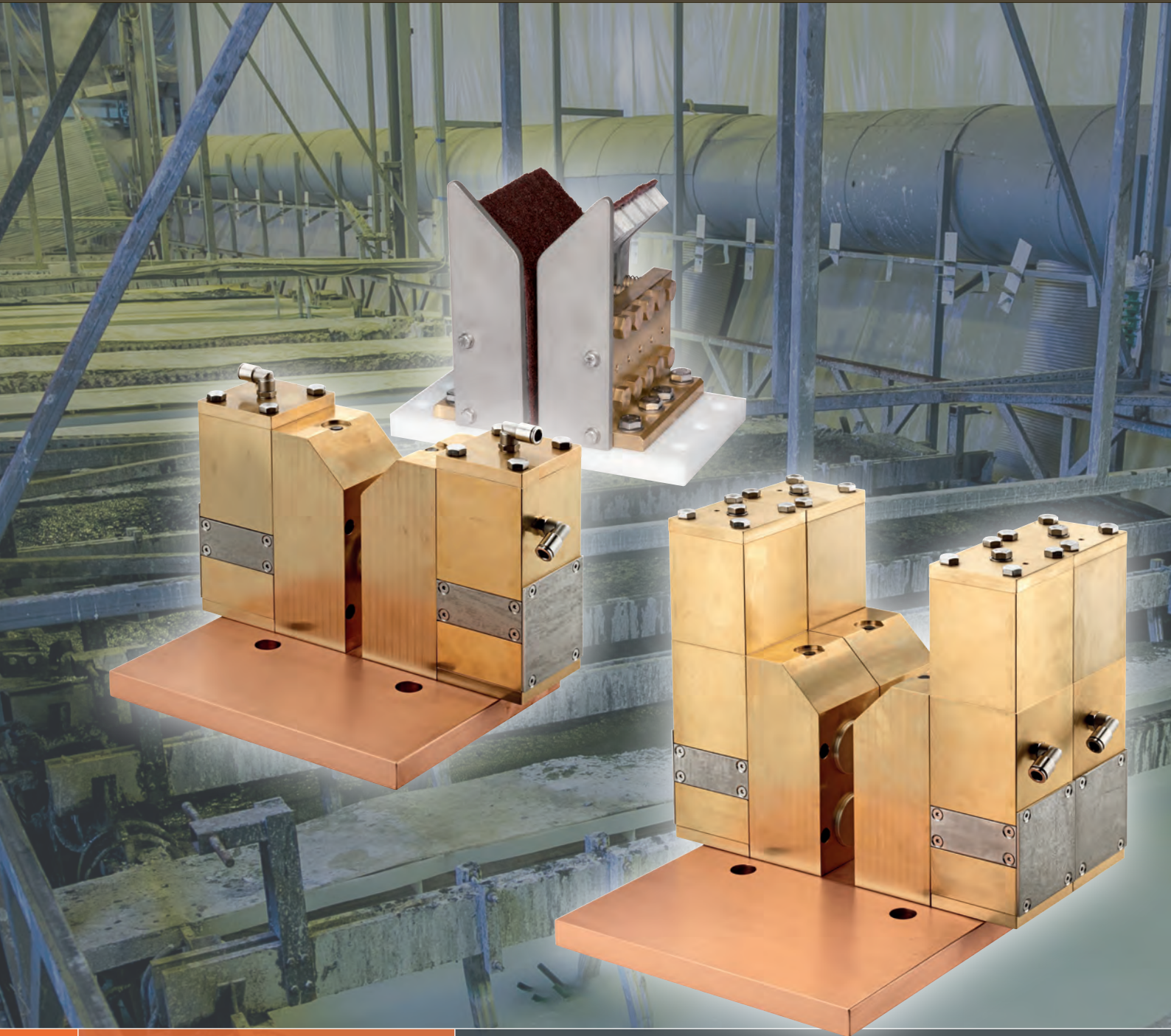


Flexible connectors • Solderless terminals • Contact-systems

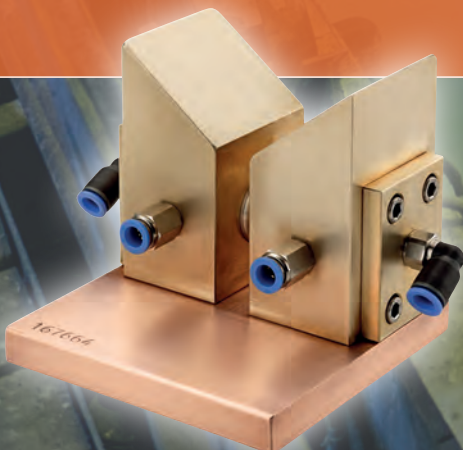
# druseidt

## Elektrotechnik



### Product-Information

Pneumatically actuated high current bolt contacts and switching units, "System druseidt"



