Merkle MIG UNIT

OptiMig 451 DW

Part #	Product
115.222	MERKLE OptiMig 451 DW 380/525 Volts

The features are:
Simple, self explanatory control panel with extra large function knobs.
Integrated water cooling system as a standard.
Precise setting of the welding current due to max. 42 steps.
Synergic wire feed automatic as a standard: only turn the step selector to the required position and the wire feed speed will be adapted automatically.

Technical data:	OptiMIG 451 DW
Primary:	
Supply voltage	3 x 400/525 V
Frequency	50 Hz (60 Hz)
Continuous power	14.5 kVA
Continuous current	21 A
Max. current	36 A
Secondary:	
Open circuit voltage	17 - 52 V
Welding voltage	15 - 36.5 V
Welding current	25 - 450 A
Duty cycle 40 % (10 min.)	450 A (40 °C)
Duty cycle 60 % (10 min.)	420 A (40 °C)
Duty cycle 100 %	340 A (40 °C)
Protection class	IP 23
Isolation class	H
Cooling	AF
Voltage setting	42 steps
Wire feed	automatic control / synergic wire feed
Operation mode	2-stroke/4-stroke/stitch/spot welding
Welding/intermission time	stepless control
Wire burn back	stepless control
Wire soft start	dynamic soft start automatic
Choke	2 stage 100 % and 60 % (optional)
Torch cooling	water cooled
Cooling system	integrated water cooler with efficient water pump
Torch connector	Euro connector
Wire feed system	4-roller drive DV-26 (0.5-25 m/min.) option DW: high performance wire feeder DV-31 (0.5-30 m/min.) with wire straightener
Fan control	automatic
Display	digital for current/voltage/wire feed speed/material thickness with pre-display and hold function
Push Pull torch (option)	DW version: socket
Remote control (option)	DW version: wire feed speed
Norm	EN 60974-1 "S" / CE
Gas bottle holder	for 10 l, 20 l or 50 l cylinders
Weight	KW: 200 kg, DW: 220 kg
Dimensions l x w x h	KW: 990 x 510 x 845 DW: 990 x 510 x 1135

DUAL INPUT VOLTAGE
380/525 Volt

Setting and display of the wire trim by means of the TEDAC® torch. Storage of changed values: in each step the individual value trimmed by the TEDAC® torch is stored. Adjustable creep start and wire burn back. Selector: 2-stroke/4-stroke/stitch/spot welding. Safety cut-off in 4-stroke operation. High speed wire insertion automatic. 4-roller drive wire feeder as a standard. Automatic switching of fan and water pump. 2-stage choke for reduced spatters. (option) Digital read-out of the welding current, welding voltage, wire feed speed and material thickness, with pre-display and HOLD function. Integrated water cooling system with efficient water pump. Lowered galvanized gas bottle holder (10 l, 20 l or 50 l cylinders) assures a safe positionning of the cylinders. Approved for operation in confined areas, S-symbol. Easy handling of the unit due to big and robust swivel and carrier wheels. Connection for push pull torch or remote control in version DW (option).

UNITS WITH SEPARATE WIRE FEEDER:
All units version DW are built with a separate wire feeder.
The connection cable is clampable and pluggable at the machine and at the wire feeder. A maximum lenght of up to 30 m is available. The wire feeder can be mounted on a rotary device, in vertical or horizontal position or onwheels.

Using the slide switch mounted on the top of the TEDAC® torch handle, the arc trim can be manually adjusted during the welding process. Using a visually good, multicolour LED indicator any arc trim modifications will be shown directly on the TEDAC® torch. The colours will change in a stepless sequence from green (the lowest setting) through yellow (low setting) through orange (medium setting) up to red (maximum setting). The TEDAC® lends itself very well for any work in hard to reach positions due to the fact that the operator can control the welding process from the TEDAC® system and does not need to return to the power source to change settings. Thanks to the standard EURO torch connector no added control wires are required.

Comes complete with 4M TEDAC SBT504W Water Cooled Torch, Return Cable, Rotatable Device, 5M Interconnecting Cable & Flowmeter

Complete With Closed Loop Liquid Cooling System, CE and S Mark & Meets the EN 60974-1 Standard

Merkle Pulse MIG UNIT

MERKLE HighPuls 354K

New multifunctional control panel for maximum comfort and convincing safety

Easy to use, even with gloves. Great visibility in dark surroundings through bright LEDs

Innovative welding torch TEDAC® DIGITAL with unique digital display at the torch

All welding processes like DeepARC, ColdMIG, HighUP & ProSWITCH included as a standard

Part #	Product
SET118.546	MERKLE HighPuls 354K

Comes complete with 4M TEDAC SBT504W Water Cooled Torch, Return Cable, TW112 Trolley With Draw & Flowmeter

Complete With Closed Loop Liquid Cooling System, CE and S Mark & Meets the EN 60974-1 Standard

