

TOOLS RAILWAY TECHNOLOGY

Legal Notice

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Subject to technical modifications,
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All dimensions in millimeters.

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All about Otto Schoch AG



The company

The OTTO SCHOCH AG company was founded in 1964 by Otto Schoch. From the very beginning, the company focused on the sale of cable shoes, wire-end ferrules and cable connectors as well as the special tools required for their processing. There later followed supplementary in-house developments. Since the early 1960s, the product range for the electrical wholesale trade, the demands of industry and switch cabinet construction has been constantly expanded in close collaboration with CEMBRE. Today, for example, cable glands and cable protection products have become industry standard – as has our own cable-labelling system with a wide product range for industrial labelling. Particularly deserving of mention in this regard is the Markingenius®MG3 mobile labelling system, which can be used for the labelling of cables, clamps, pushbuttons and switching elements alike.

At the end of the 1990s, OTTO SCHOCH AG expanded its range of products to include specialised tools for the railway industry. In addition to connecting devices for overhead lines and signal technology, this also includes machines such as rail drilling machines, rail cutting equipment as well as impact wrenches for performing track work.

In 2012, OTTO SCHOCH AG took over the general agency of GLW products for the Swiss market. At GLW, professional cable processing takes centre stage – ranging from wire-end ferrules, via cable assembly machines through to special tools designed for crimping special contacts.

In 2014, our product range was expanded to include the areas of torque tools and power sockets. The company has set as its goal to supply industry with quality mechanical and electronic tools – and recently including for the tightening of bolts and nuts with precisely defined torques. Torque products are to be found in practically all sectors of industry, including the watch industry, medical technology, steel construction, the railway sector, mechanical engineering as well as in a large number of power stations. As the general importer for TOHNICHI (Japan), MOMENTO (Sweden) and other international tool manufacturers, OTTO SCHOCH AG has established an enduring and cooperative relationship with the Swiss market. TOHNICHI torque testers have been successfully used by prestigious SCS calibration services for many years.

In 2016, the area of professional screwdriving technology was rounded off by taking over the general agency of ITH, the world's leading system supplier in the field of screwdriving technology. ITH products are a guarantee for maximum safety in all bolted and threaded connections.

OTTO SCHOCH AG is an extremely flexible SME with highly competent employees who possess long-standing experience in the areas of electrical connection, screwdriving and railway technology. Together with its customers, the team develops system-compatible solutions for a wide range of special applications within a reasonable period. Special customer-specific tool manufacture, single-unit products and small-batch series are also an integral part of our customer-oriented standard.

OTTO SCHOCH AG is justly famous as a reliable partner that provides logistics solutions tailored to customer requests, including “just-in-time deliveries based on framework contracts and demand forecasts and the maintenance of minimum inventory levels.

Quality

Quality is our basis for your trust. We are an ISO 9001 and 14001 certified company.

Our guiding principle

Innovation, quality and reliability for satisfied customers!

Some products

Rail drilling machines and rail connections

Four advantages that speak for our rail contact system:

- Quick and easy installation, during scheduled rail operations and also possible regardless of weather conditions.
- Reliable and long-lasting contact thanks to gas-tight riveting.
- Detachable, reusable connections.
- High personal safety, as assembly and disassembly can be carried out during short breaks in operation.

We recommend our rail drilling jigs for drilling the rivet holes. These are the result of continuous development and meet the high requirements of track construction.

Mit einem Gesamtgewicht von 18 kg gehören unsere Maschinen zweifellos zu den leichtesten ihrer Art. Die einfach zu handhabenden Bohrvorrichtungen sind bestens für Einmannbedienung geeignet.

Manual hydraulic and battery press tools

We carry a wide range of manual hydraulic pressing tools for pressing connectors and cable lugs up to 2000 mm². Dies in various designs, e.g. for hexagonal or deep pressing, are also available.

Our electro-hydraulic tools with battery power can be operated with one hand at any time. Thanks to the 180° rotation of the press die, it can be used even in the most confined spaces.

Cable lugs and cable connectors

We supply all standard blank and insulated cable lugs and connectors. In addition, we offer the possibility to meet customer-specific requirements.

All our cable lugs and connectors are made of electrolytic copper, they are soft annealed after mechanical processing and then electro-tinned. The insulation of the connection area is normally made of nylon or PVC.



Rail contact system



Four advantages in favour of our rail contact system:

- Quicker and easier installation, possible during scheduled rail operations and regardless of weather
- Reliable and durable contacting thanks to gas-tight riveting
- Detachable, reusable connections
- High personal safety, because assembly and disassembly can take place during short breaks in operation

A rail connection with our system consists of four parts:

- Rivet bush M10 / M12 from tin-plated copper
- Hexagon screw M10 / M12 A4, stainless steel (single contact with spacer disc)
- Washer from stainless steel
- Hexagon nut M10 / M12 self-locking from stainless steel A2

Individual contact



Double contact



Rail contact system M10

Type	Connection	Approved for Rails	Borehole x [mm]	Screw length [mm]	Riveting tool
AR66DA	Individual contact, complete	SBB1-6	13.5	42	HTEPF / B500-TEPF
AR66NA	Individual contact, complete	VST36 / SBB1	13.5	42	HTEPF / B500-TEPF
AR66-1	Copper sleeve contact, individual contact	SBB1-6	13.5		HTEPF / B500-TEPF
AR66-31	Screw / washer and M10 nut	SBB1-6	13.5	42	

Type	Connection	Approved for Rails	Borehole x [mm]	Screw length [mm]	Riveting tool
AR266DA-16.5	Double contact, complete	SBB1-6	13.5	60	HTEPF / B500-TEPF
AR266DA-14	Double contact, complete	VST36 / SBB1	13.5	60	HTEPF / B500-TEPF

Individual contact



Double contact



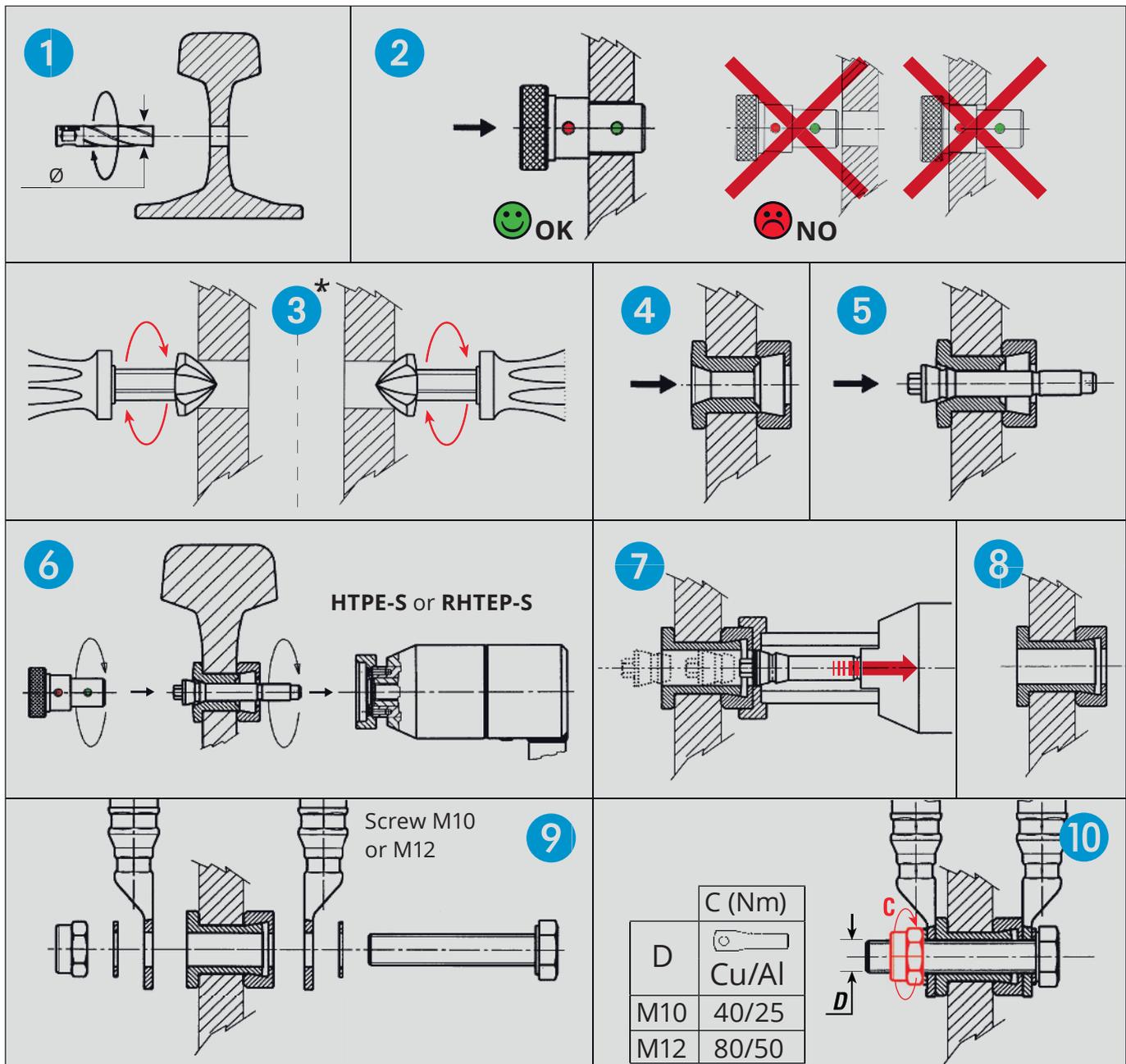
Rail contact system M12

Type	Connection	Approved for rails	Borehole x [mm]	Screw length [mm]	Riveting tool
AR60D	Individual contact, complete	SBB4 & 6	19	52	HTEP / B500-TEPD
AR60N	Individual contact, complete	VST36 & SBB1	19	52	HTEP / B500-TEPD
AR60C	Individual contact, complete	VSTC & VST36	19	52	HTEP / B500-TEPD
AR60-1	Copper sleeve, individual contact	SBB4 & 6	19		HTEP / B500-TEPD
AR60N-1	Copper sleeve, individual contact	VST36 & SBB1	19		HTEP / B500-TEPD
AR60C-1	Copper sleeve, individual contact	VSTC & VST36	19		HTEP / B500-TEPD
AR60C-31	Screw / washer and M12 nut	VSTC - SBB1		42	
AR63-31	Screw / washer and M12 nut	SBB1 - SBB6		52	

Type	Connection	Approved for rails	Borehole x [mm]	Screw length [mm]	Riveting tool
AR260D	Double contact	SBB4 & 6	19	70	HTEP / B500-TEPD
AR260N	Double contact	VST36 & SBB1	19	70	HTEP / B500-TEPD



AR60D	14.0 ÷ 16.5	19.0	CAL19.20	OG13.2
AR60N	12.0 ÷ 13.0	19.0	CAL19.20	OG13.2
AR60C	12.0 ÷ 13.0	19.0	CAL19.20	OG13.2
AR260D	14.0 ÷ 16.5	19.0	CAL19.20	OG13.2
AR260N	12.0 ÷ 14.0	19.0	CAL19.20	OG13.2
AR66DA	14.0 ÷ 16.5	13.5	CAL135.145	OG10.5
AR66NA	14.0 ÷ 16.5	13.5	CAL135.145	OG10.5
AR266DA-16.5	14.0 ÷ 16.5	13.5	CAL135.145	OG10.5
AR266DA-14	14.0 ÷ 16.5	13.5	CAL135.145	OG10.5

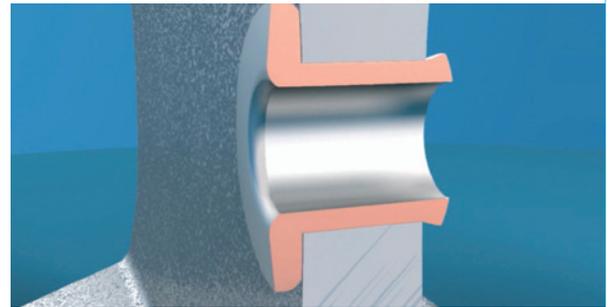
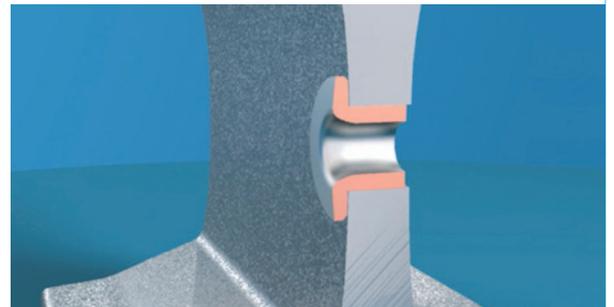


Information on mounting the AR contacts

- After drilling, the copper bush must be evenly pressed to avoid the occurrence of corrosion.
- The electrical connection can take place at a later point in time.
- The self-locking nut must be tightened to 80 Nm with copper cable lugs for M12 and to 50 Nm with aluminium cable lugs.
- Copper cable lugs for M10 must be tightened to 40 Nm, and aluminium cable lugs to 25 Nm.

The numerous different rail contacts offer the user vast possibilities during installation. The installation can be performed in every weather, and takes place very quickly and easily with a hydraulic tool. The contacting quality is always consistently high and is not dependent on the installation personnel due to the technology.

The “copper bush riveting process” guarantees work with drill hole tolerances.



Cross section of the copper bush before and after the pressing process

Strict testing under various conditions has verified the high safety and reliability of the system. Tests have demonstrated permanently low contact resistances, as well as mechanical durability and gas-tightness.

Tools for the installation of rail contacts

HTEPF
B500-TEPF
HTEP
B500-TEPD

HTEPF / HTEP



Components:

- Hydraulic hand-held press with 900 mm high pressure hose and permanently connected head
- 1 expanding mandrel
- Gauge for checking the hole and installing the expanding mandrel
- Metal case

Technical data

Hand-held press length:	275 mm
Width:	130 mm
Head length:	106 mm
Weight:	3 kg

Item number	Designation
HTEPF	Hand-operated riveting tool for M10 bolt
HTEP	Hand-operated riveting tool for M12 bolt

B500-TEPF / B500-TEPD



Components:

- Hydraulic battery-powered press with 900 mm high pressure hose and permanently connected head.
- 1 expanding mandrel
- Gauge for checking the borehole and installing the expanding mandrel
- Canvas bag
- Spare rechargeable battery
- Charging unit
- Carry strap

Accessories on request:

- 12V/24V charging unit for recharging the battery via the cigarette lighter
- Li-ion battery 18V 4.0Ah

Weight 4 kg

Item number	Designation
B500-TEPF	Battery-powered riveting tool for M10 bolt
B500-TEPD	Battery-powered riveting tool for M12 bolt

Assembly torque wrench

QL

Direction



Adjustable torque wrench, with scale

Assembly Adjustable Ratchet head Dial division

- Torque pre-setting, audible and perceptible when the set value is reached
- Automatic reset, with reversible ratchet
- Suitable for assembly and series production



QL100N4

Accuracy ±3%

Item number	Torque range [Nm]		Overall length [mm]	Square drive [ZOLL]	Weight [kg]
	Min.-Max.	Dial division			
QL50N	10-50	0.5	260	3/8"	0.45
QL100N4	20-100	1	335	1/2"	0.69

PQL

Direction



Torque wrench with pre-setting and reversible ratchet head

Assembly Pre-setting Ratchet head Dial division

- Adjustable via micrometre scale, adjustment with hexagon key



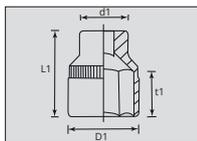
PQL100N4

Accuracy ±3%

Item number	Torque range [Nm]		Overall length [mm]	Square drive [ZOLL]	Weight [kg]
	Min.-Max.	Dial division			
PQL50N	10-50	0.5	250	3/8"	0.40
PQL100N4	20-100	1	320	1/2"	0.65

Note Hex wrench for torque adjustment

Hexagon socket wrench inserts



Item number	Drive	L1 [mm]	D1 [mm]	d1 [mm]	t1 [mm]
MO-1-17	3/8"	34	25	22	10
MO-1-19		34	27.5	22	11
MO-4-17	1/2"	38	26	30	10
MO-4-19		38	29	30	11
MO-1-17L	3/8"	57	25	22	10
MO-1-19L		57	27.5	22	11
MO-4-17L	1/2"	82	26	30	10
MO-4-19L		82	29	30	11



Item number	Designation	Width across flats [mm]
RRS-0810-1213	Ratchet wrench	08/10 and 12/13
RRS-0911-1415	Ratchet wrench	09/11 and 14/15
RRS-1013-1719	Ratchet wrench	10/13 and 17/19
RRS-1617-1819	Ratchet wrench	16/17 and 18/19

The Temporail system with tool, clamps and cable offers a good and secure connection during maintenance work, repairs and with new constructions. Ideal for maintaining the electrical connection between the components for the signal and reverse currents and the track.