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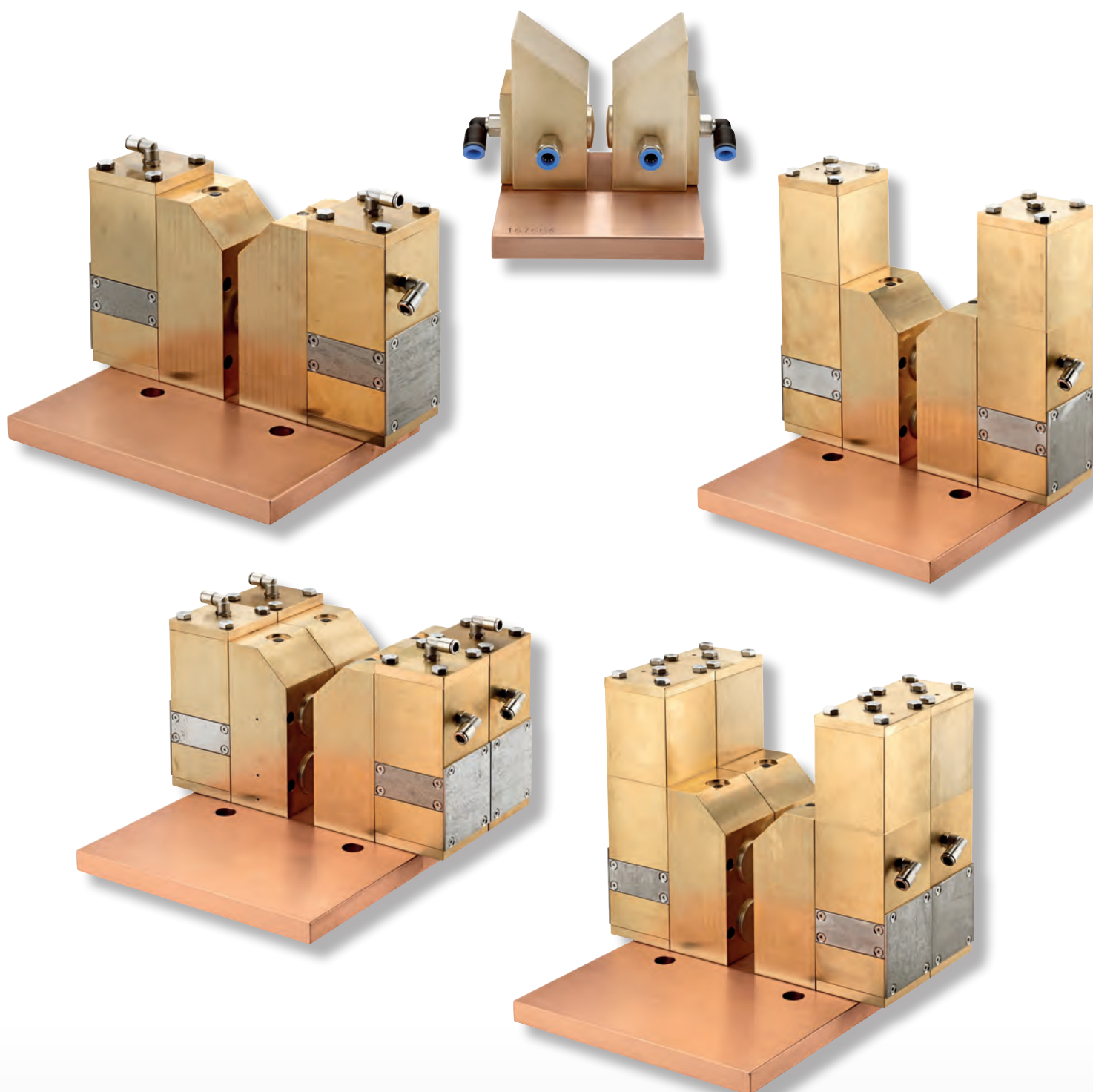
The measurements and technical information written in this catalogue have been determined with greatest care and are updated continuously in our documentation. The illustrations correspond to the status at the time of printing. We reserve us the right to make technical as well as changes of measurements, colours or formats after printing.

**Our information, especially the values of possible current-loads are not binding, they are only approximate values under optimized conditions. The relation between conductor cross-section and current load fixed in national or international regulations are not cancelled through our information.** Only the values in our written confirmations are binding for us.

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**Competence and quality in the field of high current transmission  
for over 100 years - Made in Germany**



Contact systems from druseidt stand for quality and innovative solutions.  
They are manufactured using modern machines and manufacturing processes.  
Even customer- or plant individual solutions are no problem for us.

## **Pneumatically actuated high current bolt contacts and switching units**

### **“system druseidt“ – a perfect system for perfect applications**

#### **Theoretical basics of electrical contact resistance**

The quality of an electrical connection depends on the material, the cross-section, the dimension and the finishing of the contact areas as well as on the contact pressure.

Such facts define the electrical contact resistance and finally the operating and life time of the connection/contact. So when working with a higher contact pressure the electrical resistance will be reduced to a certain limit.

#### **History of contact systems**

The spring-loaded finger- and bolt contact systems, still available on the market, were developed by druseidt in the sixties and seventies in order to transfer the electricity to the goods-carriers inside of the electroplating- and anodizing plants without having too much electrical losses. The contact pressure of such systems depends on the spring force/thickness of the spring material. The contact pressure is thus severely limited, since, if the spring strength is too strong, the goods-carriers can no longer enter into the contacts by their own weights. In addition, a problem arises when working with extremely light goods-carriers, e.g. in the field of plastic coating. For this reason, various pneumatically actuated contact systems have been developed as finger- and plate contacts. In these systems, the contact pressure is limited by the piston surfaces or pressure of the used pneumatic cushions. Even when using this by compressed air power - assisted designs an extremely low contact force, in relation to the contact surface, arises, which is far below the values of a standard carried out screw connection.

#### **Today's requirements**

Over the past decades, the plant and control technology of modern anodizing and electroplating plants has continued to evolve. The time intervals, in which the goods-carriers enter into the contacts and which are energized, have become increasingly shorter in order to increase productivity and that often in three-shift operation. The consequence of this is, that the breaks/cooling times, in which the contacts are not under current, have become shorter or are almost no longer present. The contacts are quasi permanent under continuous current. In addition, due to the process, there are also applications that require extremely long current times. This means, that many older or simple designed contact systems are overwhelmed.

