



SEMI AUTOMATIC WELD PACKAGE

HAND WELDING WITH ROBOTIC PRECISION



SOLUTIONS FOR MOBILE OPERATION

**SEMI AUTOMATIC WELD PACKAGE: WELD PROCESS CONTROLLER // DCT POWER SOURCE //
WIRE FEEDER // WIRE GUIDANCE // CONTROL CABLE // TORCH // CONSUMABLES**

SKS WELD PACKAGE: SYSTEM OVERVIEW



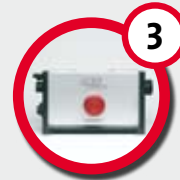
SKS WELD PACKAGE: OVERVIEW



1
WELD CONTROLLER +
SOFTWARE



2
DCT POWER SOURCE



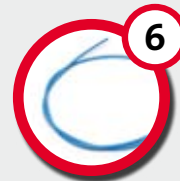
3
WIRE FEEDER



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BRACKET



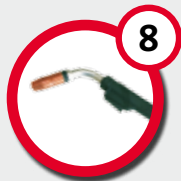
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TROLLEY



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WIRE GUIDANCE



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CONTROL CABLE



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HAND WELDING TORCH



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SYSTEM
CONFIGURATION

SKS SEMI AUTOMATIC WELD PACKAGE



Semi Automatic Weld Package

This brochure contains information about the SKS Weld Package, as well as consumables and spare parts. Depending on the welding task, various features of the welding machine components are available.

Industrial proven robot arc welding technology for hand welding

Latest process control technology

Standardized components



THE SKS SEMI AUTOMATIC WELD PACKAGE IS DESIGNED FOR THE FOLLOWING WELDING PROCESSES, MATERIALS AND POWER RANGE:

Processes: MIG/MAG (GMAW), MIG brazing

Materials: Fe, CrNi, Al, CuSi

Wire diameter: 0.8-1.6 mm

Max. power: 420 A - 60 % duty cycle/40 °C, air-cooled

1A

WELD PROCESS CONTROLLER



WELD PROCESS CONTROLLER Q1

WELD PROCESS CONTROLLER Q1

The Q1 calculates the optimal parameters for each welding process. Only basic data such as material, wire type, wire feed speed and type of gas must be entered.

Processes/features: MIG/MAG (GMAW), I Pulse, U Pulse

Jobs: 14

LCD: Display of measurement values

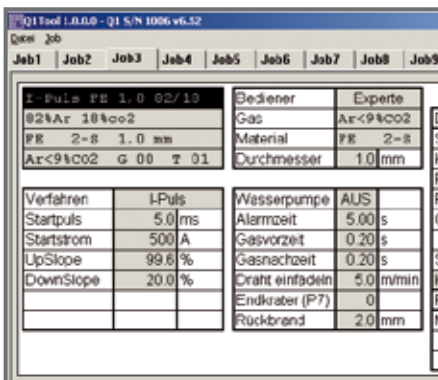
Ports: USB/SPW Bus with adapter cable

OVERVIEW WELD PROCESS CONTROLLER

DESCRIPTION	PART-NO.
Q1 Weld Process Controller	77-7250-00
Q1 SPW Bus Cable	77-7250-20
Q1 USB Cable	77-7250-10

1B

SOFTWARE



Q1 TOOL SOFTWARE

The additional free software tool allows reading and saving of weld data from/into the Q1 weld controller. With the USB adapter cable the Q1 can be directly connected to the computer.

The power is supplied via USB.

All parameters are clearly and intuitive displayed intuitive for best usability. Individual jobs as well as the complete content of the Q1 can be saved on the computer and restored into the Q1.



POWER SOURCE LSQ5

POWER SOURCE LSQ5 WITH DIRECT CONTROL TECHNOLOGY DCT

The LSQ5 ensures the optimum arc energy. It uniquely adjusts to different weld processes. Unlike conventional power sources with inverter technology, the LSQ5 with Direct Control Technology controls its switching transistors without any fixed clock frequency according to the needs of the weld process. Without any delay, the energy needed for the process is provided instantly. The flexible fine tuning is done by a central processor. The CPU continuously analyzes the weld process and current/voltage values on the basis of data obtained and optimally drives the switching transistors of the power section. This results in an extremely high efficiency and a low temperature development.

