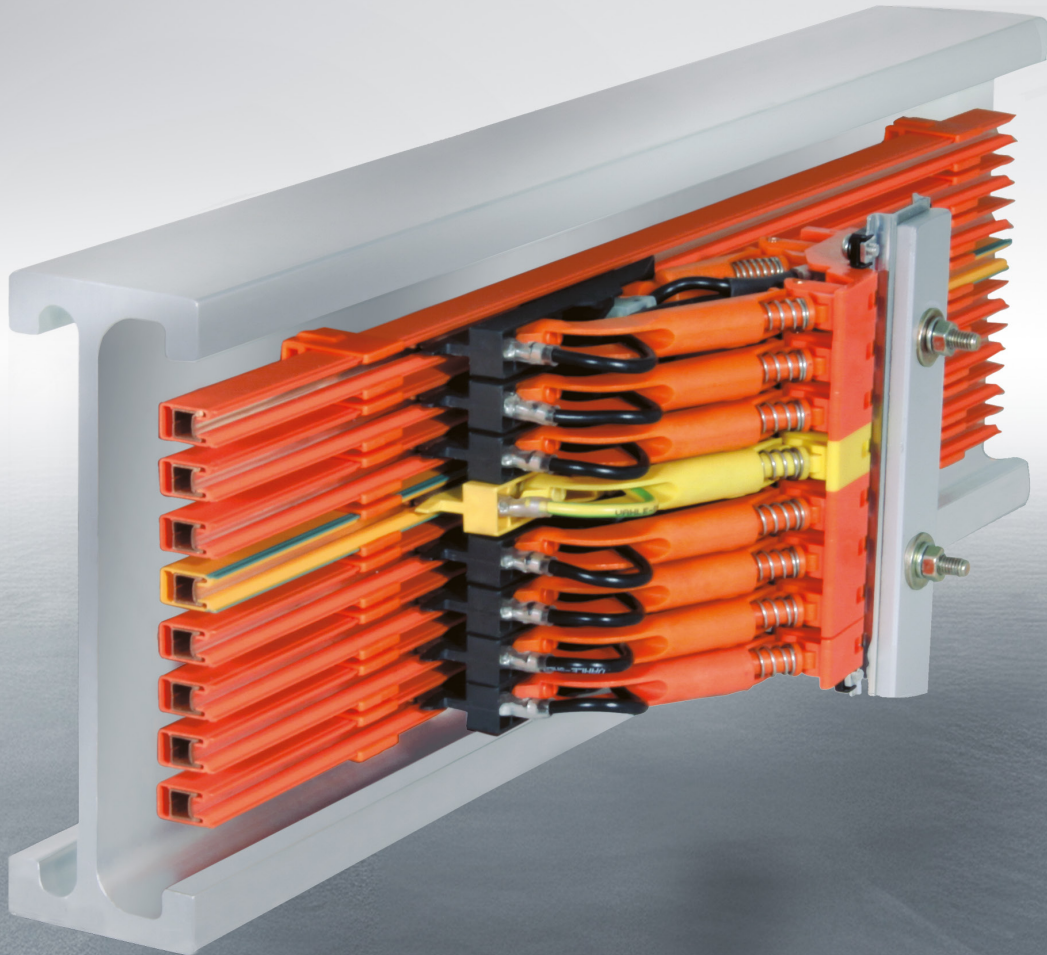


FABA 100

INSULATED CONDUCTOR SYSTEM



INSULATED CONDUCTOR SYSTEM FABA 100

Contents

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GENERAL

FABA 100 insulated conductor system comply with VDE 0100. They satisfy today's requirements for conductor line safety and are protected against accidental contact in compliance with VDE 0470, Part 1 (Safety Class IP 21).

Naturally for the collector this contact protection exists only when the brushes are completely in the conductor rails. Conductor lines systems in the manual area, in which the collector moves out of the conductor rail during operation, require provisions by the customer to prevent accidental contact such as blocking off or switch-off. However this applies only for voltages above 25 VAC or 60 VDC. Fig. 1 (top right) shows that the VDE finger cannot make contact with the conductive parts.



Fig 1:
VDE-Finger

The insulating shrouding for mounting the conductor rail channel provides good insulation and maximum safety. Conductor lines with any number of poles can be used. The space requirement is minimal.

The ground conductor is marked with yellow with a continuous green stripe along the insulating shrouding.