The Cembre Temporail is suitable for all rail SBB 1-6

- Easy assembly / disassembly with the patented Cembre HT-TRC tool
- Safe work without the risks that arise with the alternative systems
- Connection without drilling or welding
- No grinding or arduous cleaning of the contact points necessary
- High vibration resistance due to use of bell-head cable lugs with crimped insulation
- Precise position on the rail foot
- Multiple reuse possible due to controlled installation with the tool



Temporail clamps

Item number	Designation
RTC1-10BU	Temporail M10, including screw M10 (Inox) and serrated lock washer Rip-Lock (Inox), SBB 1-6

Tools for the assembly and disassembly of the Temporail clamps

HT-TRC



The **HT-TRC** hydraulic tool is designed for the safe assembly and disassembly of the earth clamps in building condition. The patented tool offers protection against metal pieces during assembly and disassembly of the Temporail clamp.

Application
Assembly and disassembly of Temporail clamps

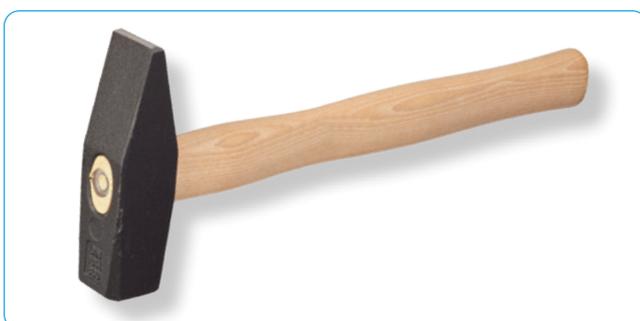
Technical data
Max. operating pressure: 700 bar
Dimensions: 715x177x70 mm
Weight: 7.5 kg



Assembly



Disassembly



Item number	Designation
HMR1500W	hammer 1.5 kg

Rail drilling devices



LD-1P-ECO
LD-3P-ECO



Technical data

Motor:	2-stroke motor
Cubic capacity:	45.5 ccm
Fuel:	min. 88 octane, 1:50
Gearing:	autom. centrifugal clutch
Max. stroke:	50 mm
Weight	
With mounting arm DBG-F2:	19 kg

LD-1P-ECO

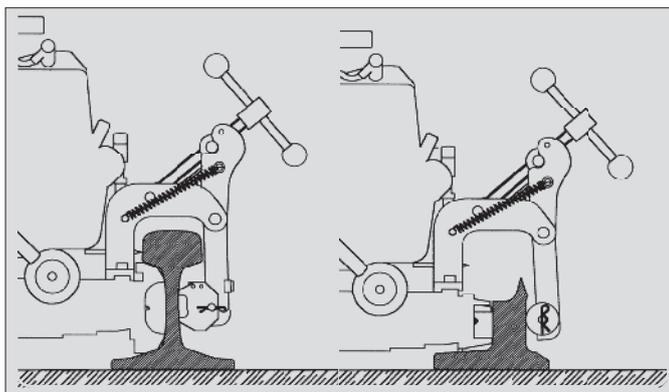
- Particularly well suited for electrical rail connections and axle counters
- Drilling range: \varnothing 13÷38 mm for core hole drill
- Drilling range: \varnothing 7÷22 mm for spiral drill

LD-3P-ECO

- Particularly well suited for fishplate holes and insulated joints
- Drilling range: \varnothing 13÷38 mm for core hole drill
- Drilling range: \varnothing 7÷33 mm for spiral drill

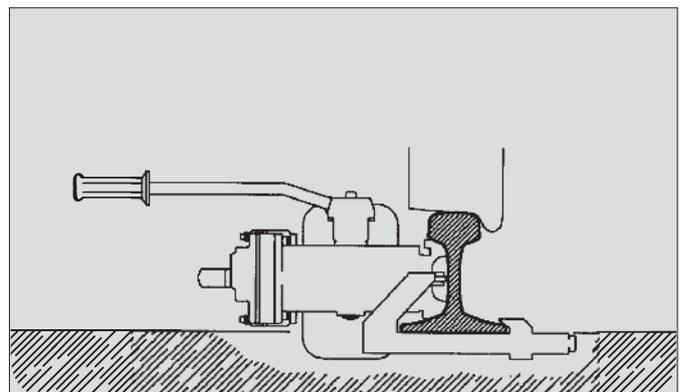
Rail drilling devices

Fastening options



Horizontal fastening option

This is the simplest fastening of the drilling device to the rail. Perfectly suited for assembly works on open sections with corresponding train warning. The drilling device is fastened to and released from the rail with a spindle. This fastening method over the railhead also allows work in the immediate vicinity of track sleepers.



Fastening to the rail foot

Here, the drilling device is fastened to the rail foot between the sleepers. It is so small and compact that it can remain fastened to the rail when trains are running.



Battery-powered drilling machine

RP stands for "**Rainproof**". Thanks to the protective cover, operation in the rain is possible (**IP44M** according to EN 60529).

Technical data

Motor: Brushless DC motor
36 Volt DC

Weight
With mounting arm DBG-F2
and battery pack: 18.5 kg

Battery pack

- 36 V, 6.2 Ah Li-ion
- Overcurrent protection
- Charging unit 36 V

Suitable for electric rail connections, axle counters, fishplate holes and insulated joints

- Drilling range: \varnothing 13÷38 mm for core hole drill
- Drilling range: \varnothing 7÷22 mm for spiral drill



Coolant tank SR5000

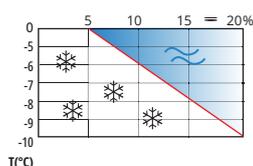
Capacity max. 5 l

Coolant / lubricant



Item number	Designation	Capacity [l]
LR-2-3	Biodegradable lubricating coolant concentrate	3
LR-2-6	Biodegradable lubricating coolant concentrate	6

Coolant / lubricant / with antifreeze



Item number	Designation	Capacity [l]
LR-3-6	Lubricating coolant concentrate with antifreeze	6



Aluminium case VAL-LD-AL

Item number	Designation	Dimensions [mm]	Weight [kg]
VAL-LD-AL	For storage and transport of the drilling unit including mounting arm DBG-F2 for vignole rails with small transport wheels	800x400x535	9.5
VAL-O-41819	Optional off-road wheels for easy transport over terrain	-	-



Plastic case VAL-MPA-K

Item number	Designation	Dimensions [mm]	Weight [kg]
VAL-MPA-K	For storage and transport of accessories	390x390x115	1.5



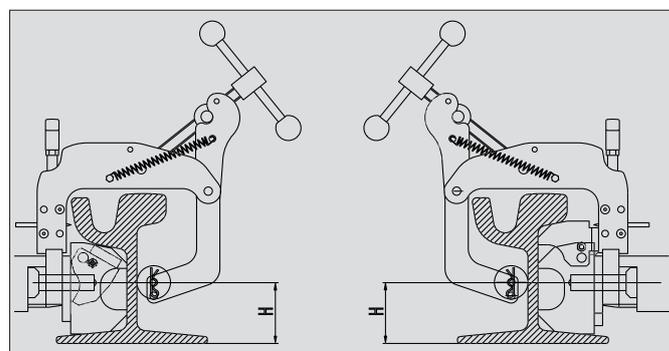
Mounting arm DBG-F2 with quick-action clamping

Item number	Designation	Weight [kg]
DBG-F2	For vignole rails (e.g. UIC54, UIC60 profiles) with fastening to the rail web	3.8



Mounting arm DBG-LF2

Item number	Designation	Weight [kg]
DBG-LF2	For grooved rails (e.g. Ri60 profile) with fastening to the rail head	3.0



The mounting arm can be attached to both sides of the rails.

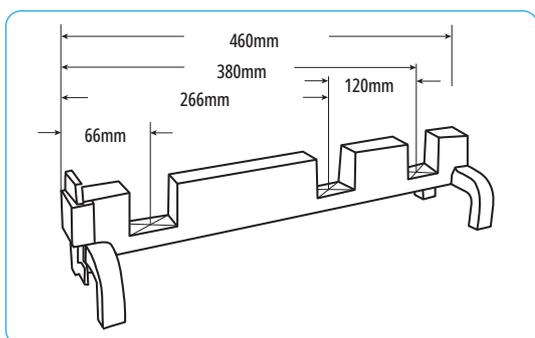
Rail drilling jig for insulated joints and fishplate holes SBB



Using this rail drilling jig our machines can be optimally used to drill fishplate holes and insulated joints.

Thanks to replaceable profile jaws, only one distance gauge is required for all conventional rail profiles (UNI46 / SBB1, UIC54E / SBB4, UIC60 / SBB6).

Changing the profile jaws takes place in just a few steps.

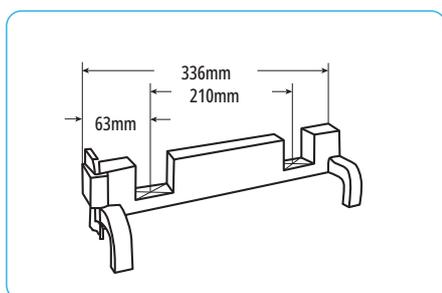


MRF-66/266/386 MRF-66/266/386-K

Item number	Designation	Weight [kg]
MRF-66-266-386	Only distance gauge without profile jaws	1.70
MRF-66-266-386-K	Gauge complete with profile jaws SBB1 /SBB4 / SBB6	4.90

Rail drilling jig for insulated joints and fishplate holes SBB

Distance gauge for rail profile VST36. Changing the profile jaws takes place in just a few steps.



MRF-63/273 MRF-63/273-K

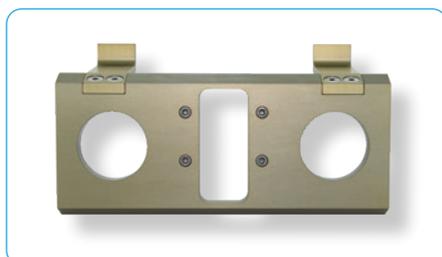
Item number	Designation	Weight [kg]
MRF-63-273	Only distance gauge without profile jaws	1.60
MRF-63-273-K	Gauge complete with profile jaws VST36	2.45



Profile jaws

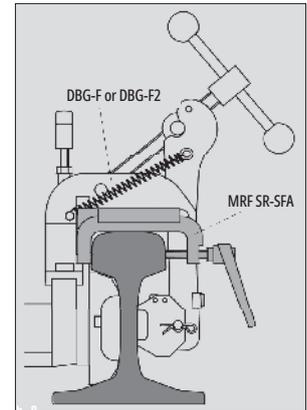
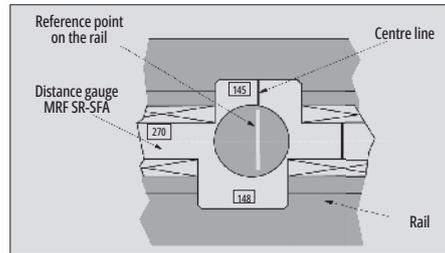
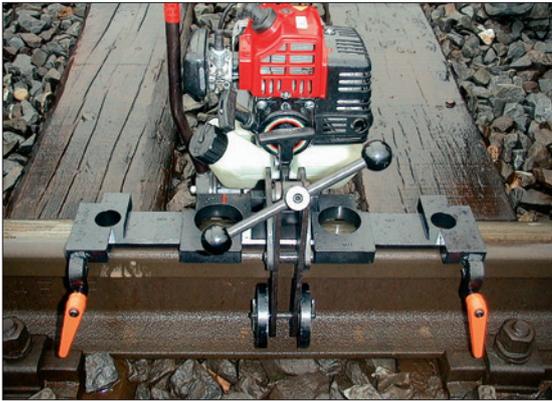
Item number	Designation	Weight [kg]
SSUNI46	Profile jaws for SBB1 / UNI46	0.9
SSUIC54	Profile jaws for SBB4 / UIC54E	1.1
SSUIC60	Profile jaws for SBB6 / UIC60	1.2
SSVST36	Profile jaws for VST36	0.85

Assembly jig for stock rail



Assembly jig for stock rail

Item number	Designation	Weight [kg]
MRF-160-UNI46	Stock gauge for SBB1	1.47
MRF-160-UIC54	Stock gauge for SBB4	1.67
ADM-CH	Adapter for stock gauge	0.45



Using this assembly gauge, our drilling machines can also be used for drilling mounting holes for axle counters from ALCATEL, SIEMENS, FRAUSCHER and TIEFENBACHER, or for wheel sensors.

Due to the various SR-XX profile jaws, which are fastened on the SR-SKI base plate, this template is suitable for every type of rail and axle counter.

Item number	Designation	Rail type	Weight [kg]
MRF-SR-SFA	Assembly gauge for axle counter		4.0
MRF-SR-SFA-K	Assembly gauge complete with base plate and all profile jaws with the exception of VST36		6.5
SR-SKI	Base plate		
SR-VST36	Profile jaws for FRAUSCHER and TIEFENBACHER	VST36	
SR-UNI46-58.5	Profile jaws for FRAUSCHER, TIEFENBACHER and wheel sensors	SBB1	
SR-UNI46-64	Profile jaws for SIEMENS and ALCATEL	SBB1	
SR-UIC54-70	Profile jaws for SIEMENS and ALCATEL	SBB4	
SR-UIC54-74.5	Profile jaws for FRAUSCHER and TIEFENBACHER	SBB4	
SR-UIC60-85	Profile jaws for SIEMENS, FRAUSCHER and TIEFENBACHER	SBB6	
SR-UIC60-74	Profile jaws for ALCATEL	SBB6	