For world-wide usage, voltages can be configured without opening the power source.

ALTERNATIVE



LSQ3 POWER SOURCE WITH DIRECT CONTROL TECHNOLOGY (DCT)

The LSQ3 offers enough power reserves for special weld tasks like chassis and exhaust parts and other thin sheet metal applications.

LSQ3: 340 A at 60 % duty cycle,
3 x 400 V

LSQ3A: 340 A at 60 % duty cycle,
3 x 480 V

OVERVIEW POWER SOURCES

DESCRIPTION	PART-NO.
LSQ5	77-1185-00
LSQ3	77-1184-00
LSQ3A	77-1184-10

THE MAIN BENEFITS ARE:

DCT provides a speed regulation up to ten times higher compared to conventional inverter technology. This leads to excellent control behavior and shorter response times.

The weld properties are substantially improved. Software replaces hardware: Fewer components also increase the reliability in continuous operation.

SPECIFICATIONS:

DESCRIPTION	LSQ5	LSQ3	LSQ3A
Performance	420 A - 60 % duty cycle/40 °C	340 A - 60 % duty cycle/40 °C	340 A - 60 % duty cycle/40 °C
Processes	MIG/MAG (GMAW)		
Weight	49 kg	37 kg	37 kg
Primary voltage	3 x 400 (480) V	3 x 400 V	3 x 480 V
Wall mounting	Yes (optional)	Yes (integrated)	Yes (integrated)
Conformities	CE, CSA, UL	CE	CE
Dimensions L/W/H	450 x 400 x 540 mm	450 x 330 x 540 mm	450 x 330 x 540 mm



WIRE FEEDER PF5

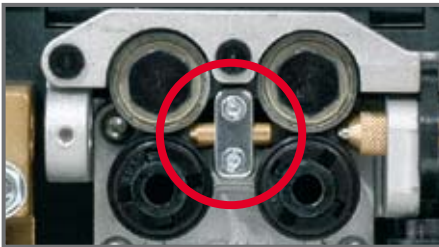
Smaller and less weight accompanied by improved efficiency over conventional wire feeders the PF5 follows the steady development of arc welding robots. Modern motor, gear and control technology provide a strong performance and highest precision possible. The robust plastic housing is electrically insulated. Two-cycle and four- cycle operation mode can be switched manually.

PF5

DESCRIPTION	PART-NO.
PF5 L HE (Euro Connector)	10-2-26
PF5 L HP (SKS Power Pin Connector)	10-2-25

TECHNICAL DATA

Weight	3.8 kg
Motor	70W
Wire feeding speed	2.5 - 25 m/min
Roll diameter	0.8 - 1.6 mm



CENTER GUIDES

Available in two versions:
For steel or aluminum wires

OVERVIEW OF CENTER GUIDES

DESCRIPTION	PART-NO.
Wire- ϕ < 2 mm for steel wire	12-2-1-15
Wire- ϕ 0.8 - 1.0 mm for aluminum	12-2-1-17
Wire- ϕ 1.2 - 1.6 mm for aluminum	12-2-1-19



PRESSURE ROLL

Pressure roll for wire feeder

PRESSURE ROLL

DESCRIPTION	PART-NO.
Pressure roll	12-2-3-0

3

WIRE FEEDER



DRIVE ROLL FOR WIRE FEEDER

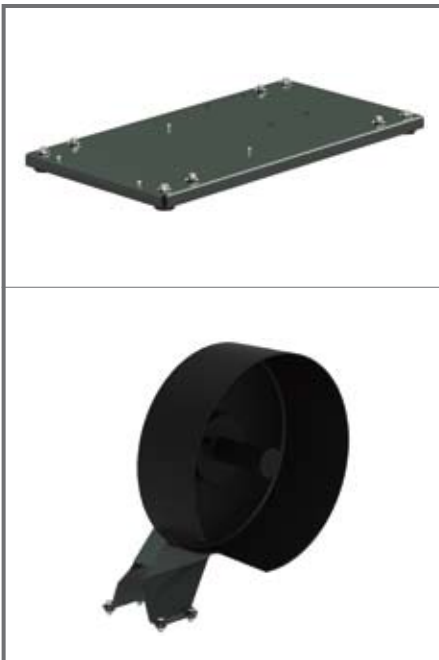
For wire diameters of 0.8 - 1.6 mm and different groove-types (V-groove for steel and U-groove for aluminum wires)

