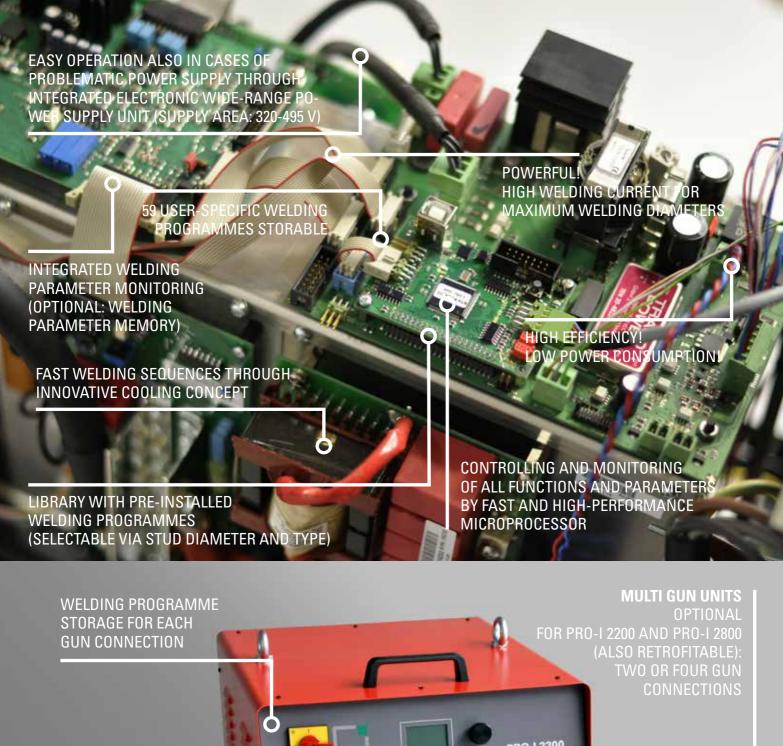
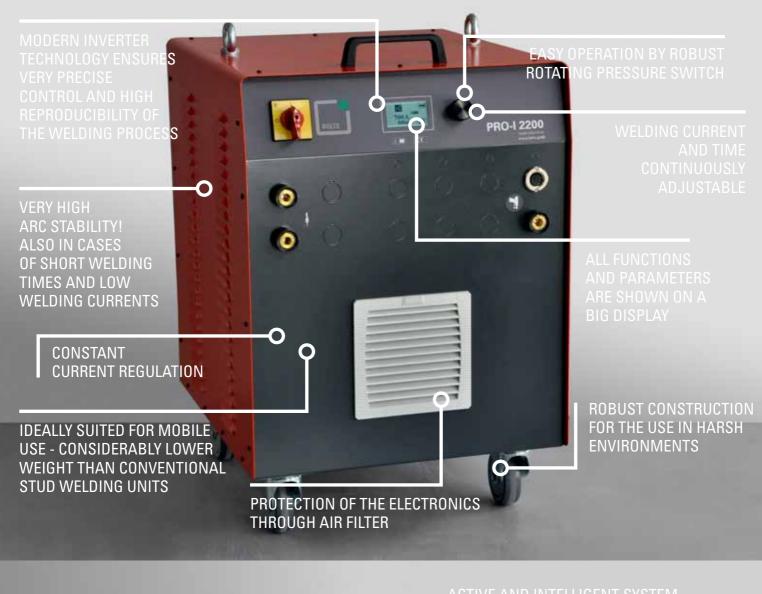


INVERTER STUD WELDING UNITS FOR DRAWN ARC AND SHORT CYCLE STUD WELDING MODERN INVERTER TECHNOLOGY FOR EXCELLENT WELDING QUALITY





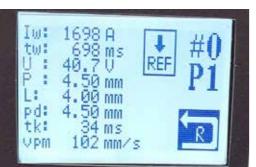






## HIGHLIGHTS AND SPECIAL EQUIPMENT











### WELDING PARAMETER MONITORING AND DOCUMENTATION

The welding parameter monitoring, integrated as standard in all series PRO-I stud welding units, enables a quality control of the finished welds. The units can detect each discrepancy from the ideally permitted values. So the welding supervisor and the operator can immediately recognise deficits in the welding operation like insufficient balancing of blowout effects, tilt of the welding gun etc. Consequently, the production control can be reduced to monitoring and recording of all welds by the unit and a subsequent visual inspection.

#### Features:

- » recording of welding current, welding time and voltage for each weld
- » recording of stud protrusion before the weld as well as stud travel (lift, immersion depth, immersion speed and short-circuit time) during the weld (only when a welding gun resp. an automatic welding head with travel measuring system is used)
- » comparison of the recorded welding parameters (actual values) to the parameters of a reference weld (set values) (tolerances adjustable)

- » in case of variances to the reference weld a warning is displayed or the unit is locked for further welds until the release by the operator (functionality can be switched off)
- » storage of the last ten welding parameter sets
- » optional (also retrofitable): welding parameter memory for the storage of 16000 welding parameter sets (storage with date and time) with USB-interface for data transmission (welding parameter sets) to a PC

# COMFORTABLE, EXACT AND FAST ADJUSTING OF STUD WELDING GUN RESP. AUTOMATIC WELDING HEAD

» The values for stud protrusion and lift that are adjusted on the gun resp. the welding head can be shown in the display of the unit. Thus, the gun resp. the welding head can be adjusted very comfortable, exact and fast. (only when a welding gun resp. an automatic welding head with travel measuring system is used)

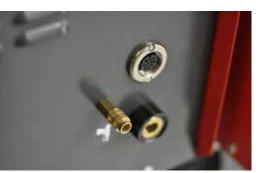
#### AUTOMATIC STUD FEEDING

- » An automatic module enables the connection of the automatic stud feeder VBZ and an automatic welding gun.
- » For multi gun units each gun connection can be equipped with an automatic module.



