



## CABLE CONNECTION TECHNIQUE

Screw Connectors and  
Screw Cable Lugs for  
Low, Medium and High Voltage



**ARCUS ELEKTROTECHNIK**  
ALOIS SCHIFFMANN GMBH

# Your Partner for Connection Technique

Since 1928 the name ARCUS equals quality and reliability in cable connections and safety products. The ARCUS ELEKTROTECHNIK ALOIS SCHIFFMANN GMBH is a highly specialised industrial enterprise in which high-quality products are designed and produced for the worldwide market.

## Our product range includes:

- Connectors and tools for underground cables
- Overhead line clamps
- Earthing and short circuiting devices with cables and bars
- Lance earthing devices for outdoor switchgear up to 80 kA/0.5 s and 63 kA/1 s
- High voltage detectors for nominal voltages up to 380 kV
- Detectors and phase comparators for encapsulated switchgear
- Compression material and compression tools
- Devices for current tapping and power supply

## Always in the centre of our activities:

Our clients. Our top aim is their complete and long-term satisfaction!

Highly qualified and motivated employees in our company in Munich and in our sales offices are the main condition for a successful conversion of customers' requirements.

During the long history of our company we have always understood some complex requirements of our customers as a challenge to be met.

In many cases the result of technical cooperation with business partners are products with an extraordinary place on the world market.

Technical know-how and the latest production techniques insure long term quality and reliability of our products and permit to keep the place of our company in Germany.

## Availability by phone:

For queries concerning products and delivery time, and to place an order by phone, we are available as follows:

**+49 (0)89/436 04-0**

### **Monday - Thursday:**

8:00 am-12:00 noon and 12:30 pm-16:00 pm

### **Friday:**

8:00 am-12:00 noon



## Information concerning this catalogue:

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108 001 001	16,26	209 091	7	298 188	8	615 040	30
109 177	29	209 092	7	298 189	9	620 090	29
198 184	29	209 098	7	298 200	8	620 137 05	29
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198 381	14,22	209 100	17	298 218	7	620 147	30
198 385	22	209 108	7	298 219	7	620 148	30
198 392	14	209 109	19	298 223	8	620 149	30
198 394	14	209 110	19	298 224	8	620 155	29
198 399	16,26	209 111	19	298 225	9	620 156	29
198 412	16,26	209 112	19	298 226	9	620 157	29
198 413	14	209 113	19	298 228	24	620 159	29
198 423	16,26	209 114	19	298 244	9	620 160	29
		209 116	8	298 245	8	622 009	31
		209 117	7	298 246	7		
		209 122	12	298 254	7		
		209 123	12	298 255	9		
		209 124	12	298 256	9		
		209 126	8	298 257	9		
		209 130	7	298 258	7		
		209 131	7	298 260	10		
		209 132	7	298 262	8		
		209 133	7	298 269	8		
		209 134	7	298 292	20		
		209 135	7	298 301	18		
		209 136	7	298 304	7		
		209 137	7	298 321	17		
		209 140	18	298 322	7		
		298 002	10	298 323	7		
		298 009	25	298 324	8		
		298 013	19	298 325	8		
		298 047	8	298 326	20		
		298 061	8	298 347	18		
		298 062	9	298 350	9		
		298 063	11	298 356	13		
		298 064	11	298 364	8		
		298 088	9	298 368	18		
		298 095	11	298 373	24		
		298 097	11	298 374	24		
		298 100	7	298 375	24		
		298 108	21				
		298 119	10				
		298 128	10				
		298 129	7				
		298 139	15				
		298 140	15				
		298 141	9				
		298 142	11				
		298 152	7				
		298 155	10				
		298 158	7				
		298 161	10				
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		298 172	9				
		298 174	9				
		298 181	10				
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208 001 005	15						
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208 040	25						
208 041	25						
208 042	25						
208 043	25						
209 011	8						
209 012	9						
209 013	7						
209 019	8						
209 020	9						
209 025	11						
209 026	11						
209 027	11						
209 028	11						
209 050	9						
209 052	8						
209 056	21						
209 058	7						
209 065	9						
209 072	9						
209 075	8						
209 080	8						
209 081	8						
209 082	9						
209 083	11						
209 084	11						
209 085	11						
209 086	11						
209 087	8						
209 088	9						
209 089	8						
209 090	9						

Aluminium Screw Connectors



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Aluminium Screw Connectors with Tap-Off



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For many years now screw connectors and screw cable lugs have not only been an alternative to compression systems but even more they offer additional advantages and possibilities.

To install bolted cable connections means to make a connection with mechanic and electric long-term load properties. This connection needs to be produced by simple means and even under difficult conditions. The quality of this connection must be high enough to ensure reliability for many years.

Depending on their specific usage, screw connectors and screw cable lugs are provided with various features which lead to a wide variety of types. Those who have to select from this variety need to make a well informed choice.

The main criteria are voltage level, type of cable conductor, working method, and joint or termination technology.

Apart from the related circumstances there are a number of selection criteria that depend on experience and personal preferences or philosophies of power suppliers.

An overview of the selection criteria of screw connectors and screw cable lugs with the main features as follows:

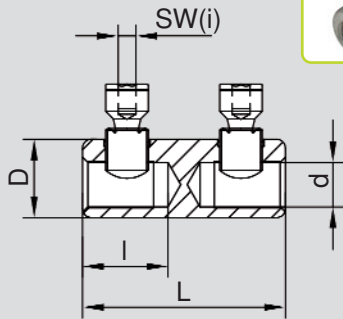
- Connector barrel Al or Cu
- Connector barrel uncoated, tin-plated, insulated or greased
- Connector barrel with chamfurred or rounded ends
- Connector barrel optional with branch connection for tap-off
- Connector barrel with concentric or excentric clamping channel
- Clamping channel round or sector-shaped
- Clamping channel straight-through or with oil-stop
- Clamping channel plain, grooved or serrated
- One or more contact screws per connector half
- Contact screws with spherical pressure foot or with cutting edges
- Contact screws with or without shear-head
- Shear-head bolts removable or not removable after shear-off
- Multiple or single shear-head bolts
- On cable lugs: type of palm

We will not go into any further detail at this point. There are many different reasons to prefer or reject certain features. For instance an oil stop inside a connector may be considered as a helpful stopper during installation but may also be seen as a hinderance because a push-through movement of the first conductor for easy installation of the second conductor is impossible.