Provisions are present to prevent mixing up the collectors for ground and phases.

Approvals

UL approved. Please consult us when ordering.

Joints

The conductor sections are connected electrically and mechanically with rail connectors. Each joint is protected against accidental contact by a cover.

Expansion

Use only centered, fixed points for straight systems up to 60 m. If the length of the conductor system is subject to change (caused by variations in the ambient temperature and/or power heat-up) mount the conductor rails in fix point clamps so that they can slide.

On systems over 60 m and in straight sections between curves provide for expansion points. If both ends of the rail are fixed (switches, elevators), expansion sections are also required.

Feed terminals

Feed terminals are possible as joint feed. Our product line also includes joint caps and isolating assemblies with feed connection possibilities.

Joint caps

Joint caps protect the conductor rail against accidental contact and separate the rails mechanically (switches, elevating stations, etc.). Joint caps are available with and without feed terminals.

Isolating assemblies

Isolating assemblies interrupt the conductor system electrically. Operationally driving over collectors for the purpose of connecting or disconnecting the power is permissible only at low power (control currents). We supply isolating assemblies with and without feed terminals for control purposes, in-feed sections, maintenance sections, etc.

Current collectors

The collectors consist of impact-resistant plastic and reinforced metal parts. The power is drawn with a carbon brush. The length of the collector connecting cable must not exceed 3 m.

Properties (electrical)

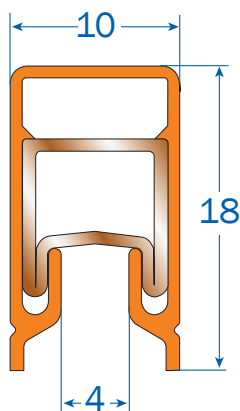
Chemical resistance:⁽¹⁾ Highly resistant to gasoline, oils, weak alkalies and weak acids

Type	Dielectric insulation DIN 53481	Specific resistance IEC 60093	Surface resistivity IEC 60093	Leakage path resistance IEC 60112	Ambient temperature range ⁽²⁾	Combustibility
Standard version, orange	>22.4 kV/mm	>8 x 10 ¹⁵ Ohm x cm	2 x 10 ¹³ Ohm x cm	CTI 600 – 1.1	–30 °C to +55 °C	Flame resistant, self extinguishing, UL 94

Properties (mechanical)

Chemical resistance:⁽¹⁾ Highly resistant to gasoline, oils, weak alkalies and weak acids

Type	Dielectric insulation DIN 53481	Specific resistance IEC 60093	Surface resistivity IEC 60093	Leakage path resistance IEC 60112	Ambient temperature range ⁽²⁾	Combustibility
Heat-resistant version, halogen-free, orange	> 22.4 kV/mm	> 8 x 10 ¹⁵ Ohm x cm	2 x 10 ¹³ Ohm x cm	CTI 600 – 1.1	–30 °C to +80 °C	Flame resistant, self extinguishing, UL 94



Part number code

FABA = Insulated Conductor Rails
 100 = Current rating in A
 25 = Conductor cross section (mm²)
 C = Copper conductor

Length

5 m standard length,
 shorter lengths possible

Support spacing

for straight sections 0.8 m
 in curves 0.4 m

Conductor spacing

Standard = 15 mm

Curves - horizontal and vertical

at the factory or on the construction site
 with special FABA 100 curve tool

Use

for indoor systems only,
 please contact us for consultation for outdoor systems

Technical characteristics of standard and heat-resistant versions

Type	Conductor cross section, Cu, mm ²	Jacket creep path, mm	max. Voltage, V	max. continuous current, A	Resistance Ohm/1000 m	Impedance ⁽³⁾ Ohm/1000 m
Conductor rails FABA 100	25	32	1000	100	0.77	0.78

Type (STANDARD)	Weight kg/pc	Length m	Order No. Phase	Order No. PE
F100C-100-5000PH-Y	1.339	5	2805928	-
F100C-100-5000PE-Z	1.339	5	-	2805931
F100C-100-3000PH-Y	0.810	3	2805927	-
F100C-100-3000PE-Z	0.810	3	-	2805930

