

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-D

STUD WELDING UNITS FOR DRAWN ARC AND SHORT CYCLE STUD WELDING



STUD WELDING TECHNOLOGY BY



STUD WELDING

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

EASY OPERATION BY ROBUST ROTATING PRESSURE SWITCH

WELDING CURRENT AND TIME CONTINUOUSLY ADJUSTABLE

59 USER-SPECIFIC WELDING PROGRAMMES STORABLE

INTEGRATED WELDING PARAMETER MONITORING (OPTIONAL: WELDING PARAMETER MEMORY)

ALL FUNCTIONS AND PARAMETERS ARE SHOWN ON A BIG DISPLAY

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

CONSTANT CURRENT REGULATION

WELDING PROGRAMME STORAGE FOR EACH GUN CONNECTION

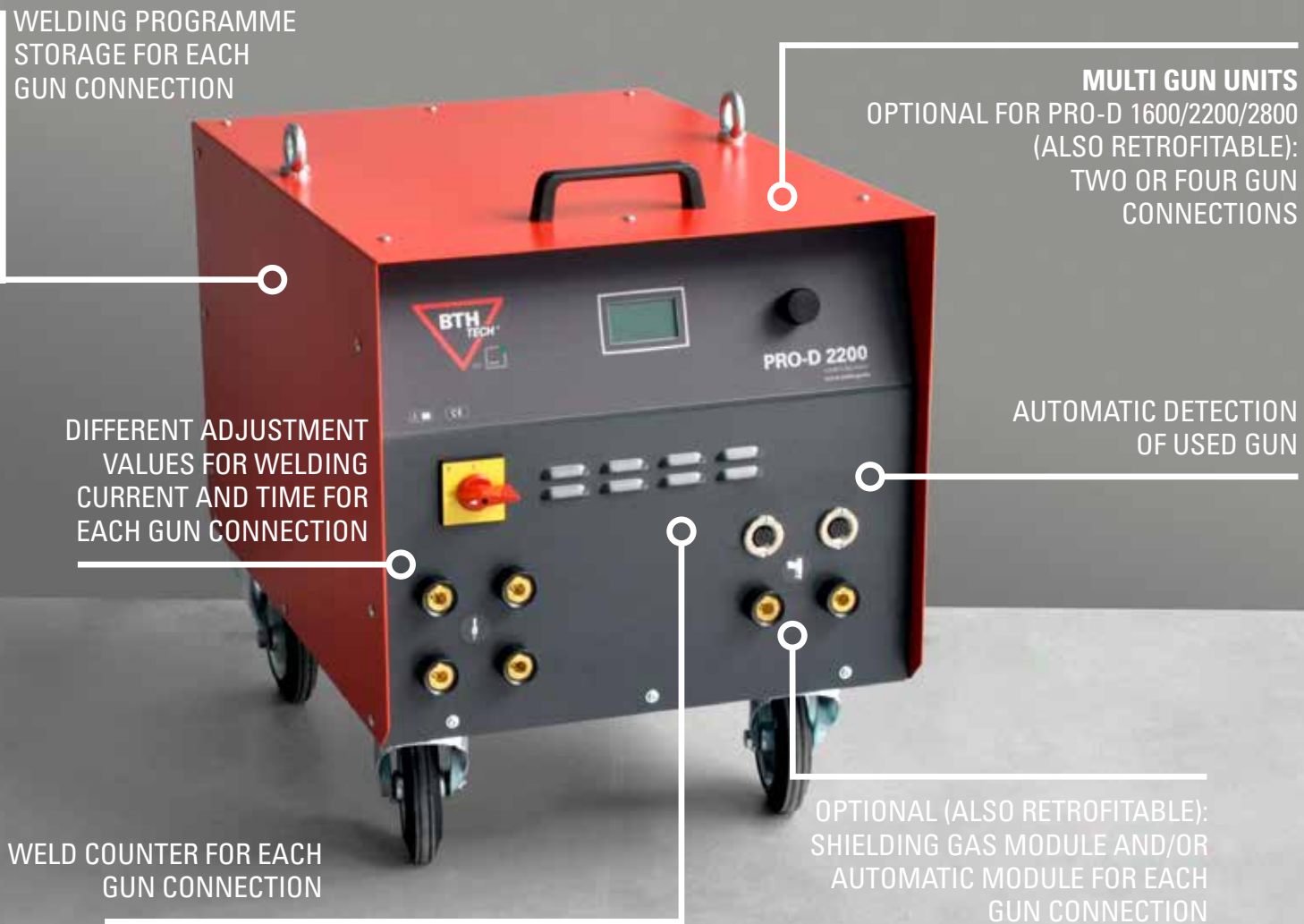
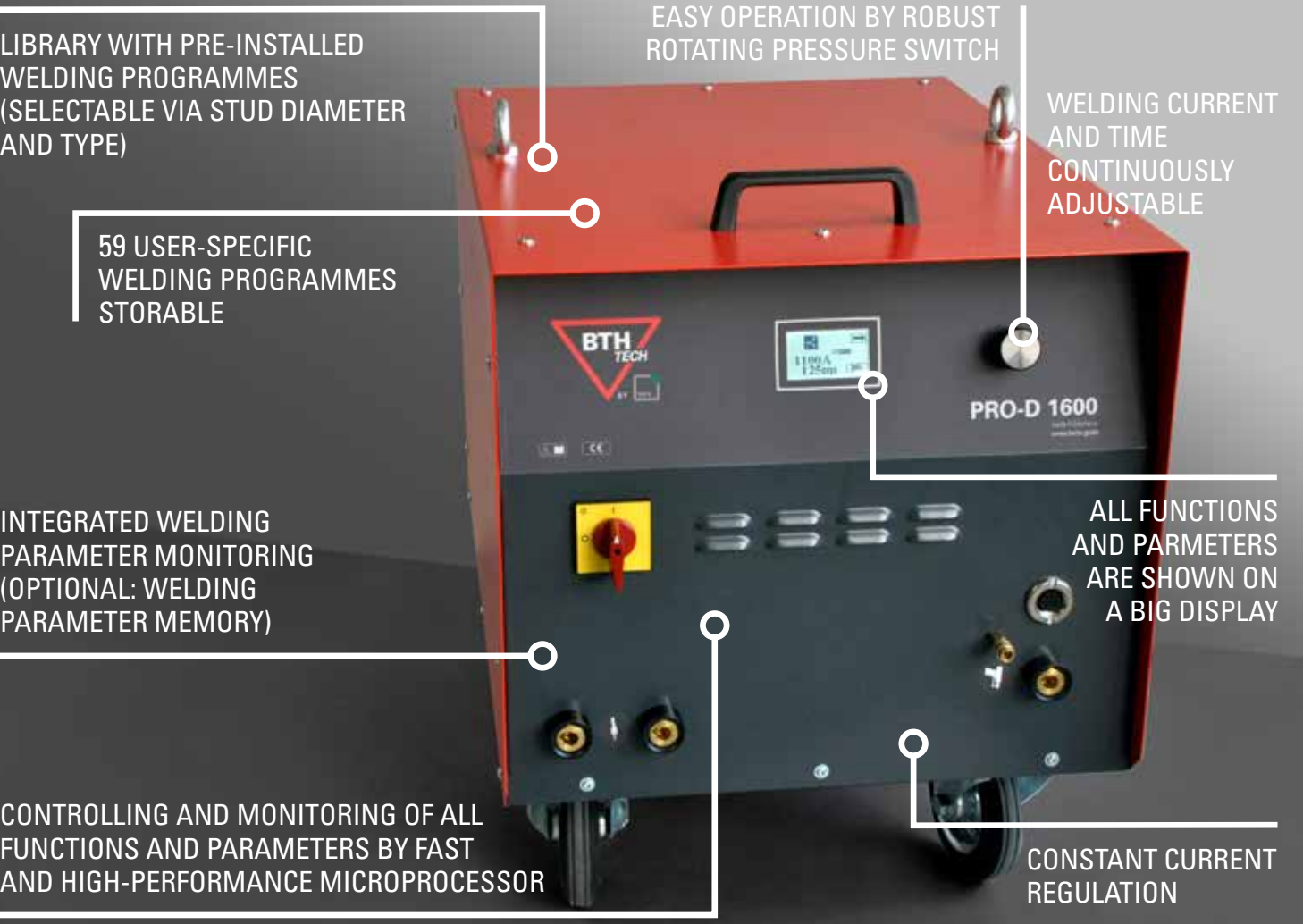
**MULTI GUN UNITS**  
OPTIONAL FOR PRO-D 1600/2200/2800 (ALSO RETROFITABLE): TWO OR FOUR GUN CONNECTIONS