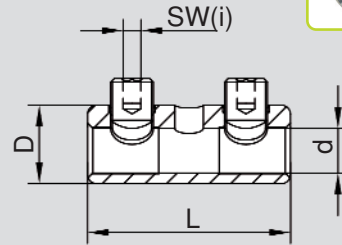
**In case you will not find the required product on the following pages - please contact us!**

# Aluminium Screw Connectors

298 185



298 129

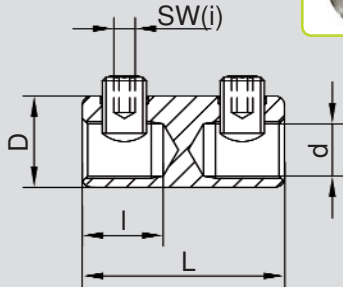


Cross Section [mm <sup>2</sup> ]	Connector Barrel							Contact Screw					Type Number		
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable	number		SW(i) (DIN 475)	torque [Nm]
					D	d	L	I							
6-35 RE 6-25 RM	•		•		14	7.2	40		•			2	4	8	209 013
	•		•		14	7.2	40				•	2	4	8	209 091
	•			•	14	7.2	40		•			2	4	8	298 100
	•			•	14	7.2	40				•	2	4	8	209 092
		•			•	14	7.2	40	17.5			•	2	4	8
Cu 2.5-35 SM / 50 RM(v) Al 6-35 SM / 50 RM(v)	•		•		16.5	9	40		•			2	4	9	209 058
	•		•		16.5	9	40				•	2	4	9	209 098
	•			•	16.5	9	40		•			2	4	9	298 152
	•			•	16.5	9	40				•	2	4	9	209 099
		•	•		16	9.4	40	17.5	•			2	4	9	209 108
		•	•		16	9.4	40	17.5			•	2	4	9	209 117
		•		•	16	9.4	40	17.5	•			2	4	9	298 218
		•		•	16	9.4	40	17.5			•	2	4	9	298 219
6 RE-50	•		•		18	10.5	40		•			2	5	10	209 130
	•		•		18	10.5	40				•	2	5	10	209 134
	•			•	18	10.5	40		•			2	5	10	209 131
	•			•	18	10.5	40				•	2	5	10	209 135
		•	•		18	10.5	40	17.6	•			2	5	10	209 132
		•	•		18	10.5	40	17.6			•	2	5	10	209 136
		•		•	18	10.5	40	17.6	•			2	5	10	209 133
		•		•	18	10.5	40	17.6			•	2	5	10	209 137
10-70 RE 10-70 RM 50-70 SE 35-70 SM	•		•		22	12.5	57		•			2	5	15	298 258
	•		•		22	12.5	57				•	2	5	15	298 158
	•			•	22	12.5	57		•			2	5	15	298 129
	•			•	22	12.5	57				•	2	5	15	298 322
		•	•		22	12.5	57	24	•			2	5	15	298 254
		•	•		22	12.5	57	24			•	2	5	15	298 323
		•		•	22	12.5	57	24	•			2	5	15	298 304
		•		•	22	12.5	57	24			•	2	5	15	298 185

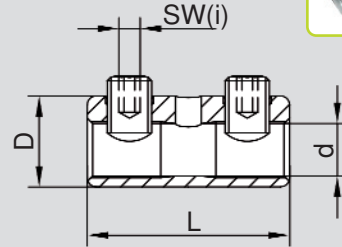
Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

# Aluminium Screw Connectors (continued)

298 047



209 019



Low Voltage

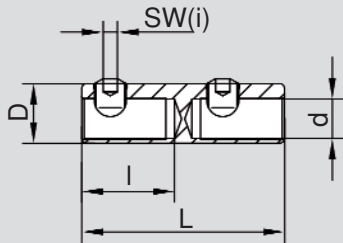
Cross Section [mm <sup>2</sup> ]	Connector Barrel							Contact Screw					Type Number		
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable	number		SW(i) (DIN 475)	torque [Nm]
					D	d	L	l							
16-50 RE 16-95 RM 50-95 SE 35-70 SM / 95 SM(r)	•		•		25	14.4	55		•			2	5	20	209 019
	•		•		25	14.4	55			•		2	5	20	209 081
	•		•		25	14.4	55				•	2	5	20	298 188
	•			•	25	14.4	55		•			2	5	20	298 061
	•			•	25	14.4	55			•		2	5	20	209 087
		•	•		25	14.4	55	22	•			2	5	20	209 011
		•	•		25	14.4	55	22		•		2	5	20	209 080
		•		•	25	14.4	55	22	•			2	5	20	298 047
		•		•	25	14.4	55	22		•		2	5	20	209 089
		•		•	25	14.4	55	22			•	2	5	20	298 200
	•		•		25	14.4	92		•			4	5	20	209 052
	•			•	25	14.4	92		•			4	5	20	298 223
	•		•		25	14.4	92			•		4	5	20	209 075
	•			•	25	14.4	92			•		4	5	20	298 224
25-150 RE 25-150 RM 50-120 SE / 150 SE (90°)	•		•		28	16.9	70		•			2	6	25	209 116
	•		•		28	16.9	70				•	2	6	25	209 126
	•			•	28	16.9	70		•			2	6	25	298 324
	•			•	28	16.9	70				•	2	6	25	298 325
		•	•		28	16.9	70	31	•			2	6	25	298 213
		•	•		28	16.9	70	31			•	2	6	25	298 269
		•		•	28	16.9	70	31	•			2	6	25	298 245
		•		•	28	16.9	70	31			•	2	6	25	298 262
35-120 / 150 SE (90°)		•		•	28	16.9	70	31			•	2	6	25	298 364

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (r)=rounded, (90°)=4-core cable  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

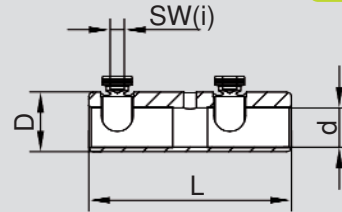


# Aluminium Screw Connectors (continued)

298 350



298 244



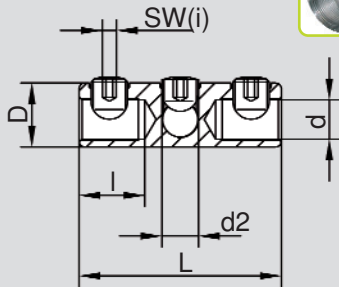
Cross Section [mm <sup>2</sup> ]	Connector Barrel							Contact Screw					Type Number		
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable	number		SW(i) (DIN 475)	torque [Nm]
					D	d	L	l							
35-50 RE	•		•		32	19.6	80		•			2	6	25	209 020
35-185 RM	•		•		32	19.6	80			•		2	6	25	209 082
50-150 SE / 185 SE (90°)	•		•		32	19.6	80				•	2	6	25	298 189
35-150 SM / 185 SM(r)	•			•	32	19.6	80		•			2	6	25	298 062
	•			•	32	19.6	80			•		2	6	25	209 088
	•			•	32	19.6	80				•	2	6	25	298 255
		•	•		32	19.6	80	32.5	•			2	6	25	209 012
		•	•		32	19.6	80	32.5		•		2	6	25	209 072
		•		•	32	19.6	80	32.5	•			2	6	25	298 088
		•		•	32	19.6	80	32.5		•		2	6	25	209 090
		•		•	32	19.6	80	32.5			•	2	6	25	298 172
	•		•		32	19.6	108		•			4	6	25	209 050
	•		•		32	19.6	108			•		4	6	25	209 065
	•			•	32	19.6	108		•			4	6	25	298 225
	•			•	32	19.6	108			•		4	6	25	298 226
70-150 RM 70-150 SE		•	•		32	19.6	80	32.5			•	2	6	25	298 141
120-150 RE	•		•		38	25	128			•		4	6	25	298 174
120-240 RM	•			•	38	25	128			•		4	6	25	298 244
120-240 SE		•		•	38	25	128	58.5	•			4	6	25	298 350
120-240 SM		•		•	38	25	128	58.5		•		4	6	25	298 256
150-240 M	•		•		38	25	128		•			4	6	25	298 257