OVERVIEW OF DRIVE ROLLS

DESCRIPTION	PART-NO.
Wire- ϕ 0.8 mm, V-groove	12-2-3-08
Wire- ϕ 0.9 mm, V-groove	12-2-3-09
Wire- ϕ 1.0 mm, V-groove	12-2-3-10
Wire- ϕ 1.2 mm, V-groove	12-2-3-12
Wire- ϕ 1.4 mm, V-groove	12-2-3-14
Wire- ϕ 1.6 mm, V-groove	12-2-3-16
Wire- ϕ 1.0 mm, U-groove	12-2-3-110
Wire- ϕ 1.2 mm, U-groove	12-2-3-112
Wire- ϕ 1.6 mm, U-groove	12-2-3-116

4

BRACKET



BRACKET AND WIRE SPOOL HOLDER

Wire feeder bracket for wire feeder PF5 with holes and screws for installation.
Wire spool holder optionally available.

BRACKET / WIRE SPOOL HOLDER

DESCRIPTION	PART-NO.
Wire spool holder	15-10-2
Bracket for trolley SAM	14-10-5

5

TROLLEY

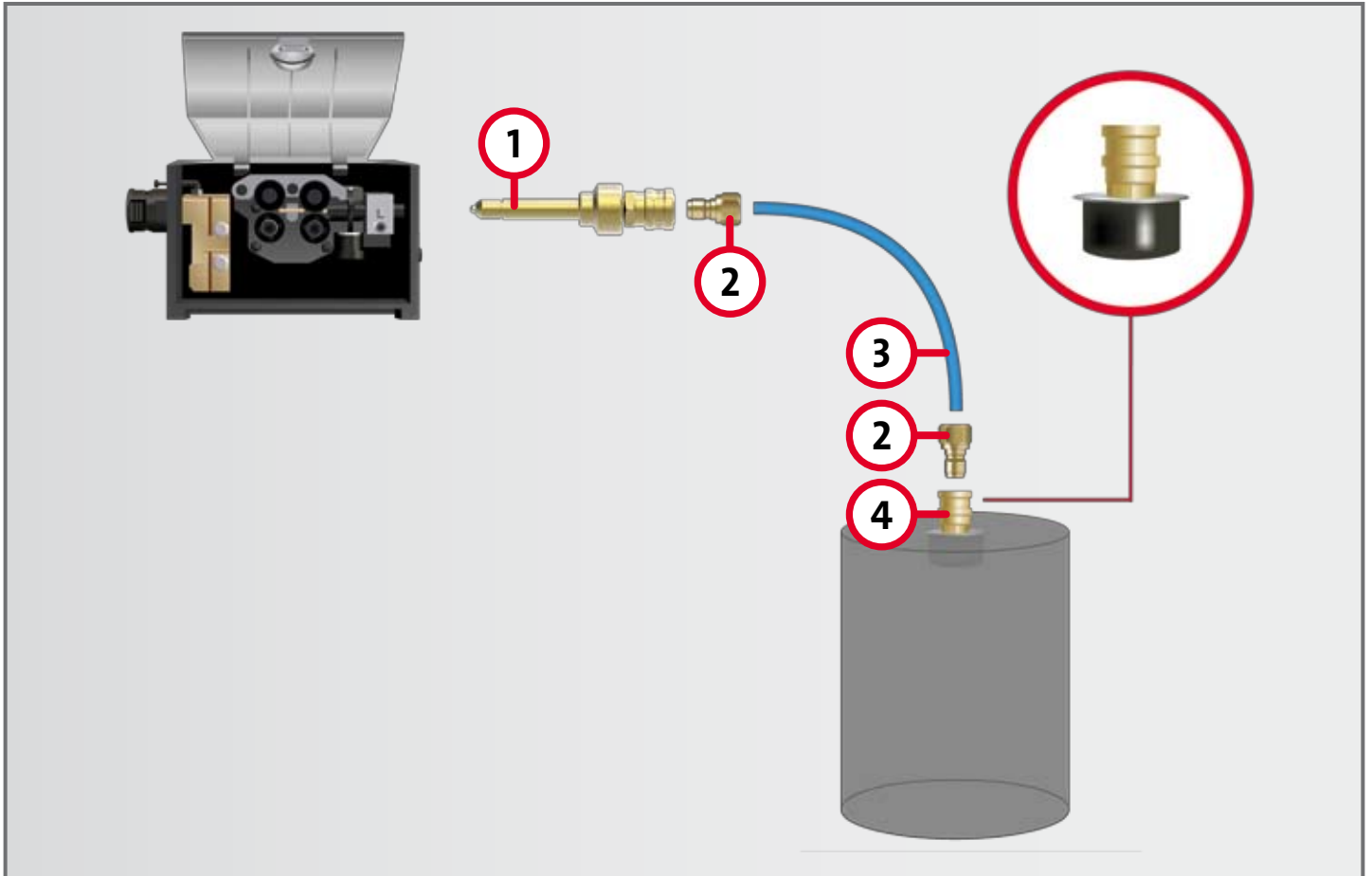


TROLLEY SAM

Trolley for LSQ Power Source (incl. holder for Q1 weld controller and connection for ground cable).

TROLLEY

DESCRIPTION	PART-NO.
Trolley SAM	24-1



- ① Wire inlet body with quick coupling at wire feeder
- ② Connector for polymer conduit
- ③ Polymer conduit
- ④ Drum connector

With the new SKS polymer guidance, the high efficiency of the whole system extends up to the drum.

ADVANTAGES OF POLYMER WIRE GUIDANCE

Extraordinary good glide properties reduces motor load

Minimized abrasive wear and reduced dirt in wire feeder and torch system

Lightweight design and a high inherent stability for easy installation

Length can be freely chosen by the customer

Cost optimized exchange: only the polymer conduit must be changed, connectors are reusable.

Optimized materials for longer life and reduced downtimes

ALTERNATIVE