Technical Data	HighPULSE 354 K
Primary:	
Power supply	
Frequency	
Continuous power	12.5 kVA
Continuous current	18 A
Max. current	25 A
cos phi	
Secondary:	
Open circuit voltage	57 V
Welding voltage	15-31.5 V
Welding current	25-350 A
Duty cycle 35 % (10 min.)	-
Duty cycle 40 % (10 min.)	350 A (40 °C)
Duty cycle 50 % (10 min.)	-
Duty cycle 60 % (10 min.)	330 A (20 °C) 280 A (40 °C)
Duty cycle 100%	280 A (20 °C) 250 A (40 °C)
Protection class	IP 23
Cooling	AF
Arc length	automatic energy control
Programs	MIG/MAG, PulseARC, MMA/stick electrode, MIG brazing, Interpulse, ColdMIG, DeepARC, HighUP, ProSWITCH
TIG (DC) welding	with LiftTIG ignition
Program selection	material, wire diameter and gas at the display
Wire feed	synergic wire feed control
Operation modes	2-stroke, 4-stroke, interval, stitch
energy control	control at the machine, TEDAC®torch, job mode
Adjustable parameters	choke inductance, pulse shape
Power source	inverter
Digital display	current, voltage, wire feed speed and material thickness with pre-display and hold function
Wire feeder unit	4-roller-drive DV-26 integrated
Torch cooling	option: separate water cooler WK 300
Norm	EN 60974-1"S"/CE
Gas bottle holder	optional with trolley TW 112 10 - 20 l cylinders
Weight	36.5 kg
Dimensions L x W x H:	600 x 300 x 565

The Merkle HighPULSE comes with a new design of the operation panel, it offers a number of firstclass advantages.

New multifunctional control panel for maximum comfort and convincing safety

Easy to use, even with gloves

Large and bright LEDs with great visibility even in dark surroundings

Large LED display for all important functions

Clear arrangement of all functions

New rotary switches for comfortable operation

DeepARC

ColdMIG

HighUP

ProSWITCH

Insquare W 421 AC/DC

Part #	Product
SET122.628	MERKLE Insquare W 421 AC/DC

- Comes complete with 4M TH451W Water Cooled Tig Torch, Return Cable & Flowmeter
- Foot Control Optional
- Complete With Closed Loop Liquid Cooling System, CE and S Mark & Meets the EN 60974-1 Standard

- IGBT inverter power sources.
- 3-phase inverter with low primary current.
- Stable arc in AC over the full range due to square wave or noise reduced wave.
- Continous setting of the welding frequency in AC.
- MMA/stick electrode welding.
- Perfectly smoothed DC gives outstanding welding characteristics in TIG and electrode welding.
- DC high frequency pulse for concentrated arc.
- Perfect arc ignition over the whole range due to separate ignition circuit.
- A minimum of radiation caused by the HF-ignition unit.
- Efficient cleaning in AC.
- Special filters mounted to avoid radiation.

Technical data.

	W 421 AC/DC
Power supply	3 x 400 V
Frequency	50 (60) Hz
Continuous power	14.5 kVA
Continuous current	21 A
cos phi	0.95
Secondary:	
Operation mode	AC and DC
No load voltage	80 V
Welding voltage	10 - 26.8 V
Welding range	5 - 420 A
Duty cycle 50 % (10 min)	420 A (20 °C)
Duty cycle 60 % (10 min)	360 A (40 °C)
Duty cycle 80 % (10 min)	
Duty cycle 100 %	310 A (40 °C)
MMA/Electrode Welding:	
No load voltage	80 V
Welding voltage	20 - 36.8 V
Welding range	5 - 420 A

AirCUT 120 W

Part #	Product
114.470	MERKLE AirCUT 120 W 380/525 Volts

DUAL INPUT VOLTAGE
380/525 Volt

Only requires
Continues 4.5 Bar Air Pressure

- Comes complete with 8M Water Cooled Hand Torch, Return Cable & Air Mist Separator
- 8M Water Cooled Machine (Profile) Torch
- Complete With Closed Loop Liquid Cooling System, CE and S Mark & Meets the EN 60974-1 Standard

Technical Data: AirCUT 120 W

	120 A step		80 A step		40 A step	
Compensation	without	with 300	without	with 300	without	with 300
Power supply	3 x 400 V					
Frequency	50 (60) Hz					
Continuous current	48 A	37 A	34 A	26 A	20 A	13 A
cos phi	0,5	0,7	0,7	0,8	0,8	0,85
Dauerleistung						
Dauerstrom					13,8 kVA	
Secondary:						
Open circuit voltage	280 V					
Cutting voltage	100 V					
Cutting current	120 A		80 V		40 A	
Duty cycle 35 % ED (10 min.)						
Duty cycle 60 % ED (10 min.)	120 A					
Duty cycle 80 % ED			80 A			
Duty cycle 100 % ED					40 A	
Performance	max. 50 mm					
Energy control	3 steps					
Perforated sheets cutting	–					
Cutting gas	compressed air					
Pressure indicator	pressure gauge					
Pilot current	timer controlled					
Air post flow time	adjustable					
Torch cooling	integrated water cooling system					
Plasma connection	plasma central connector					
Power source	Transformater					
Protection	IP 23					
Norm	EN 60974-1 "S" / CE					
Weight	240 kg					
Dimensions L x W x H	730 x 520 x 905					

Plasma cutting with compressed air or other inexpensive gases is being used more every day as an alternative to acetylene.

All conductive metals, hardened or non-hardened steels, alloys, aluminium and its alloys, copper, brass, cast iron and titanium can be easily cut with plasma.

Plasma cutters are used in various branches as steel construction, assembly works, repairs, automobile repairs etc.

The success of plasma cutting is simply the plasma beam, an electric arc, which produces an extremely narrow and intensive arc, with limited heat.

The arc temperature is approximately 13000°C. Under this intensive heat the work piece heats so quickly that lateral heat transfer is limited to a minimum. This heat concentration, combined with an applied energy of 106 W/cm2 provides rapid cutting and a small cut.

Narrow cut width with high linear cutting speeds positively effects:

- raw material
- energy costs
- material distorsion.
- wages
- logistic requirement