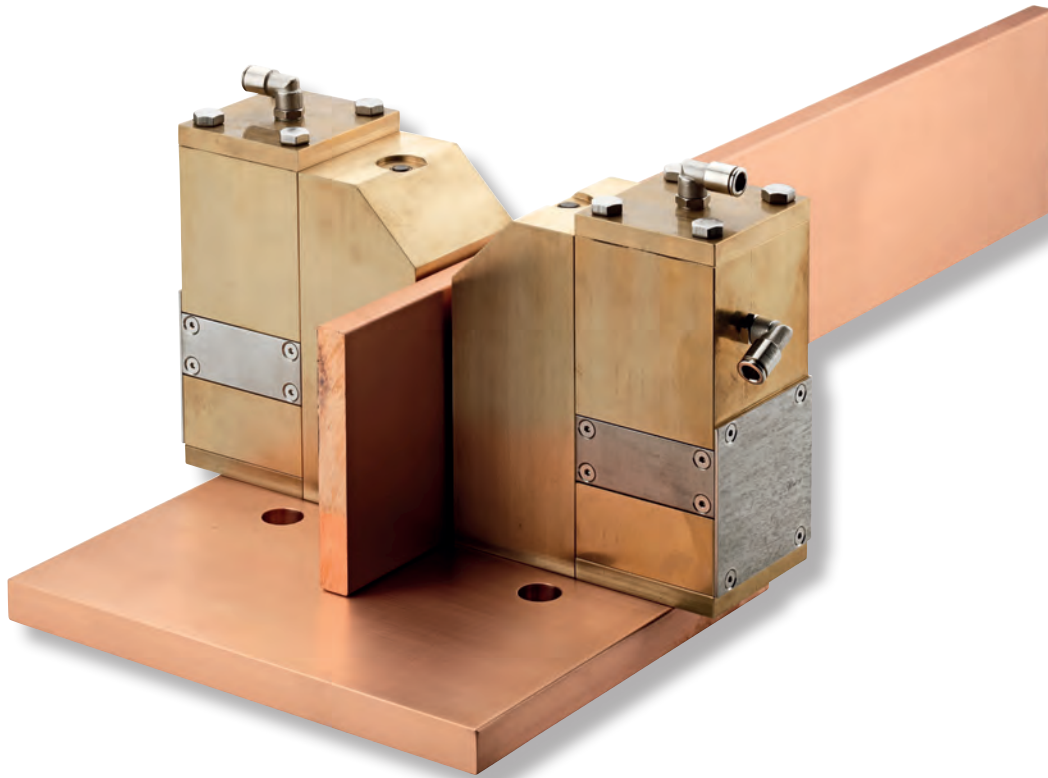
#### **The further developed druseidt pneumatically actuated contact system**

Based on today's electroplating plant technology and the fundamentals of the transmission of electricity, the company druseidt has now developed a new type of a pneumatically operated contact system, which can be used as standards for currents up to 6000 A. In addition to the adequately dimensioned conductor cross-section, the newly developed druseidt pneumatic system converted the incoming air into a very high surface pressure by a mechanically well thought-out force transmission.

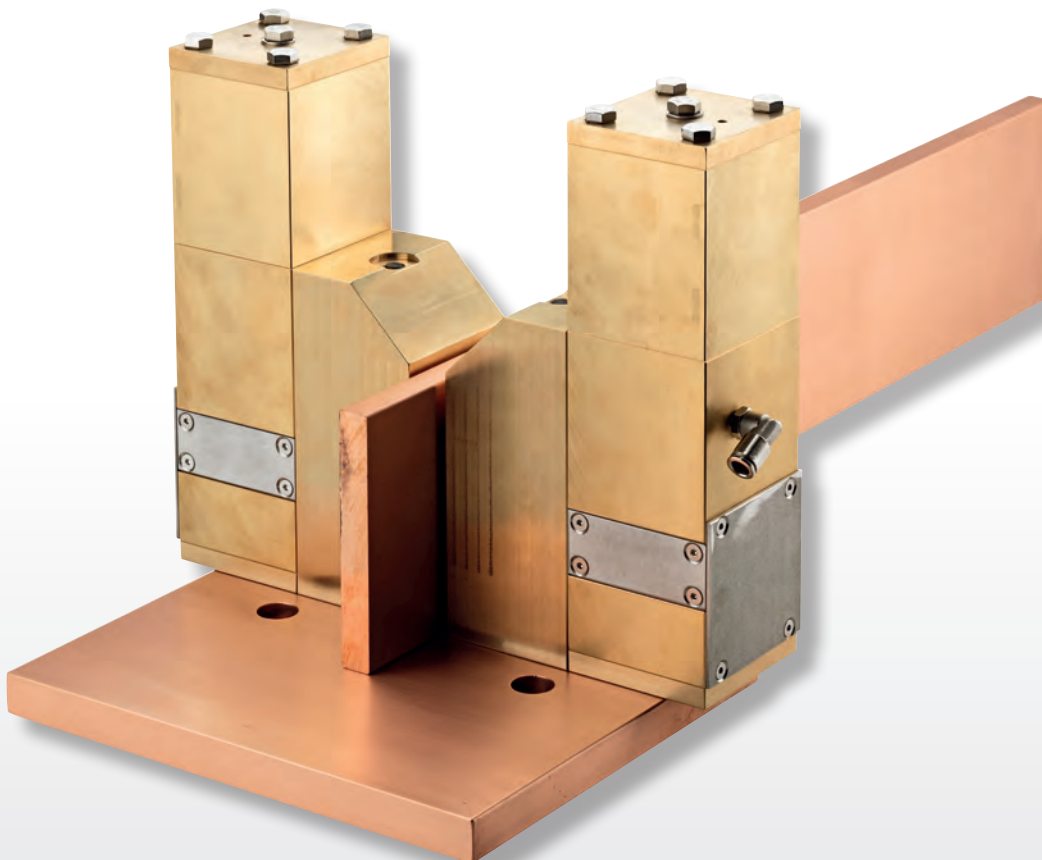
**druseidt contact systems**

Minimized contact resistance due to extremely high contact pressure

**Pneumatically actuated high current bolt-contacts for applications inside of electroplating - or anodizing plants**



**Pneumatically actuated, current-/voltage free switching units for various kinds of applications in the field of electrical engineering and power transmission**

