

# WELDING TURNTABLES

Circular welding made easy!



MERKLE welding turntables

# VERSATILE, FLEXIBLE,

MERKLE develops and produces in-house welding turntables with a load capacity of 50 to 5000 kg. Decades of experience and proven technology are the key elements for perfect results in every circular welding application.

MERKLE welding turntables guarantee precise speed control and a constant speed even with uneven loads.

All turntables can be tilted up to 135° and are ideally suited for use with MIG/MAG, TIG, MMA/stick electrode welding, plasma welding and cutting processes. All models also offer sockets for foot switches and remote controls as a standard.

MERKLE welding turntables form the basis for many automated welding application and systems.

With various components from the MERKLE automation program, individual solutions can be set up for a wide variety of applications.



Circular welding unit with turntable and pneumatic torch positioning.



100 % „Made in Germany“: from construction, through to parts production and the final assembly.

# PRECISE.



## CENTER HOLE

All welding turntables have center holes as a standard. Through this hole the clamping tool and the work piece can be supplied with compressed air, cooling liquid or shield gas. The series D150 touch have a standard center hole of 60 mm. (D350 touch: 65 mm) As an option a hole of 150 mm is available for the series D150 touch. Pipes and long work pieces can be pushed through this hole.



The face plates can be locked by a lever and be tilted to any angle within a 135° range. In addition, they can be firmly locked in steps of 15 degrees. (D150 touch, D350 touch)



The current collector is electrically isolated and can be operated at 400 A/34 V, 80% duty cycle. (D53, D150 touch, D350 touch)



The compact design comes with dust-proof 24 V motor with encoder, worm gear and the electrically isolated motor controller. (D150 touch, D350 touch)

## D53 and D150 touch: Versatile in usability

### Technical data

	D53/25	D53/70
Table height	320 or 800 mm	
Load capacity	50 kg / 0.5 kN	
Speed (rpm)	0.25 - 2.5 min <sup>-1</sup>	0.70 - 9.0 min <sup>-1</sup>
Center hole diameter	10 mm	
Face plate diameter	250 mm	
Current collector	400 A (34 V) 80% duty cycle	



Series D53

If you need to weld pipe and flange joints on a regular basis you need welding turntables. With our product range of welding turntables, MERKLE offers the right solution for the applications of everyday challenges.



Series D150 touch

### Technical data

	D150 touch	
Table height	400 or 750 mm	
Load capacity (horizontal)	150 kg / 1.5 kN	
Speed (rpm)	0.05 - 10.0 min <sup>-1</sup>	
Center hole diameter	60 mm	150 mm
Face plate diameter	400 mm	
Current collector	400 A (34 V) 80% duty cycle	

With the modular MERKLE automation components, the turntables can be upgraded at any time: 3-jaw chucks, mounting flanges, automation interfaces as well as torch holders, adjustment slides and much more.

## CONTROL PANEL

- Start/Stop button
- Selection left / right rotation
- Potentiometer for precise speed adjustment
- 2-stroke / 4-stroke selection
- Socket for foot switch or remote control
- Large buttons, controls and switches for safe operation even when wearing gloves
- Large emergency stop button



Control panel  
D53 series



## D350 touch: With 350 kg load capacity

- Large, multi-colored display, easy to use
- Continuous speed control 0.05 - 10 min<sup>-1</sup>
- Display and setting of the welding speed (with work piece diameter)
- 2-/4-stroke mode and clockwise/counterclockwise rotation
- Connection for external foot switch or remote control
- Protection cover for display
- Intuitive and language-independent operation via touch display or rotary switch, even with gloves



D350 touch



Touch-Display. Series D150 touch and D350 touch

The large display enables a simple and intelligent operation. A constant speed is guaranteed even in the lower speed range and with asymmetrical loads.

**MERKLE** turntables are „Made in Germany“.

### Technical data

### D350 touch

Table height	790 mm
Load capacity (horizontal)	350 kg / 1.5 kN
Speed (rpm)	0.05 - 10.0 min <sup>-1</sup>
Center hole diameter	65 mm
Face plate diameter	400 mm
Current collector	400 A (34 V) 80% duty cycle

### Overlap facility, connection for automated welding, zero point reference (optional for D150 touch and D350 touch)

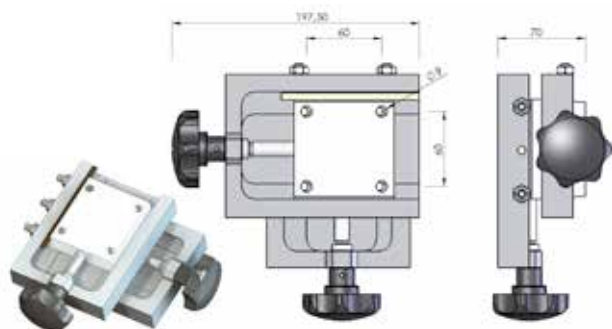
The function „Overlap facility, connection for automated welding, zero point reference“ is available as an option. In automatic mode, an adjustable weld segment can be added (or reduced) to the 360° movement. The zero point reference fixes a defined starting position.