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (r)=rounded, (90°)=4-core cable  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

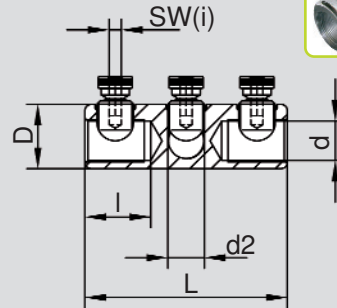
# Aluminium Screw Connectors with Tap-Off

Low Voltage

298 119



298 128



Cross Section [mm <sup>2</sup> ]		Connector Barrel					Contact Screw					Type Number				
Mains	Branch	with oil-stop	uncoated	tin-plated	Dimensions [mm]					socket screw	shear-head screw removable	number mains	number branch	SW(i) (DIN 475)	torque [Nm]	
					D	d	d2	L	l							
Al 35 RE Cu 35 RE	Cu 10 RE	•		•	20	9.4	9.4	55	18	•		2	1	4	15	298 260
35-50 RE 35-185 RM 50-150 SE 185 SE (90°) 35-150 SM 185 SM(r)	10-150 SE (90°)	•	•		32	19.6	17.5	100	32.5		•	2	1	6	25	298 128
		•		•	32	19.6	17.5	100	32.5		•	2	1	6	25	298 181
		•	•		32	19.6	17.5	140	32.5		•	2	1	6	25	298 155
35-50 RE 35-185 RM 50-150 SE 185 SE (90°) 35-150 SM 185 SM(r)	35-150 RE 35-150 RM 50-120 SE 150 SE (90°) 35-120 SM	•	•		32	19.6	17.5	100	32.5	•		2	1	6	25	298 119
		•	•		32	19.6	17.5	140	32.5	•		2	1	6	25	298 162
120-240 M	6-95 RM 2x 25 RM 150 SE	•	•		38	25	17.5	150	56		•	4	1	6	25	298 161
		•		•	38	25	17.5	150	56		•	4	1	6	25	298 002

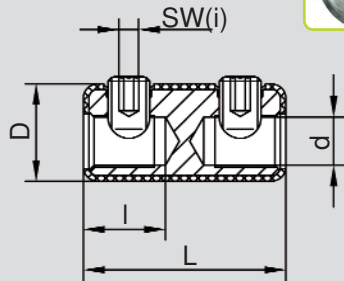
Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (r)=rounded, (90°)=4-core cable

Explanation of key sizes of contact screws: SW(i)=inner hexagon

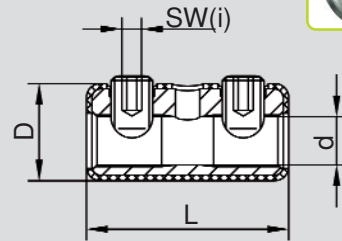
(1) Contact screw of main conductor: SW6 / 25 Nm, contact screw of branch conductor: SW5 / 20 Nm

# Aluminium Screw Connectors with Insulated Barrel

209 025



209 027

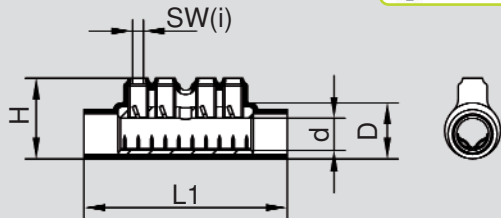


Cross Section [mm <sup>2</sup> ]	Connector Barrel							Contact Screw					Type Number		
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable	number		SW(i) (DIN 475)	torque [Nm]
					D	d	L	l							
6-35 RE 6-25 RM	•		•		14	7.2	60		•			2	4	8	298 097
10-70 RE 10-70 RM 50-70 SE 35-70 SM	•			•	25	12.5	87		•			2	5	15	298 095
16-50 RE 16-95 RM 50-70 SE / 95 SE (90°) 35-70 SM / 95 SM(r)	•		•		28.2	14.4	58.2		•			2	5	20	209 027
	•		•		28.2	14.4	58.2			•		2	5	20	209 085
	•			•	28.2	14.4	58.2		•			2	5	20	298 063
		•	•		28.2	14.4	58.2	23.6	•			2	5	20	209 025
		•	•		28.2	14.4	58.2	23.6		•		2	5	20	209 083
25-150 SE / 185 SE (90°) / 150 SM		•	•		36	19.6	84	34.5			•	2	6	25	298 142
35-50 RE 35-185 RM 50-150 SE / 185 SE (90°) 35-150 SM / 185 SM(r)	•		•		36	19.6	84		•			2	6	25	209 028
	•		•		36	19.6	84			•		2	6	25	209 086
	•			•	36	19.6	84		•			2	6	25	298 064
		•	•		36	19.6	84	34.5	•			2	6	25	209 026
		•	•		36	19.6	84	34.5		•		2	6	25	209 084

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (r)=rounded, (90°)=4-core cable  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

# Aluminium Screw Connectors for Insulated Cable Conductors

209 122



Low Voltage

Cross Section [mm <sup>2</sup> ]	Connector Barrel				Dimensions [mm]				Contact Screw				Type Number
	straight-through	with oil-stop	uncoated	tin-plated	D	d	L1	H	insulation-piercing screw	number	SW(i) (DIN 475)	torque [Nm]	
50-95 Al SE 25-70 Cu SM	•		•		32	19	120	47	•	4	5	20	209 122
50-120 Al SE 70-95 Cu SM	•		•		35	22	120	50	•	4	5	20	209 123
95-185 Al SE 95-150 Cu SM	•		•		41	26	120	55	•	4	5	20	209 124

Explanation of cross sections: S=sectorial, E=solid, M=stranded  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

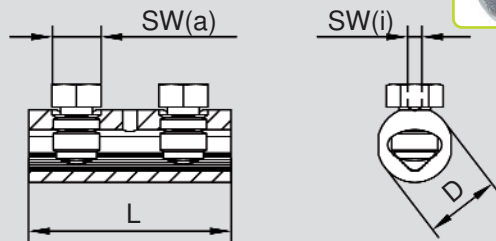
These fully-insulated screw connectors are supplied with pre-shrunk insulation. This cover is bridging proof and safe from manual contact. It is provided with openings only to fit the conductors and the installation tool.

Conductor ends are fit into the screw connector with their insulation.

When screws are tightened the insulation is pierced from top by the insulation-piercing screw, and on the bottom side by the serrated counter-plate.