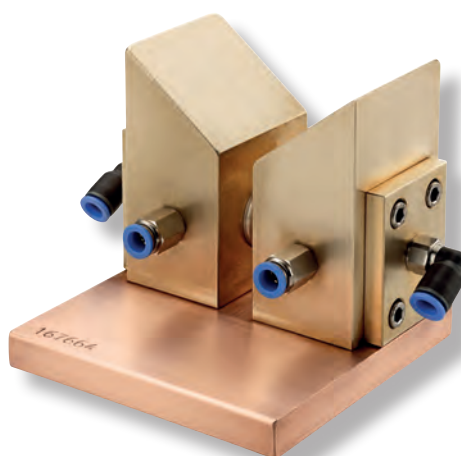


## Pneumatically actuated high current bolt contacts 800 A - 6000 A preferably for use inside of electroplating- and anodizing plants

Modular designed contact system in which the current is transferred from the contact to the goods-carrier via silver plated copper bolts by means of a Beryllium-lamella. The electrical contact is realized by extending the contact bolts when pressurized. The opening of the contact also takes place by applying compressed air via a second compressed air circuit.

The contact bolts are housed in a solid brass body and the two contact halves are supplied on a copper base plate (on request also on an angle) as a mounted unit adjusted to the thickness and height of the existing goods-carriers. In this newly developed pneumatic system, the incoming air pressure will be in the series up from 1500 A converted into a very high surface pressure by a mechanically well thought out force transmission. The contact pressure is so significantly higher than in a normal pneumatic design with a simple piston/cylinder or pneumatic cushion.

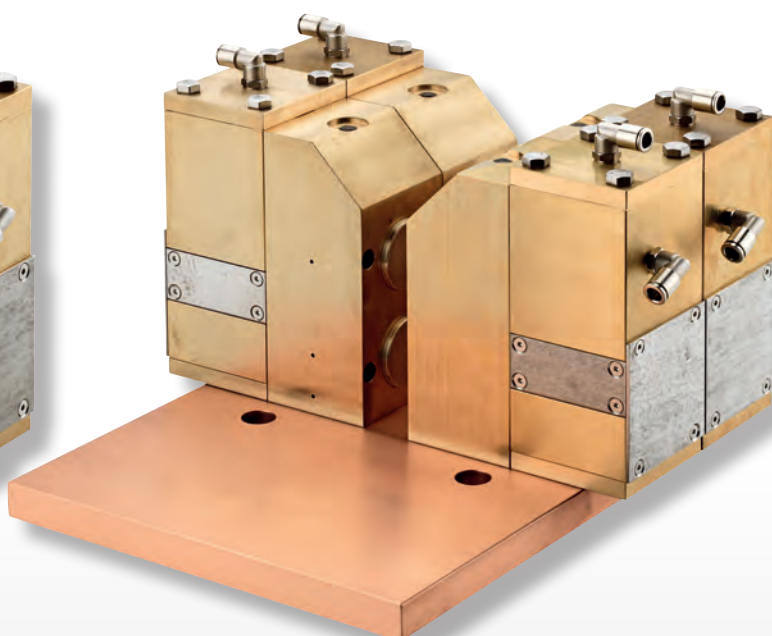
To operate the contacts we recommend the use of a 5/2-way valve. The bolts then open completely, so that the product carriers can retract without touching the bolts.



Design 800 A



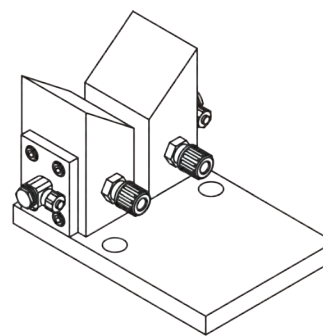
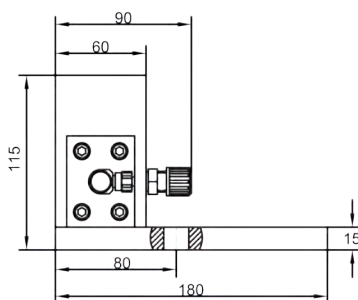
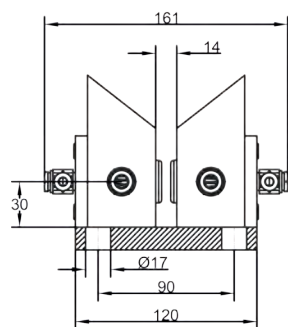
Design 1500 A/3000 A



Design 4500 A/6000 A

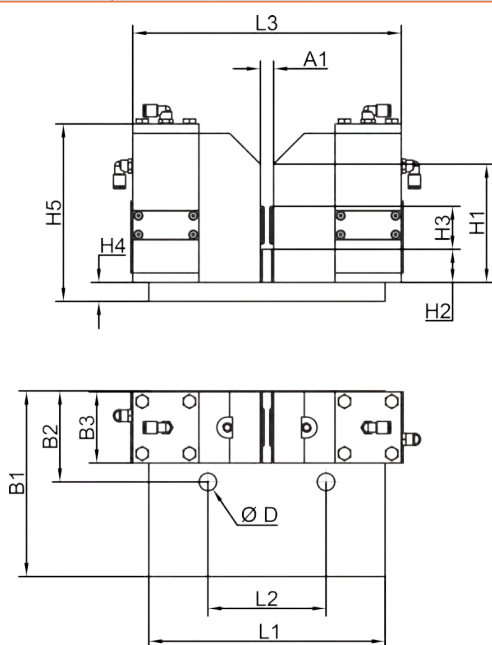


**Pneumatically actuated high current bolt contacts 800 A - 6000 A**  
preferably for use inside of electroplating- and anodizing plants

