

FastMig X 450 - MXP 37 Pipe

Complete solution for welding
pipes and plates



Multifunctional solution for pipe welding



Excellent pipe welding with digital precision and quality

FastMig X 450 power source and MXP 37 Pipe wire feeder is the complete solution for welding on pipes in offshore and onshore applications, in prefabrication workshops or at installation sites.

The system is based on FastMig X 450, a multi-process power source that you can use for root welding, fill-ups and caps. You can connect two wire feeders to allow quick changing of welding process and filler wire type and size.

Where applications demand alternative power levels during welding, MatchChannel delivers the solution.

Change power levels during welding at the press of the gun trigger, accommodating changes in welding position and material thickness or type. The alternative power settings are stored in MatchChannel memory, making welding faster and saving you the extra time used with traditional equipment setting between welds.

Designed for easy and efficient open-gap root welding, WiseRoot+ is the premium and market leading root closure process without backing.

With the amazing sampling rate of 20 million per second and the revolutionary precise wire feed control mechanism, WiseRoot+ delivers supreme arc stability and the optimal penetration and bead shape you're looking for. FastMig X 450 system creates a new level of accuracy and reliability in arc control.



Why buy:

- WiseRoot+ special process for open gap root welding without backing
- Excellent welds from the root to the top with one machine
- Increased productivity means less costs
- Multiple processes: MIG, 1-MIG, pulsed MIG, MMA and TIG options
- Optimized welding characteristics in solid wire root welding with CO₂ or mixed argon shielding gases
- Combine two wire feeders on the same power source for alternative filler wires
- MatchChannel for changing welding parameters on the run
- GT04 wire drive mechanism with twin motors
- ArcQuality compatible for managing welding quality

FastMig X 450 system can be extended with an additional wire feeder or other auxiliary device, such as the MasterTig LT 250 TIG for DC TIG welding.

1 MXP 37 Pipe wire feed unit

2 XF 37 control panel

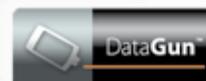
3 MasterTig LT 250 device for DC TIG welding

4 X 37 control panel

5 FastMig X 450 power source

6 FastCool 10 cooling unit

7 PM500 transport unit



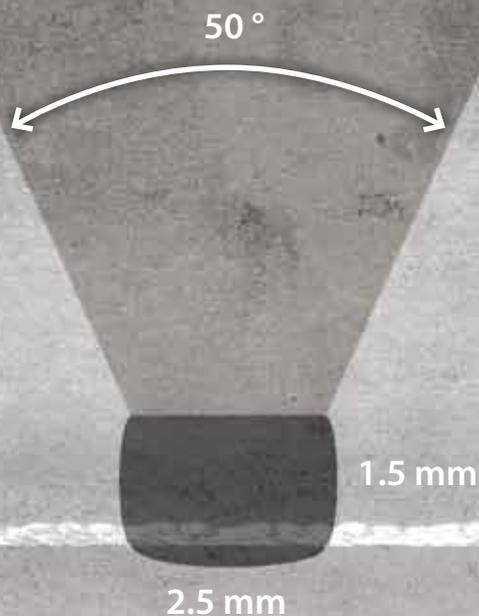
Total welding experience – **WiseRoot+**

Benefits

- Excellent root welding properties
- Allows wide root gap tolerance
- No back support required
- Can decrease joint volume and increase working speed, reducing filler material costs
- Optimal weld penetration and shape, in all positions
- Less post welding costs
- 5 times faster than TIG welding
- Excellent performance with all solid steel wires and CO₂ shielding gas.
- Easy to learn and use



*The Wise and Match options provide specialised welding software solutions. FastMig X 450 includes **WiseRoot+** and **WiseFusion** as standard.*



Fast and easy open gap root welding without backing



WiseRoot+ welding process is an accurate, modified short arc MIG/MAG process specifically developed for root welding on pipes and plates.

