

OPEN WELD HEADS – MU IV



MU IV standard version

CHARACTERISTICS

- Heads for all welding applications for use on site or in workshop
- Easy and quick adjustable clamping and positioning device
- Each model covers a wide range of diameters. For example the MU IV 115 can cover a range of diameters from 25 to 115 mm
- Optional slide assemblies for arc voltage height control (AVC) and weaving motion (OSC)
- Modular design for simple adaptation to various tube geometries

USE

Easy adaptation to every applications in pipe systems, for the welding with or without filler wire

TECHNICAL DATA

- Range of diameters from 8 to 275 mm (0.325" to 11.17")
- High duty cycle due to water cooling of the torch
- Torch adjustable to 45°

APPLICATION SECTORS

- Chemical industries
- Aeronautics / Aerospace
- Naval constructions
- Energy
- Nuclear industry
- Pharmaceutical / Biochemical industry
- Food & beverage industry

PROCESS

- TIG welding with or without filler wire

ACCESSORIES

- Clamping system (C) including one shell for one tube O.D.
- Protective case with foam interior
- 9 m hose cable
- Spare parts box

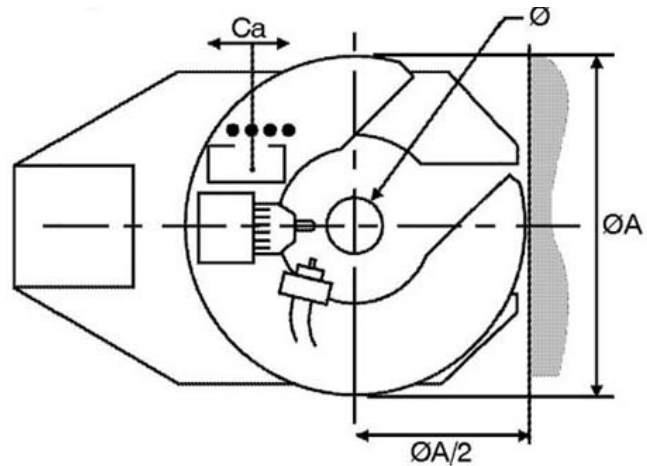
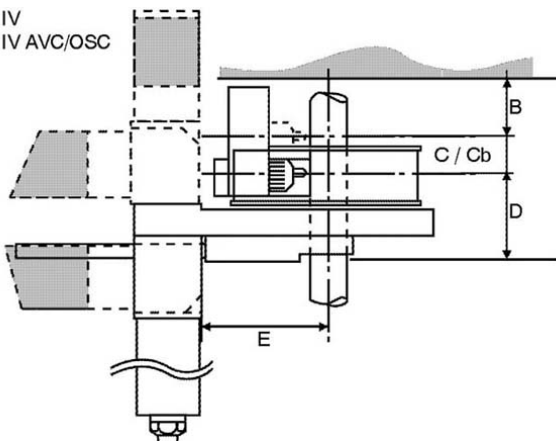


MU IV with AVC/OSC



MU IV with integrated wire feeder

MU IV
MU IV AVC/OSC



MU IV Min. Ø/ Max. Ø	Ø A	B	C	D	E
MU IV 8/28 P *	116	16	5	96	70
MU IV 8/38 P	126	16	5	96	72
MU IV 19/64 P *	155	16	5	98	93
MU IV 19/80 P	172	16	5	97	103
MU IV 19/104 P *	204	16	5	90	121,5
MU IV 25/115 P	215	16	5	101	148
MU IV 25/128 P *	240	16	5	99	173
MU IV 76/195 P	410	30,5	14	158,5	208
MU IV 101/245 P *	470	30,5	14	174,5	254
MU IV 114/275 P	500	30,5	14	172,5	276
MU IV 14/28 C *	116	16	5	79	70
MU IV 14/38 C *	126	16	5	79	72
MU IV 30/64 C *	155	16	5	88	93
MU IV 30/80 C *	172	16	5	88	103
MU IV 44/104 C *	204	16	5	90	121,5
MU IV 50/115 C *	215	16	5	92	148
MU IV 50/128 C *	240	16	5	108	173
MU IV 76/195 C *	410	30,5	14	178	208
MU IV 101/245 C *	470	30,5	14	180	254
MU IV 114/275 C *	500	30,5	14	178,5	276