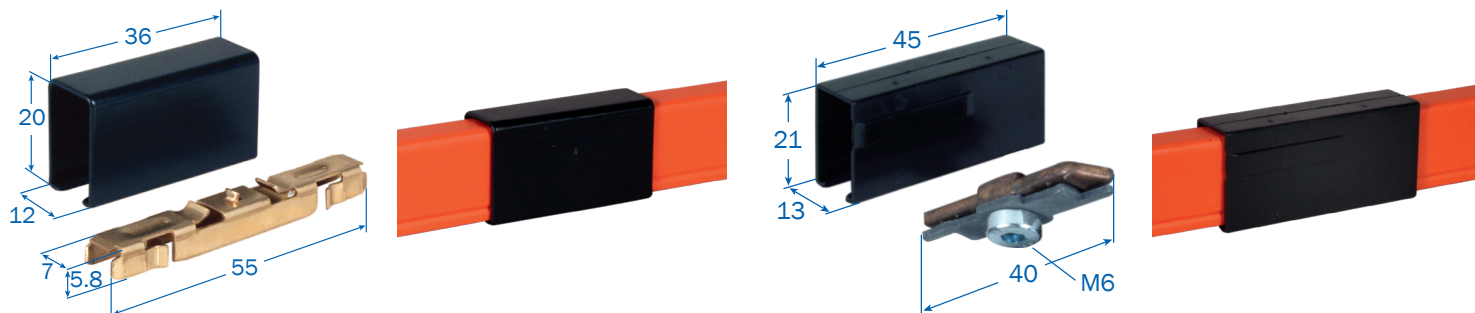
Type (HEAT-RESISTANT)	Weight kg/pc	Length m	Order No. Phase	Order No. PE
F100C-100-5000PH-Y80	1.339	5	2823826	-
F100C-100-5000PE-Z80	1.339	5	-	2823827
F100C-100-3000PH-Y80	0.810	3	2823830	-
F100C-100-3000PE-Z80	0.810	3	-	2823831

(1)Please check with us before using in systems with synthetic oils and greases.

(2)Please check separately for applications with continuous temperatures below 0 °C (cold storage)

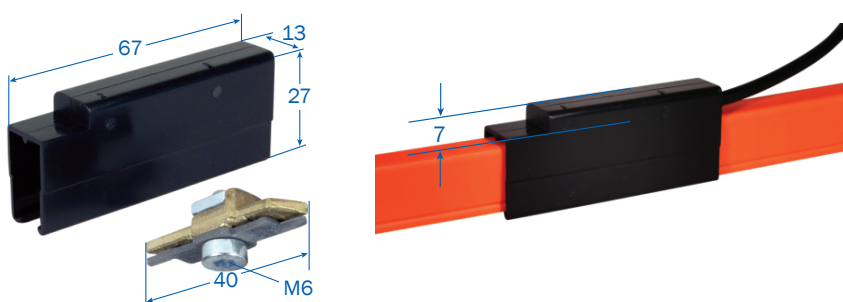
(3)At phase interval of 15 mm and frequency of 50 Hz.

JOINTS



Type	Description	Weight kg	Order No.
VM-FVST100	Joint	0.008	2806668
VM-FVS100	Bolted Joint	0.017	2806664