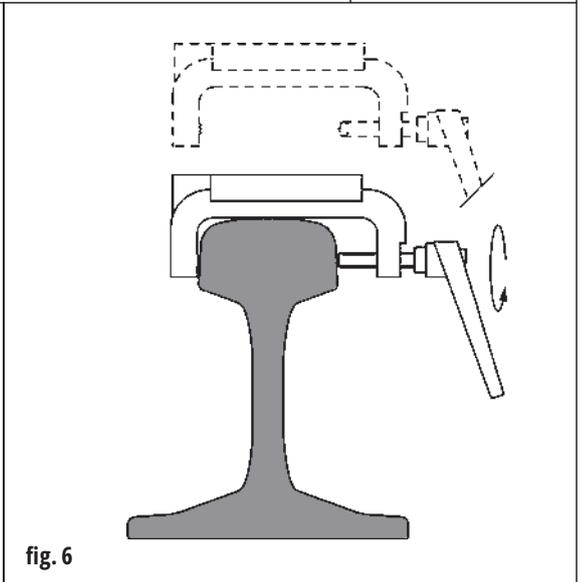
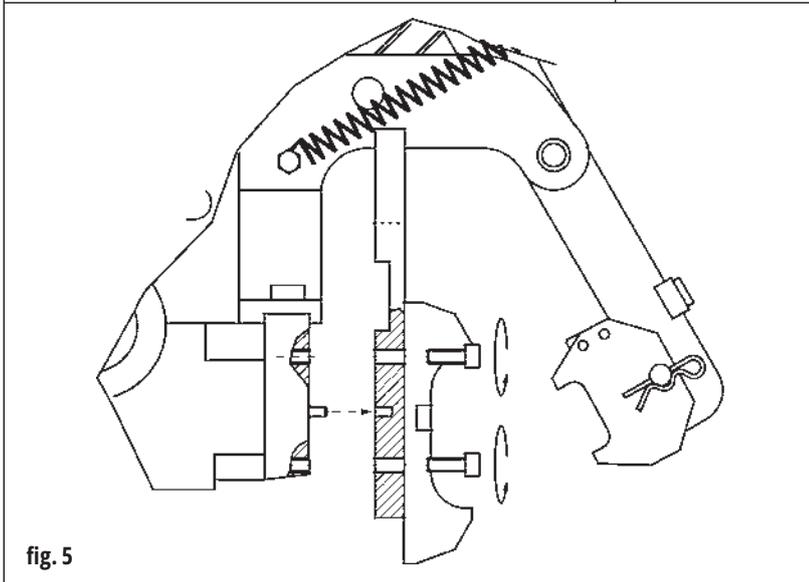
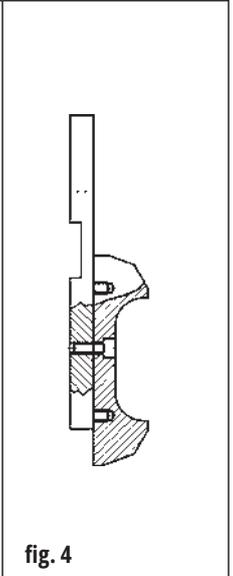
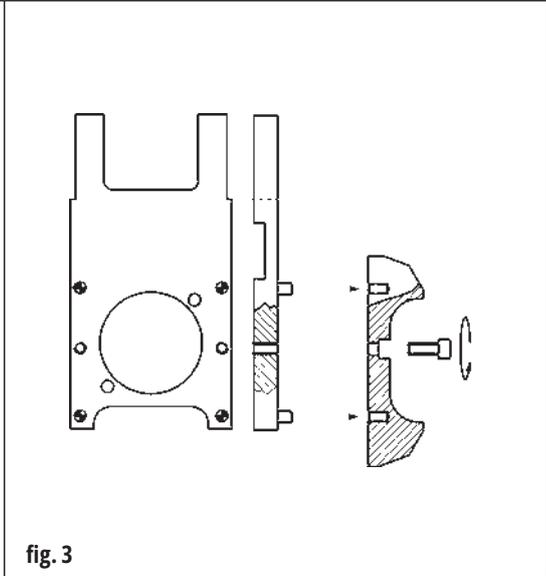
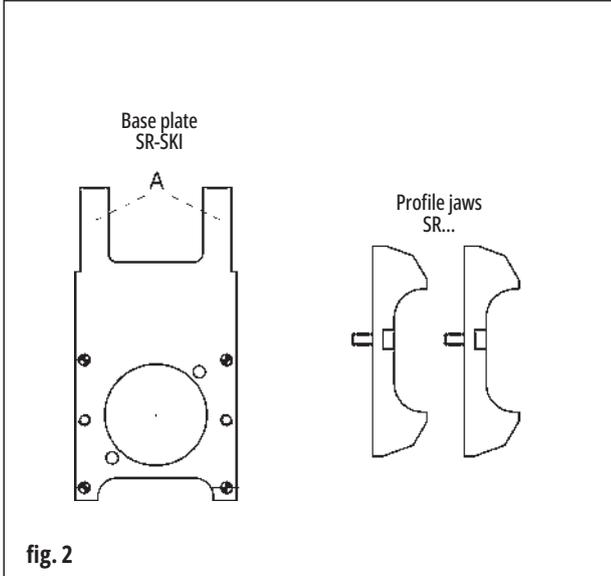
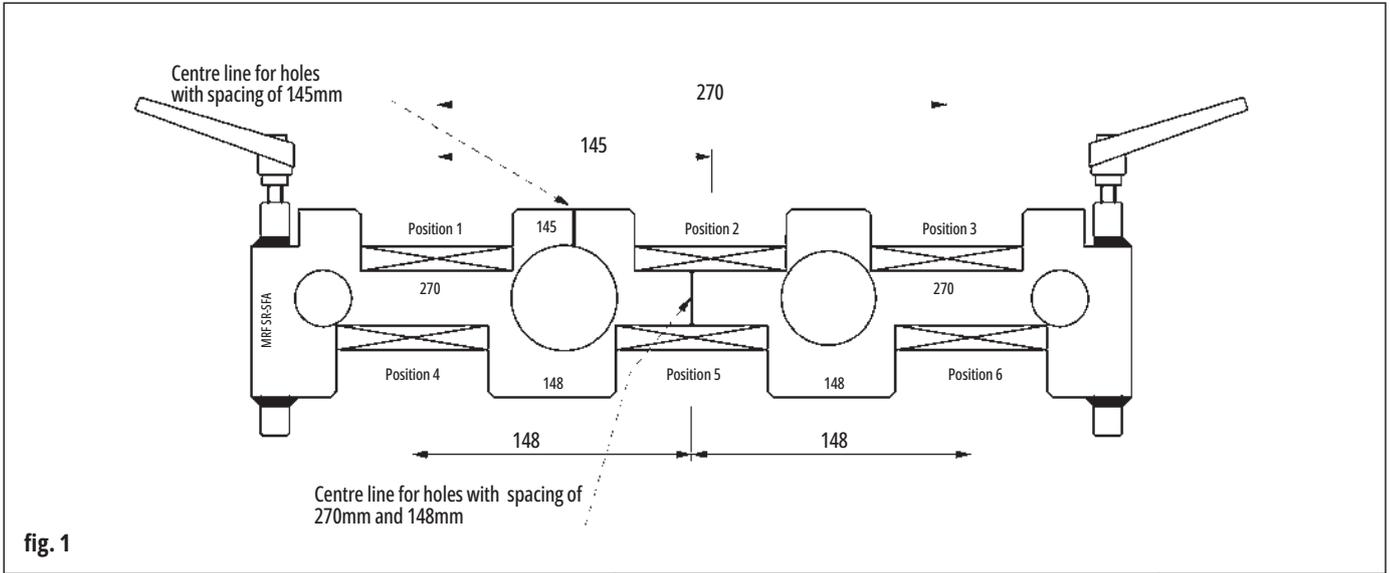
Rail profile templates MPAF for mounting the drilling machine without drilling jigs

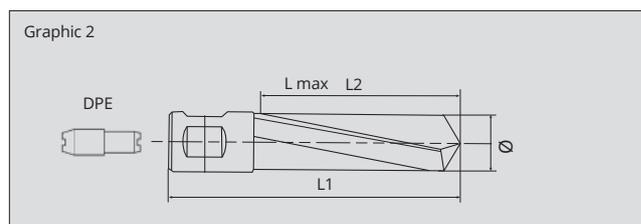
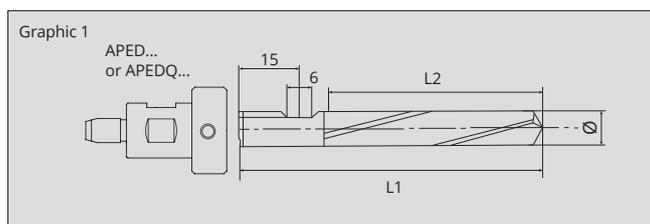
Item number	Rail profile	
MPAF-46UNI	SBB1	Vignole rail
MPAF-UIC54	SBB4	Vignole rail
MPAFN-UIC60	SBB6	Vignole rail
MPAF-VST36	VST36 / SBB5	Vignole rail
MPAF-RI60N	RI60	Grooved rail
MPAF-35G	RI35	Grooved rail

Distance gauge of type MRF SR-SFA for mounting wheel sensors and axle counters

The distance gauge MRF SR-SFA facilitates drilling the following rail holes with precisely defined spacing:

- 2 holes with spacing of 145 mm (fig. 1, pos. 1 and 2)
- 2 holes with spacing of 270 mm (fig. 1, pos. 1 and 3)
- 3 holes with spacing of 148 mm (fig. 1, pos. 4, 5 and 6)





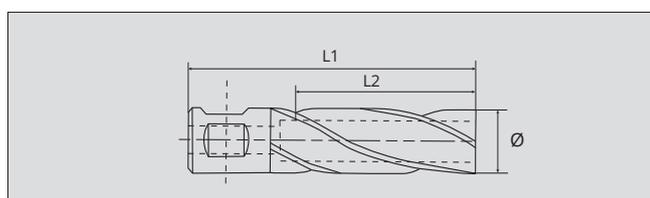
Spiral drill

For steel rails with tensile strength up to max. 1100N/mm²

Item number	Ø [mm]	L1 [mm]	L2 = Cutting depth [mm]	Adapter	Graphic	Figure
PE130C	13.0	71	50	APEDW-130 / APEDQ-130	1	1a
PE135C	13.5	71	50	APEDW-135+165 / APEDQ-135+165	1	1a
PE135C-AR	13.5	71	50	APEDW-135+165 / APEDQ-135+165	1	1b
PE190AR	19.0	85	55	DPE	2	2
PE220AR	22.0	85	55	DPE	2	2
PE240AR	24.0	85	55	DPE	2	2
PE275AR	27.5	85	55	DPE	2	2
PE290AR	29.0	85	55	DPE	2	2

Other diameter on inquiry.

W = Weldon und Q = Quicksystem



Core hole milling cutter CY

For steel rails with tensile strength up to max. 1100N/mm²

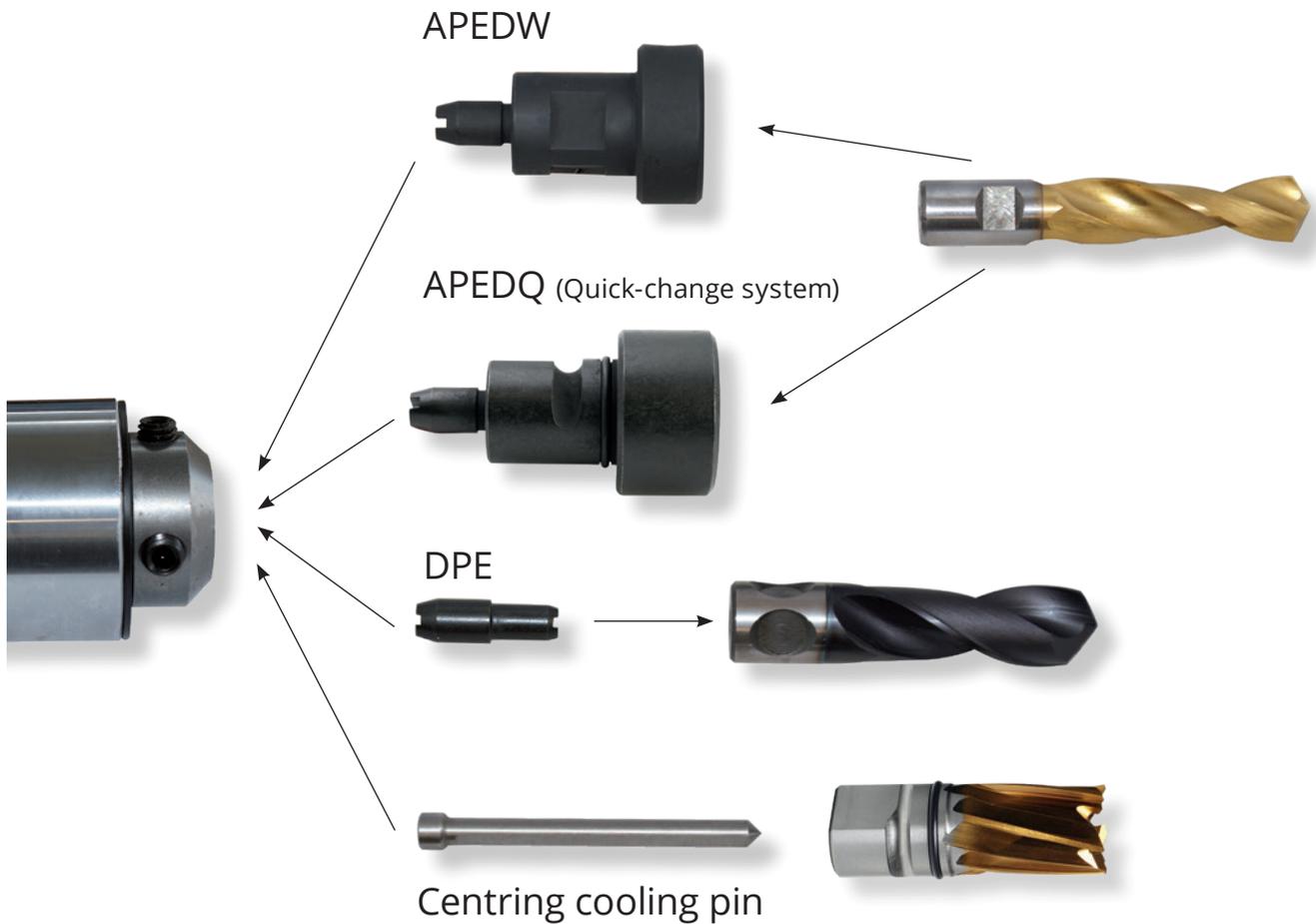
Item number	Ø [mm]	L1 [mm]	L2 = Cutting depth [mm]	Centring cooling pin
CY135	13.5	63.5	25	PP1
CY190	19.0	63.5	25	PP2
CY190L	19.0	86.0	50	PPL2
CY240	24.0	63.5	25	PP2
CY240L	24.0	86.0	50	PPL2
CY250	25.0	63.5	25	PP2
CY250L	25.0	86.0	50	PPL2
CY275R	27.5	63.5	25	PP63
CY290	29.0	63.5	25	PP2
CY290L	29.0	86.0	50	PPL2

Other dimensions and lengths on inquiry.

Adapter

APEDQ
DPE
APEDW

Applications in accordance with the preceding tables for spiral drills / core hole milling cutters



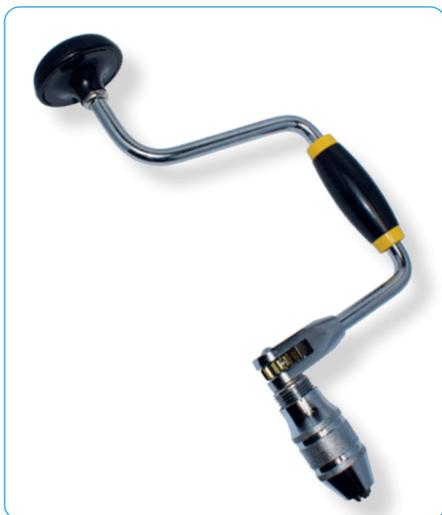
Magnetic debris collector

MSS

Effortlessly collects the metal debris generated during drilling.

Item number: MSS





Multi-jaw brace

Item number	Designation
BWB4	Multi-jaw brace



Hand-grip countersink

Item number	Designation
HG-KGS	Hand-grip for countersink



Countersink

Item number	Designation
KGS-16.5	Countersink 16.5 mm, DIM 335 C 90 o HSS
KGS-31	Countersink 31 mm, DIM 335 C 90 o HSS
KGS-31-10	Countersink 31 mm, DIM 335 C 90 o HSS shaft diameter 10mm
KGS-37	Countersink 37 mm, DIM 335 C 90 o HSS



Drip tray - AFB

Item number	Designation	Dimensions [mm]
532-03-408	Drip tray	340x255x30

Portable impact wrench with 2-stroke motor

NR-11P

Technical data

Motor	Type	2-stroke, air-cooled
	Cubic capacity	55 ccm
	Force	4.1 kW
	Fuel tank capacity	1.2 litres
	Fuel	
	Oil/petrol mixture	1:50 with synthetic oil for 2-stroke motors (2%) 1:25 with mineral oil for 2-stroke motors (4%)
	Minimal speed	2800 ± 200 revolutions per minute
	Speed under load	7000 revolutions per minute
	Max. speed without load	11500 revolutions per minute
	Ignition	Type
Spark plug		RAX 80 or equivalent with diaphragm
Carburettor	Type	with diaphragm
Striking mechanism	Plug insert	25.4 mm (1")
	Max. torque	2500 Nm
Capacities	Screws with thread diameters	up to 33 mm
	Spindle idling speed	1300 revolutions per minute
Weight	With empty fuel tank	18.5 kg



Portable battery impact wrench

NR-25B



Technical characteristics

Motor:	Brushless motor; 36V
Max. torque:	2700 Nm
Battery voltage:	36V
Battery capacity:	6.2Ah
Weight:	20.5 Kg
Protection class:	IP44M according to EN 60529

Scope of delivery

Battery 36V-2.6A
Charger

Accessories

VAL-NR-25B (Robust steel case)

Portable impact wrench with 2-stroke motor

NR-11P



NR-11P

- Ideal for use in track construction
- Easy to transport

- Simple to use
- High torque 2500Nm



- ① Operating handle with 2-button confirmation
- ② Large fuel tank that can be filled in any position
- ③ Decompression button for easy starting
- ④ 2-stroke petrol motor
- ⑤ Torque adjustment lever with 5 positions
- ⑥ Guard plate to protect the fuel tank and motor from damage
- ⑦ Start assistance
- ⑧ Vibration damper
- ⑨ Gear drive
- ⑩ Slip clutch
- ⑪ Ergonomically-shaped protective carry handle
- ⑫ 1" plug insert
- ⑬ Striking mechanism with high torque due to new, patented technology
- ⑭ Switch for right, left and idle running

Accessories for NR-11P and NR-13E

CLIP-NR

For locking the socket wrench with a groove diameter of 47 and 57 mm. 3 units are included in the scope of supply.

CLIP-NR57

For locking the socket wrench with a groove diameter of 57 and 67 mm. 1 unit is included in the scope of supply.



VAL-P20

For storing the power socket wrench.