# Aluminium Screw Connectors with Sector-Shaped Clamping Channel

298 356



Cross Section [mm <sup>2</sup> ]	Connector Barrel					Contact Screw						Type Number				
	straight-through	with oil-stop	uncoated	tin-plated	greased	Dimensions [mm]			socket screw	shear-head screw removable	shear-head screw unremovable		number	SW(a) (DIN 475)	SW(i) (DIN 475)	torque [Nm]
						D	L	I								
35-120 RE 35-70 RM / 95 RM(v) 50-150 SE 35-120 SM	•			•		26	70				•	2	17	6	24 <sup>(1)</sup> - 25	298 356

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted  
 Explanation of key sizes of contact screws: SW(a)=outer hexagon, SW(i)=inner hexagon  
 (1) Depending on size of cross section

This screw connector features a reduced outer diameter made possible by a sector-shaped clamping channel. This special shape of the clamping channel supports an optimal position of the conductor underneath the contact screw.

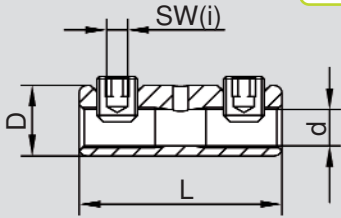
The contact screw is designed as a double shear-head bolt with inner and outer hexagon. Both hexagons may be used alternatively during installation so that the electrician can choose his preferred installation tool.

The nominal break points of the contact screw are dimensioned to reach a sufficient contact force for each conductor without using extreme compression and therefore causing mechanical damage to the conductor.

Very slight protrusion of screws after contact enables an easy installation of shrink-sleeves.

# Copper Screw Connectors

198 381



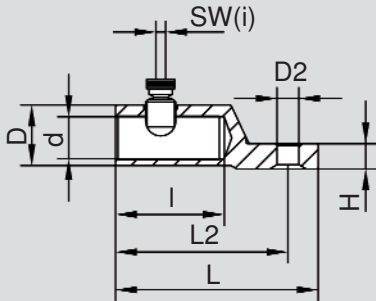
Low Voltage

Cross Section [mm <sup>2</sup> ]	Connector Barrel				Dimensions [mm]					Contact Screw				Type Number	
	straight-through	with oil-stop	uncoated	tin-plated	D	d	L	l	socket screw	shear-head screw removable	shear-head screw unremovable	number	SW(i) (DIN 475)		torque [Nm]
1.5-6 RE	•			•	7	3.5	25		•			2	2	4	198 413
1.5-16 RE / 16 RM	•		•		10	5.5	30		•			2	2.5	4	198 394
	•			•	10	5.5	30		•			2	2.5	4	198 392
6-25 RM / 35 RE	•			•	14	7.2	40		•			2	4	10	198 381

Explanation of cross sections: R=round, E=solid, M=stranded  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

# Aluminium Screw Cable Lugs

208 032



Cross Section	Connector Barrel									Contact Screw				Type Number	
	tin-plated	Dimensions [mm]								shear-head screw unremovable	shear-head screw removable	number	SW(I) (DIN 475)		torque [Nm]
		W2	D	D2 <sup>(1)</sup>	d	H	L	L2	I						
16-95 RE 16-95 RM 50-70 SE / 95 SE 25-70 SM / 95 SM(r)	•	23	23	10,5	14	8	78	66	45	•		2	5	20	208 001 005
	•	23	23	13	14	8	78	66	45	•		2	5	20	298 139
35-150 RE 35-150 RM 50-120 SE 35-120 SM(r)	•	28	28	11	17,5	10	92	78	50		•	2	6	25	208 034
	•	28	28	13	17,5	10	92	78	50	•		2	6	25	298 140
	•	28	28	13	17,5	10	92	78	50		•	2	6	25	208 033
120-150 RE 120-240 RM 120-185 SE 120-185 SM / 240 SM (90°)	•	36	36	13	25	15	121	103	65		•	2	6	25	208 032

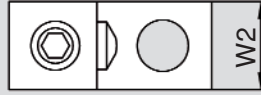
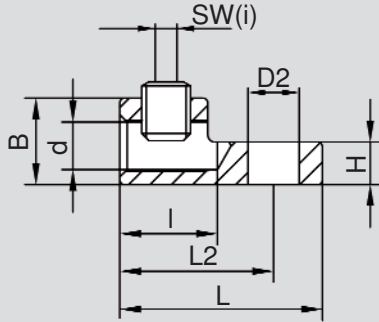
Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (r)=rounded, (90°)=4-core cable

Explanation of key sizes of contact screws: SW(i)=inner hexagon

1) Also available with other palm hole size, if required

# Copper Screw Cable Lugs for Screen Wires and Wavecon-cable

198 273



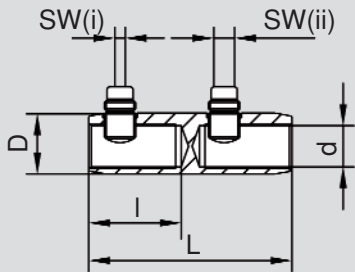
Cross Section [mm <sup>2</sup> ]	Connector Barrel									Contact Screw				Type Number	
	tin-plated	Dimensions [mm]								socket screw	shear-head screw unremovable	number	SW(i) (DIN 475)		torque [Nm]
		B	W2	D2 <sup>(1)</sup>	d	H	L	L2	I						
6-50 RM	•	17.7	18	10.5	9.9	8.7	41.5	31.5	20	•		1	5	-	198 273
	•	17.7	18	12.5	9.9	8.7	41.5	31.5	20	•		1	5	-	108 001 001
	•	17.7	18	13	9.9	8.7	41.5	31.5	20		•	1	5	10	198 412
10-70 Cu 13x Al-flat 5.2x1	•	16	16	10.5	10.5	3.5	51	40.5	20		•	1	5	15	198 399
	•	16	16	12.5	10.5	3.5	51	40.5	20		•	1	5	15	198 423

Explanation of cross sections: R=round, M=stranded  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon  
 1) Also available with other palm hole size, if required



# Aluminium Screw Connectors, Excentric Design

209 100



Cross Section [mm <sup>2</sup> ]	Connector Barrel				Contact Screw							Type Number			
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable		number	SW(i)   (ii) (DIN 475)	torque [Nm]
					D	d	L	I							
35-120 RE 35-120 RM 50-120 SE 35-120 SM		•	•		35	23	117	53		• <sup>(1)</sup>		4	8   20	209 100	
150 RE 150-240 RM 150-185 SE / 240 SE (90°) 150 SM / 185 SM (90°)												6   25			
35-120 RE 35-120 RM 50-120 SE 35-120 SM		•		•	35	23	117	53		• <sup>(1)</sup>		4	8   20	298 321	
150 RE 150-240 RM 150-185 SE / 240 SE (90°) 150 SM / 185 SM (90°)												6   25			

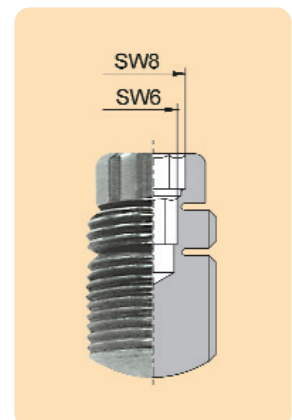
Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (90°)=4-core cable

Explanation of key sizes of contact screws: SW(i)=inner hexagon

(1) Shear-head bolt, removable only on cross sections 35-120 mm<sup>2</sup>.