Pre installed to every MXP 37 wire feed unit, WiseRoot+ uses a special voltage

measurement technique to obtain accurate parameter information throughout the welding process and uses this information to precisely control the short-circuit characteristics of the arc to create consistent, spatterless welding that is simple to control in demanding pipe welding conditions.

WiseRoot+ is not just another tailored welding process – it is a total welding experience. The amazing sampling rate of 20 million per second and the ac-

curacy and strength of the twin-motor wire delivery system ensure productive, premium quality root welding become a reality.

With FastMig X 450 you can select the welding program packages that suit you best, and if your welding needs change, there are additional programs available for different filler wires and shielding gas mixtures.

More productivity

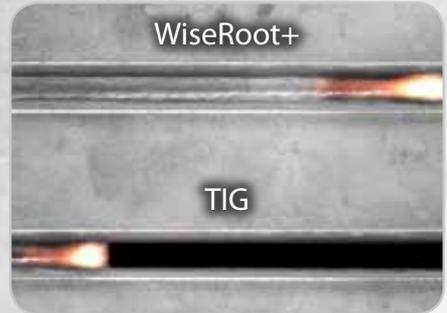


Pipe welding simulation tests showed that WiseRoot+ is superior root-welding process compared to 1-MIG. Depending on the welding position, WiseRoot+ offers up to 3 times greater welding speeds.

Pipe welding simulation test

- Plate: S355 / 10 mm
- V-groove: 60° with 3 mm open gap
- Filler wire: G3Si1 Ø 1.2 mm
- Shielding gas: CO₂

Position	WiseRoot+	1-MIG
PG 3	25 cm/min	18 cm/min
PF 3	-	8 cm/min
PG 5	20 cm/min	13,5 cm/min
PF 5	-	12 cm/min



WiseRoot+ takes you 5 times further in root welding compared with TIG process. No backing needed, good quality, less grinding and preparation work.

More quality



The latest arc control techniques have established the necessary quality control for root welding process. WiseRoot+ offers welding engineering teams the opportunity to meet both productivity and quality targets.



WiseRoot+ up to 3 times faster than 1-MIG

More usability



FastMig X 450 pipe welding system combines the latest welding technologies and welding software solutions, making welding faster and more productive.

The system combines two powerful welding innovations to secure a unique welding solution for pipe and plate applications - WiseRoot+ and WiseFusion. WiseRoot+ is a superior root welding process for pipes and WiseFusion is a welding function for ensuring consistent weld quality in all positions. Both of them are factory-installed in MXP 37 Pipe wire feeder.

WisePenetration is also available as an optional software, a welding function for delivering constant welding power regardless of changes in the stick-out length.



Voltage sensing cable measures the actual arc voltage during welding. This allows WiseRoot+ to optimise welding characteristics, which results in low-spatter filler material transfer and a stable welding arc.

Wire feeder with a grip that doesn't slip

Wire feed system

- A tough and impact-resistant dual skin plastic casing
- Brights LED cabinet lighting
- Refined wire speed control for improved arc ignition, even at extra slow feed values
- Rigid cast aluminium drive mechanism maintains precision
- Twin motors deliver increased torque values for thick self-shielded filler wires
- Optional cabinet heating to control wire condensates

PMT Multi-neck guns

- Change the neck in seconds with MN
- Air-cooled neck design
- Choose from multiple neck options: Select the neck by length, bending angle, nozzle size and contact tip
- Optional RMT10 control for welding power or memory channel adjustment
- 3.5m or 5m gun lengths

Welding control is tough and precise

Extra strong GT04 drive mechanism and the latest arc voltage sensing technology with refined, revolutionary accurate wire speed control deliver precise and easy root weld control and high quality. Housed in a tough, dual skin, plastic cabinet and equipped with Brights LED lighting for setting in low light conditions, MXP37 Pipe also includes quick-change colour coded wire drive rolls and optional cabinet heating to control filler wire condensates in changing atmospheric conditions.