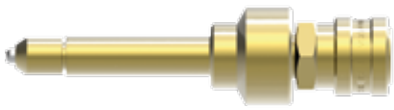
WIRE INLET BODIES FOR ADDITIONAL SYSTEMS

Beside the wire inlet body for the SKS wire guidance, inlet bodies for additional systems are available.

OVERVIEW OF WIRE INLET BODIES FOR ADDITIONAL SYSTEMS

DESCRIPTION	PART-NO.
M10 with internal thread for ESAB	10-2-0-50
UNF 3/8x24" with external thread	10-2-0-51
with 9.6 mm bore hole	10-2-0-52
with 13 mm bore hole	10-2-0-53
with PG9 thread	10-2-0-56
with 1/4" internal thread	10-2-0-60

1

**WIRE INLET BODY WITH QUICK COUPLING**

Wire inlet body for PF5 with quick coupling

WIRE INLET BODY WITH QUICK COUPLING

DESCRIPTION	PART-NO.
Wire inlet body with quick coupling	10-2-0-61

2

**CONNECTOR FOR POLYMER CONDUIT**

Connection nipple for polymer conduit

CONNECTOR FOR POLYMER CONDUIT

DESCRIPTION	PART-NO.
Connector for polymer conduit	44-40-3

PLEASE NOTE: Two connectors necessary.

3

**POLYMER WIRE CONDUIT**

Polymer wire conduit (sold by meter)

POLYMER WIRE CONDUIT

DESCRIPTION	PART-NO.
Polymer wire conduit, blue	44-9-1

4

**CONNECTOR FOR WIRE DRUM**

Quick connector with ceramic-inlet

CONNECTOR FOR WIRE DRUM

DESCRIPTION	PART-NO.
Connector for wire drum	44-40-1

7A

CABLE BUNDLES: POWER SOURCE TO WIRE FEEDER PF5



COAXIAL POWER CABLE

Coaxial power cable 72 mm² with internal gas flow

OVERVIEW OF CABLE BUNDLES LENGTHS

LENGTH	PART-NO.
1 m	20-4-1-1
3 m	20-4-1-3
5 m	20-4-1-5
7 m	20-4-1-7
10 m	20-4-1-10

7B

GROUND CABLE



GROUND CABLE WITH 70 MM² CONNECTOR AND CABLE PLUG

Cables with larger diameters are available on request.