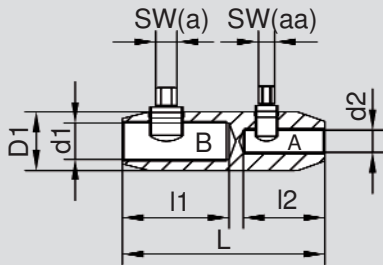
This screw connector was designed to cover a large cross sectional range. Shear heads are provided with two different key sizes SW 6 and SW 8.

For cross sections 35-120 mm<sup>2</sup> key size SW 8 is active with a torque of 20 Nm and for cross sections 150-240 mm<sup>2</sup> key size SW 6 with a torque of 25 Nm.

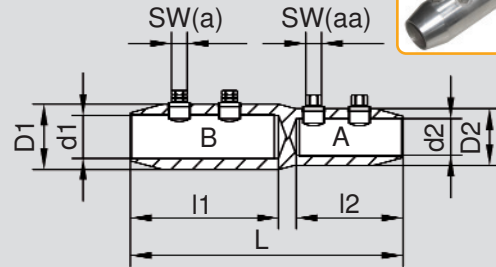


# Aluminium Screw Connectors, Excentric Design (Reduction Connectors)

298 301



298 347



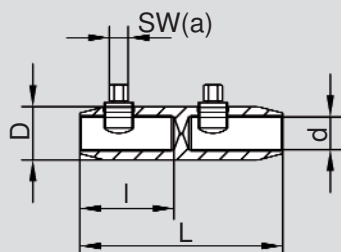
Cross Section [mm <sup>2</sup> ]		Connector Barrel										Contact Screw		Type Number		
A	B	filled with grease	with oil-stop	uncoated	Dimensions [mm]							shear-head screw unremovable	number	SW(a)   (aa) (DIN 475)	torque [Nm]	
					D1	D2	d1	d2	L	l1	l2					
25-95 RE 25-70 RM / 95 RM(v) 50-70 SE / 95 SE(r) 35-50 SM / 70 SM(*)	70-240 RE 70-185 RM / 240 RM(v) 70-185 SE(*) 70-150 SM / 185 SM(r)	•	•	•	33	33	20,4	12,4	110	58	44	•	2	8	16 <sup>(1)</sup> - 19	298 301
													2	10	27 <sup>(1)</sup> - 31	
25-95 RE 25-70 RM / 95 RM(v) 50-70 SE / 95 SE(r) 35-50 SM / 70 SM(*)	95-300 RE 95-300 RM / 300 RM(v) 95-240 SE 95-185 SM / 240 SM(r)	•	•	•	36	23	24,4	12,4	140	64,6	44	•	2	8	16 <sup>(1)</sup> - 19	209 140
													2	13	28 <sup>(1)</sup> - 32	
95-400 RE 95-400 RM / 400 RM(v) 95-240 SE 95-300 SM(r)	300-630 RM 300-630 RM(v) 300-400 SM(*)	•	•	•	52	52	33,4	27,4	185	93	79	•	3	10	27 <sup>(1)</sup> - 31	298 368
													3	13	28 <sup>(1)</sup> - 32	
630 RM(v)	800 / 1000 AI RM(v)	•	•	•	60	52	39,4	33,4	250	135	98	•	3	13	28 <sup>(1)</sup> - 29,5	298 347
													4	13	100	

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted, (r)=rounded, (\*)=conductor slightly rounded, for instance with flat-nose pliers  
 Explanation of key sizes of contact screws: SW(a)=outer hexagon, SW(i)=inner hexagon  
 (1) Depending on size of cross section.

Medium Voltage

# Aluminium Screw Connectors with Intelligent Contact Screw, Concentric Design

209 110



Size	Cross Section [mm²]	Connector Barrel				Contact Screw				Type Number			
		with oil-stop	filled with grease	tin-plated	Dimensions [mm]				shear-head screw unremovable		number	SW(a) (DIN 475)	torque [Nm]
D	d				L	I							
1	25-95 RE 25-70 RM / 95 RM(v) 50-70 SE / 95 SE(r) 35-50 SM / 70 SM(*)	•	•	•	23	12.4	95	44	•	4	8	16 <sup>(1)</sup> - 19	209 109
2	50-150 RE 50-120 RM / 150 RM(v) 50-120 SE / 150 SE(r) 50-95 SM / 120 SM(r)	•	•	•	28	15.4	110	51	•	4	8	19 <sup>(1)</sup> - 22	209 112
3	70-240 RE 70-185 RM / 240 RM(v) 70-150 SE / 185 SE(*) 70-150 SM / 185 SM(r)	•	•	•	33	20.4	125	58	•	4	10	27 <sup>(1)</sup> - 31	209 110
4	95-300 RE 95-300 RM / 300 RM(v) 95-240 SE 95-185 SM / 240 SM(r)	•	•	•	36	24.4	140	64.5	•	4	13	28 <sup>(1)</sup> - 32	209 111
5	95-400 RE 95-400 RM / 400 RM(v) 95-240 SE 95-240 SM / 300 SM(r)	•	•	•	42	27.4	170	79	•	6	10	27 <sup>(1)</sup> - 31	209 113
6	300-630 RE 300-630 RM 300-630 RM(v) 300-400 SM(*)	•	•	•	52	33.4	200	93	•	6	13	28 <sup>(1)</sup> - 32	209 114
7	800-1000 RM(v)	•	•	•	65	41.4	214	102	•	8	13	95 <sup>(1)</sup> - 110	298 013

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted, (r)=rounded,

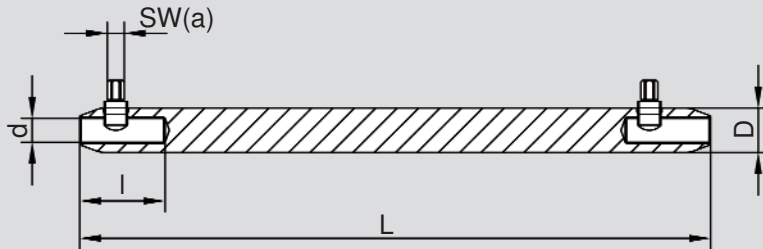
(\*)=conductor slightly rounded, for instance with flat-nose pliers

Explanation of key sizes of contact screws: SW(a)=outer hexagon

(1) Depending on size of cross section

# Aluminium Repair Connectors with Intelligent Contact Screw, Concentric Design

298 326



Size	Cross Section [mm <sup>2</sup> ]	Connector Barrel				Contact Screw				Type Number			
		with oil-stop	filled with grease	tin-plated	Dimensions [mm]				shear-head screw unremovable		number	SW(a) (DIN 475)	torque [Nm]
					D	d	L	I					
1	25-95 RE 25-70 RM / 95 RM(v) 50-70 SE / 95 SE(r) 35-50 SM / 70 SM(*)	•	•	•	23	12.4	440	44	•	4	8	16 <sup>(1)</sup> - 19	298 292
5	95-400 RE 95-400 RM / 400 RM(v) 95-240 SE 95-240 SM / 300 SM(r)	•	•	•	42	27.4	440	79	•	6	10	27 <sup>(1)</sup> - 31	298 326