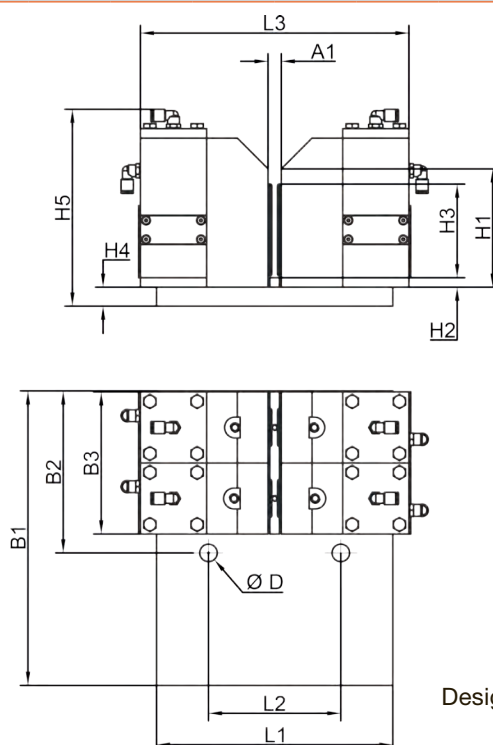


Design 800 A

Part-No.	Technical data			Description
	Current load	No. of contact bolts		
17068	800 A	2		Relatively small, compact pneumatically actuated contact units for goods-carriers height from 50 mm up to circa 80 mm. Applicable everywhere, where e.g. an automatic inserting into spring-loaded contacts is, due to the low weight of the goods-carriers, not possible. The base plate can be dimensionally changed if required or replaced by an angle. Drawn dimensions for busbar thickness 10 mm.
17069	Assembly ready silvered replacement contact bolt included contact lamella and sealing rings			
55219	Replacement contact lamella			



Design 1500 A/3000 A



Design 4500 A/6000 A

Part-No.	Technical data															
	Current load	Suitable busbar height	No. of contact bolts	Dimensions mm												
				A <sub>1</sub>	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>
25420	1500 A	50	2	14	196	96	75	125	35	45,5	20	208	250	125	284	18,5
25422		60							30	50,5						
25424		80							20	60,5						
25426		>= 100							-	80,5						
25428	3000 A	100	4	19	216	96	75	125	10	99	20	208	250	140	289	18,5
25430		>= 120							-	109						
25432	4500 A	100	6	24	311	171	150	125	10	99	20	208	250	140	294	18,5
25434		>= 120							-	109						
25436	6000 A	100	8	24	311	171	150	125	10	99	20	208	250	140	294	18,5
25438		>= 120							-	109						
25470	Assembly ready silvered replacement contact bolt included contact lamella and sealing rings															
25471	Replacement contact lamella															

**Remark:** The listed dimensions for contacts 1500 A are for busbar thickness 10 mm, for 3000 A for 15 mm and up 4500 A for 20 mm. The standard base plate can be used, up to a busbar thickness of 100 mm, by moving the contact halves without dimension changes. Of course the base plate can be dimensionally changed or replaced by an angle. Due to the modular design also contact units for higher current e.g. 9000 A/12000 A etc. can be produced.

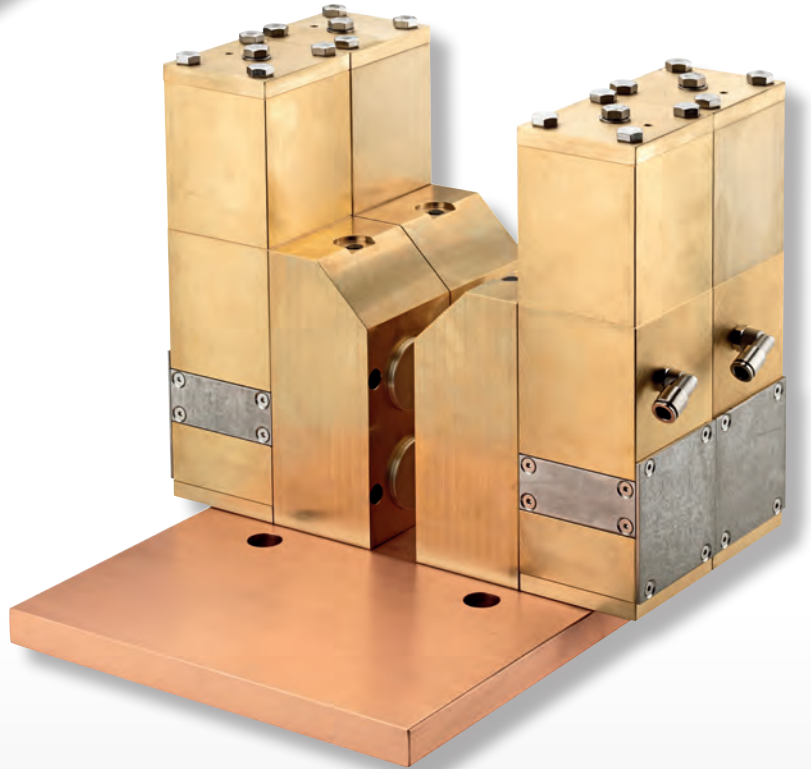
## Pneumatically actuated, current-/voltage free switching units 1500 A - 6000 A for various kinds of applications in the field of electrical engineering and power transmission

The construction is designed similar to our pneumatically actuated bolt contacts for application inside of electroplating- or anodizing plants. However, this new contact system takes account of the requirement that the for the current transfer required contact pressure must be maintained permanently also in the event of a failure or interruption of the compressed air supply.

All these contacts are therefore equipped with an additional construction which reliably ensures this. They can therefore be used as current/voltage-less switching elements for various kinds of applications in test fields or other electro-technical applications. The function is as follows: Incoming air = contact opens and the power rail can retract. Then switch off air and the power rail will be clamped in the contact. To pull out the power rail actuate the contact again by air pressure. To operate the contacts we therefore recommend the use of a 3/2-way valve.