Via the connection for automated welding the signals “Welding ON”, “Arc OK” and “Emergency stop” are available.

(Part no. 161.822)



# Automation components



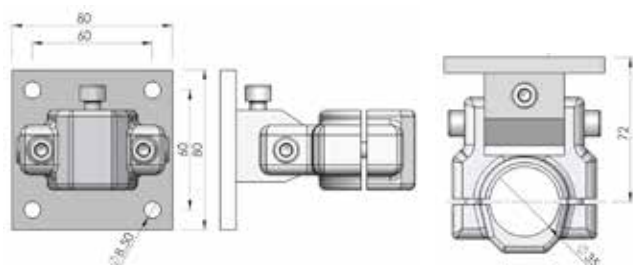
## Linear slide, hand (stroke 40 mm)

Weight: 1.4 kg  
Stroke: 40 mm  
Part no. 019.0.2500



## Compound slide, hand (stroke 2 x 40 mm)

Fine adjustment of components and welding torches in 2 axis  
Weight: 2.8 kg  
Stroke: 2 x 40 mm  
Part no. 019.0.1500



The **torch and tracer pin holder** has been designed for holding and positioning the machine and robot torches.

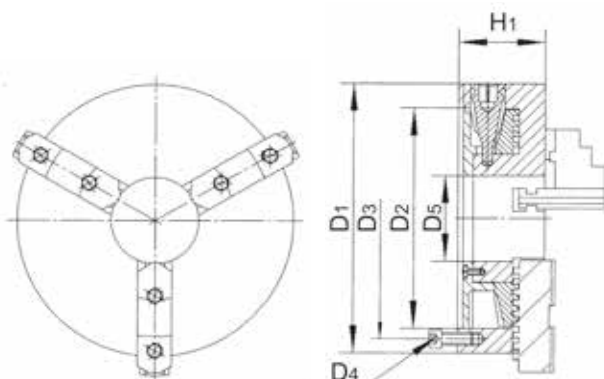
Weight: 0.52 kg  
Bore: 35 mm  
Flange hole pattern: 60 x 60 mm, 4 x 8.5 mm  
Part no. 019.0.0201



The **torch stand / 30** is based on a massive and solid construction. The flange plate is standardised to match the MERKLE-automaton components system.

Technical details:	30-S	30-V
Weight:	23.5 kg	28.0 kg
Stroke:	horizontal: 770 mm	770 mm
	vertical: 280 mm	600 mm
Rotation in stand base:	360°	360°
Max load:	30 kg	30 kg
Part no.	019.0.0305	162.408

## 3-jaw chuck



All chucks have a cylindrical central mounting face to DIN 6350 standards. A set of internal and external clamping jaws is included with every chuck.

For mounting the chucks to the turntables, various mounting flanges are available.

Technical data	ME-DBS-125	ME-DBS-160	ME-DBS-200	ME-DBS-250	ME-DBS-315
----------------	------------	------------	------------	------------	------------

## 3-jaw chuck

D1 (mm)	125	160	200	250	315
D2 (mm)	95	130	165	206	260
D3 (mm)	108	142	180	226	285
D4	3 x M8	3 x M8	3 x M10	3 x M12	3 x M16
D5 (mm)	30	45	65	80	100
H1 (mm)	78	95	109	120	154
Work piece- (mm)	min 3	4	4	6	8
	max 135	175	230	290	360
Spindle bore (mm)	30	40	65	80	100
Weight (kg)	4,6	9	15,3	26,5	42,7
Part no.	113.050	113.052	113.054	113.056	113.058

## Mounting flange:

D53	Art.-Nr.:	117.028	117.038	-	-	-
D150 touch/60	Art.-Nr.:	-	129.212	117.074	117.076	-
D150 touch/150	Nr.:	-	129.214	117.082	117.084	-
D350 touch	Art.-Nr.:	-	129.212	117.074	117.076	117.078