Quick-change chuck

Socket wrench inserts

Accessories table

Type	Name	
SC9-04	Quick-change chuck	NR11-P, SC9-04
SSE-35	Socket wrench L 100 mm 4K23.5	35 C100 4K23.5 K23
SSE-42	Socket wrench L 80 mm 4K23.5	42 C80 4K23.5 K23
SSE-30X22	Socket wrench L 100 mm 4K23.5	30x22 L100 4K23.5 K23

other sizes on inquiry

Support trolley for railway applications



The support trolley **CS-EU-TA** allows to carry and use all Cembre impact wrench or sleeper drilling machines.

- Support arm with 360° radius of action and lockable during transport
- Force of the support arm is adjustable
- Braked wheels

Technical data

Weight:	30 kg
Height:	588 mm
Width:	1435 mm
Length:	1561 mm



Accessories



KCS-NR - Connection kit
Connection kit for vertical use of the impact wrench with the support trolley



KHOR-NR - Connection kit
Connection kit for working in horizontal position with impact wrench and trolley



PSCS-EU - Transport plate
Can be attached to the base of the support trolley with a quick coupling system and enables the transport of impact wrenches and drills up to a max. weight of 25 kg.



KPC-CS - Counterweight
The weights are positioned on the counterweight carriage to balance the weight of drills or impact wrenches mounted on the support trolley.



Battery-powered torque screwdriver

ITH-ADS



18 V
5.2 Ah
Li-Ion

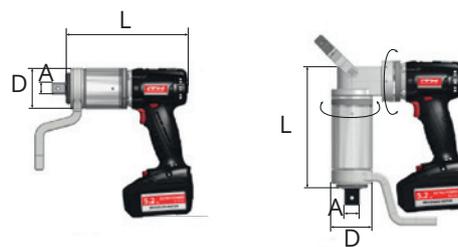


- ① Compact high-powered planetary gear
- ② Safety swivel joint, locking
- ③ Push/pull switch for setting fast speed/load speed
- ④ Motor LED, delivers user feedback constantly
- ⑤ Powerful drive machine, brushless and therefore particularly low-wear
- ⑥ Non-slip pistol grip
- ⑦ Powerful 18V Li-ion battery rechargeable with long-lasting 5.2 Ah extra Power, incl. LED charge status indicator on the battery at the touch of a button
- ⑧ Setting dial for setting the torque
- ⑨ 2 integrated LEDs cast a light beam directly on the screw connection
- ⑩ Ergonomically positioned on/off push-button and direction change switch loosen/tighten
- ⑪ Fine-toothed receptacle for support on the gear. Optional version of the supports: TWIN support, rotating foot, customer-specific versions.
- ⑫ Exchangeable impact socket wrench inserts with square receptacle and safety clamp

Battery-powered torque screwdriver

ITH-ADS

Technical data



Item Number	Max. torque (Gear 1)	Max. speed (Gear 2)	Drive	Gear diameter	ADS straight		ADSW angled	
					Length L	Weight*	Length L	Weight*
	[Nm]	[U/min]	A	DØ	[mm]	[kg]	[mm]	[kg]
ITH-ADS-50	500	36	3/4	55	251	3.1	211	4.5
ITH-ADS-100	1000	15	3/4	70	266	4.1	224	5.1
ITH-ADS-150	1500	11	1	70	289	4.5	249	5.0
ITH-ADS-230	2300	8.2	1	72	302	5.1	261	6.1
ITH-ADS-320	3200	4.5	1	78	315	6.1	277	7.1
ITH-ADS-400	4000	3.8	1 1/2	90	337	7.9	290	8.2
ITH-ADS-600	6000	2.5	1 1/2	100	351	10.0	on request	

* Weight without support

Versions **x = ST** for standard **x = DI** for digital **x = DA** for digital with ALPHA **x = BA** for basic **x = W** for angled
 Ordering example: **ITH-ADS-50ST-3** for ADS, straight, standard or **ITH-ADSW-50ST-3** for ADS, angled, standard

Functions and advantages

Safety rotating hinge, locking

Wrist-protecting, reaction moments are not transferred to the user. Quick and easy positioning of the gear (the support)

Automatic switch-off and free rotation

After reaching the torque, the ADS switches off automatically and rotates freely. Tilting of the socket or support is prevented.

High reproducibility

of the pre-tensioning forces of $\pm 4\%$ *, therefore suitable for use in steel construction per DIN EN 1090

Flexible, quick and handy work

Particularly with service work, with tight spatial conditions or working areas that are difficult to access (e.g. offshore wind turbines)

Expandable possible applications

through ITH special supports, ITH extensions and ITH side shoots

* With comparable screwing conditions

Control

ITH Soft Turn Automatic (STA)

Control electronics continuously adjust speed to screw joint

Motor LED delivers user feedback constantly for checking the screwing process

- LED flashes slowly: Screwing process running
- LED continuously illuminated: Torque reached / automatic switch-off
- LED flashes quickly: Error / torque not reached / battery charge level low

Battery power

Included in the scope of supply:

- 2 x 18 V Li-ion battery 5.2 Ah, extra long-lasting 5.2 Ah extra Power, replaceable battery enables continuous work
- 1 x quick-charging station. Compact dimensions, available versions: 230V (50+60 Hz) or 110 V

Cordless impact wrench

ME-602402840



The cordless impact wrench **ME-602402840** is extremely powerful and has a 3/4" male square and 1750 Nm. It is very powerful for heavy-duty screw applications. It has an integrated work light to illuminate the work area and has a robust aluminium die-cast gear housing for optimum heat dissipation and durability.

Technical specifications

Battery voltage:	18 V
Maximum torque:	1750 Nm
Bit retainer:	Male square 3/4" (19 mm)
Weight:	3.0 kg (without battery)

Scope of delivery

- metaBOX 145 L
- without battery pack
- without charger

Accessories

- SPEZ-PA29-4K23 This adapter makes it possible to use all impact wrench sockets that also fit the quick-change chuck SC9-04 with the Metabo impact wrench.
- MO-2-30X22L60 Power socket spanner insert, 3/4" inch drive, square, 30x22 mm, long version: 60 mm



Compact battery-powered construction spotlight

ME-601505850



The compact battery-powered construction spotlight **ME-601505850** with 4000 lumens provides large-area and uniform working light with reduced shadows. The lamp head can be rotated horizontally by 270° for almost unlimited lighting positions. The infinitely variable dimming function provides optimum light with maximum battery life. It is dust and splash-proof for demanding construction site use (IP 54).

Technical specifications

Max. light flux:	4000 lm
L x W x H:	276 x 155 x 186 mm
Weight:	1.9 kg (without battery)

Scope of delivery

- Battery and charger must be purchased separately.

Torque and assembly wrench

QLE
WALTER-2040-LSS

QLE

direction



Adjustable torque wrench, with scale

Assembly

Adjustable

Ratchet head

Dial division

- Torque pre-setting with rotary head and reversible ratchet, right/left
- Audible noise when the desired torque is reached
- Suitable for assembly and series production
- For tightening insulating joints

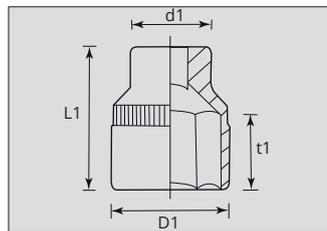


QLE1400N2

accuracy ±3%

Item number	Torque range [Nm]		Total length [mm]	Square drive [ZOLL]	Weight [kg]
	min.-max.	Scale division			
QLE1400N2	300-1400	10	1787	1"	11.1

Power socket inserts



Item number	Drive	L1 [mm]	D1 [mm]	d1 [mm]	t1 [mm]
MO-9-42L	1"	100	64	54	23
MO-9-43=1-11/16L	1"	100	64	54	24

other sizes on inquiry

WALTER-2040-LSS



Item number	Designation
WALTER-2040-LSS	Lug wrench, double-action, width across flats: 43mm, hexagon, yellow
WALTER-2040-LSS-42	Lug wrench, double-action, width across flats: 42mm, hexagon, yellow

Portable timber sleeper drilling machine with 2-stroke motor

SD-9P-ECO
SD-15PR-ECO



SD-9P-ECO



Technical data

Two-stroke motor:	
Cubic capacity:	48.6 cm ³
Power:	1.4 kW
Fuel:	Petrol/oil mixture 2% (1:50)
Starter:	Starter cord with automatic retraction
Max. material thickness:	200 mm
Weight:	19 kg

Drilling range up to 20 mm borehole diameter with use of the guide tip provided. Larger hole diameters can be drilled with the TPM220-26 guide tip available as an accessory.



SD-15PR-ECO



Technical data

Two-stroke motor:	
Cubic capacity:	53.2 cm ³
Power:	2 kW
Fuel:	Petrol/oil mixture 2% (1:50)
Starter:	Starter cord with automatic retraction
Max. material thickness:	200 mm
Weight:	20 Kg

Drilling range up to 25 mm borehole diameter. Forward/Reverse selector. Handle will rotate through 90° for operator comfort.



Portable accu timber sleeper drilling machine

SD-19BR-RP



RP stands for "**Rainproof**". Thanks to the protective cover, operation in the rain is possible (**IP44M** according to EN 60529).

Technical data

Motor accu:
Battery current: 6.2 Ah
Max. sleeper thickness: 200 mm
Weight: 17.4 Kg

Drilling range up to 25 mm borehole diameter.
Rocker switch: for clockwise and anti-clockwise rotation, idle position. Handle with throttle grip for a controlled increase in drilling speed.

Battery pack

- 36 V, 6.2 Ah Li-ion
- Overcurrent protection
- Charging unit 36 V

Suitable for electric rail connections, axle counters, fishplate holes and insulated joints

- Drilling range: \varnothing 13÷38 mm for core hole drill
- Drilling range: \varnothing 7÷22 mm for spiral drill

Accessories



MND1
Quick-action chuck for drills with a length of 325 mm and a 16 mm shaft. Exchangeable with the standard spindle of type MND.

TPM190-24 For centring in ribbed plates with 24 mm holes.
Max. drilling range 19 mm.
TPM220-26 For centring in ribbed plates with 26 mm holes.
Max. drilling range 22 mm.
Further centring tips on inquiry.



VAL-P6 for storage of the drill and accessories. The case can be stored in the transport case VAL-SD for the sleeper drilling machine.

VAL-SD
Robust steel case for transporting the sleeper drilling machine and accessory case VAL-P6.



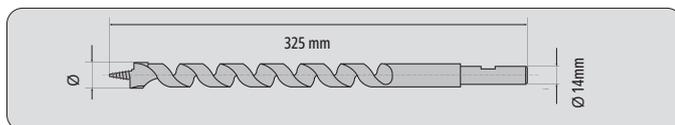
Cover made from polyethylene PE-HD, UV-resistant, application temperature from -40°C to +70°C.



Drill with 14 mm shaft for quick-action chuck type MND

Item number	Ø [mm]
PV-160	16
PV-170	17
PV-180	18
PV-235	23.5
PV-235-2-L200*	23.5

* Length 290 mm



All sleeper drills can be used with the CS-EU-TA support carriage on page 27.

Automatic grinding cutter with 2-stroke motor

RDS-14P
AA-RDS
SA-RDS



Technical data

Husqvarna air-cooled 2-stroke petrol motor, with electronic ignition and 5 layer air filter; 5.8 kW at 9750 rpm

Fuel:	min. 88 octane; Mixture 1:50
Fuel tank:	1.25 l
Cutting disc diameter:	350/400 mm
Cutting disc receptacle:	25.4 mm (1 inch)
Dimensions (without cutting disc)	
Length:	798 mm
Width:	285 mm
Height (with protection for 400 mm):	440 mm
Weight	
Without rail mounting arm:	19 kg
Standard rail mounting arm:	8.8 kg
Automatic rail mounting arm:	18.8 kg

High quality cutting discs of series type C-REX

Item number	Outer and inner Ø [mm]
CRDL4387	355 x 22.2
CRDL6407	406 x 22.2



Automatic rail mounting arm AA-RDS

- Active arm that takes over the motor movement and simulates and executes the cutting during the cutting phase.
- Original reproduction of the rail underhead in the clamp of the rail mounting arm, for optimum and safe connection with the rail.
- Indication of the precise cutting position integrated directly in the clamp.
- Simple option of turning over the grinding cutter in a quick and easy way without first removing it from the rail, to continue with the cut on the opposite side of the rail.
- Rail mounting arm joint fitted with high-precision bearings in order to prevent axial play and avoid any offset with cutting on both sides.
- Rail mounting arm can be secured in a resting position to ease the positioning and mounting of the grinding cutter.

Standard rail mounting arm SA-RDS

- Original reproduction of the rail underhead in the clamp of the rail mounting arm, for optimum and safe connection with the rail.
- Indication of the precise cutting position integrated directly in the clamp.
- Rail mounting arm with two joints enables easy and precise work for the user.
- Integrated system for controlling the working range of the arm according to the rail type.
- Easy handling when turning over the grinding cutter, without first removing it from the rail, and continuation of the cut on the opposite side of the rail.
- Rail mounting arm joint fitted with high-precision bearings in order to prevent axial play and avoid any offset with cutting on both sides.
- Rail mounting arm can be secured in a resting position to ease the positioning and mounting of the grinding cutter.



The hydraulic nut splitter is operated by a hydraulic pump. If damaged, the knife wedge can be easily replaced. The low weight enables easy handling. The nut splitter was developed for a variety of applications.



RHTD1724 (M12-M16)

Operating pressure	max. 700 bar
Length	151 mm
Width	54 mm
Weight	1.76 kg



RHTD3241 (M22-M27)

Operating pressure	max. 700 bar
Length	208 mm
Width	76 mm
Weight	4.9 kg



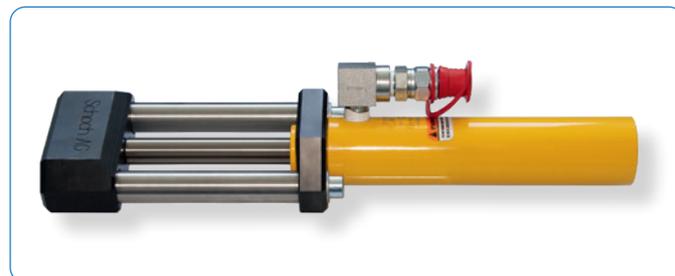
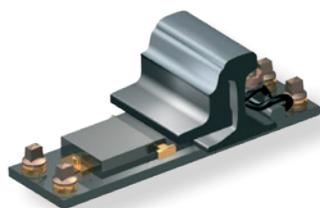
RHTD410T double blade technique (M18-M27)

Operating pressure	max. 700 bar
Length	275.5 mm
Width	76 mm
Weight	5.1 kg

Wedge extraction device

IBAV

The IBAV wedge extraction device facilitates the simple and safe removal of wedges with inner stock rail clamps. Thanks to the hydraulic pump B70M-P36 (page 48), withdrawal takes place quickly and effortlessly. The pump works with an operating pressure of 700bar and removes even rusted wedges with ease.



Pump operating pressure	max. 700 bar
Length without pump	400 mm
Width without pump	100 mm
Weight without pump	5.2 kg
Total weight	10.7 kg

Option including pump B70M-P36

Hydraulic tools for cutting overhead lines, copper and aluminium cables

HT-TFC
RH-TFC



HT-TFC



The hydraulic hand-held overhead line cutter **HT-TFC** is designed for cutting the overhead line easily and effectively.

Application

Cutting of overhead lines of differing profiles

Technical data

Max. operating pressure:	700 bar
Length:	373 mm
Width with closed lever:	159 mm
Width with open lever:	257 mm
Weight:	3.6 kg



Storage

is delivered in a stable plastic case **VAL-P17** (colour and shape may differ from the illustration) that can be used to store the hand-held overhead line cutter and 4 inserts.

- Dimensions: 470 x 384 x 110 mm / weight 2.0 kg
- The contour inserts must be ordered separately

RH-TFC



Hydraulic overhead line cutter head with oil loss-free quick coupling.

Application

Cutting of overhead lines of differing profiles

Technical data

Max. operating pressure:	700 bar
Length:	196 mm
Width with closed lever:	159 mm
Width with open lever:	257 mm
Weight:	3.1 kg

Storage:

is delivered in a stable plastic case **VAL-P15** (colour and shape may differ from the illustration) that can be used to store the cutting head and 4 contour inserts.

- Dimensions: 315 x 300 x 95 mm / weight 0.93 kg
- The contour inserts must be ordered separately



Contour inserts for HT-TFC and RH-TFC



Contour insert	Max. cable diameter	
MFC-AC107	107	Overhead line profile
MFC-BC150	150	Overhead line profile
MFC-D7.5-S	7.5	Circular section profile
MFC-D10.8	10.8	Circular section profile
MFC-D14.5	14.5	Circular section profile
MFC-D16.1	16.1	Circular section profile

other sizes on inquiry

Cembre has developed this range of overhead line cutters to enable cutting the overhead line easily and effectively. It is available as a hand-held hydraulic tool, battery-powered tool, or as a cutting head for connecting to a hydraulic pump.