MU IV AVC/BL Min. Ø/ Max. Ø	Ø A	B	Amplitude		D	E
			Ca	Cb		
MU IV 8/38 P	142	23	20	20	150	72
MU IV 19/64 P *	184	16	20	20	136	93
MU IV 19/80 P	200	16	20	20	136	103
MU IV 30/104 P *	222	16	20	20	140	121,5
MU IV 42/115 P	235	16	20	20	139	148
MUV 42/128 P *	340	16	20	20	134	173
MU IV 76/195 P	410	16	20	20	165	208
MU IV 101/245 P *	500	16	20	20	179	254
MU IV 114/275 P	530	16	20	20	179	276
MU IV 14/38 C *	142	23	20	20	130	72
MU IV 30/64 C *	184	16	20	20	128	93
MU IV 30/80 C *	200	16	20	20	126	103
MU IV 44/104 C *	222	16	20	20	128	124,5
MU IV 50/115 C *	235	16	20	20	128	148
MU IV 50/128 C *	340	16	20	20	143	173
MU IV 76/195 C *	410	16	20	20	185	208
MU IV 101/245 C *	500	16	20	20	184	254
MU IV 114/275 C *	530	16	20	20	184	276

Standard

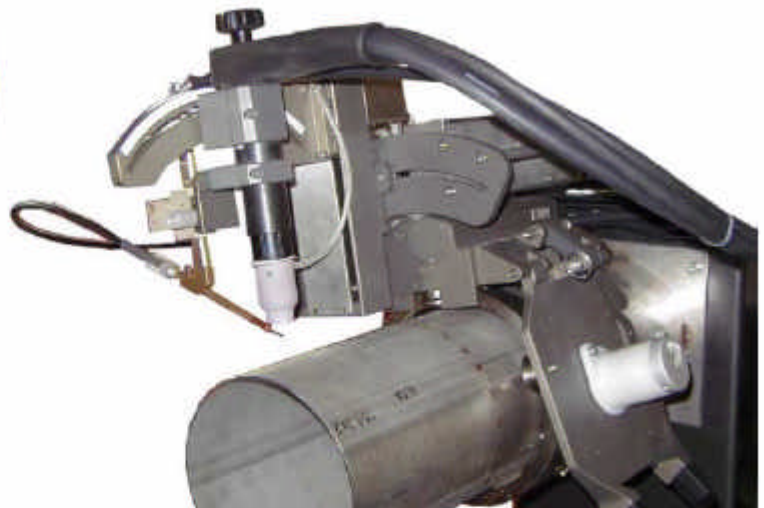
* on demand

POLYSOUDE POLYCAR 60/ POLYCAR130

Welding of pipe to pipe joints



Orbital driving vehicle Polycar 60



Orbital driving vehicle Polycar 130



Macro of a narrow
TIG-hotwire weld
(50 mm wall thickness)



Polycar on rail
for longitudinal welding

Standard equipment

Orbital driving vehicle with hosepack 9 m
 High duty cycle due to water cooling
 Integrated wire feeder 5 rolls Ø8 (trapezoid-groove)
 Special 2-axes wire holder and adjustment device
 Cold-/hotwire liner
 Uptake torch and tilting device with scale +/- 45°
 Using a position based on integrated pulse generator rotation and an encoder coordinates the weld cycle. Current and wire are synchronised relative to the position of the electrode on the tube. Closed loop feedback regulates the travel speed and wire feed rates to a close tolerance.
 Motorized cross-slide-system (AVC- and OSC-slide)
 for arc length control and torch oscillation
 Simple adaptation to different tube geometries
 Water resistant storage case.
 Toolings and spare parts

Material

Steel
 Stainless steel
 Titanium
 Inconel
 Aluminium
 etc.

Area of use

Flexible and adaptable driving vehicle for all welding tasks on welding of pipe constructions
 Polycar 60 from tube outer-diameter 114 mm
 Polycar 130 from tube outer-diameter 168 mm