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted, (r)=rounded,

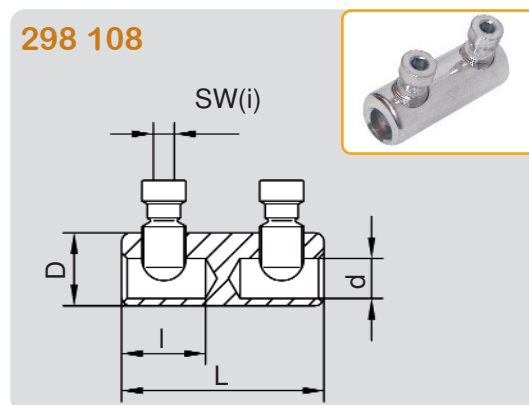
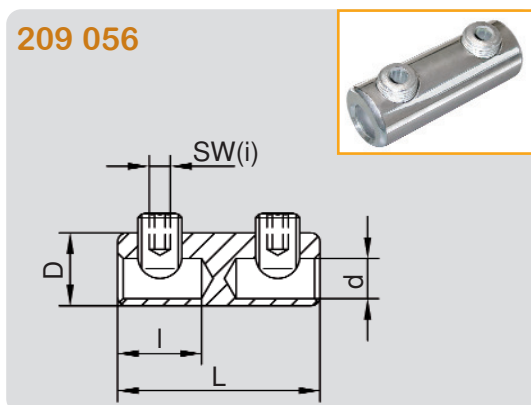
(\*)=conductor slightly rounded, for instance with flat-nose pliers

Explanation of key sizes of contact screws: SW(a)=outer hexagon

(1) Depending on size of cross section

Medium Voltage

# Aluminium Screw Connectors for Screen Wires of Cables to VDE and TGL Standards

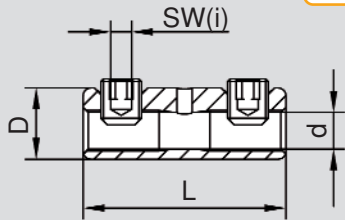


Cross Section [mm <sup>2</sup> ]	Connector Barrel							Contact Screw					Type Number		
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable	number		SW(i) (DIN 475)	torque [Nm]
					D	d	L	l							
16-50 Cu RM		•		•	20	11	55	22.8	•			2	5	10	209 056
3-13 each flat 1x 5.2 Al		•		•	20	11	55	22.8		•		2	5	10	298 108

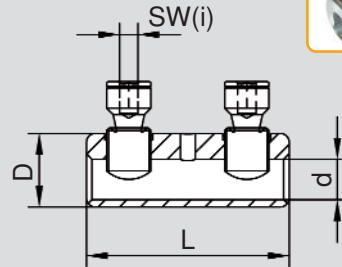
Explanation of cross sections: R=round, M=stranded  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

# Copper Screw Connectors for Copper Screen Wires

198 381



198 385



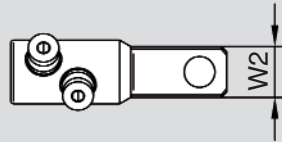
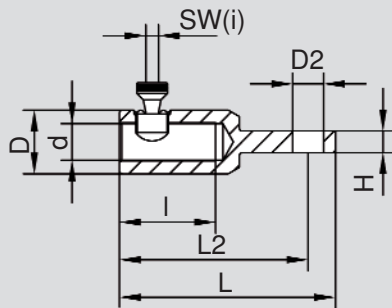
Cross Section [mm <sup>2</sup> ]	Connector Barrel				Contact Screw							Type Number			
	straight-through	with oil-stop	uncoated	tin-plated	Dimensions [mm]				socket screw	shear-head screw removable	shear-head screw unremovable		number	SW(l) (DIN 475)	torque [Nm]
					D	d	L	l							
6-25 RM / 35 RE	•			•	14	7.2	40		•			2	4	10	198 381
Ø11	•			•	20	11	55				•	2	5	15	198 385

Explanation of cross sections: R=round, E=solid, M=stranded  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon

Medium Voltage

# Aluminium Screw Cable Lugs, Concentric Design

208 036

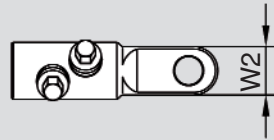
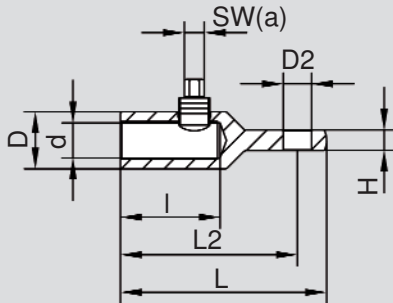


Cross Section [mm <sup>2</sup> ]	Connector Barrel									Contact Screw				Type Number	
	tin-plated	Dimensions [mm]								shear-head screw unremovable	shear-head screw removable	number	SW(i) (DIN 475)		torque [Nm]
W2		D	D2 <sup>(1)</sup>	d	H	L	L2	I							
120-240 Al 120-185 Cu	•	28	35	17	20	12	119	104	57	•		2	6	25	208 036

Explanation of key sizes of contact screws: SW(i)=inner hexagon  
1) Also available with other palm hole size, if required.

# Aluminium Screw Cable Lugs with Intelligent Contact Screw, Concentric Design

298 238



Size	Cross Section [mm <sup>2</sup> ]	Connector Barrel										Contact Screw			Type Number	
		filled with grease	tin-plated	Dimensions [mm]								shear-head screw unremovable	number	SW(a) (DIN 475)		torque [Nm]
				W2	D	D2 <sup>(1)</sup>	d	H	L	L2	I					
1	25-95 RM(v)	•	•	35	23	17.5	12.4	13	109.5	92	44	•	2	8	16 <sup>(2)</sup> - 19	298 373
3	70-240 RE 70-185 RM / 240 RM(v) 70-150 SE / 185 SE(*) 70-150 SM / 185 SM(r)	•	•	28	33	16.5	20.4	12	120	103	58	•	2	10	27 <sup>(2)</sup> - 31	298 238
3	70-240 RM(v)	•	•	35	33	17.5	20.4	13	123.5	106	58	•	2	10	27 <sup>(2)</sup> - 31	298 374
5	95-400 RM(v)	•	•	35	38	17.5	25.4	13	145.5	128	80	•	3	10	27 <sup>(2)</sup> - 31	298 375

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted, (r)=rounded,

(\*)=conductor slightly rounded, for instance with flat-nose pliers

Explanation of key sizes of contact screws: SW(a)=outer hexagon

(1) Also available with other palm hole size, if required.