Cutting edge with conventional tools



Cutting edge with Cembre overhead line cutter

Hydraulic press head for overhead line joints and straightening device

RHU300-3D MSGW

RHU300-3D



The hydraulic press head **RHU300-3D** is suitable for pressing overhead lines, cable lugs and connectors from 10 to 630 mm². The tool is equipped with an oil-loss free quick coupling that enables connection to a hydraulic pump (page 48) with a maximum operating pressure of 850 bar. It is possible to use press inserts of size 3 per DIN 48083 part 3.

Maximum application range in mm ² (hexagonal pressing)			
per DIN 48083			Trade version
Cu	Al	Al/St	Cu
630	500	380/50	630

Technical data

Press force: 300 kN
L x W: 297 x 171 mm
Weight: 7.2 kg

Scope of supply

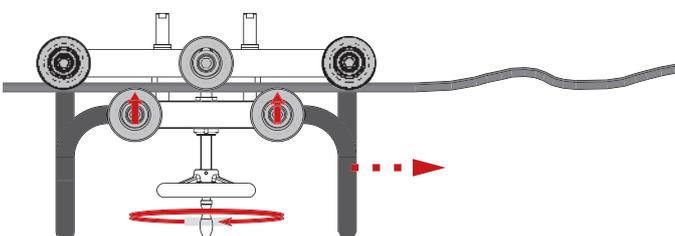
Is supplied without press inserts.

Press insert	Use
MO-C2	Pressing C-clamps (Bottom die*)
MO-E1-107	Pressing E-clamps (Bottom die*)
MO-E1-150	Pressing E-clamps (Bottom die*)
MO-E1+C2	Pressing E and C-clamps (Die top)
MO-3LN-3D	Releasing C and E-clamps
MO-4N-3D	Pressing overhead line joint connectors
MO-4L-3D	Releasing overhead line joint connectors
AU-300-130D	Adapter for C-Matrices specially MK17-C/MK19-C
MO-3KZ50-95	Pressing Aldrey-clamps

other sizes on inquiry

* must always be used with MO-E1+C2

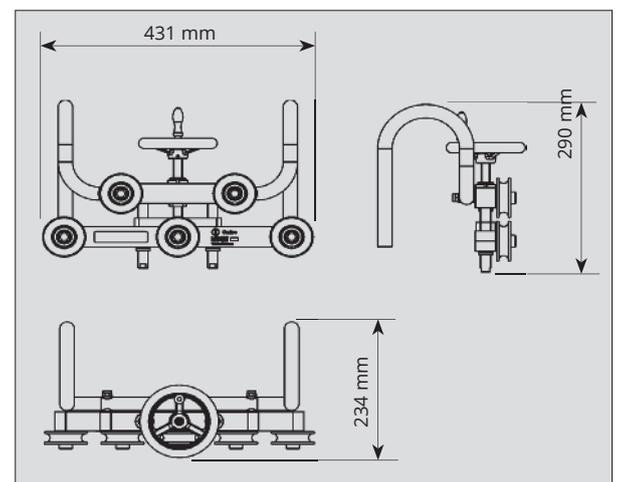
MSGW



The mechanical overhead line straightening tool is very easy to operate thanks to its 5 wheels, and can be used in every position for straightening grooved contact wires up to a cross-section of 150 mm².

Technical data

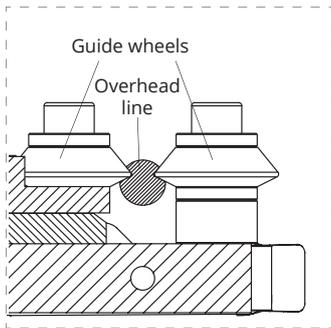
Weight: 6.8 kg



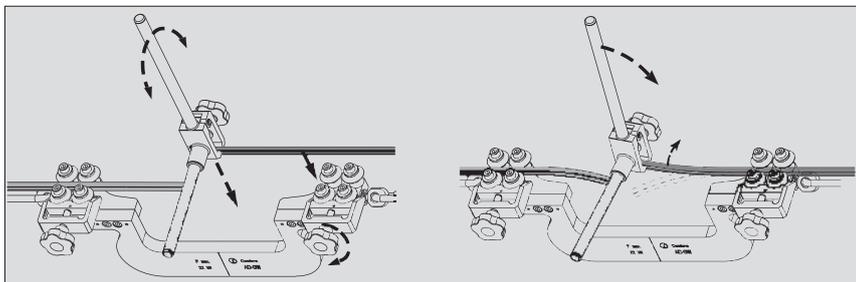
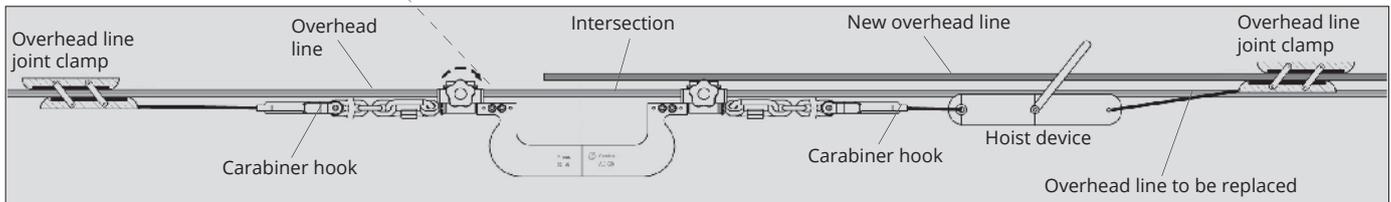
Tools for simple installation of overhead line joint clamps on grooved contact wires

AD-GW

Installation is much easier with the **AD-GW** tool, and the time required to fit overhead line joint clamps on grooved contact wires is reduced. The tool is integrated in the existing hoist with its overhead line tensioning clamps.

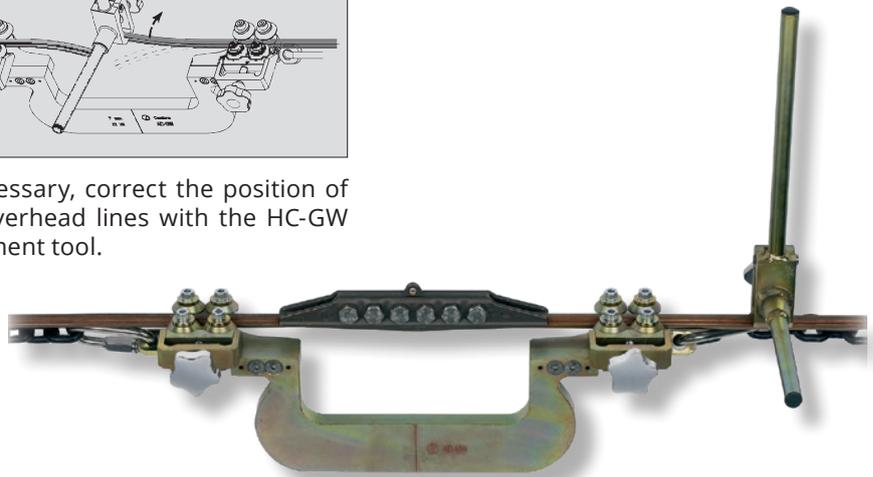


Accessories:
Chain with carabiner hook
HC-GW alignment tool



Using the HC-GW alignment tool, position the new overhead line between the guide wheels and lock with the fixing wheels.

If necessary, correct the position of the overhead lines with the HC-GW alignment tool.



Hydraulic press tools

HT51



HT51



The hydraulic manual press **HT51** is equipped with a double piston hydraulic and is suitable for pressing connecting material from 6 to 240 mm².

The tool is equipped with a pressure relief valve that reacts when the max. pressure of 600 bar is reached. The head can be rotated through 180°. Due to the automatic opening of the pump arm, the light weight and the very small design, the manual press is easy to operate with one hand. An extensive range of press inserts are available.

Maximum application range in mm ² (Hexagonal crimping)			
as per DIN 48083		Commercial design	
Cu	Al	Al/St	Cu
240	240	95/15	240

Technical data

Press force:	50 kN
Max. operating pressure:	600 bar
Length:	380 mm
Width:	130 mm
Weight:	2.7 kg
Pressing range (DIN):	6-240 mm ²

Please refer to the table on page 60 for the application range of the tool and the corresponding dies.

Storage:

The tool is delivered in a stable plastic case, type **VAL-P1**, for storage of tool and 20 pairs of crimp dies. Delivered without crimp dies. Colour and shape may differ from the illustration.

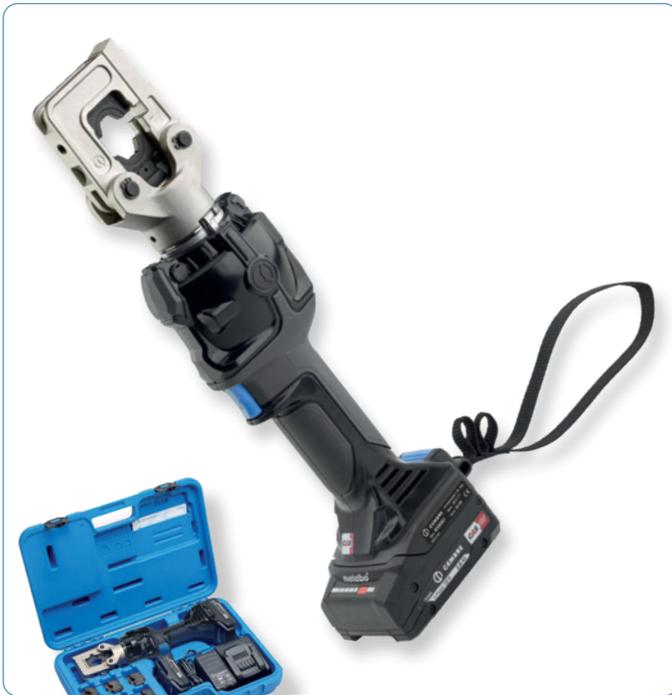
Application range			
Material	Tensile strength (daN/mm ²)	Max. Cutting diameter	
Wire cables and conductors	Copper	≤ 41	25
	Aluminium	≤ 20	25
	Aluminium alloy	≤ 34	25
	Steel	≤ 180	Some important examples: 7 x 3.0: Ø est. = 9.0 mm 19 x 2.1: Ø est. = 10.5 mm 19 x 2.3: Ø est. = 11.5 mm
	Stranded steel (stands QTY □200)	≤ 180	18
	Aluminium / steel	≤ 180	25 Some important examples: 26 x 2.50 + 7 x 1.95: Ø est. = 15.85 26 x 3.06 + 7 x 2.38: Ø est. = 19.38 26 x 3.60 + 7 x 2.80: Ø est. = 22.80
Rods	Steel	≤ 60	13
		≤ 42	16
	Copper	≤ 30	20
		≤ 25	23
Aluminium	≤ 16	25	

Hydraulic press tools

B500ND B500



B500ND



The **B500ND** is the first in a new generation of portable battery-operated tools. It is equipped with an intelligent automatic return at the end of the cycle (Smart Release).

It is suitable for crimping cable lugs and connectors up to 300 mm². For this purpose, an extensive range of crimp dies are available. A new Li-Ion 18V 2.0 Ah high performance battery, allows a longer independent working. The tool is also equipped with a over-pressure sensor and a safety valve. The EPS guarantees the precision, checks the current pressure value and informs the user about any possible errors (EPS).

Maximum application range in mm² (Hexagonal crimping)

as per DIN 48083			Commercial design
Cu	Al	Al/St	Cu
300	240	95/15	300

Technical specifications

Crimp force: 60 kN
 L x H x W: 396 x 135 x 81 mm
 Weight: 3.0 kg (tool)
 1.5 kg (case)

Scope of delivery

Incl. case **VAL-P22** (465 x 315 x 116 mm)
 Colour and shape may differ from the illustration. Without crimp dies.
 Accessories, see page 139

B500



The hydraulic crimp **B500** is equipped with a double piston hydraulic. The crimp die can be rotated through 180°, which makes it possible to use possible in a confined space. All crimp dies as per DIN 48083 can be used, in particular those of the 63 kN tools. Suitable crimp dies on page 60.

Maximum application range in mm² (Hexagonal crimping)

as per DIN 48083			Commercial design
Cu	Al	Al/St	Cu
300	240/300	95/15	300

Technical data

Press force: 63 kN
 LxHxW: 300 x 343 x 83 mm
 Weight: 4.2 kg (tool)
 2.6 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1852L),
 Battery charging unit (ASC30-36EU27044000),
 Including case **VAL-P38** (520 x 432 x 126 mm), (Colour and shape may differ from the illustration) without crimp dies.

Hydraulic press tools

HT61 B600



HT61



The hydraulic hand-held press **HT61** is suitable for pressing connecting materials from 6 to 240 mm². The tool is equipped with an overpressure valve that triggers upon reaching the max. pressure of 600 bar. The head can rotate through 180°. Very quick work is possible, thanks to the integrated double-piston hydraulics. A comprehensive palette of press inserts is available. It is also possible to use pin press inserts of size 1 from other manufacturers. For the tool application area and the associated matrices, observe the table from page 60.

Technical data

Press force:	60 kN
Max. operating pressure:	600 bar
Length:	489 mm
Width:	141 mm
Weight:	4.0 kg
Pressing range (DIN):	6-240 mm ²

Storage:

The tool is delivered in a stable plastic case, type **VAL-P7**. Colour and shape may differ from the illustration. The press inserts can also be stored in a canvas bag inside the case.

B600



The hydraulic crimp **B600** is equipped with a double piston hydraulic. The crimp die can be rotated through 180°, which makes it possible to use possible in a confined space. All crimp dies as per DIN 48083 can be used, in particular those of the 68 kN tools (opening spring required). Pin crimp dies size 1 from other manufacturers can also be used. Suitable crimp dies on page 60.

Maximum application range in mm² (Hexagonal crimping)

as per DIN 48083			Commercial design
Cu	Al	Al/St	Cu
240	185	120/20	240

Technical data

Press force:	68 kN
LxHxW:	347 x 344 x 83 mm
Weight:	5.1 kg (tool) 2.6 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1852L), Battery charging unit (ASC30-36EU27044000), Including case **VAL-P40** (520 x 432 x 126 mm), (Colour and shape may differ from the illustration) without crimp dies.

Press inserts for HT61 and B600 (railway applications)

Designation / code number	Cross-section Cu
MO 16-50	Oval notch connector for support pipe hanger
MO 10S-50	Oval notch connector for hanging rope
MDB110-50	Earthing cable aluminium 110 mm ² / 100 mm ² / 75 mm ²

An opening spring must be used for the press inserts!

Hydraulic press tools

HT131-C B1350-C



HT131-C



This hydraulic manual press **HT131-C** is suitable for pressing connecting material from 10 to 400 mm². The tool is equipped with a pressure relief valve that reacts when the max. pressure of 700 bar is reached. The head can be rotated through 180°. The integrated double piston hydraulics enable very fast working. Please refer to the table on page 60 for the application range of the tool and the corresponding dies.

Technical data

Press force	130 kN
Max. operating pressure	700 bar
Length:	473 mm
Width:	144 mm
Weight:	5.5 kg
Pressing range (DIN)	10-300 mm ²

Storage:

The tool is delivered in a stable plastic case, type **VAL-P3**. Colour and shape may differ from the illustration. In addition, 14 pairs of press inserts can be stored in the case.

B1350-C



The hydraulic crimp **B1350L-C** is equipped with a double piston hydraulic. The crimp die can be rotated through 180°, which makes it possible to use possible in a confined space. The contact gap of the head is 42 mm and is especially suitable for crimping large cross-sections. Suitable crimp dies on page 60.

Maximum application range in mm² (Hexagonal crimping)

as per DIN 48083			Commercial design
Cu	Al	Al/St	Cu
300	300	240/40	400

Technical data

Press force:	132 kN
LxHxW:	338 x 344 x 83 mm
Weight:	6.5 kg (tool) 2.6 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1852L),
Battery charging unit (ASC30-36EU27044000),
Including case **VAL-P39** (520 x 432 x 126 mm), (Colour and shape may differ from the illustration) without crimp dies.

Hydraulic cutting tools

HT-TC026
TC025
B-TC250



HT-TC026



The hydraulic manual cable cutter **HT-TC026** with double piston hydraulics is particularly suitable for cutting catenary wire, conductor cables and round materials. The tool is equipped with a pressure relief valve that reacts when the max. pressure of 700 bar is reached. The head can be rotated through 180°. The cutting blades are made of a very high-quality steel alloy. The tool is delivered in a canvas bag.