PMT multi-neck gun design

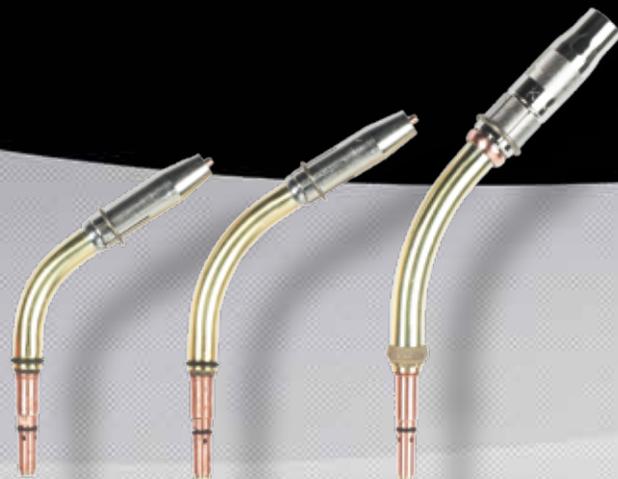
The PMT air cooled multi-neck gun system is designed especially to meet the requirements of welding root passes on pipes and plates.

The PMT MN gun is equipped with a fast change neck design, so that you can easily select the best neck length, bending angle and gas nozzle for the welding task ahead, allowing good reach and control. Well balanced and light in weight, PMT MN guns are available in 3.5 and 5 m lengths. They can also be equipped with RMT 10 remote control for selection of power or preset welding channels.

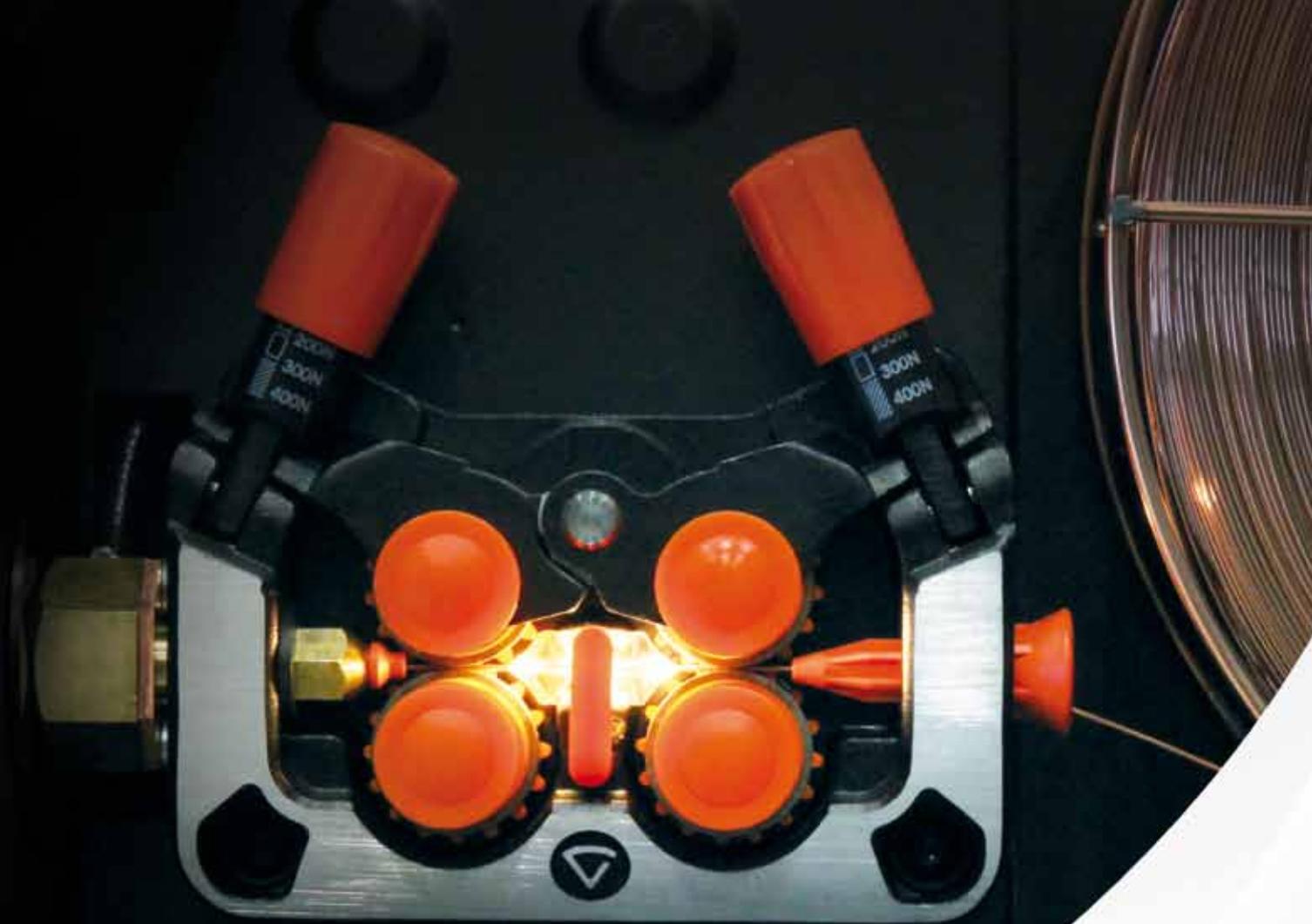
Two options for welding program packages