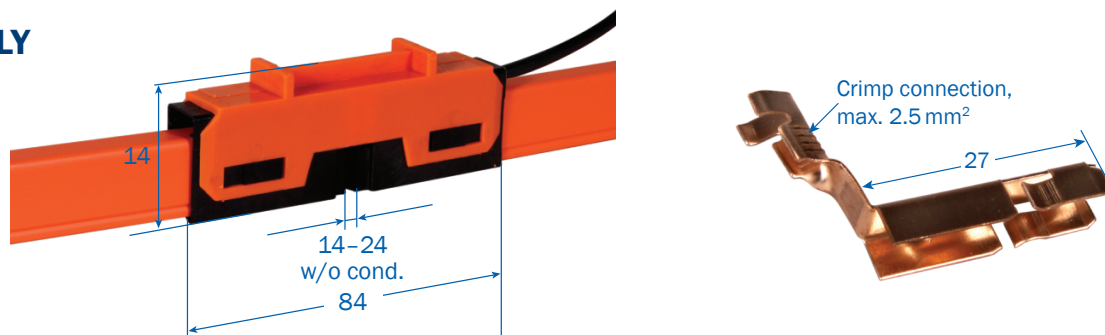
FEED JOINTS



Use: 100A for fix point clamps, construction height 32 m

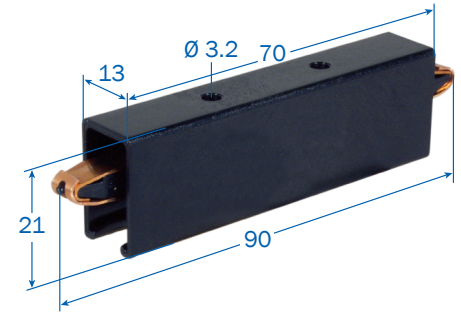
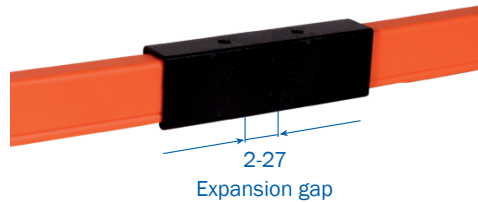
Type	Description	Weight kg/m	Order No.
ES-FSE100-50A-27	Feed Joint 50 A	0.024	2807174
ES-FSE100-100A-32	Feed Joint 100 A	0.030	2807148

ISOLATING ASSEMBLY



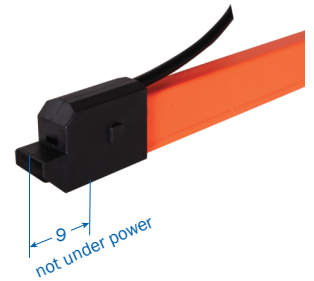
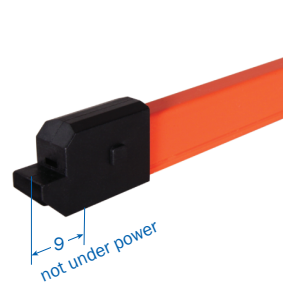
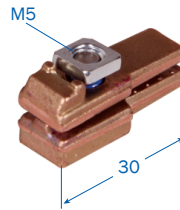
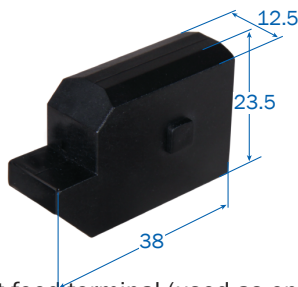
Type	Description	Symbol	Weight kg	Order No. Construction height 27	Order No. Construction height 32
EU-ET/ET100-27	Separation without connecting cable		0.025	2807352	-
EU-ET/ET100-32			0.027	-	2807353
EU-ET/ETE100-27-2,5-1	Separation with 1 connecting cable		0.067	2807367	-
EU-ET/ETE100-32-2,5-1			0.069	-	2807368
EU-ETE/ETE100-27-2,5-1	Separation with 2 connecting cables		0.083	2807364	-
EU-ETE/ETE100-32-2,5-1			0.085	-	2807365
EU-ETB/ETB100-27-2,5-0,45	Separation with jumper cable		0.034	2807370	-
EU-ETB/ETB100-32-2,5-0,45			0.036	-	2807371

EXPANSION SECTION



Type	Description	Weight kg	Order No. Phase	Order No. PE/ Ground
DV-FDV100-50A-25	Expansion section	0.022	2809008	2809008
AL-RKLA6PH1,6-M6-RK-M6	Jumper cable	0.142	2810537	-
AL-RKLA6PE1,6-M6-RK-M6	Jumper cable	0.178	-	2810538

END CAP



with or without feed terminal (used as end cap and in combination with support as fix point)

Max. perpendicular and lateral off set: 2 mm in relation to one another. Please contact us for higher tolerances.

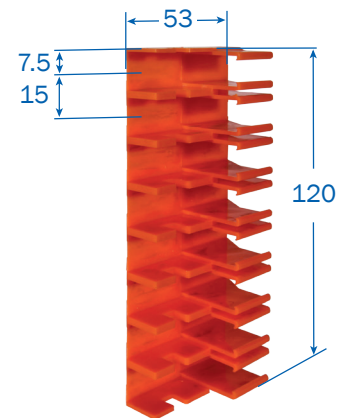
Type	Description	Weight kg	Feed	Order No. PE
MU-FUK100-K-PC	Transition cap w/o feed connection possibility	0.005	w/o	2807210
MU-FUKE100-K	Transition cap with feed connection possibility	0.026	for max. 2.5 mm ²	2807213

SUPPORT FOR JOINT CAP

for screwing to the track, arrangement as desired depending on number of poles

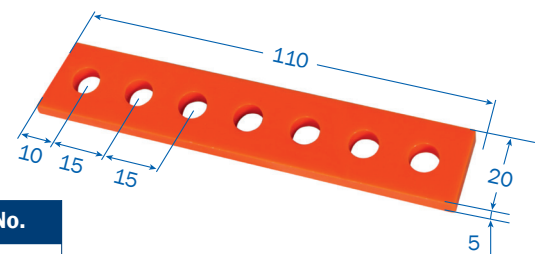
Support can be adjusted by ± 5 mm in direction of conductor.