Technical data

Cutting capacity	25 mm
Max. operating pressure	700 bar
Length:	382 mm
Width:	129 mm
Weight:	3.2 kg

TC025



The hydraulic manual cutting head **TC025** is particularly suitable for cutting catenary wire, conductor cables and round materials. The cutting blades are made of a very high-quality steel alloy. The tool is equipped with an oil loss-free quick coupling, which allows the connection to a hydraulic pump with a max. operating pressure of 700 bar. (Page 48). The tool is delivered in a canvas bag.

Technical data

Cutting capacity	25 mm
Max. operating pressure	700 bar
Length:	213 mm
Width:	82 mm
Weight:	2.0 kg (tool) 0.1 kg (pouch)

B-TC250



The hydraulic battery cutting tool **B-TC250** with double piston hydraulics, has been specially developed for cutting: Copper and aluminium cables, aluminium steel cables, steel cables, Aldreys cables, round material copper, aluminium, steel up to a max. diameter of 25 mm. The handling is guaranteed by the 180 ° rotatable head. Please refer to the table on page 62 for the application range of the tool.

Technical data

Max. Ø:	25 mm
LxHxW:	300 x 337 x 83 mm
Weight:	4.65 kg (tool) 2.6 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1852L), Battery charging unit (ASC30-36EU27044000), Including case **VAL-P40** (520 x 432 x 126 mm) Colour and shape may differ from the illustration.



B-TC250ND



The rod-battery-operated cutter **B-TC250ND** is well balanced when holding. The tool operates quietly and with little vibration. It is suitable for cutting solid or very hard materials up to a maximum diameter of 25 mm. The cutting blades are therefore made of particularly high-quality material. The 180 ° rotatable head and the practical snap closure allow easy handling. For the tool application area, observe the table from page 62.

Technical data

Max. Ø: 25 mm
LxHxW: 401 x 136 x 81 mm
Weight: 3.5 kg (tool)
1.5 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1820L),
Battery charging unit (ASC30-36EU27044000),
Including case **VAL-P22** (448 x 306 x 122 mm)
Colour and shape may differ from the illustration.



Hydraulic cutting tools



B-TC500 B-TC650-SC

B-TC500



The hydraulic battery-operated cutter **B-TC500** with double piston hydraulic was developed for cutting copper, aluminium and telephone cables up to a maximum diameter of 50 mm (e.g. 4 x 150 mm² NYY-0). The special cut and the special geometry of the cutting blades guarantee a «straight cut». Because of the snap closure on the head, the tool can also be used to cut endless material. The good handling is optimally guaranteed by the 90° rotatable head.

Technical data

Max. Ø: 50 mm
LxHxW: 405 x 398 x 83 mm
Weight: 5.8 kg (tool)
2.6 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1852L),
Battery charging unit (ASC30-36EU27044000),
Including case **VAL-P40** (520 x 432 x 126 mm)
Colour and shape may differ from the illustration.

B-TC650-SC



The hydraulic battery-operated cutter **B-TC650-SC** with double piston hydraulic was developed for cutting copper, aluminium and telephone cables up to a maximum diameter of 65 mm. The cutting blades are therefore made of particularly high-quality steel and heat treated to ensure a long service life. With this open cutting head design, a blade guide prevents jamming and tilting of the materials that are to be cut. The good handling is guaranteed by the 335° rotatable head.

Technical data

Max. Ø: 65 mm
LxHxW: 503 x 464 x 105 mm
Weight: 7.7 kg (tool)
6.7 kg (case)

Scope of supply

Tool with 2 x Li-ion batteries (CB1852L),
Battery charging unit (ASC30-36EU27044000),
Including case **VAL-B-TC950** (565 x 410 x 132 mm)



B70M-P36



The hydraulic battery pump **B70M-P36** has a 36V – 6.2 Ah battery and operates with an operating pressure of 700 bar. The pump can be operated with a hand of foot pedal remote control.

Technical specifications

Operating pressure: 700 bar
L x H x W: 527 x 305 x 94 mm
Weight: 9.2 kg (without accessories)

Scope of delivery

- Pump
- 3 m hydraulic high-pressure hydraulic hose
- Remote control unit
- Battery charger
- Canvas bag, suitable for the storage of the tool and accessories
- Operating batteries 36 V - 6.2 Ah

Accessories for battery tools



ME-625344000 / CB3662L
Battery Li-Ion 36V 6.2 Ah



ME-625028000 / CB1852L
Battery Li-Ion 18V 5.2 Ah



ME-625596000 / CB1820L
Battery Li-Ion 18V 2.0 Ah



ME-627044000 / ASC30-36
ASC30 Battery charger
(14.4-36V Air Cooled)



ME-627265000 / ASC Ultra
ASC ULTRA Quick battery charger
(14.4-36V Air Cooled)



ME-627048000 / ASC Ultra
ASC ULTRA Quick battery charger
(14.4-36V Air Cooled)

Accessories for B70M-P36



RCP-B70
Foot switch



ERCH-CH
Hand held remote control
permanently fixed to the high-
pressure hose

Mechanical cable cutters for copper and aluminium cable



KT1

Cutting tool for cable up to max. Ø 15 mm
Without opening spring



KT1-F

Cutting tool for cable up to max. Ø 15 mm
With opening spring



KT2

Cutting tool for cable up to max. Ø 25 mm



KT3

Cutting tool for cable up to Ø 32 mm
Weight: 0.59 kg
Length: 255 mm



KT4

Cutting tool for cable up to Ø 52 mm
Weight: 0.89 kg
Length: 310 mm



SC5X

Cutting tool for cable up to max. Ø 50 mm²



KT100

Cutting tool for cable up to Ø 100 mm
Weight: 5 kg
Length: 660-860 mm



KS250

Cutting tool for cable 6 to 250 mm²
Weight: 1.5 kg
Length: 600 mm



KS500

Cutting tool for cable 6 to 500 mm²
Weight: 3 kg
Length: 800 mm

Rail foot clamps

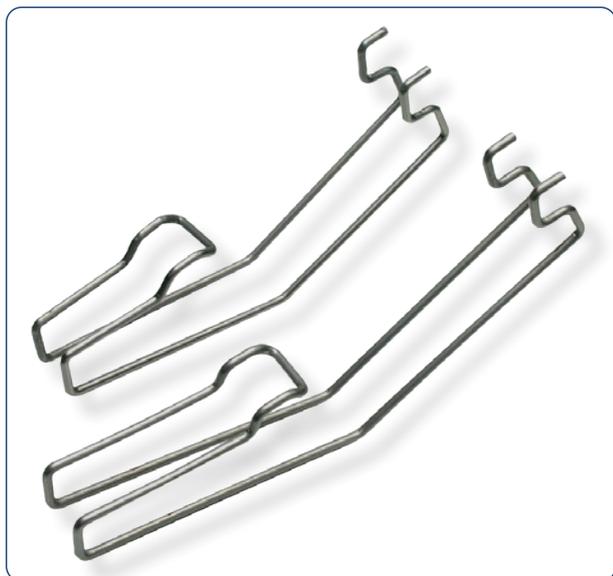


SFK

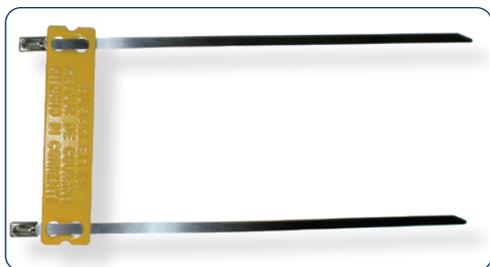


The rail foot clamps **SFK-125**, **SFK-150**, **SFK-92** and **SFK-100** are suitable for the secure and permanent fastening of rail foot cables up to a diameter of 22 mm.

Rail foot clamp type	Rail foot width [mm]	e.g. for Rail types
SFK-125	125	SBB 1
SFK-150	150	SBB 4+6
SFK-92	92	VSTC
SFK-100	100	VST 36

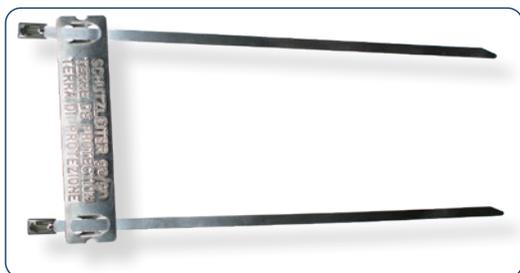


KBSS-RL



Item number	Description
KBSS-RL	Name plate for return conductor stainless steel VA4, yellow (RAL 1023) stove-enamelled including 2 stainless steel cable ties

KBSS-SL

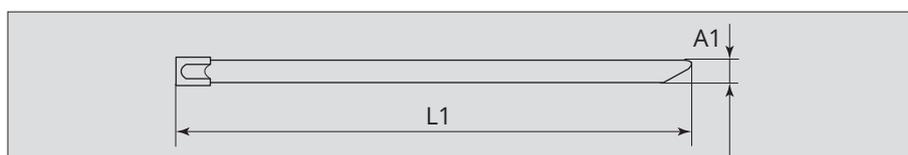


Item number	Object
KBSS-SL	Name plate for protective conductor stainless steel VA4, including 2 stainless steel cable ties

Stainless steel cable ties



Item number	L1 (mm)	A1 (mm)	Max. bundle Ø (mm)	Minimum holding weight (kg)	PU
GX200X4.5	200	4.5	50	46	100
GX300X4.5	300		76		
GX370X7.9	370	7.9	102	114	



Tool for cable ties



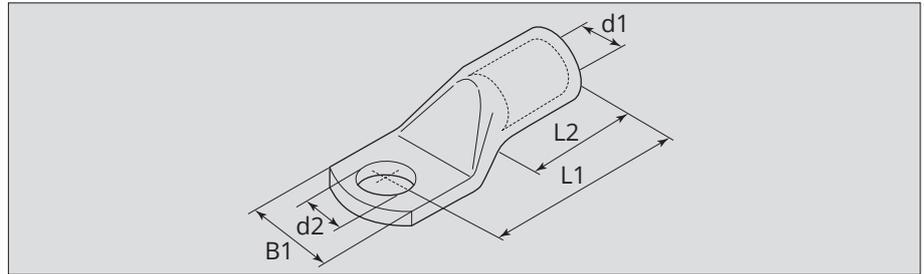
CTG79-OS

Type **CTG79-OS** for stainless steel cable ties up to a width of 7.9 mm with cutting function

Weight: 0.6 kg Length: 180 mm

Cooper tube crimping lugs according to DIN 46235

für Kupferleiter



Die Presskabelschuhe nach DIN 46235 sind aus Elektrolytkupfer gefertigt. Alle Kabelschuhe werden nach der mechanischen Bearbeitung nochmals gegläht, um eine korrekte Verpressung zu garantieren. Die Kabelschuhe werden anschliessend elektrolytisch verzinkt. Die Kabelschuhe haben folgende Markierungen: Herstellerzeichen, Querschnitt (mm²), Bolzendurchmesser, Positionen der Verpressungen

- 1 Mechanische Werkzeuge
- 2 Hydraulische Werkzeuge

Conductor Size mm ²	Ø Stud	Item number	Code	Dimensions [mm]				PU	1		2	
				d1 (Ø)	d2	L1	B1		L2	TN70SE	TN720SE	B35-45MD, B35-50MD
6	5	DR6-5	5	3.7	5.3	24.0	8.5	10.0	100	TN70SE	B35-45MD, B35-50MD	HT45-E
	6	DR6-6	5	3.7	6.4	24.0	9.0	10.0	100			
	8	DR6-8*	5	3.7	8.4	26.0	13.0	10.0	100			
10	5	DR10-5	6	4.4	5.3	27.5	10.0	10.0	100	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	6	DR10-6	6	4.4	6.4	27.0	10.0	10.0	100			
	8	DR10-8*	6	4.4	8.4	28.0	13.0	10.0	100			
	10	DR10-10*	6	4.4	10.5	28.5	15.0	10.0	100			
16	5	DR16-5*	8	5.5	5.3	36.0	13.0	20.0	100	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	6	DR16-6	8	5.5	6.4	36.0	13.0	20.0	100			
	8	DR16-8	8	5.5	8.4	37.0	13.0	20.0	100			
	10	DR16-10	8	5.5	10.5	40.0	16.5	20.0	100			
	12	DR16-12*	8	5.5	13.0	41.0	19.0	20.0	100			
25	6	DR25-6	10	7.0	6.4	39.0	14.6	20.0	100	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	8	DR25-8	10	7.0	8.4	39.5	16.0	20.0	100			
	10	DR25-10	10	7.0	10.5	40.0	16.0	20.0	100			
	12	DR25-12	10	7.0	13.0	40.5	18.0	20.0	100			
35	6	DR35-6*	12	8.2	6.4	42.5	17.5	20.0	100	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	8	DR35-8	12	8.2	8.4	42.0	17.0	20.0	100			
	10	DR35-10	12	8.2	10.5	43.0	19.0	20.0	100			
	12	DR35-12	12	8.2	13.0	43.0	21.0	20.0	100			
	16	DR35-16*	12	8.2	17.0	44.0	28.0	20.0	100			
50	6	DR50-6*	14	10.0	6.4	52.0	20.0	28.0	25	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	8	DR50-8	14	10.0	8.4	52.0	20.0	28.0	25			
	10	DR50-10	14	10.0	10.5	53.0	22.0	28.0	25			
	12	DR50-12	14	10.0	13.0	53.0	24.0	28.0	25			
	16	DR50-16	14	10.0	17.0	57.0	28.0	28.0	25			
70	8	DR70-8	16	11.5	8.4	56.0	24.0	28.0	25	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	10	DR70-10	16	11.5	10.5	56.0	24.0	28.0	25			
	12	DR70-12	16	11.5	13.0	56.0	24.0	28.0	25			
	16	DR70-16	16	11.5	17.0	60.0	30.0	28.0	25			
	20	DR70-20*	16	11.5	21.0	84.5	30.0	28.0	25			
95	8	DR95-8*	18	13.5	8.4	65.0	28.0	35.0	25	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	10	DR95-10	18	13.5	10.5	66.0	28.0	35.0	25			
	12	DR95-12	18	13.5	13.0	66.0	28.0	35.0	25			
	16	DR95-16	18	13.5	17.0	65.5	32.0	35.0	25			
	20	DR95-20*	18	13.5	21.0	71.0	33.0	35.0	25			
120	8	DR120-8*	20	15.5	8.4	70.0	31.0	35.0	25	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	10	DR120-10	20	15.5	10.5	70.0	31.0	35.0	25			
	12	DR120-12	20	15.5	13.0	70.5	31.0	35.0	25			
	16	DR120-16	20	15.5	17.0	70.0	31.5	35.0	25			
	20	DR120-20	20	15.5	21.0	72.0	36.0	35.0	25			
150	10	DR150-10	22	17.0	10.5	79.0	34.0	35.0	25	TN720SE	B35-45MD, B35-50MD	HT51, RH50, B500, HT61, B600, RH61
	12	DR150-12	22	17.0	13.0	78.5	34.0	35.0	25			
	16	DR150-16	22	17.0	17.0	78.0	34.0	35.0	25			
	20	DR150-20	22	17.0	21.0	78.0	38.0	35.0	25			

* nicht genormt; Rohrabmessungen nach DIN 46235

Cooper tube crimping lugs according to DIN 46235

DR



- 1 Mechanical tools
- 2 Hydraulic tools

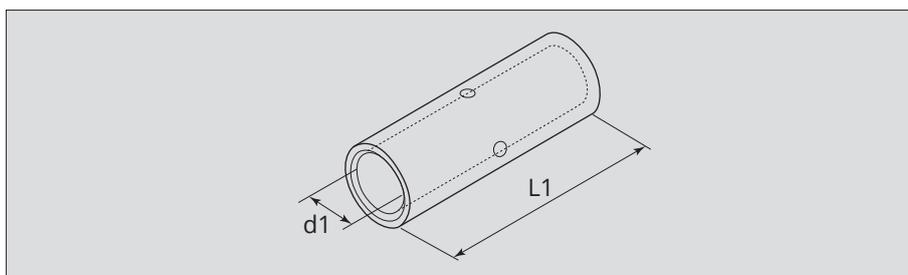
Conductor Size mm ²	Ø Stud	Item number	Code	Dimensions [mm]				PU	2
				d1 (Ø)	d2	L1	B1		
185	10	DR185-10	25	19.0	10.5	83.0	37.0	40.0	25
	12	DR185-12	25	19.0	13.0	82.5	37.0	40.0	25
	16	DR185-16	25	19.0	17.0	82.0	37.0	40.0	25
	20	DR185-20	25	19.0	21.0	83.0	40.0	40.0	25
240	10	DR240-10*	28	21.5	10.5	92.0	42.0	40.0	10
	12	DR240-12	28	21.5	13.0	92.0	42.5	40.0	10
	16	DR240-16	28	21.5	17.0	92.0	42.5	40.0	10
	20	DR240-20	28	21.5	21.0	92.0	45.0	40.0	10
300	12	DR300-12*	32	24.5	13.0	104.0	47.0	50.0	5
	16	DR300-16	32	24.5	17.0	100.0	48.0	50.0	5
	20	DR300-20	32	24.5	21.0	100.0	47.0	50.0	5
400	12	DR400-12*	38	27.5	13.0	117.0	55.0	70.0	5
	16	DR400-16	38	27.5	17.0	117.0	55.0	70.0	5
	20	DR400-20	38	27.5	21.0	117.0	55.0	70.0	5
500	12	DR500-12*	42	31.0	13.0	130.0	60.0	70.0	5
	16	DR500-16*	42	31.0	17.0	130.0	60.0	70.0	5
	20	DR500-20	42	31.0	21.0	130.0	60.0	70.0	5
625	20	DR625-20	44	34.5	21.0	135.0	63.0	80.0	5

* not standardised; pipe dimensions according to DIN 46235

Crimping through connectors according to DIN 46267 T.1

DSV

for copper conductors



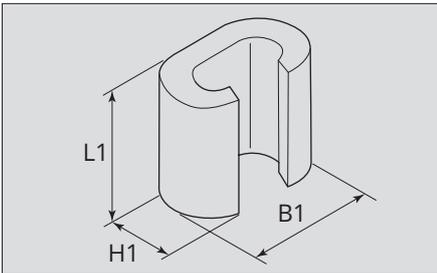
DSV press connectors are made of electrolytic copper. The press connectors are annealed and tinned. The ends are chamfered to allow easy insertion of the conductor. They have the same dimensions as the pipes used for DR cable lugs.