- Chemical Industry
- Shipbuilding
- Power Plant Construction

Process

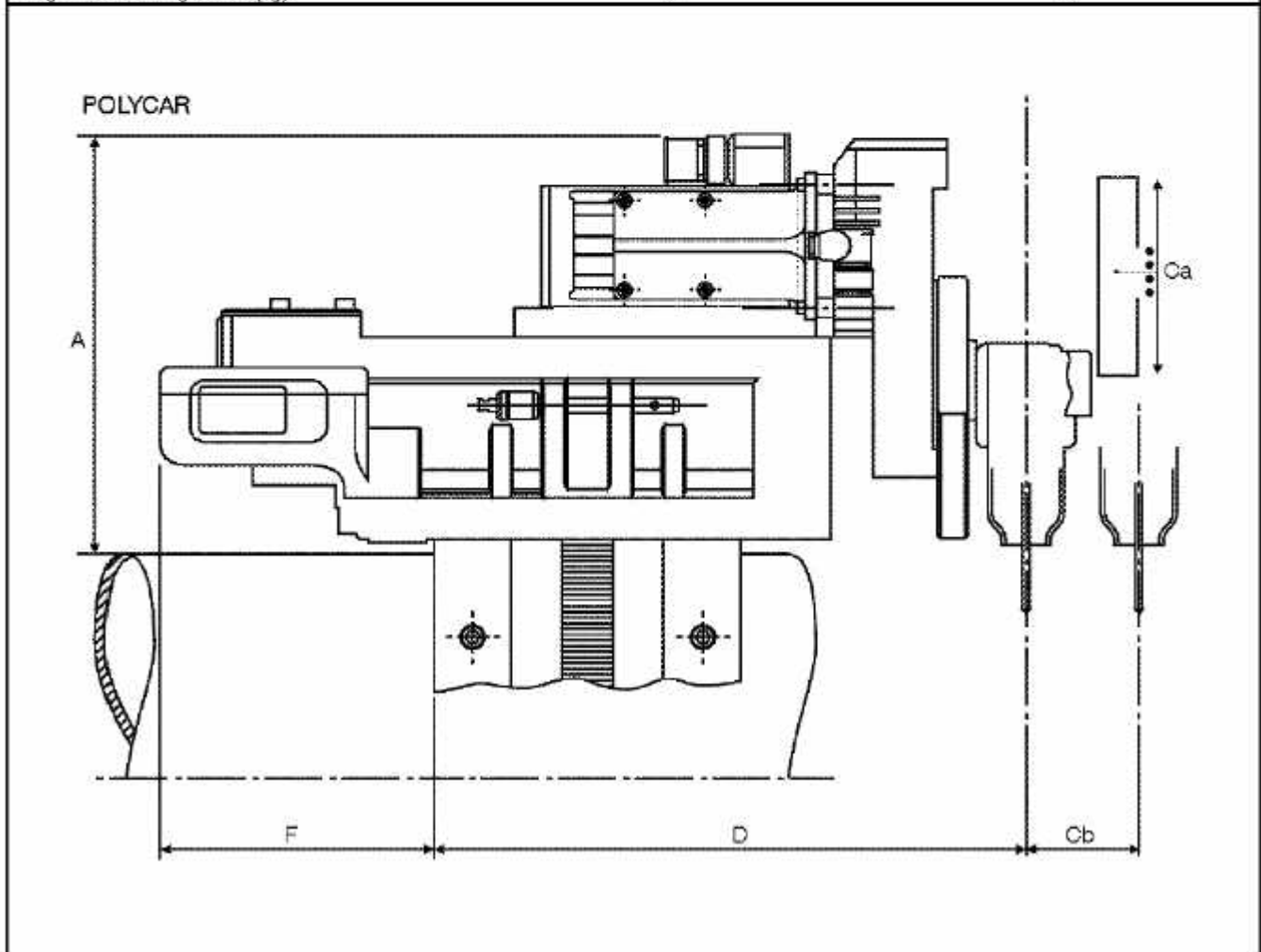
TIG welding with filler wire (cold-/ hotwire)
 Multi pass with filler wire in combination with
 arc length control (AVC) and torch oscillation (OSC)

Accessories

Precise guide ring
 Rail-System
 2" or 4" distance-heel for guide ring and rail
 Camera-System
 Hosepack-extension
 Forming gas drag

Technical Data:

Technical data	Polyoar 60	Polyoar 130
Tube outer-diameter (mm)	from 114	from 168
Max. wall-thickness of tube (mm)	30 mm	200 mm
Welding process	TIG/ TIG coldwire	TIG/ TIG coldwire/ TIG hotwire
Dimensions (mm)		
• A (min. space around tube)	180	300
• Ca (AVC – travel way)	60	130
• Cb (OSC – travel way)	30	130
• D (min. straight length)	232	347
• F (Clearance from guide ring)	107,5	140
Drive motor-slides (AVC/ OSC)	stepper motor	stepper motor
AVC-axis speed range (mm/ min)	10 – 500	20 – 1500
OSC-axis speed range (mm/ min)	20 – 1000	20 – 1500
Tilting range torch (°)	+/- 45	+/- 45
Max. welding current (A)	300	500
Diameter electrode (mm)	2,4 (standard)/ 3,2/ 4,0	2,4 (standard)/ 3,2/ 4,0/ 4,8
Drive rotation	DC motor	DC motor
Drive speed rotation (mm/ min)	20 – 400	20 – 400
Integrated wire spool (mm)	100/ 200	200
Drive wire feeder	DC motor	DC motor
Wire feeder speed – coldwire (mm/ min)	95 – 2068	95 – 2068
Wire feeder speed – hotwire (mm/ min)	360 – 7800	360 – 7800
Wire diameter (mm)	0,8 (standard)/ 1,0/ 1,2	0,8 (standard)/ 1,0/ 1,2
Weight orbital driving vehicle (kg)	9	14



PS 164 POWER SOURCE

for orbital welding with or without filler wire



Ideal for use on site or in workshop



Easy connection with quick self scaling connectors



*Integrated printer
Ideal for monitoring welding cycles and for traceability*



Control panel for operator / PS 164

CHARACTERISTICS

- 16 program "user" memory directly accessible by remote control
- Library with 60 pre-defined programs covering various common material types, tube diameters and wall thickness
- Storage of programs by internal memory and/or memo chip card
- LCD screen for welding parameters
- Data acquisition of actual parameters, with control ticket print out via integrated printer
- Option: recording of welding parameters on a compact flash card

USE

User friendly due to high performance, intuitive programming

TECHNICAL DATA

- Current ranges:
 - 4 to 160 A (230 V) + 4 to 50 A (at 230 / 115 V)
 - 4 to 100 A (at 100 / 115 V)
- Duty cycle: 160 A / 40% 110 A / 100% (230 / 200 V)
- Screen display during welding:
 - of welding current
 - of voltage
 - of torch position in degrees
- Remote control pendant with:
 - program selector switch
 - cycle start and cycle stop
 - emergency stop
 - manual movement control torch and wire feeder motions
 - real time modification of parameters
 - gas and water circulation control / test
 - manual slope down

APPLICATION SECTORS

- Food industry
- Aeronautics / Aerospace
- Microelectronics
- Pharmaceutical / Biochemistry
- Heating and ventilation

WELDING PROCESS

- DC TIG welding with or without wire

ACCESSORIES

- PC programming kit
- Compact flash and/or memo-card reader for PC version
- Welding program memory card
- 15 m extension cable
- Gas hose
- Pressure regulator and flow meter Argon/Argon- Hydrogen

ADVANTAGES

- Integrated torch cooling system by water circulation in closed circuit
- Compact and easy to transport
- Possibility to connect heads with tachometer, as option
- Possibility of connection to manual TIG torch

TECHNICAL DATA PS 164

Power input	Single phase + earth 100 V / 115 V / 200 V / 230 V +/- 10% 50 or 60 Hz
Current rating	16
Open circuit voltage	60 V
Power	3.6 kW
Insulation class	F
Protection class	IP 23
Welding current range	Range 160 A: 4 to 160 A (200 V / 230 V) 4 to 100 A (100 V / 115 V) Range 50 A: 4 to 50 A
Regulation of intensity	± 1% when I>100A and ± 1A when I<=100A
Duty cycle	160 A / 40% at 230 V 100 A / 50% at 115 V 110 A / 100% at 230 V 80 A / 100 % at 115 V
Pulse time	from 10 to 9999 ms
Movement controls	Torch rotation Wire feeder
Precision on movements	+/- 1% for Vp >= 250 (Vp = programmed travel speed) +/- 4 for Vp < 250
LCD-Display	4 x 20 characters
Gas controls	Gas torch, backing gas (option)
Power source cooling	Forced ventilation
Torch cooling	By cooling liquid in closed circuit with flow safety valve
Display of real values during cycle	Arc voltage, welding current, torch position in degrees
Programs in "user" memory	16 maximum
Program library	60
Program sectors	10 maximum
Program storage	Memo chip card
Dimensions L x W x H	660 x 320 x 465 mm
Weight	30 kg
Standard	EN 60974-1 and EN 50199

The PS 164 power source for orbital welding allows the use of closed welding heads, open welding heads without AVC/OSC