# Overview welding turntables



Technical data		a) D53/25 b) D53/70	D150 touch a) 60    b) 150	D350 touch	D655	D1005	D5002
Load Capacity (horizontal)		50 kg/0.5 kN	150 kg/1.5 kN	350 kg/3.5 kN	650 kg/6.5 kN	1,000 kg/10 kN	5,000 kg/50 kN
Load Capacity (vertical)		50 kg/0.5 kN	100 kg/1.0 kN	300 kg/3.0 kN	650 kg/6.5 kN	1,000 kg/10 kN	5,000 kg/50 kN
Speed RPM    (min <sup>-1</sup> )		a) 0.25 – 2.5 b) 0.70 - 9.0	0.05 - 10.0	0.05 - 5.0	0.075 - 3.0	0.01 – 1.3	0.002 - 1.1
Torque (Nm)		a) 2.5 - 15 b) 2.5 - 10	50	160	700	1,025	5,000
Face plate-Ø (mm)		250	400	400	standard: 600 mm / optional: 920 mm		1,000
Table height (mm)	low version high version	320 800	400 750	790	970	895	1,444
Axle height (mm)	low version high version	270 750	320 670	632	825	736	1,275
Center hole diameter (mm)		10	a) 60    b) 150	65	47.5	56	60
Centralising bore (chuck or jig mount)		ø 50H7 3 mm deep	a) ø 78H7, 3 mm deep b) ø154H7, 25 mm deep	ø 78H7 3 mm deep	ø 64H7 3 mm deep		ø 64H7 20 mm deep
Tilting angle - face plate		135°	135°	135°	135°	135°	135°
Tilting operation		manually lockable	manually lockable and snapping	manual lockable and snapping	motor driven 4,4°/s	motor driven 6,3°/s	hydraulic
Tilting moment (Nm)		90	130	1,450	1,100	3,000	31,750
Max. rotating diameter (mm)	low version high version	450 1,340	490 1,160	1,300	1,400		2,400 mm o.FV 2,000 mm b. ext.
Current collector		400 A (34 V) 80% ED	400 A (34 V) 80% ED (opt.: a) up to 860 A)	400 A (34 V) 80% ED (opt.: up to 800 A)	400 A	800 A	1,200 A
Mains voltage / Frequency		1 x 230 V    /    50 - 60 Hz			3 x 400 V    /    50 Hz		
Mains connection cable		3 x 2.5 mm², 5 m with Schuko plug			5 x 2.5 mm², 5 m with CEE-plug 16 A		5 x 4 mm², 5 m CEE-plug 32 A
Interface f. external operation		Foot switch, hand and foot remote					
Limit switch overlap 360° + connection for automation		no	option	option	option	option	option
Weight	low version high version	33 kg 44 kg	55 kg 65 kg	180 kg	420 kg	550 kg	2.200 kg
Part-No.		a) D53/25 25-320: 157.184 25-800: 157.188 b) D53/70 70-320: 157.186 70-800: 157.190	a) D150-60 touch 60-400: 161.866 60-750: 161.862 b) D150-150 touch 150-400: 161.868 150-750: 161.864	160.582	163.200	163.204	137.748
					163.202*	163.206*	137.749*
		*incl. overlap facility					

Technical changes reserved.



**Foot remote controller**  
on/off, speed control  
Part.-no. 019.0.3000 (5 m cable)  
Part.-no. 019.0.2999 (8 m cable)



**Foot switch, single**  
on/off  
3m cable  
Part.-no. 019.0.2900



**Foot switch, double**  
on/off, clockwise/counterclockwise  
rotation, 3 m cable  
Part.-no. 019.0.2901

## Automation Components and Systems

In addition to welding turntables, MERKLE produces an extensive range of automation components for the construction of semi and fully automated solutions in welding technology.



Double circumferential welding device with two turntables and one control panel in the middle.



Circular welding unit for long pipes with a diameter of 150 to 500 mm.

### PRODUCT RANGE

- MIG/MAG Welding Units
- Synergic Pulse Welding Units
- TIG Welding Units
- MMA / Stick Electrode Welding Units
- Welding Torches
- Turntables and Roller Drive Units
- Automation Components and Solutions
- Complete Solutions and Robotics
- Specialized Machinery Construction
- MERKLE WeldFACTORY - Industry 4.0



**MERKLE Schweissanlagen-Technik GmbH**

Industriestr. 3 | D-89359 Koetz | Germany

Phone: +49 8221 915-0

E-Mail: [info@merkle.de](mailto:info@merkle.de)

**[www.merkle.de](http://www.merkle.de)**