Steel package optimises the welding features of the wire feeder and the costs of your investment. No pulsed MIG/MAG feature is included as standard, but it is available as an optional extra.

Stainless package includes the pulsed MIG/MAG feature and stainless steel welding programs as standard to provide excellent welding characteristics for welding the filling and capping passes with solid wire.



The PMT MN torch model is equipped with a changeable neck. Multiple neck options meet changing needs.



The GT04 wire feed mechanism has two separate motors for driving the feed rolls. All accessories are colour-coded to match the corresponding accessory parts in the welding torch: very easy and very quick to maintain and replace. The LED illumination makes it easy for wire loading and setting in low light conditions.

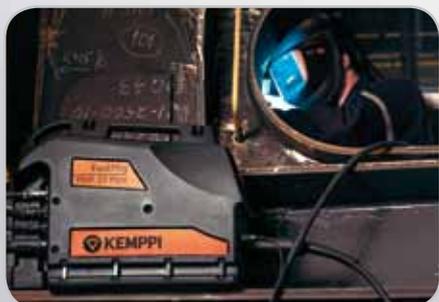


Multifunctional solution for welding pipes and plates

One system for many applications

Applications

- Onshore pipeline welding
- Pipe welding at offshore sites
- Tanks and pressure vessels
- Sub-sea constructions
- Power industry
- Shipbuilding and steel construction industry



One set of equipment for many applications

The FastMig X 450 offers more than just root welding performance. It's truly a multipurpose welding system, suitable for all welding processes including MIG, TIG and MMA.

If you need to use MMA welding, just connect the electrode holder, set and start welding with excellent power capacity. You can use all electrode types, including cellulosic.

In addition to MIG/MAG and 1-MIG welding, pulsed MIG/MAG is also possible with a wire feeder equipped with a suitable program package and purchased as an option.



MIG
TIG
MMA



XF 37 control panel of the MXP 37 Pipe wire feeder.



X 37 control panel of the FastMig X 450 power source.

Mount two wire feeders for quick and easy change between welding process and filler wire size and type, or combine with the LT250 TIG welding unit.

Power source and control panels

FastMig X 450 power source is based on the latest Kemppi power source technology. Compact and lightweight for its power class, Fastmig X 450 power source can easily be moved to the location where welding takes place.

FastMig X 450 is a CC/CV power source. You can connect with a variety of ancillary devices, such as Kemppi ArcFeed, a voltage sensing wire feeder

that can be used for welding self-shielded and outer-shielded wires, or Kemppi MasterTig LT 250, which is a versatile welding solution for quality DC TIG welding.



Connect MasterTig LT 250 to use FastMig X 450 as a TIG welding power source.