OVERVIEW GROUND CABLE

LENGTH	PART-NO.
3 m	228078103
5 m	228078105
6 m	228078106
10 m	228078100



CLAMP FOR GROUND CABLE

400 A with connection bolt M10

CLAMP FOR GROUND CABLE

DESCRIPTION	PART-NO.
Clamp for ground cable	91-66-001801

7c

CONTROL CABLE

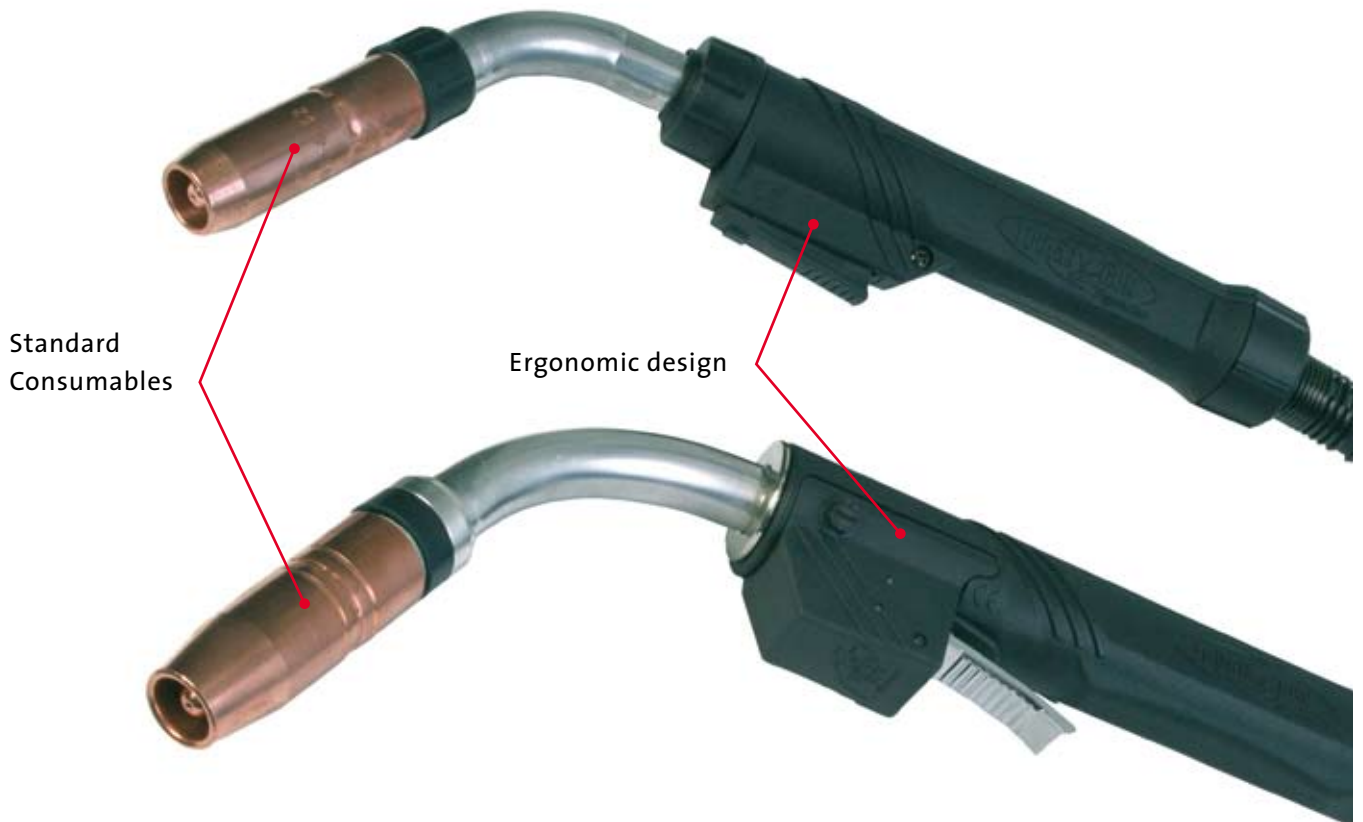


CONTROL CABLE: L700/SPW-BUS

Standard control cable to connect the components: Weld controller, power source, wire feeder.