Type ⁽¹⁾⁽³⁾	Weight kg	No. of poles	Width mm	Order No.
MU-FTUK100-8/27-7-120-PC	0.038	8	120	2806793



SPACER FOR SUPPORT

Type ⁽²⁾⁽³⁾	Weight kg	No. of poles	Width mm	Order No.
MU-FDST100-8-5-110	0.010	8	110	2807294



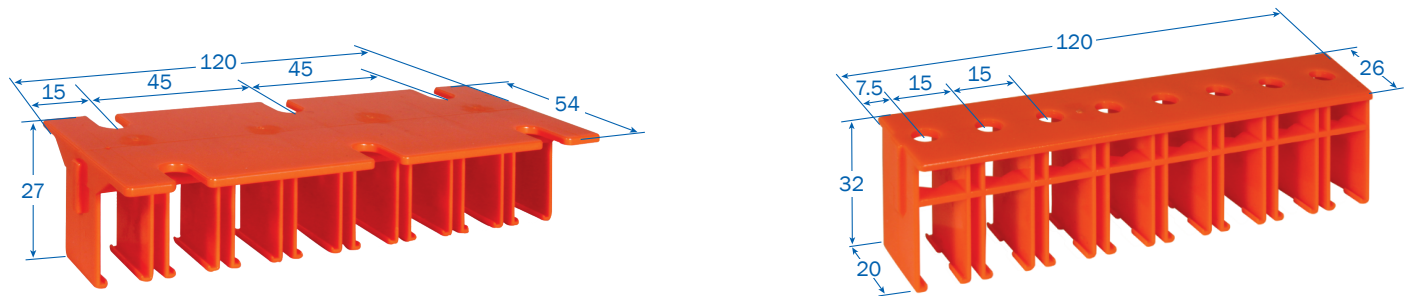
(1)For construction height 27 mm

(2)For construction height 32 mm

(3)Order mounting hardware separately

SUPPORT POINT CLAMP

With support clamps, any number of poles can be connected together.



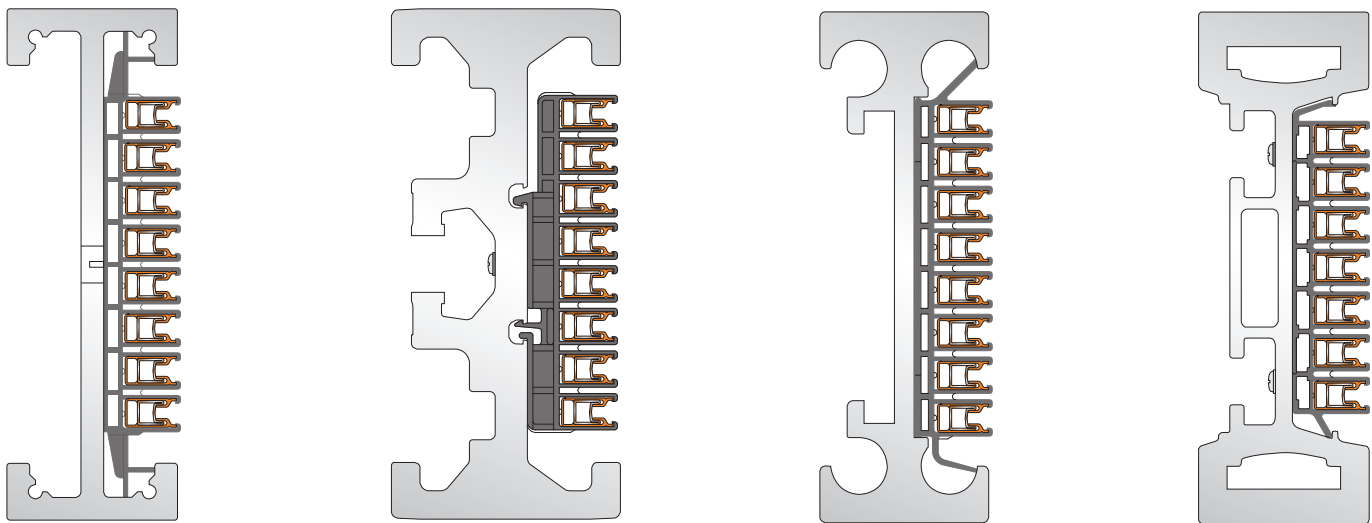
Support clamp for screwing on, up to 8-pole