They are equipped with a central stop to ensure correct positioning of the conductor.

- 1 Mechanical tools
- 2 Hydraulic tools

Conductor Size mm ²	Item number	Code	Dimensions [mm]		PU	1	2
			d1(Ø)	L1			
6	DSV-6	5	3.7	30	100	TN70SE	2
10	DSV-10	6	4.4	30	100		
16	DSV-16	8	5.5	50	100	TN120SE	2
25	DSV-25	10	7.0	50	100		
35	DSV-35	12	8.2	50	100	B35-45MD, B35-50MD	2
50	DSV-50	14	10.0	56	50		
70	DSV-70	16	11.5	56	50	HT45-E	2
95	DSV-95	18	13.5	70	50		
120	DSV-120	20	15.5	70	25	HT51, RH50, B500, RH61, HT61, B600	2
150	DSV-150	22	17.0	80	25		
185	DSV-185	25	19.0	85	25	HT131-C and all 13 torque tools	2
240	DSV-240	28	21.5	90	15		
300	DSV-300	32	24.5	100	5	ECW-H3D, RHU450, RHU520	2
400	DSV-400	38	27.5	150	5		
500	DSV-500	24	31.0	160	5		
625	DSV-625	44	34.5	160	5		

Sleeve connectors bright surface



The "C" terminals were developed for various applications, such as branching of overhead lines, branching of earthing cables and assembly of earthing systems. They are made of electrolytic copper and annealed. Annealing improves the structural material properties and enables the use of different conductor cross-sections.

Each junction terminal is stamped:

- Company logo
- Type
- Cross-section of the main conductor
- Cross-section of the branch conductor
- Number of pressing cycles
- Press insert designation

- 1 Mechanical tools
- 2 Hydraulic tools

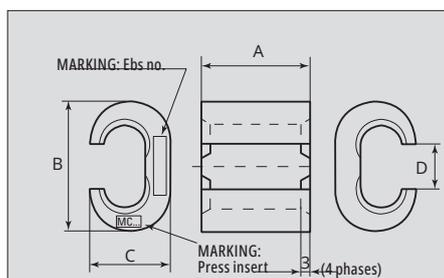
Conductor Size mm ²		Item number	Dimensions [mm]			PU	1		2	
Main conductor	Branch conductor		L1	B1	H1					
6 – 2.5	6 – 1.5	C6-C6	9.0	9.8	6.4	100	HP4-C10	B35-45MD, B35-50MD, HT45-E	HT51, RH50, B500, HT61, RH61, B600	HT131-C and all 13 torque tools
10	10 – 1.5	C10-C10	12.0	12.6	8.4	100				
16	16 – 1.5	C16-C16	17.0	19.4	12.0	100				
25-16	10 – 1.5	C25-C10	17.0	19.8	13.0	50	B35-45MD, B35-50MD, HT45-E	HT51, RH50, B500, HT61, RH61, B600	HT131-C and all 13 torque tools	
25	25 – 16	C25-C25	17.0	21.4	13.0	50				
40 – 35	16 – 1.5	C35-C16	21.0	24.6	15.4	25				
40 – 35	40 – 25	C35-C35	21.0	26.6	15.6	25				
50	25 – 10	C35-C35								
50	25 – 4	C50-C25	25.0	32.9	21.0	25				
50	50 – 35	C50-C50	26.0	33.0	21.0	25				
70 – 63	25 – 1.5	C70-C25N	21.0	26.4	17.5	25				
70 – 50	40 – 4	C70-C35	28.0	33.0	21.0	25				
70 – 50	70 – 35	C70-C70	28.0	34.0	21.0	25				
100 – 95	40 – 4	C95-C35	29.0	40.6	26.0	25				
100 – 95	70 – 40	C95-C70	29.0	41.0	26.0	25				
100 – 95	100 – 63	C95-C95	29.0	41.0	26.0	25				
125 – 110	125 – 25	C120-C120	30.0	45.0	28.0	25	ECW-H3D			
160 – 150	125 – 25	C150-C120	31.0	45.0	28.0	25				
150	150 – 63	C150-C150	30.0	45.0	28.0	25				
185	100 – 16	C185-C95	31.0	45.0	28.0	25				
185 – 120	185 – 120	C185-C185	22.6	68.0	34.0	15				
240 – 150	120 – 95	C240-C120	22.6	68.0	34.0	15				



Application example: Ring earthing

Current terminal without spacer as per Ebs 10.21.24

10.21.24



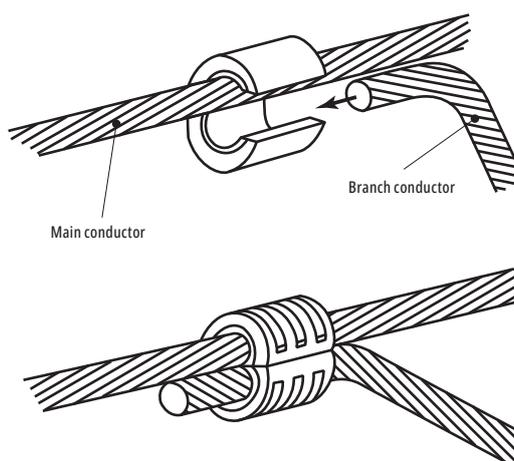
Due to the "rolling up" of the current terminal, only 7 types are required for the various connections in the catenary at DB AG. The types "f" and "g" have been specially developed for use as collecting earth. The lateral phase of the terminal is extremely important for permanent mechanical stress. The current terminals are marked with the Ebs number including type or designation and the type of press insert to be used.

Each junction terminal is stamped:

- Company logo
- Type
- Cross-section of the main conductor
- Cross-section of the branch conductor
- Number of pressing cycles
- Press insert designation

Item number	Cable cross-section [mm]		C terminals dimensions [mm]				Press inserts / as per 3 Ebgw 05.30
			A	B	C	D	
* 10.21.24-a	50 Bz	35 Cu f	28	34	21	11.8	d1 MC70-3D-P
	50 Bz	50 Bz					
* 10.21.24-b	50 Bz	70 Cu f	29	41	26	14.2	d2 MC95-3D-P
	50 Bz	95 Cu					
	70 Cu f	70 Cu					
10.21.24-c	70 Bz	70 Cu f	30	45	28	16.3	d3 MC185-3D-P
	70 Bz	95 Cu f					
	70 Bz	95 Cu					
	70 Bz	120 Cu					
	50 Bz	120 Cu					
	70 Cu	95 Cu					
	70 Cu	95 Cu f					
10.21.24-d	50 Bz	95 Cu f	31	45	28	18	d3 MC185-3D-P
	95 Cu	95 Cu					
	120 Bz	95 Cu					
	120 Bz	120 Cu					
	120 Cu	120 Cu					
	120 Cu	95 Cu					
	95 Cu	95 Cu f					
* 10.21.24-e	150 Cu	95 Cu	30	45.3	28	17	d3 MC185-3D-P
* 10.21.24-f	50 Cu	50 Cu	26	33	21	11.2	d1 MC70-3D-P
* 10.21.24-g	70 Cu	70 Cu	29	41	26	15.3	d2 MC95-3D-P

* On request



Current terminal without spacer as per Ebs 10.21.24

10.21.24

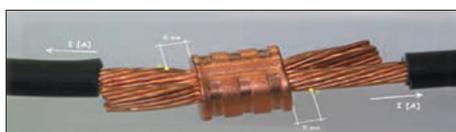
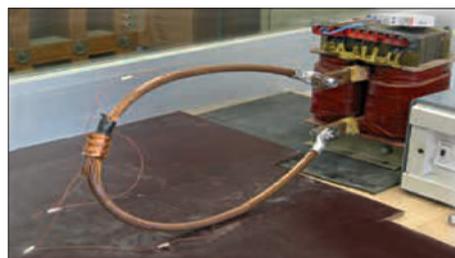
	35 Cu flex	50 Bz	50 Cu	70 Bz	70 Cu	70 Cu flex	95 Cu	95 Cu flex	120 Bz	120 Cu	150 Cu
35 Cu flex		a									
50 Bz	a	MC70..				b	b	c		c	
50 Cu		MC70..	f				MC95..	MC95..	MC185..		MC185..
70 Bz			MC70..			c	MC185..	MC185..	MC185..		MC185..
70 Cu					g	b	MC95..	MC185..	MC185..		
70 Cu flex			b	c	b	MC95..	MC185..	MC185..			d
95 Cu			b	c	c	MC95..	MC185..	MC185..	d	d	e
95 Cu flex			c	c	c	MC185..	MC185..	MC185..	d	d	MC185..
120 Bz							MC185..	MC185..	d	d	MC185..
120 Cu			c	c			MC185..	MC185..	d	d	MC185..
150 Cu						d	MC185..	MC185..	MC185..	MC185..	

Letter = Type of current terminal as per 3 Ebs 10.21.24

MC... = Type = Press insert as per Ebgw 05.30

Benefits of Cembre current terminals:

- 25 connections with 7 current terminals in the catenary
- 3 press inserts required for press die size 3
- no spacers necessary
- no characteristic curve to be adhered to
- simple assembly
- low stock



Many different mechanical and electrical tests were carried out as part of the technical approval process at DB AG. This is to ensure maximum operational reliability of the current terminals.



MVLC

The MVLC (Medium Voltage Line Cover) protective profile is an insulation cover that fits on carrier cables and offers protection against power failures. Through the installation of the MVLC, it is possible to avoid power failures due to short-term flashovers caused by birds, animals and trees. It enables the retrospective insulation of the conductor to ground, or it can be used as a protective profile during construction work and renovations. By additionally using the OLIC protective profile, the MVLC can also be used for the simple insulation of cable hangers. The MVLC is manufactured from creepage-resistant cross-linked polymer with high dielectric strength. Fitting is simple and does not require a shrink burner or any other tools. The MVLC is therefore perfectly suited for retrofit applications.

The advantages of the MVLC protective profile are:

- Quick and easy installation, suitable for retrofit applications
- The high dielectric strength offers good protection against accidental line flashovers
- The material is UV-resistant and weatherproof, and is therefore maintenance-free throughout the entire service life
- The mechanically stable polymer design stands out due to its low weight



MVLC-18-A-241	Conductor lines up to max. 18 mm Ø	25 kV
MVLC-38-A-241	Conductor lines up to max. 38 mm Ø	25 kV
Weight		0.4 kg/m
UV-resistant		
Weatherproof		
Abrasion-resistant		



MVLC-18-TOOL

Assembly tool for MVLC-18

Bird protection hood for support insulators

BCIC

The BCIC bird protection hood has been designed and developed in accordance with the bird protection requirements per DIN VDE 0210/12.85 section 8.10. It serves to protect birds from live conductor lines and head fittings from support insulators on concrete and metal masts. The hood consists of flexible plastic that exhibits high dielectric strength and creepage resistance, and is also highly resistant to UV-radiation and other weather influences. The bird protection hood is available with two different centre pieces and is therefore suitable for use on insulators with a round or flat head, and for the various dimensions in the ranges for 10kV and 25kV. The high flexibility of the hood enables easy adaptation to the curved conductor lines, for example when arranged with two insulators (double safety). Simple installation is a further advantage of this hood. It is put over the system parts requiring protection, and fastened on both sides of the conductor line with the aid of metal tightening straps. The design, which is open to the bottom and offers protection over approx. 1.40m, also delivers the maximum in operational reliability in poor weather conditions.

The advantages of the BCIC bird protection hood are:

- Slide on, installation without tools, suitable for retrofit applications
- The design enables renewed access to the line and is reusable
- The high dielectric strength offers good protection against flashovers caused by birds
- The material is UV-resistant and weatherproof, and is therefore maintenance-free throughout the entire service life
- The mechanically stable polymer design stands out due to its low weight



BCIC operating voltage depending on the series, up to max.:	10 kV / 25 kV
Electrical dielectric strength per IEC 234	200 kV/cm
UV-resistant	
Weatherproof	
Abrasion-resistant	

Item number	Name	Length [mm]
BCIC-3313	for flat head insulators	1375
BCIC-3314	for round head insulators	1375

DIN cable lug

Tools and press inserts/dies to be used

Application	Connecting material			Hydraulic press tools		
	Conductor cross-section [mm ²]	Material		B15D	HT51, RH50	B500ND, B500
		Cable lug	Connector	Press insert	Press insert	Press insert
 DR  DSV	6	DR6-..	DSV-6	MK-5-S-15 ①	MK-5-50 ①	MK-5-50 ①
	10	DR10-..	DSV-10		MK-6-50 ①	MK-6-50 ①
	16	DR16-..	DSV-16		MK-8-50 ②	MK-8-50 ②
	25	DR25-..	DSV-25		MK-10-50 ②	MK-10-50 ②
	35	DR35-..	DSV-35		MK-12-50 ②	MK-12-50 ②
	50	DR50-..	DSV-50		MK-14-50 ③	MK-14-50 ③
	70	DR70-..	DSV-70		MK-16-50 ③	MK-16-50 ③
	95	DR95-..	DSV-95		MK-18-50 ④	MK-18-50 ④
	120	DR120-..	DSV-120		MK-20-50 ④	MK-20-50 ④
	150	DR150-..	DSV-150		MK-22-50 ④	MK-22-50 ④
	185	DR185-..	DSV-185		MK-25-50 ⑤	MK-25-50 ⑤
	240	DR240-..	DSV-240		MK-28-50 ⑤	MK-28-50 ⑤
	300	DR300-..	DSV-300			MK-32-50 ⑤
	400	DR400-..	DSV-400			
	500	DR500-..	DSV-500			
	625	DR625-..	DSV-625			

Note: The number in the pressing symbol refers to the number of presses for the types A-M. The number of cable lugs and connectors may vary.
 ○ = Hexagonal pressing

C terminals

Tools and press inserts/dies to be used

Application	Material				HT51, RH50, B500ND, B500
	Conductor cross-section [mm ²]		C branch terminal tinned	C branch terminal blank	
	Main conductor	Branch conductor			
 C  C (ST)	6 – 2.5	6 – 1.5	C6-C6ST	C6-C6	MC-6-50 ①
	10	10 – 1.5	C10-C10ST	C10-C10	MC-10-50 ①
	16	16 – 1.5	C16-C16ST	C16-C16	MC-25-50 ②
	25 – 16	10 – 1.5	C25-C10ST	C25-C10	
	25	25 – 16	C25-C25ST	C25-C25	MC-35-50 ②
	40 – 35	16 – 1.5	C35-C16ST	C35-C16	
	40 – 35	40 – 25	C35-C35ST	C35-C35	
	70 – 63	25 – 1.5	C70-C25NST	C70-C25N	MC-70-50 ③ *
	50	25 – 4	C50-C25ST	C50-C25	
	*50	50 – 35	C50-C50ST	C50-C50	
	*70 – 50	40 – 4	C70-C35ST	C70-C35	
	*70 – 50	70 – 35	C70-C70ST	C70-C70	
	100 – 95	40 – 4	C95-C35ST	C95-C35	
	100 – 95	70 – 40	C95-C70ST	C95-C70	
	100 – 95	100 – 63	C95-C95ST	C95-C95	
	125 – 110	125 – 25	C120-C120ST	C120-C120	
	160 – 150	125 – 25	C150-C120ST	C150-C120	
	150	150 – 63	C150-C150ST	C150-C150	
	185	100 – 16	C185-C95ST	C185-C95	
185 – 120	185 – 120	C185-C185ST	C185-C185		
240 – 150	120 – 95	C240-C120ST	C240-C120		

Note: The number in the pressing symbol refers to the number of presses for the types A-M. The number of cable lugs and connectors may vary.
 ○ = Oval pressing

HT61, RH61, B600 ¹		HT131-C and all 13 tonne tools		ECW-H3D	
Press insert		Counter-holder	Mandrel	Counter-holder	Mandrel
MK-5-50 ①		MK-5-C ①		With adapter AU-230-130-D + insertsMK...-C	
MK-6-50 ①		MK-6-C ①			
MK-8-50 ②		MK-8-C ①			
MK-10-50 ②		MK-10-C ①			
MK-12-50 ②		MK-12-C ①			
MK-14-50 ③		MK-14-C ②		MK-14-3D ②	
MK-16-50 ③		MK-16-C ②		MK-16-3D ②	
MK-18-50 ④		MK-18-C ②		MK-18-3D ②	
MK-20-50 ④		MK-20-C ②		MK-20-3D ②	
MK-22-50 ④		MK-22-C ②		MK-22-3D ②	
MK-25-50 ⑤		MK-25-C ②		MK-25-3D ②	
MK-28-60 ⑤		MK-28-C ④		MK-28-3D ②	
		MK-32-C ④		MK-32-3D ②	
				MK-38-3D ③	
				MK-42-3D ③	
				MK-44-3D ③	

¹ The tools type HT61, RH61, B600 use the same press inserts as the HT51 with an additional press insert spring type 6522051.