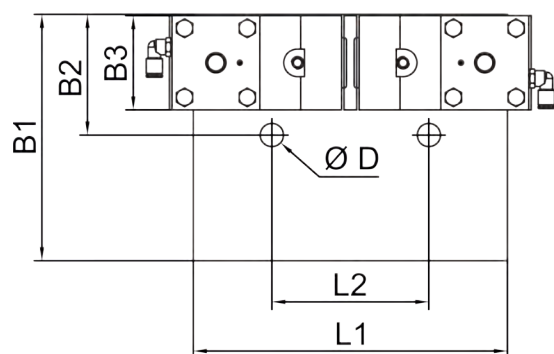
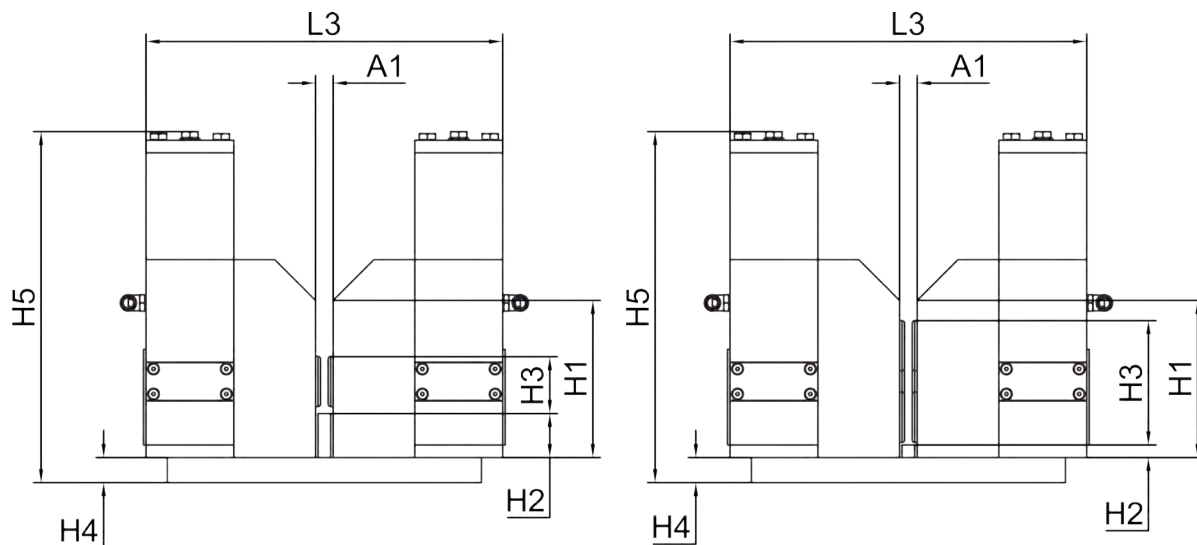
Design 1500 A/3000 A



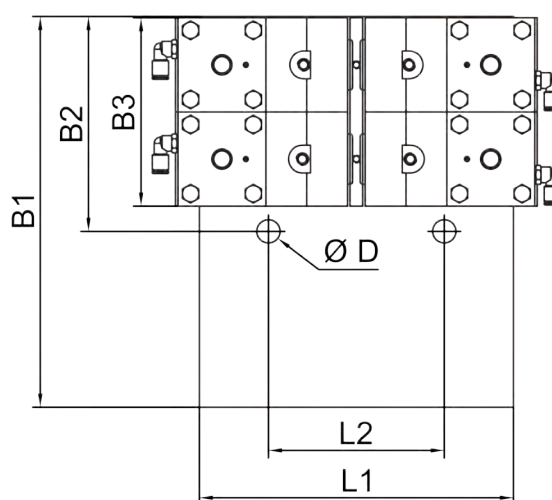
Design 4500 A/6000 A



**Pneumatically actuated current-/voltage free switching units 1500 A - 6000 A**  
for various kinds of applications in the field of electrical engineering and power transmission



Design 1500 A/3000 A



Design 4500 A/6000 A

Part-No.	Technical data															
	Current load	Suitable busbar height	No. of contact bolts	Dimensions mm												
				A <sub>1</sub>	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>
25440	1500 A	50	2	14	196	96	75	125	35	45,5	20	278	250	125	284	18,5
25442		60							30	50,5						
25444		80							20	60,5						
25446		>= 100							-	80,5						
25448	3000 A	100	4	19	216	96	75	125	10	99	20	278	250	140	289	18,5
25450		>= 120							-	109						
25452	4500 A	100	6	24	311	171	150	125	10	99	20	278	250	140	294	18,5
25454		>= 120							-	109						
25456	6000 A	100	8	24	311	171	150	125	10	99	20	278	250	140	294	18,5
25458		>= 120							-	109						
25470	Assembly ready silvered replacement contact bolt included contact lamella and sealing rings															
25471	Replacement contact lamella															

**Remark:** The listed dimensions for contacts 1500 A are for busbar thickness 10 mm, for 3000 A for 15 mm and up 4500 A for 20 mm. The standard base plate can be used, up to a busbar thickness of 100 mm, by moving the contact halves without dimension changes. Of course the base plate can be dimensionally changed or replaced by an angle. Due to the modular design also contact units for higher current e.g. 9000 A/12000 A etc. can be produced.

