.2	Fe	Ar8%CO ₂



3.10. WIRE INCH SWITCH

The wire inch switch starts the wire feed motor without starting the power source and without opening the gas valve.

3.11. GAS PURGE SWITCH

The gas purge switch opens the gas valve without starting the wire feed motor and the power source.

3.12. FEED 420R ERROR CODES

By every start possible error states in equipment are checked. If an error state is found, the error in question is shown with an E text appearing in the panel display.

Here are some error codes:

- E.09: Overloading of wire feed motor, which can be e.g. due to blocked wire guide tube of gun, or too sharply bent gun cable.
- E.12: The welding is prevented because the shielding gas control of the gas guard GG 400 has released.

The error codes disappear by following start, if reason of the error code is eliminated.

4. ACCESSORIES

4.1. SYNCHRONIZING UNIT SYNC 400

By means of Sync 400 you can connect the push-pull gun to the Feed 420R wire feeding control unit. Push-pull gun is most commonly used for feeding of aluminium wires. Push-pull gun enables extending the working radius up to 10 m. Sync 400 is mounted into electronics case of Feed 420R. Mounting of Sync 400 is described in the mounting instructions delivered with the unit.

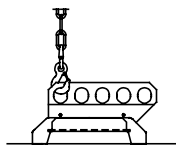
4.2. GAS GUARD GG 400

With gas guard accessory you can prevent weld defects due to lacking or wrong flow of shielding gas. Functions of gas guard are as follows:

- Prevention of welding if the gas pressure is not sufficient on the wire feeder unit.
- Stopping of welding if shielding gas pressure disappears during welding.
- When gas guard has prevented welding, error message E.12 appears on welding panel displays.
- Shielding gas flow meter / regulator. Regulation range 5-25 l/min. Display is calibrated for shielding gas Ar CO₂ (75 % Ar, 25 % CO₂)

4.3. HANGING ONTO BOOM

The lift hook is mounted to handle of Feed 420R. The position depends on the lift hook hole position.



5. SERVICE AND OPERATION DISTURBANCES

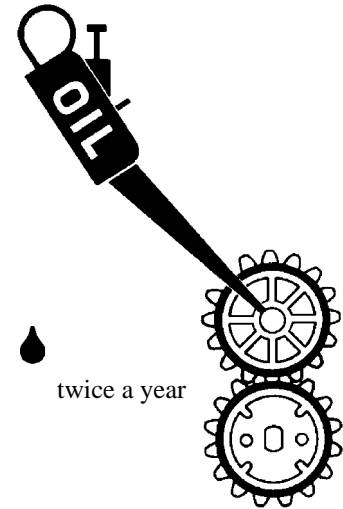
The amount of use and working environment should be taken into consideration when planning the frequency of maintenance of Feed 420R and 120R. Careful use and preventive maintenance will help to ensure trouble-free operation.

Following maintenance operations should be carried out at least every six months:

Check:

- Feed roll grooves. Excessive wear of grooves causes wire feed problems.
- Wire guide tubes. Badly worn feed rolls and wire guide tubes should be discarded.
- Wire guide tube in the gun should be set as close to the feed rolls as possible and the wire must follow a straight line from the end of the tube to the groove of the feed roll.
- Reel brake adjustment.
- Electrical connections:
 - * Oxidized couplings must be cleaned
 - * Loose couplings must be tightened

Clean dust and dirt from the equipment.



When using compressed air, always protect your eyes with proper eye protection.

In case of problems contact an authorised KEMPPI service workshop.

6. ORDERING NUMBERS

Wire feed units

Feed 420R wire feed control unit	6236420
Feed 120R wire feed unit	6236120

Accessories of Feed 420R

Sync 400	6263120
GG 400	6237405
Wire reel hub	4289880

Power sources

Kempomig 4000R	6227400R
Kempomig 4000WR	6227400WR
MSD 1	6185666

Cabels

Voltage monitor cable		4288700
Branch connector		9771637
Intermediate cable assembly	5 m	6260421
	10 m	6260425
Earth cable	50 mm ²	5 m 6184511
	50 mm ²	10 m 6184512
Earth cable	70 mm ²	5 m 6184711
	70 mm ²	10 m 6184712

MIG guns for robotic and automated welding

MT38M	3,0 m	6253038
MT-51MW	1,5 m / SK	6255156
MT-51MW	1,5 m / K30	6255157
MT-51MW	3,0 m / SK	6255158
MT-51MW	3,0 m / K30	6255159

Interconnection cables

Interconnection cables Kempomig 4000R, 4000WR / Feed 420R

KW 50-1.3-GH	6260350
Multimig 70-11-GH	6260182

Return current cable

5 m - 50 mm ²	6184511
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7. TECHNICAL DATA

		Feed 420R, 120R	Feed 120R
Working voltage (safety voltage)	30 VAC	50/60 Hz	
Rated power		150 VA	
Loading capacity	60 % ED	400 A	
	100 % ED	310 A	
Operation principle		4 roll drive	
Diameter of feed roll		32 mm	
Wire feed speed	I	0...18 m / min	
	II	0...25 m / min	
Filler wires	∅ Fe, Ss	0,6...1,2 mm	
	∅ Filler wire	0,8...1,6 mm	
	∅ Al	1,0...1,6 mm	
Wire reel	max. weight	20 kg	
	max. size	∅ 300 mm	
Gun connector		Euro	
Operation temperature range		-20...+40 °C	
Storage temperature range		-40...+60 °C	
Degree of protection		IP 23C	
Dimensions	length	570 mm	319 mm
	width	210 mm	152 mm
	height	440 mm	167 mm
Weight		15 kg	8 kg

The product meets conformity requirements for CE-marking.

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