OVERVIEW OF CONTROL CABLES

LENGTH	PART-NO.	LENGTH	PART-NO.
0.5 m	541031050	5 m	541031005
1 m	541031001	7 m	541031007
2 m	541031002	10 m	541031000
3 m	541031003		



Semi Automatic MIG Torch

Ergonomic design

Benefits of robotic arc welding now available for hand welding:

Long lasting with high quality parts

High operational times of consumables

Air-cooled even with heavy duty applications

Less repairs

Standard consumables



THE SKS SEMI AUTOMATIC WELD PACKAGE IS DESIGNED FOR THE FOLLOWING WELDING PROCESSES, MATERIALS AND POWER RANGE:

Processes: MIG/MAG (GMAW), MIG brazing

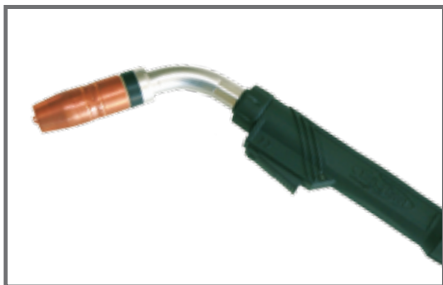
Materials: Fe, CrNi, Al, CuSi

Wire diameter: 0.8-1.6 mm

Max. power: 420 A - 60 % duty cycle/40 °C, air-cooled

8A

HAND WELDING TORCH



HAND WELDING TORCH (WITHOUT CONSUMABLES)

DESCRIPTION	PART-NO.
up to 300 A (Euro Connector)	SGB-3012MC
up to 400 A (Euro Connector)	SGB-4012MC
up to 300 A (Power Pin Connector)	SGB-3012MC-P
up to 400 A (Power Pin Connector)	SGB-4012MC-P



LINER FOR TORCH CABLE

For the following diameters and filler materials:

STEEL, BRONZE (WIRE- ϕ 0.8 - 1.0 MM)

LENGTH	PART-NO.
5.0 m	44-20-0810-50

STEEL, BRONZE (WIRE- ϕ 1.2 - 1.6 MM)

LENGTH	PART-NO.
5.0 m	44-20-1216-50

ALUMINUM (WIRE- ϕ 1.0 - 1.6 MM)

LENGTH	PART-NO.
5.0 m	44-25-1016-50

8B

HAND WELDING TORCH: ACCESSORIES



INSULATOR

INSULATOR

DESCRIPTION	PART-NO.
Gooseneck Insulator	58-1-5

**LOCK: RETAINING HEAD**

Retaining heads for heavy duty applications with thread for threaded gas nozzles for simple and safe installation

RETAINING HEAD

DESCRIPTION	PART-NO.
Power Lock heavy duty retaining head	43-9-2

**POWER LOCK: CONTACT TIPS**

Tapered design for high TCP reproducibility

Improved heat transfer extends lifetime

Improved power transition: constant arc quality

OVERVIEW OF CONTACT TIPS

WIRE-Ø	CU-ETP	CUZR
0.8 mm	40-4-5-0.8E	40-4-7-0.8S
0.9 mm	40-4-5-0.9E	40-4-7-0.9S
1.0 mm	40-4-5-1.0E	40-4-7-1.0S
1.2 mm	40-4-5-1.2E	40-4-7-1.2S
1.4 mm	————	40-4-7-1.4S
1.6 mm	————	40-4-7-1.6S

**GAS NOZZLES**

Standard gas nozzles with thread

OVERVIEW OF GAS NOZZLES (SHORT)

DESCRIPTION	PART-NO.
ø 16 mm, tapered	401-8-62-G
ø 13 mm, tapered	41-8-13-TS
ø 13 mm, bottle shaped	401-48-50-G

OVERVIEW OF GAS NOZZLES (LONG)

DESCRIPTION	PART-NO.
ø 16 mm, tapered	401-8-62-G
ø 13 mm, tapered	41-8-13-TS
ø 13 mm, bottle shaped	401-48-50-G

PLEASE NOTE:

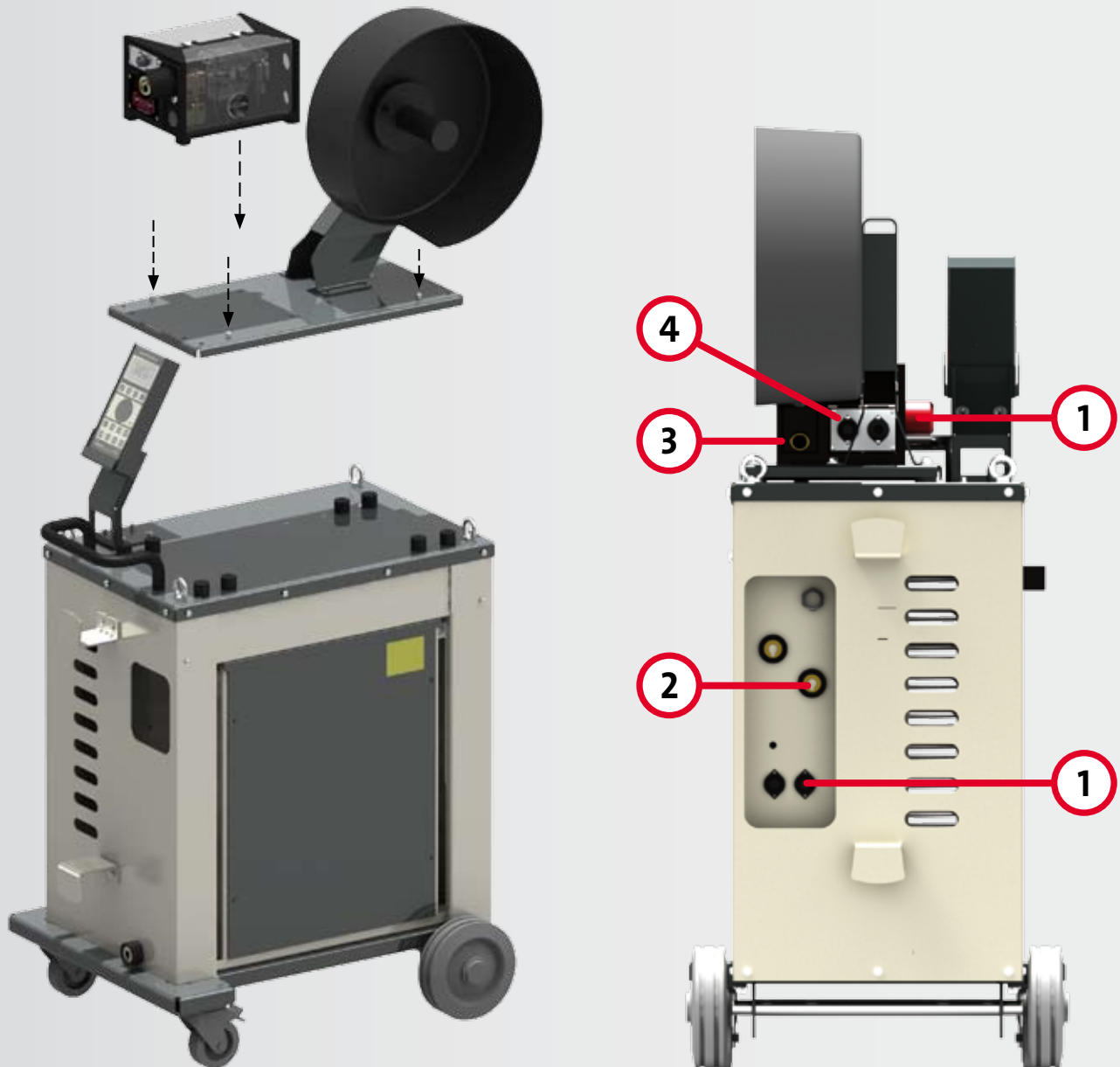
An overview of gas nozzles with dimensions can be found on the last page.