## Cleaning-saddles for busbars and product-carriers

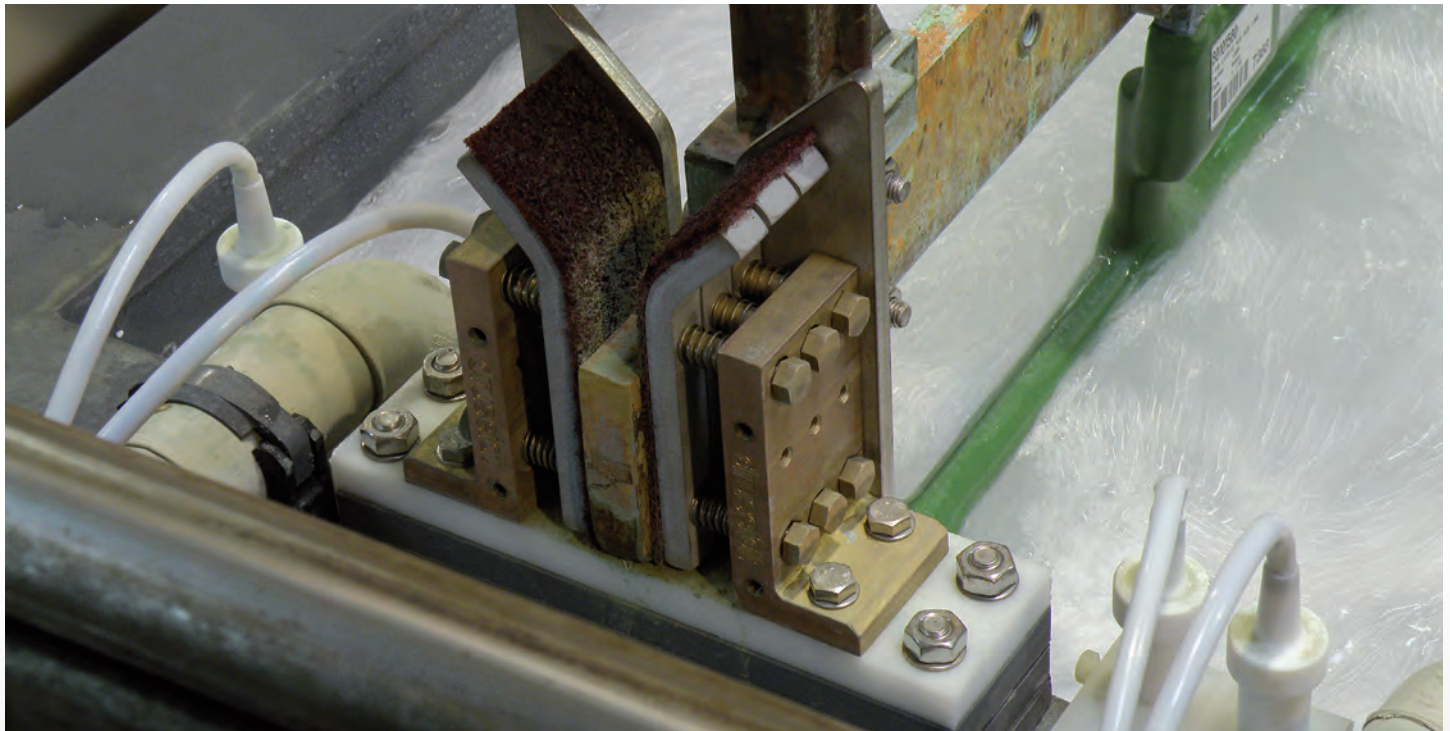
In order to be able to integrate a continuous cleaning of the contact surfaces of the product-carriers in the fully automatic plant processes, the druseidt cleaning saddles were developed. They consist out of spring-mounted contact fingers which are provided with our special cleaning-fleece. This special material cleans the contact surfaces of the product-carriers by running-in and out. The fleece has a high chemical resistance and could be cleaned by using a compressed air-pistol or by spraying with water. Tests in laboratories and practice application show a long lifetime and good results of the cleaning process. In case of abrasion it is possible to change the saddle-halves easily.

To achieve an optimal cleaning effect we deliver the models exact adjusted to the thickness of the busbar/product-carrier. Cleaning saddles can be mounted instead of non-powered support blocks at the non conductive tanks e.g. cleaning/rinsing baths. So they are integrated in the automated process-cycles of the plants. The following described designs are coordinated to the dimensions of our pneumatically actuated bolt contact systems according to this product information. In addition designs are also available for our other contact systems as well as matched to your requirements.

**druseidt cleaning systems and devices enable an extremely reduction of power losses and are destined to minimize the costs of repair and maintenance in order to optimize the process cycle.**

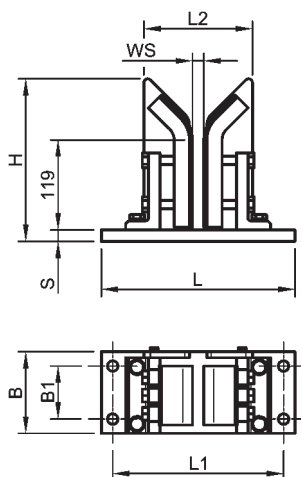
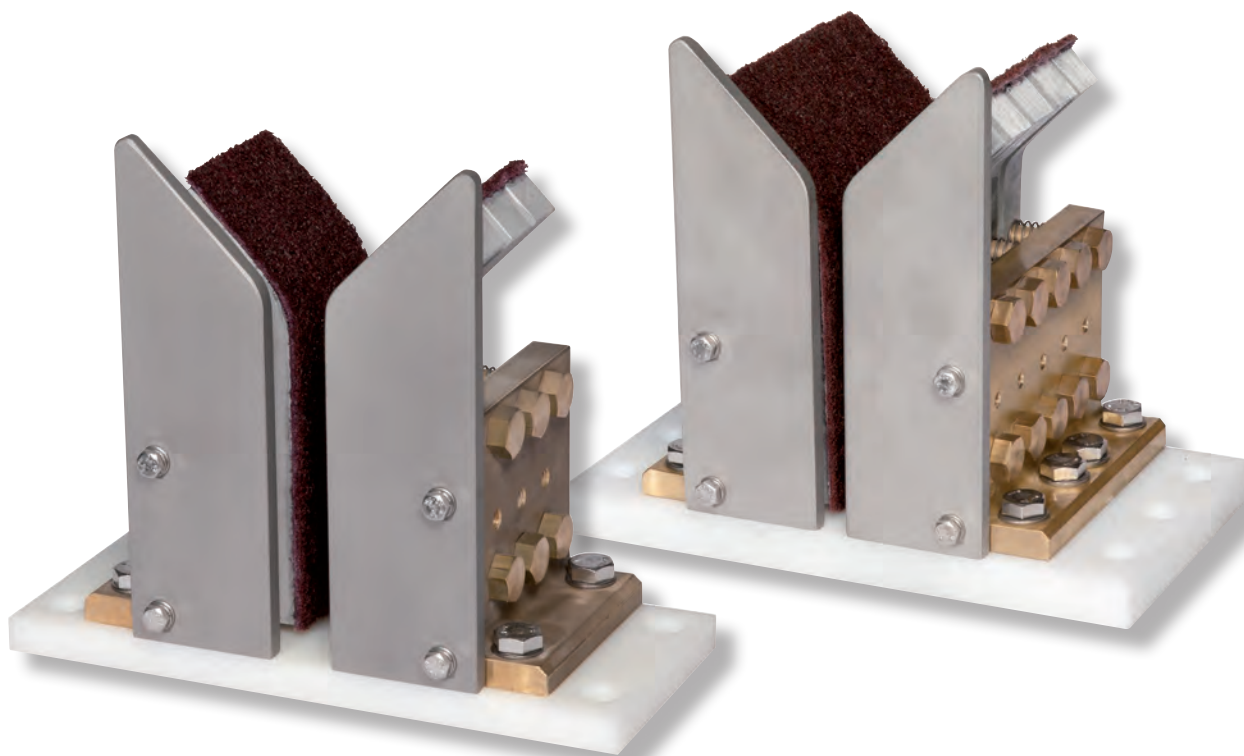
**Soiled contact saddles and contact surfaces lead to:**