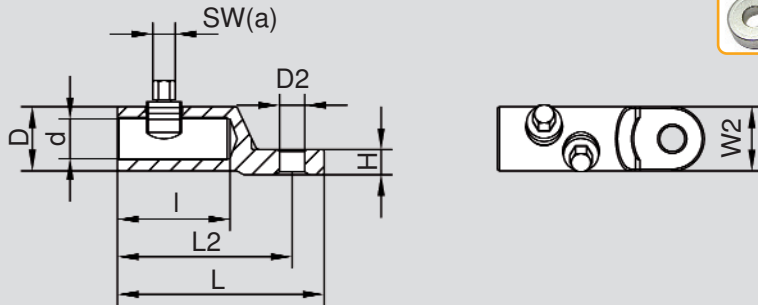
(2) Depending on size of cross section.

Medium Voltage



# Aluminium Screw Cable Lugs with Intelligent Contact Screw, Concentric Design

208 038



Size	Cross Section [mm <sup>2</sup> ]	Connector Barrel										Contact Screw			Type Number	
		filled with grease	tin-plated	Dimensions [mm]								shear-head screw unremovable	number	SW(a) (DIN 475)		torque [Nm]
				W2	D	D2 <sup>(1)</sup>	d	H	L	L2	I					
1	25-95 RE 25-70 RM / 95 RM(v) 50-70 SE / 95 SE(r) 35-50 SM / 70 SM(*)	•	•	23	23	9	12.4	8	77.5	66	44	•	2	8	16 <sup>(2)</sup> - 19	208 038
2	50-150 RE 50-120 RM / 150 RM(v) 50-120 SE / 150 SE(r) 50-95 SM / 120 SM(r)	•	•	28	28	11	15.4	10	92	78	51	•	2	8	19 <sup>(2)</sup> - 22	208 040
3	70-240 RE 70-185 RM / 240 RM(v) 70-150 SE / 185 SE(*) 70-150 SM / 185 SM(r)	•	•	33	33	13	20.4	13	106.5	90	58	•	2	10	27 <sup>(2)</sup> - 31	208 039
4	95-300 RE 95-300 RM / 300 RM(v) 95-240 SE 95-185 SM / 240 SM(r)	•	•	36	36	13	24.4	15	121	103	64.5	•	2	13	28 <sup>(2)</sup> - 32	208 041
5	95-400 RE 95-400 RM / 400 RM(v) 95-240 SE 95-240 SM / 300 SM(r)	•	•	42	42	17	27.4	16	136	115	79	•	3	10	27 <sup>(2)</sup> - 31	208 042
6	300-630 RE 300-630 RM 300-630 RM(v) 300-400 SM(*)	•	•	52	52	17	33.4	18	164	138	93	•	3	13	28 <sup>(2)</sup> - 32	208 043
7	800-1000 RM(v)	•	•	65	65	21	41.4	20	200	167.5	102.5	•	4	13	95 <sup>(2)</sup> - 110	298 009

Explanation of cross sections: R=round, S=sectorial, E=solid, M=stranded, (v)=compacted, (r)=rounded,

(\*)=conductor slightly rounded, for instance with flat-nose pliers

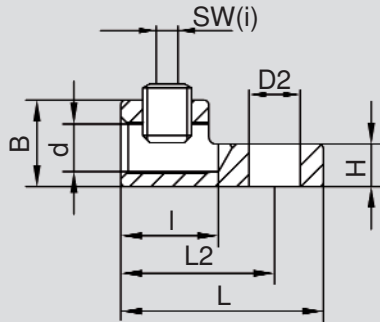
Explanation of key sizes of contact screws: SW(a)=outer hexagon

(1) Also available with other palm hole size, if required.

(2) Depending on size of cross section.

# Copper Screw Cable Lugs for Screen Wires and Wavecon-cable

198 273



Cross Section [mm <sup>2</sup> ]	Connector Barrel									Contact Screw				Type Number	
	tin-plated	Dimensions [mm]								socket screw	shear-head screw unremovable	number	SW(i) (DIN 475)		torque [Nm]
		B	W2	D2 <sup>(1)</sup>	d	H	L	L2	I						
6-50 RM	•	17.7	18	10.5	9.9	8.7	41.5	31.5	20	•		1	5	-	198 273
	•	17.7	18	12.5	9.9	8.7	41.5	31.5	20	•		1	5	-	108 001 001
	•	17.7	18	13	9.9	8.7	41.5	31.5	20		•	1	5	10	198 412
10-70 Cu 13x Al-flat 5.2x1	•	16	16	10.5	10.5	3.5	51	40.5	20		•	1	5	15	198 399
	•	16	16	12.5	10.5	3.5	51	40.5	20		•	1	5	15	198 423

Explanation of cross sections: R=round, M=stranded  
 Explanation of key sizes of contact screws: SW(i)=inner hexagon  
 1) Also available with other palm hole size, if required.

Medium Voltage



## CUSTOMISED SOLUTIONS IN HIGH VOLTAGE CONTACT TECHNIQUE

Joining and connecting of high voltage cables by means of bolted contacts meanwhile is state of the art.

Longterm experience in welding and compressing is more and more replaced by mechanical connectors or mechanical top bolts.

Today, advantages of fast, simple, and safe installation by means of screw-type connections are also valued in high voltage applications.

A speciality in high voltage contact technique is the high voltage conductor itself, different from medium voltage or low voltage conductors in construction and cross section. Solid or stranded round conductors made of copper or aluminium are typical.

Especially the Milliken- or RMS-conductor is unusual, because its special sectorial construction requires a particular arrangement of contact bolts. The round conductor consists of several sectors insulated towards each other.

This construction reduces conduction losses which occur by the skin effect, specially so on large cross sections.

Also typical for high voltage are large cross sections. Although small cross sections such as 95 mm<sup>2</sup> are used as well, cross sections up to 3200 mm<sup>2</sup> prevail. With cross sections above 1200 mm<sup>2</sup>, also Milliken-Conductors can be found.

Mechanical connectors and top bolts for high voltage are to be dimensioned precisely for its conductor and joint or termination.

Only this way it is possible to control electric fields of voltages above 70 kV, and to secure continuous prevention of joint destruction by partial discharge.

# Screw Connectors, Mechanical Top Bolts and Bolted Contacts



For this reason, concentric design, prevention of edges caused by bolt protrusion, and an outer barrel diameter suitable for its cable joint or termination, are essential requirements on such contact elements. These features can only be provided by customised and individual design and production, mostly in small production lots.

ARCUS Schiffmann is able to design, produce, and supply on schedule such individual contact elements on short notice, customised to meet project requirements.

For this purpose we stock the raw material, and offer design know-how and ultra-modern CNC-production machines.

As such products are specifically manufactured for customers and projects, we do not detail them in our catalogue. Instead, these pages shall explain our expertise and ability to also support you in this field.