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

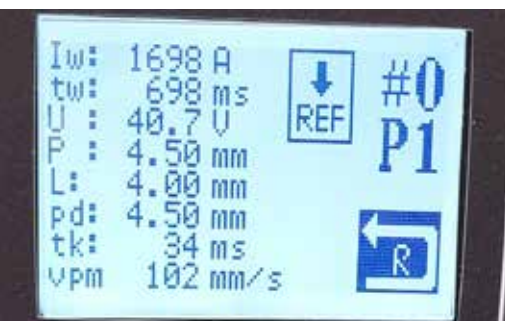
AUTOMATIC DETECTION OF USED GUN

WELD COUNTER FOR EACH GUN CONNECTION

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



## HIGHLIGHTS AND SPECIAL EQUIPMENT



### WELDING PARAMETER MONITORING AND DOCUMENTATION

The welding parameter monitoring, integrated as standard in all series PRO-D 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 retrofittable): 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)

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

- » optionally available for all series PRO-D 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.

## TECHNICAL DATA AND CHARACTERISTICS

	PRO-D 1600	PRO-D 2200	PRO-D 2800
<b>Welding range (Ø mm)</b>			
Stud welding with ceramic ferrule	3-16	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>	100-1400	100-2100	100-2600
<b>Welding time (mS)</b>	1-3000	1-3000	1-3000
<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	0
4 gun connections	0	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		
Phase failure	x		
Damage on welding/control cable	x		
Damage on solenoid	x		

	PRO-D 1600	PRO-D 2200	PRO-D 2800
<b>Interfaces</b>			
CAN-BUS	o	o	o
USB	o	o	o
<b>Ventilator in continuous operation</b>	x	x	x
<b>Lifting eyes</b>	x	x	x
<b>2 swivel castors, 2 fixed castors</b>	x	x	x
<b>Robust, powder-coated metal housing</b>	x	x	x
<b>Dimensions</b>			
Width (mm)	555	555	610
Height (mm)	680	680	680
Length (mm)	790	790	900
Weight (kg)	169	245	316
<b>Electric connection</b>			
Mains supply (V) at 50/60 Hz	230/ 400/ 415/ 460	230/ 400/ 415/ 460	230/ 400/ 415/ 460
Mains fuse external	35 AT	63 AT	125 AT
Mains plug CEE	32 A	63 A	125 A
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	o	o	o
PHM-12	o	o	o
PHM-160	o	o	o
PHM-161	x	o	o
GD 12sc	o	o	o
GD 12	o	o	o
GD 15	o	o	o
GD 16	x	o	o
GD 19	o	o	o
GD 22	o	x	o
GD 25	o	o	x
PHA-500	o	o	o
PHA-500-6	o	o	o

x – Standard, o – Option



## 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](mailto:info@bolte.gmbh)



[www.bolte.gmbh](http://www.bolte.gmbh)