- higher contact resistance
- higher power losses
- higher heating
- higher maintenance and repair costs

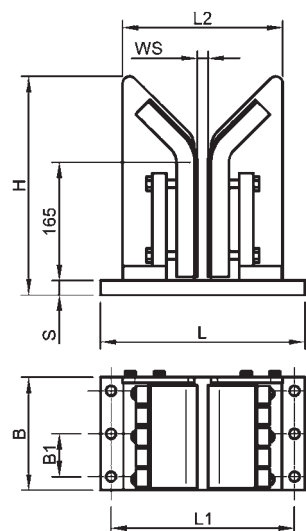


Cleaning saddles in use

## Cleaning saddles for busbars and product-carriers



Part-No. 36005-20

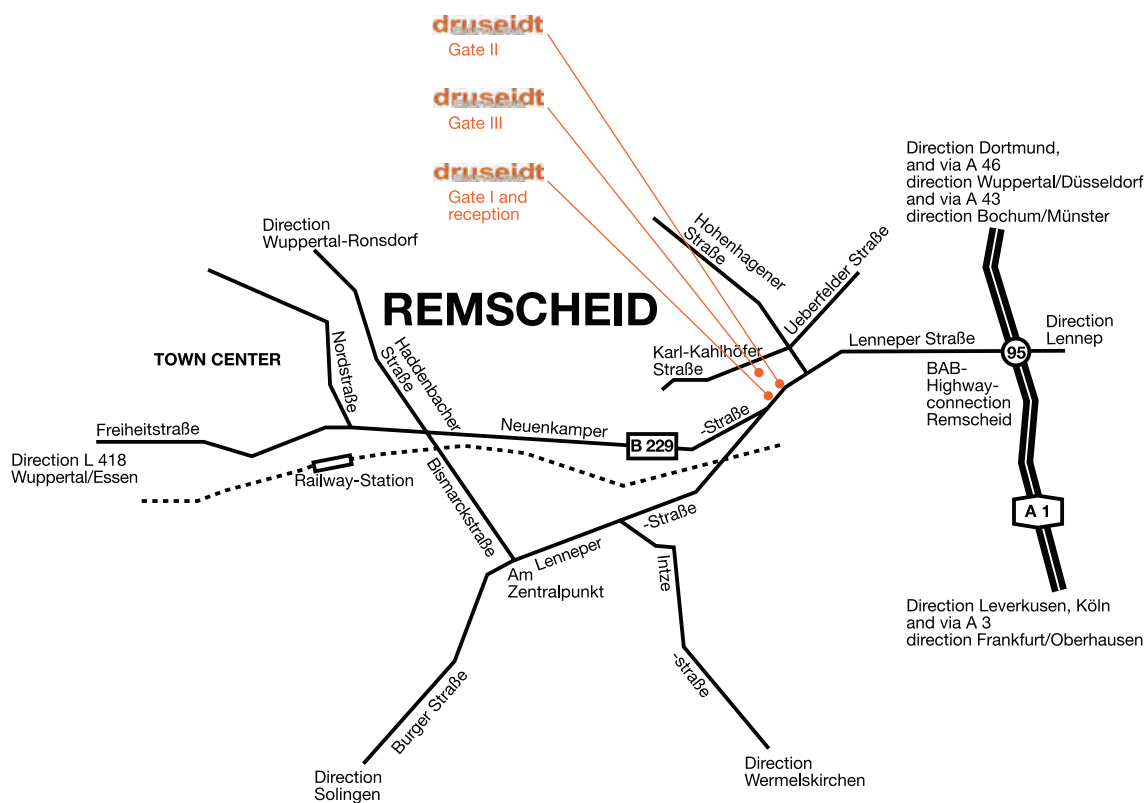


Part-No. 36054-20

Part-No.		Technical data								
Cleaning saddle complete	spare-part contact half complete	For bolt-contact with current-load	Dimensions mm							Weight/ pcs.
			L	L <sub>1</sub>	L <sub>2</sub>	B	B <sub>1</sub>	H	S	
36005-20	36005-A	800-3000 A	255	225	143	108	1 x 70	215	15	7 kg
36054-20	30654-A	4500-6000 A	285	255	233	158	2 x 60	305	25	19 kg

**Remark:** The dimensions listed in the tables are based on a busbar thickness of 20 mm. In case of deviating busbar thicknesses, the width dimensions change accordingly. In addition to the standard designs we deliver also versions according to your wishes e.g. for other contact surface lengths.





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