Hydraulic press tools						
HT61, RH61, B600 ¹		HT131-C and all 13 tonne tools		ECW-H3D	RHU520	
Press insert		Press insert		Press insert	Press insert	
MC-6-50 ①				Adapter AU-230-130-D with Press insert MC...-C		
MC-10-50 ①		MC-10-C ①				
MC-25-50 ②		MC-25-C ①				
MC-35-50 ②		MC-35-C ①		Adapter AU-520-130-C with Press insert MC...-C		
MC-70-50 ③ *		MC-70-C ③				MC-70-3D ①
		MC-95-C ③				MC-95-3D ①
		MC-185-C ③				MC-185-3D ①
				MC-240-3D ①		

¹ The tools type HT61, RH61, B600 use the same press inserts as the HT51 with an additional press insert spring type 6522051.

* When using the terminals, the conductor should not be hardened.

Application range

For the B-TC250BS

B-TC250BS application range		
Cross-section [mm ²]	Ø [mm]	Description
120	13.34	RIM 120
95	-	Steel cable with bitum (DIEPA)
95	-	Steel cable Lidra
-	~ 10	10 mm ground wire with insulation
50	~ 8.85	Bronze cable
70	~ 10.3	Bronze cable
95	~ 12.5	Bronze cable
70	~ 10.5	Aluminium cable
95	~ 12.5	Aluminium cable
150	~ 15.8	Aluminium cable
35/6	~ 8.0	Aluminium-steel cable
50/8	~ 9.5	Aluminium-steel cable
50/3	~ 11.5	Aluminium-steel cable
70/12	~ 11.8	Aluminium-steel cable
95/15	~ 13.8	Aluminium-steel cable
95/55	~ 16.0	Aluminium-steel cable
150/25	~ 17.0	Aluminium-steel cable
230/30	~ 21.0	Aluminium-steel cable

For the B-TC250ND, HT-TC026, TC025 and B-TC250

B-TC250ND, HT-TC026, TC026, B-TC250 application range			
Material	Tensile strength (daN / mm ²)	Max. cutting diameter (mm)	
		B-TC250ND, HT-TC026, TC025, B-TC250	
Cables and conductors	Copper	≤ 41	25
	Aluminium	≤ 20	25
	Aluminium alloy	≤ 34	25
	Steel	≤ 180	Some important examples: 7 x 3.0 : Ø est. = 9.0 mm 19 x 2.1 : Ø est. = 10.5 mm 19 x 2.2 : Ø est. = 11.0 mm 19 x 2.3 : Ø est. = 11.5 mm
	Stranded wire/steel (Strands Q.TY ≥ 200)	≤ 180	18
	Aluminium / steel	≤ 180	25
			Some important examples: 26 x 2.50 + 7 x 1.95 : Ø est. = 15.85 26 x 3.06 + 7 x 2.38 : Ø est. = 19.38 26 x 3.60 + 7 x 2.80 : Ø est. = 22.80
Pole	Steel	≤ 60	13
		≤ 42	16
	Copper	≤ 30	20
		≤ 25	23
	Aluminium	≤ 16	25

Product safety

The following instructions must be observed in connection with the use of our products and the information given in our data sheets and catalogue.

Non-observance of these instructions:

- can have dangerous consequences for persons and the systems
- causes the exclusion of warranty claims

1. Materials

Standard cable lugs and cable connectors do not contain any hazardous substances during regular operation. These parts consist of pure electrolytic copper with tinned surface. Special cable lugs, on the other hand, can be partially insulated with plastic. Depending on the plastic quality, such cable lugs must be handled accordingly in the application.

2. Dangers

There are no dangers with correct pressing, correctly tightened screw connection and compliance with the permissible current.

- Incorrect pressing, incorrect assembly or overloading of cable lugs and connectors can lead to electric shock, burns or fire. The same applies to direct contact, careless handling of metallic tools or conductive liquids.
- Before any manipulation of an electrical connection, make sure that the corresponding circuit is switched off and cannot be switched on again before completion of the work.
- Anchor notches of any kind in the cable lug connection area must be avoided; such notches can be the start of a fracture.
- If pre-insulated cable lugs are used, it should be noted that PVC starts to give off corrosive and toxic gases at temperatures of 80 °C and above.

Abnormal increase in resistance in an electrical connection can lead to its overheating. An increase in resistance can be caused by cracked, broken or deformed connecting parts as well as broken wires in the conductor strand, further by defective pressing due to the use of incorrect or defective tools, by bad solder joints or by insufficiently tightened screw connections. Oxide layers and impurities on contact surfaces or in press points can also lead to resistance increases and thus to local overheating.

Overheating can also be caused by creepage or short-circuiting of electrical connections as a result of:

- Water ingress at poorly protected connection points or water ingress due to capillary action along the conductor strands
- Contamination of connection points or processing residues, e.g. wire residues
- We warn against exceeding the continuous currents specified in our documentation, such currents lead to overheating of the connection
- The overheating of a connection causes the destruction of the insulating body. As a result, short circuits may occur and there is also a risk of electric shock or fire with the formation of toxic vapours in combination with other materials

Since overheating cannot necessarily be seen, there is also a risk of burns if overheated components are touched.

General terms & conditions of sale

Deliveries, services and quotations provided by OTTO SCHOCH AG are made exclusively on the basis of these terms & conditions, even if they are not again explicitly agreed. These terms & conditions will be deemed to have been accepted when goods or services are ordered. We herewith reject any terms and conditions of purchase of the customer. Any deviations from these terms & conditions will not be valid unless confirmed by us in writing.

We reserve the right to supply up to 10% more or less of an order when products are made to the customer's specifications.

General

The information in our sales material (drawings, diagrams, dimensions, weights and other features) are intended as approximate values and do not constitute any assurance of properties unless they are explicitly designated as binding in writing.

Offer and conclusion of contract

Unless agreed otherwise, our offers are binding for 1 month. We reserve the right to change prices in exceptional circumstances (raw materials). Orders will only be binding on OTTO SCHOCH AG after written confirmation is issued.

Prices / packaging / terms of payment / supplements

The prices listed in our order confirmation are definitive. Unless otherwise agreed, prices are quoted in Swiss francs (CHF) and are subject to transport and packing costs in accordance, with INCOTERMS 2010, FCA Geroldswil, and do not include statutory VAT.

Transport costs do not apply for orders exceeding CHF 200.00 within Switzerland. Exceptions are express and special forms of transport.

As a general principle, we deliver in standard packaging units and we reserve the right to adjust the quantity in the event of a deviation. We charge a supplement of CHF 10.00 per line item for part packaging units.

We will charge a lump sum of CHF 20.00 on orders with a value below CHF 100.00 to cover general costs of the order. This does not apply to orders placed directly via our e-shop.

Invoices are payable net within 30 days of the date of invoice unless otherwise agreed. As a general principle, delivery is effected at the customer's expense by parcel post, shipping company or our vehicle unless explicitly agreed otherwise. Payment is only deemed to have been made when we have the due invoice amount at our disposal.

If the customer is in default, we will be entitled to charge interest of 5 % from the date in question. In addition, during the period of default OTTO SCHOCH AG will be entitled to terminate the contract at any time, to demand the return of the goods supplied and to claim damages for the void contract. All outstanding claims will become due immediately if the customer is in default of payment, culpably fails to meet essential obligations arising from the contract or cir-

cumstances become known to us that are likely to diminish the customer's credit standing, in particular suspension of payment, or if insolvency or bankruptcy proceedings are instituted. In such cases, we will be entitled to withhold outstanding deliveries or to execute them only against prepayment or other security.

Transfer of benefit and risk, shipment and insurance

In accordance with Incoterms 2010, FCA Geroldswil, unless agreed otherwise.

Delivery periods / delivery date

The delivery periods quoted in our offers apply from receipt of the order. The delivery period will be deemed to have been met if the shipment has been made available for dispatch in our factory when the period expires.

Any possible overrun of the delivery deadlines indicated does not justify claims for damages or a cancellation of the order in question. Shortages of raw materials, damage to tools, transport difficulties and similar causes of disruption that make delivery impossible, or make it disproportionately more difficult or more expensive, release us from our delivery obligations without compensation. Notification of identifiable delays will, wherever possible, be given immediately.

Framework agreements will only be accepted with call-off periods. If the call-off period is not precisely defined, it will end 12 months after conclusion of the agreement. In this case, the call-off quantity specified in the agreement must be accepted. If acceptance does not take place within the agreed period, OTTO SCHOCH AG will be entitled to deliver finished shipments without any further notification.

Documents / samples

Our catalogues, drawings, sketches etc. are our intellectual property and may not be modified or used for other purposes without our written consent. Samples are only provided against payment.

Inspection and acceptance of delivery

Any apparent defects detected must be reported to OTTO SCHOCH AG within 10 days. If the customer fails to do so, the delivery will be deemed to have been accepted.

Any further inspections of the goods prior to shipment and/or certificates (e.g. acceptance inspections, factory test certificates etc.) must be agreed beforehand in writing and specified on the order. Any costs incurred will be invoiced. Any return of goods by the customer requires the prior consent of OTTO SCHOCH AG and must be effected in accordance with the guidelines for the return of articles.

Retention of title

Goods supplied will remain our property until complete payment has been effected. The customer assures that it will cooperate in any measures required to protect our property.

Cancellation / returns in accordance with the guidelines for the return of goods

Any return of goods by the customer requires the prior consent of OTTO SCHOCH AG and must be effected in accordance with the guidelines for the return of articles.

The cancellation of orders requires our prior written consent. Any parts that have already been produced will be invoiced. If customer-specific raw materials were purchased, they will also be invoiced. OTTO SCHOCH AG is entitled to withdraw from delivery obligations if the customer's financial situation deteriorates substantially or turns out to be different to what was presented to us.

Guarantee / warranty

OTTO SCHOCH AG undertakes, on receipt of written notification from the customer within the warranty period and at its discretion, to replace or repair all parts that are defective or unusable as a result of design, material or production faults as rapidly as possible. The warranty period is 12 months from receipt of delivery unless other legal provisions apply. The warranty does not cover damage resulting from improper storage, normal wear and tear, faulty processing and failure to comply with regulations.

Any modifications or repairs performed without our written consent and failure to comply with our operating instructions will release us from the guarantee obligation. Our liability is limited to the replacement of the faulty objects or the reimbursement of the value of the invoice.

No new warranty periods apply as a result of the replacement of parts, assemblies or entire devices. Warranty is limited exclusively to the repair or exchange of the damaged objects that were delivered.

Exclusion of further liability

These "General terms & conditions of sale" govern the customer's rights to assert a claim in their entirety. All claims for compensation, reduction, rescission of or withdrawal from the contract are excluded.

Data privacy

Your acceptance of these terms & conditions also constitutes your acceptance of the data privacy policy of OTTO SCHOCH AG.

Jurisdiction

Zurich is the sole place of jurisdiction for all disputes arising directly or indirectly in connection with this contractual relationship. The contractual relationship is subject to **Swiss law**. The general terms & conditions valid at the time of the conclusion of the contract will apply. You can view these on the Internet at www.schochag.ch.

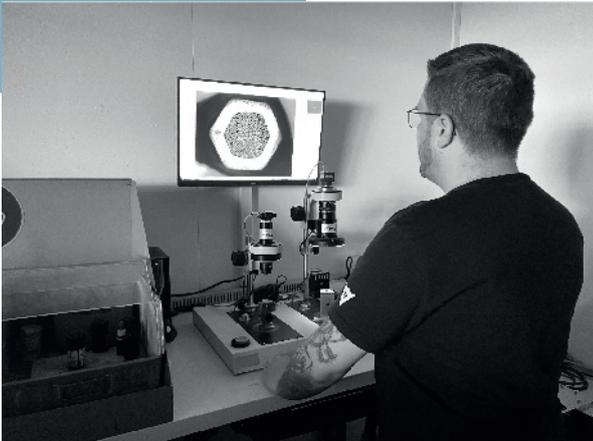
Final provisions

The general terms & conditions of sale were modified with effect from March 1st 2022 and replace all previous versions. They are an integral part of all offers and/or order confirmation documents. This version replaces all previous terms & conditions. If there are any difference between a foreign-language version and the German text, the German text will be definitive.

Geroldswil, March 2022

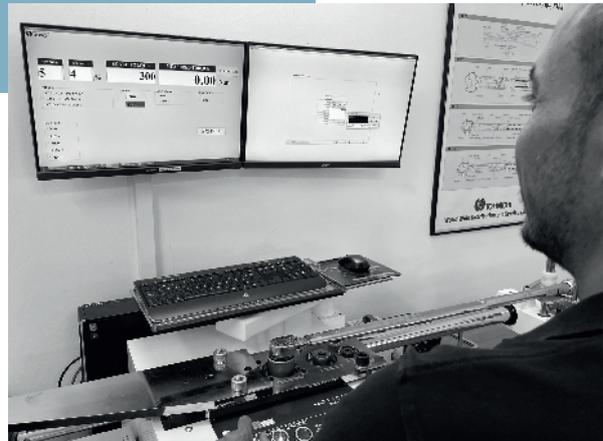
SCHOCH SERVICES

Extract test and Micrographs



To ensure that the weakest link in your connection is not the crimp connection

Calibration and repair



From inspection to preventive maintenance trained personnel are at your side

Demo tools for tests



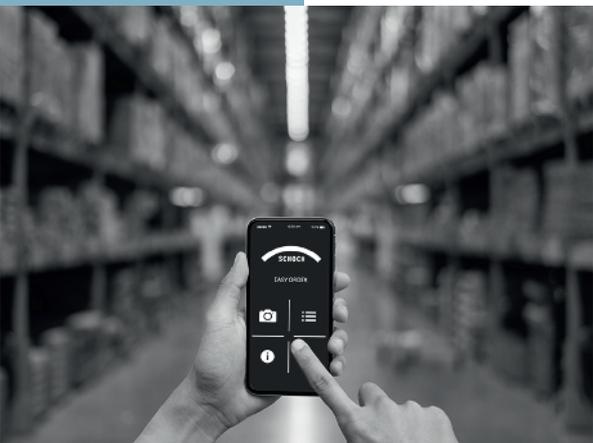
Rely on the quality and experience of 60 years of OTTO SCHOCH AG

Rental tools



One-off need of a special tool why buy when you can rent

Webshop and ordering app



24 hours available for you, thanks to webshop and ordering app

Collection from stock



If it's urgent - self-collection possible at any time



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