#### ADAPTER BOX PRO-SPLIT

- » available as accessory for all series PRO-I units
- » enables the operation of up to four stud welding guns with different adjustment values for welding current and time on one unit
- » automatic detection of used gun
- » weld counter for each gun connection
- » with up to four shielding gas modules



#### SHIELDING GAS MODULE FOR STUD WELDING WITH SHIELDING GAS

- » optionally available for all series PRO-I units
- » enables stud welding with shielding gas for weld pool backing
- » shielding gas pre- and post-flow time continuously adjustable
- » For multi gun units each gun connection can be equipped with a shielding gas module.



#### TROLLEY DESIGN

- » optional for PRO-I 2200/2800 (also retrofitable): design as trolley for mobile use on construction sites
- » two big, extremely robust castors
- » pull-out telescopic handle





PRO-I 1300 + PRO-I 1300:	max. welding current/time: 2100 A/1500 mS ⇒ max. welding diameter 22 mm
PRO-I 1300 + PRO-I 1300 + PRO-I 1300:	max. welding current/time: 3150 A/1500 mS ⇒ max. welding diameter 25 mm
PRO-I 2200 + PRO-I 1300:	max. welding current/time: 3150 A/1500 mS  → max_welding diameter, 25 mm

# TECHNICAL DATA AND CHARACTERISTICS

	PRO-I 1300	PRO-I 2200	PRO-I 2800
Welding range (Ø mm)			
Stud welding with ceramic ferrule	3-13	3-22	3-25
Stud welding with shielding gas	3-12	3-12	3-12
Short cycle stud welding with or without shielding gas	2-10	2-10	2-10
Welding current (A)	100-1050	100-2100	100-3150
Welding time (mS)	1-1500	1-1500	1-1500
Constant current regulation	Х	х	Х
Welding parameter monitoring Welding parameter monitoring	X	х	x
Welding parameter memory with USB-interface for data transmission to a PC	0	0	0
Gun connections			
1 gun connection	X	X	X
2 gun connections		0	0
4 gun connections		0	0
Utilisable with adapter box PRO-SPLIT	X	X	X
Suitable for through deck welding		Х	X
Operation			
Microprocessor control	X	X	X
Welding programme library	X	X	X
Welding programme storage	X	X	X
Device lock with PIN code	Х	X	X
Authorization concept (device lock, basic settings, menu structure)	х	х	х
Weld counter (resettable)	X	X	X
Lift test	X	X	X
Repeat cycle lock	X	X	X
Electronic function control	Х	X	X
Self diagnosis system	Х	X	X
Automatic function test	Х	Х	X
Shielding gas module	0	0	0
Automatic stud feeding	0	0	0
Error diagnosis systems  Excess temperature	x	x	X
Phase failure	X	x	X
Damage on welding/control cable	X	x	X
Damage on solenoid	X	x	X



	PRO-I 1300	PRO-I 2200	PRO-I 2800
Interfaces			
CAN-BUS	0	0	0
USB	0	0	0
Thermic controlled ventilator	Х	X	X
<b>Trolley design</b> with two big, extremely robust castors and pull-out telescopic handle		0	0
Lifting eyes		Х	X
2 swivel castors, 2 fixed castors		х	X
Robust, powder-coated metal housing	Х	х	Х
Dimensions			
Width (mm)	290	550	550
Height (mm)	360	850	850
Length (mm)	650	650	650
Weight (kg)	31	81	102
Electric connection			
Mains supply (V) at 50/60 Hz	320-495	320-495	320-495
Mains fuse external	35 AT	63 AT	125 AT
Mains plug CEE	32 A	63 A	(optional: 63 AT)  125 A  (optional 63 A)
Protection	IP 23	IP 23	IP 23
Control cable socket for welding guns	12-pin	12-pin	12-pin
Suitable welding guns			
PHM-10	X	0	0
PHM-12	X	0	0
PHM-160	0	0	0
PHM-161	0	0	0
GD 12sc	X	0	0
GD 12	X	0	0
GD 15	X	0	0
GD 16	X	0	0
GD 19	0	X	X
GD 22	0	X	x
GD 25	0	0	x
PHA-500	0	0	0
PHA-500-6	0	0	0



### **Bolte GmbH**

Flurstraße 25 D-58285 Gevelsberg

Tel.: +49 (0)2332 55106-0 Fax: +49 (0)2332 55106-11

Ohmstraße 3 D-85221 Dachau

Tel.: +49 (0)8131 5159-0 Fax: +49 (0)8131 5159-11

E-Mail: info@bolte.gmbh



www.bolte.gmbh