**We look forward to talking to you!**





### **T-Box Wrench**

Hexagon socket screw

KS 4

KS 5

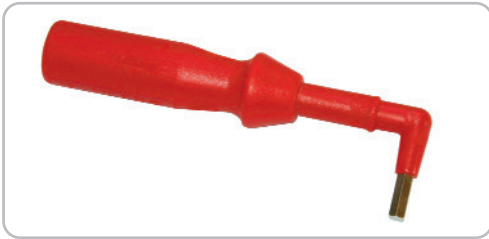
KS 6

### **Type number**

620 155

620 156

620 157



### **Angular Wrench**

Hexagon socket screw

KS 5

KS 6

### **Type number**

620 159

620 160



### **Ratchet Wrench**

(with insert KS 5)

### **Insert**

for ratchet wrench

insert KS 5

insert KS 6

### **Type number**

620 090

### **Type number**

620 137 05

620 137 06



### **Spreading Wedge**

length: 120 mm

length: 198 mm

### **Type number**

109 177

198 184

# Insulated Tools (continued)

## Torque Wrench (Set to 20 Nm) Type No. 620 147 (Inserts excluded)

Suitable for live installation up to 1000 V AC / 1500 V DC



### Function

ARCUS torque wrench is released after clockwise rotation. When torque is reached the release is audible and perceptible by a jerky release.

### Testing

ARCUS torque wrenches are supplied with test certificate and its own serial number.

### Precision

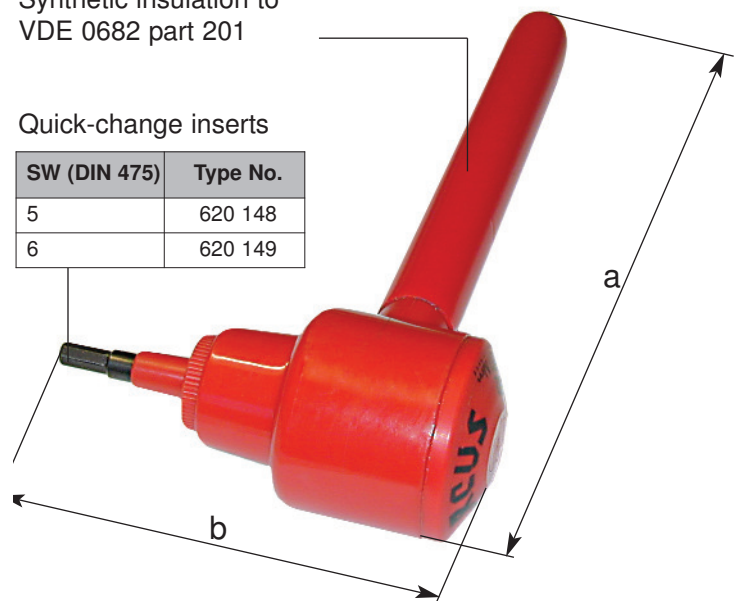
ARCUS torque wrenches are manufactured with release precision of  $\pm 1$  Nm.

Torque Wrench with Insert	a (mm)	b (mm)
	195	100

Synthetic insulation to VDE 0682 part 201

Quick-change inserts

SW (DIN 475)	Type No.
5	620 148
6	620 149



### Case made of synthetic material Type No. 615 040

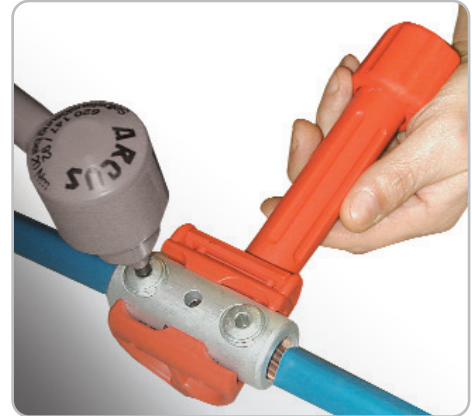
With foamed inlay to take up one torque wrench and two inserts.

Explanation of key sizes of tools: SW=outer hexagon

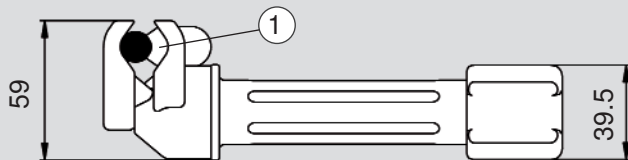
# Insulated Tools (continued)

## Holding Tool for Screw Connectors with Outer Diameter 14 to 40 mm Type No. 622 009

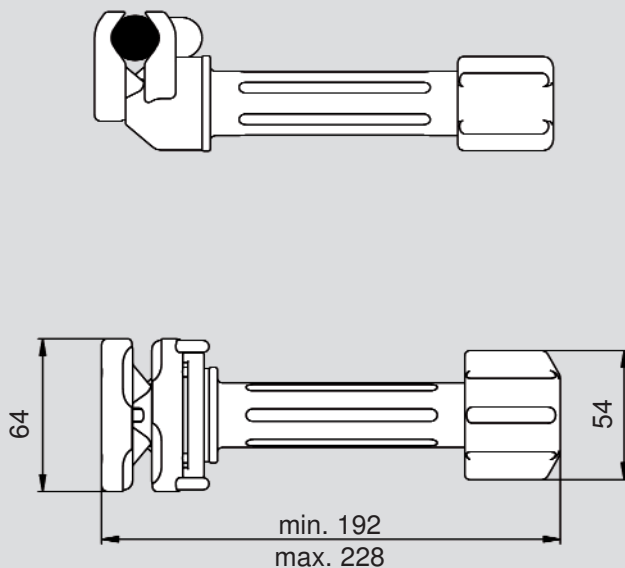
- Suitable for live installation up to 1000 V AC / 1500 V DC
- For insulated and uninsulated mechanical connectors
- To IEC 60900 resp. EN 60900



Clamping range  $\varnothing 14-20$  mm - with reduction prism (1)



Clamping range  $\varnothing 20-40$  mm - without reduction prism



### Application:

Use with reduction prism	$\varnothing 14-20$ mm
No use of reduction prism	$\varnothing 20-40$ mm
Temperature limitation	$-40$ °C

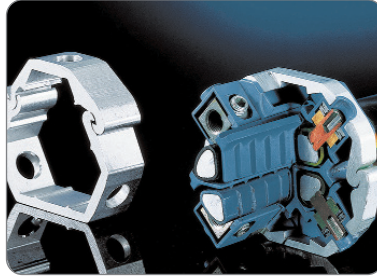
### Material:

Handles and prism jaws	PA with glassfibre
Spindle	hardened steel
Mechanical parts	brass

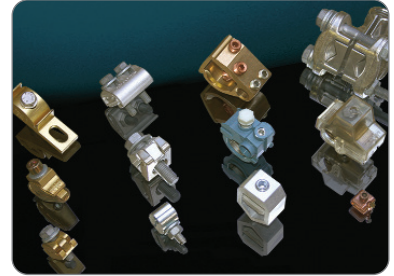
## Catalogues from Product Range “Cable Connection Technique“



Screw Connectors and  
Screw Cable Lugs



Ring Connectors



Single Connectors



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