GT04 Wire feeder mechanism combines twin synchronised feed motors.

Controlling the quality

Benefits

- Monitors compliance to the WPS
- Ensures welders hold valid qualification
- Creates non-conformance reports
- Automates data collection
- Reduces rework costs
- Supports the welder, quality and management personnel
- Reports arc and non-arc time
- Includes a welding fleet management tool
- Anticipates service needs and records service history
- Designed for monitoring MIG/MAG and TIG welding
- Web based reporting
- WLAN technology

Controlling the quality with the ArcQuality module

FastMig X 450 is fully compatible with the most sophisticated welding quality management system in the world: Kemppi Arc System 2.0, module ArcQuality.

ArcQuality is an easy and comprehensive way of controlling that all welding procedure specifications are followed and that welders are suitably qualified. The system reports non-conformances in real time and automatically collects welding data for quality documentation, offering traceability up to individual welds.

How it works

Before welding commences, the operative's first task is to log into the ArcQ system using the ArcQuality smart reader. By scanning the bar code on their personnel identification name tag, the welders professional qualifications are identified.

Scanning and recording the WPS bar code ensures such variables as qualifications are suitable and in date. Filler material and shielding gas selection is also scanned, compared and verified.

The ArcQuality smart reader LCD screen communicates WPS compliance or deviation using bright green or red screen alerts, ensuring the welder is reliably informed and able to take suitable corrective action if required before welding, avoiding wasted time and costly rework.

Quality office reporting monitors welding activity and WPS compliance from all ArcQuality active work stations, allowing swift supervisory intervention should local warnings have been missed or ignored.

Read more about the ArcQuality on Kemppi's Web site at www.kemppi.com.

ArcQ



ArcQuality reporting is clear and concise, measuring and recording WPS conformity or deviation.

Technical specifications

FastMig X 450

Connection voltage	3~50/60 Hz	400 V, -15...+20 %
Rated power	60 % ED	22.1 kVA
	80 % ED	
	100 % ED	16.0 kVA
Connection cable	HO7RN-F	4G6 (5 m)
Fuse (delayed)		35 A
Output 40 °C	60 % ED	450 A
	100 % ED	350 A
Welding current and voltage range	MMA	15 A/20 V – 450 A/46 V
	MIG	20 A/12 V – 450 A/46 V
Max. welding voltage MMA		46 V
Open circuit voltage	MMA	$U_0 = 70 - 98 \text{ V}, U_{av} = 50 \text{ V}$
	MIG/MAG, Pulse	$U_0 = 80 - 98 \text{ V}$
Open circuit power		100 W
Power factor at max. current		0.88
Efficiency at max. current		87 %
Operating temperature range		-20...+40 °C
Storage temperature range		-40...+60 °C
EMC class		A
Minimum short circuit power S_{SC} of supply network		5.5 MVA
Degree of protection		IP23S
External dimensions	L x W x H	590 x 230 x 430 mm
Weight		38 kg
Voltage supply for auxiliary devices		50 V DC / 100 W
Fuse (delayed)		6.3 A
Voltage supply for cooling unit		24V DC / 50 VA
Suitable for generator use		

FastMig MXP 37 Pipe

Operating voltage (safety voltage)		50 V DC
Rated power		250 W
Output 40 °C	60 % ED	520 A
	100 % ED	440 A
Wire feed speed		0.5 – 25 m/min
Wire feed mechanism		4-roll, two motors
Diameter of feed rolls		32 mm
Filler wires	∅ Fe, Ss	0.6 – 2.0 mm
	∅ Cored wire	0.8 – 2.4 mm
	∅ Al	0.8 – 2.4 mm
Wire spool	max. weight / max. ∅	20 kg / 300 mm
External dimensions	L x W x H	590 x 240 x 445 mm
Weight		13.1 kg

Ordering information:

FastMig X 450 power source		6103450
FastMig X 450 power source	No control panel	610345001
FastMig MXP 37 Pipe Steel wire feeder	300 mm	6103700
FastMig MXP 37 Pipe Stainless wire feeder	300 mm	6103710
Control devices		
Remote X 37 control panel		6103800
Software products		
MatchLog function		9991017
MatchChannel function	Included with MatchLog licence	
WisePulseMig licence for pulse welding	Included with MXP 37 Pipe Stainless	9990417
MMA welding process	Included with power source	9991016
WiseFusion function	Included with MXP wire feeder	9991014
WisePenetration function		9991000
Pipe Steel welding program package	Included with MXP 37 Pipe Steel	99904274
Pipe Stainless welding program package	Included with MXP 37 Pipe Stainless	99904275
– Other welding software available.		
Accessories		
Cooling unit FastCool 10		6068100
Cabinet heater KWF 200/300		6185288
Magnetic clamp (earth return cable)	600 A	9871570
Magnetic clamp (voltage sensing cable)	200 A	9871580
SuperSnake GT02S sub feeder	10 m	6153100
SuperSnake GT02S sub feeder	15 m	6153150
SuperSnake GT02S sub feeder	20 m	6153200
SuperSnake GT02S sub feeder	25 m	6153250
SuperSnake GT02S W sub feeder	10 m	6154100
SuperSnake GT02S W sub feeder	15 m	6154150
SuperSnake GT02S W sub feeder	20 m	6154200
SuperSnake GT02S W sub feeder	25 m	6154250
SuperSnake GT02S sub feeder synchronization unit for MXF and MXP wire feeders		W004030
KV 200 mounting plate for two wire feeders and TIG unit		6185249
Gun holder GH 30		6256030
Transport unit PM 500		6185291
Software installation device DataGun		6265023

NOTE: WiseRoot+ welding process is not available with SuperSnake sub feeder.

Kemppi Oy

PO Box 13, 15801 Lahti, Finland,
Tel. +358 3 899 11, Fax +358 3 899 428,
info@kemppi.com, www.kemppi.com

Kemppi (U.K) Ltd.

Martti Kemppi Building, Fraser Road, Priory Business Park, Bedford MK44 3WH, United Kingdom,
Tel. +448456444201, Fax +448456444202,
sales.uk@kemppi.com, www.kemppi.co.uk

Kemppi Australia Pty Ltd

13 Cullen Place, Smithfield NSW 2164, Australia,
Tel. + 61 2 9605 9500, Fax + 61 2 9605 5999,
info.au@kemppi.com

Kemppi India Private Limited

Lakshmi Towers, New No. 2/770, First Main Road, Kazura Garden,
Neelankarai, Chennai—600 041, Tamil Nadu, INDIA
Tel +91-44-4567 1200, Telefax +91-44-4567 1200
sales.india@kemppi.com

Cables

Earth return cable	5 m, 50 mm ²	6184511
Earth return cable	5 m, 70 mm ²	6184711
MMA welding cable	5 m, 50 mm ²	6184501
MMA welding cable	5 m, 70 mm ²	6184701

Interconnection cables, air cooled

FASTMIG X 70-1.8-GH	1.8 m	6260468
FASTMIG X 70-5-GH	5 m	6260469
FASTMIG X 70-10-GH	10 m	6260470
FASTMIG X 70-20-GH	20 m	6260471
FASTMIG X 70-30-GH	30 m	6260472

– For other lengths, please contact Kemppi.

Interconnection cables, water cooled

FASTMIG X 70-1.8-WH	1.8 m	6260473
FASTMIG X 70-5-WH	5 m	6260474
FASTMIG X 70-10-WH	10 m	6260475
FASTMIG X 70-20-WH	20 m	6260476
FASTMIG X 70-30-WH	30 m	6260477

– For other lengths, please contact Kemppi.

Remote controls

Remote control unit R10	5 m	6185409
Remote control unit R10	10 m	618540901
Remote control unit R20	5 m	6185419
Remote control unit R30 DataRemote	5 m	6185420
Remote control unit R30 DataRemote	10 m	618542001
Remote control extension cable	10 m	6185481