

GENERATION  
2022

- ✓ improved process monitoring
- ✓ simplified production control by monitoring of all welding parameters and subsequent visual inspection
- ✓ comfortable, exact and fast adjusting of stud welding gun resp. automatic welding head
- ✓ optimised process cycle

BOLTE



# PRO-I

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



STUD WELDING TECHNOLOGY BY



STUD WELDING

EASY OPERATION ALSO IN CASES OF PROBLEMATIC POWER SUPPLY THROUGH INTEGRATED ELECTRONIC WIDE-RANGE POWER SUPPLY UNIT (SUPPLY AREA: 320-495 V)

59 USER-SPECIFIC WELDING PROGRAMMES STORABLE

INTEGRATED WELDING PARAMETER MONITORING (OPTIONAL: WELDING PARAMETER MEMORY)

FAST WELDING SEQUENCES THROUGH INNOVATIVE COOLING CONCEPT

LIBRARY WITH PRE-INSTALLED WELDING PROGRAMMES (SELECTABLE VIA STUD DIAMETER AND TYPE)

POWERFUL!  
HIGH WELDING CURRENT FOR MAXIMUM WELDING DIAMETERS

HIGH EFFICIENCY!  
LOW POWER CONSUMPTION!

CONTROLLING AND MONITORING OF ALL FUNCTIONS AND PARAMETERS BY FAST AND HIGH-PERFORMANCE MICROPROCESSOR

WELDING PROGRAMME STORAGE FOR EACH GUN CONNECTION

OPTIONAL (ALSO RETROFITABLE): SHIELDING GAS MODULE AND/OR AUTOMATIC MODULE FOR EACH GUN CONNECTION

WELD COUNTER FOR EACH GUN CONNECTION

MULTI GUN UNITS  
OPTIONAL FOR PRO-I 2200 AND PRO-I 2800 (ALSO RETROFITABLE): TWO OR FOUR GUN CONNECTIONS

DIFFERENT ADJUSTMENT VALUES FOR WELDING CURRENT AND TIME FOR EACH GUN CONNECTION

AUTOMATIC DETECTION OF USED GUN



MODERN INVERTER TECHNOLOGY ENSURES VERY PRECISE CONTROL AND HIGH REPRODUCIBILITY OF THE WELDING PROCESS

VERY HIGH ARC STABILITY! ALSO IN CASES OF SHORT WELDING TIMES AND LOW WELDING CURRENTS

CONSTANT CURRENT REGULATION

IDEALLY SUITED FOR MOBILE USE - CONSIDERABLY LOWER WEIGHT THAN CONVENTIONAL STUD WELDING UNITS

PROTECTION OF THE ELECTRONICS THROUGH AIR FILTER

EASY OPERATION BY ROBUST ROTATING PRESSURE SWITCH

WELDING CURRENT AND TIME CONTINUOUSLY ADJUSTABLE

ALL FUNCTIONS AND PARAMETERS ARE SHOWN ON A BIG DISPLAY

ROBUST CONSTRUCTION FOR THE USE IN HARSH ENVIRONMENTS

## PowerPackage

possible combinations on the inside

ACTIVE AND INTELLIGENT SYSTEM FOR THE CONNECTION OF TWO (OPTIONAL: THREE) WELDING UNITS PRO-I TO A POWERFUL UNIT

INTEGRATED AS STANDARD IN THE MODELS PRO-I 1300 AND PRO-I 2200

ANY JOB-RELATED CONFIGURATION AT ANY TIME (ALSO E.G. BY USE OF RENTAL UNITS)

WELDINGS WITH HIGH CURRENTS OF UP TO 3150 A WITH ONLY INDIVIDUALLY FUSED 32 A CONNECTIONS (PRO-I 1300)

EASY TRANSPORT AND SUBSEQUENT CONNECTION OF THE LIGHT PRO-I 1300 UNITS IN AREAS DIFFICULT TO ACCESS

## 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 24500 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 retrofittable): design as trolley for mobile use on construction sites
- » two big, extremely robust castors
- » pull-out telescopic handle



### POSSIBLE COMBINATIONS POWER PACKAGE

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
<b>Welding range (Ø mm)</b>			
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
<b>Welding current (A)</b>	100-1050	100-2100	100-3150
<b>Welding time (mS)</b>	1-1500	1-1500	1-1500
<b>Constant current regulation</b>	X	X	X
<b>Welding parameter monitoring</b>			
Welding parameter monitoring	X	X	X
Welding parameter memory <small>with USB-interface for data transmission to a PC</small>	0	0	0
<b>Gun connections</b>			
1 gun connection	X	X	X
2 gun connections		0	0
4 gun connections		0	0
<b>Utilisable with adapter box PRO-SPLIT</b>	X	X	X
<b>Suitable for through deck welding</b>		X	X
<b>Operation</b>			
Microprocessor control	X	X	X
Welding programme library	X	X	X
Welding programme storage	X	X	X
Device lock with PIN code	X	X	X
Authorization concept <small>(device lock, basic settings, menu structure)</small>	X	X	X
Weld counter (resettable)	X	X	X
Lift test	X	X	X
Repeat cycle lock	X	X	X
Electronic function control	X	X	X
Self diagnosis system	X	X	X
Automatic function test	X	X	X
<b>Shielding gas module</b>	0	0	0
<b>Automatic stud feeding</b>	0	0	0
<b>Error diagnosis systems</b>			
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
<b>Interfaces</b>			
CAN-BUS	o	o	o
USB	o	o	o
<b>Thermic controlled ventilator</b>	x	x	x
<b>Trolley design</b> <small>with two big, extremely robust castors and pull-out telescopic handle</small>		o	o
<b>Lifting eyes</b>		x	x
<b>2 swivel castors, 2 fixed castors</b>		x	x
<b>Robust, powder-coated metal housing</b>	x	x	x
<b>Dimensions</b>			
Width (mm)	290	550	550
Height (mm)	360	850	850
Length (mm)	650	650	650
Weight (kg)	31	81	102
<b>Electric connection</b>			
Mains supply (V) at 50/60 Hz	320-495	320-495	320-495
Mains fuse external	35 AT	63 AT	125 AT <small>(optional: 63 AT)</small>
Mains plug CEE	32 A	63 A	125 A <small>(optional 63 A)</small>
Protection	IP 23	IP 23	IP 23
<b>Control cable socket for welding guns</b>	12-pin	12-pin	12-pin
<b>Suitable welding guns</b>			
PHM-10	x	o	o
PHM-12	x	o	o
PHM-160	o	o	o
PHM-161	o	o	o
GD 12sc	x	o	o
GD 12	x	o	o
GD 15	x	o	o
GD 16	x	o	o
GD 19	o	x	x
GD 22	o	x	x
GD 25	o	o	x
PHA-500	o	o	o
PHA-500-6	o	o	o

x – Standard, o – Option



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