**POWER LOCK TOOL FOR CONTACT TIPS**

For replacement of contact tips: Fast exchange of contact tip without removing the gas nozzle

POWER LOCK TOOL FOR CONTACT TIPS

DESCRIPTION	PART-NO.
Power Lock tool	51-9001-00



FAST AND EASY INSTALLATION

Remove base plate from transport trolley (inner 4 screws)

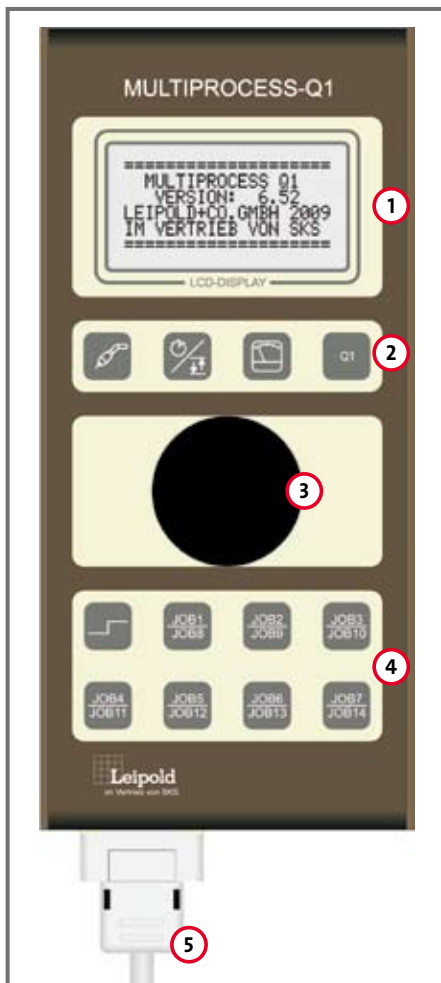
Screw PF5-H securely in place from underside of console

Refit base plate to transport trolley

Connect grey SPW cable between power source and PF5-H ①

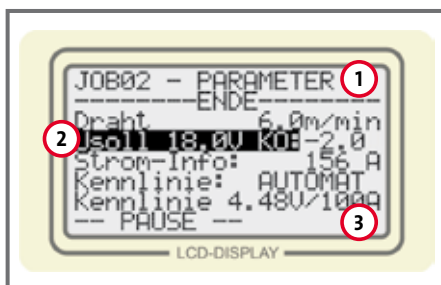
Next connect electrical/gas coaxial cable to positive pole of LSQ ② and to PF5-H ③

Connect Q1-SPW cable to PF5-H ④



Q1 BENEFITS

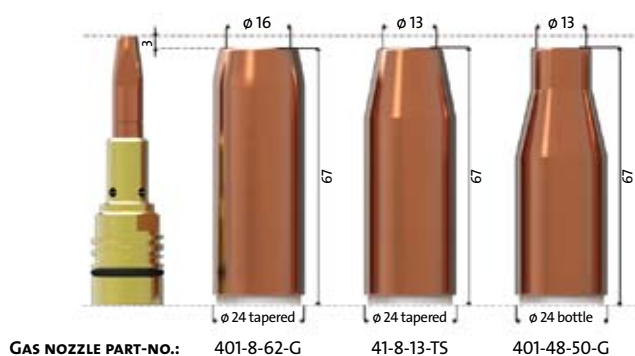
- ① Display
Multi-line LCD for a clear display of parameters and values
- ② Operating keys
Operating keys for the direct selection of functions
- ③ Rotary knob
Rotary knob for a comfortable menu and parameter selection
- ④ Job keys
Job keys for the direct selection of different weld programs
- ⑤ SPW/USB Interface
SPW/USB Interface for connecting to the weld system (power source) or to a PC. With an USB adapter cable the Q1 weld parameters and jobs can be saved and restored easily.



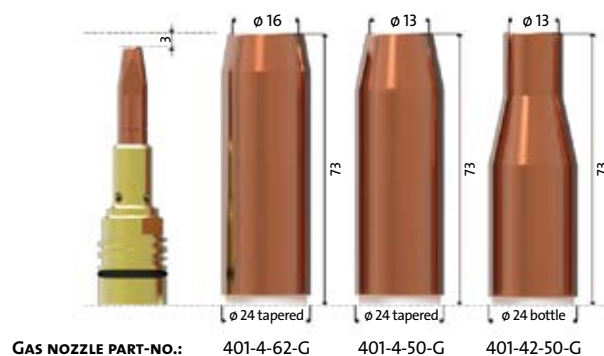
Q1 LCD DISPLAY (ILLUMINATED)

- ① Navigation line
- ② Cursor
- ③ Status line

Standard – type K (short)



Standard – type L (long)



PLEASE NOTE: With long gas nozzles the contact tip is recessed 3 mm.



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Subject to change.