Rail spacing 15 mm

Type	Weight kg	Number of poles or assignment	Length L	Construction height	Order No.
AH-FSKA100L-8/27-PC	0.030	8	120	27	2806822
AH-FSKA100L-8/32-12-PC	0.025	8	120	32	2807012

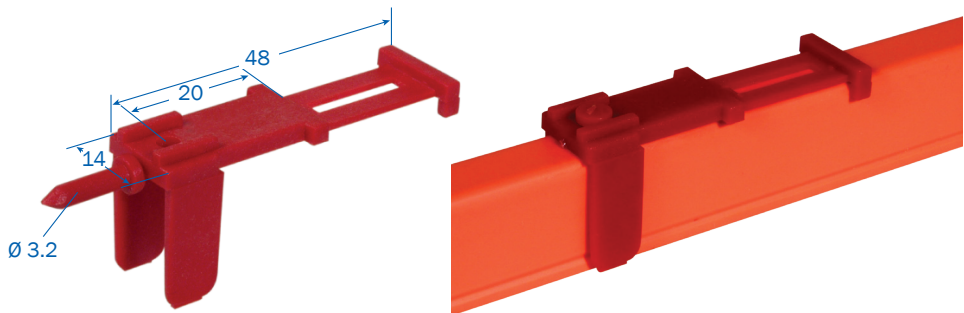
Support clamp, special versions, up to 10-pole

Production for your system on request.



FIX POINT

Type	Weight kg	Order No.
SF-FPL100	0.002	2807042



CURRENT COLLECTORS

Collector set DEAS (D-EAS)

suitable for funnel

Phase distance: 15 mm

Max. current: 30 A

Lift: ± 12 mm

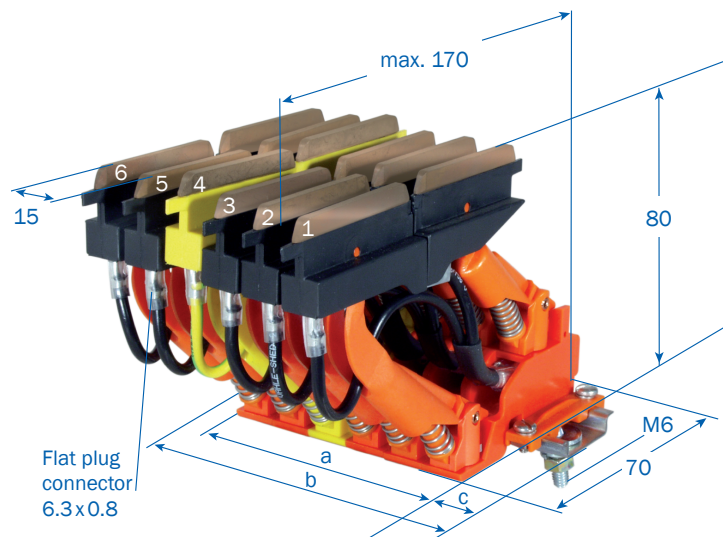
Lateral tolerance: ± 20 mm

Pressure: ca. 4 N per brush

PE at position 4 with 3 poles at, other arrangements possible!

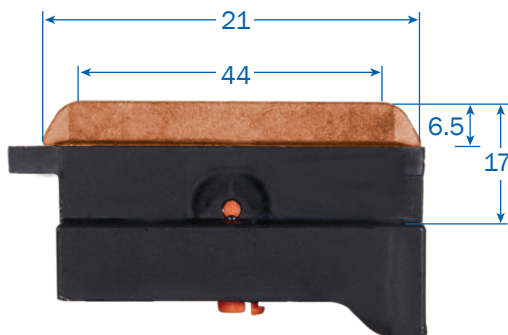
Ground is always first contact.

See more compatible collectors in catalog 03D (VCL).

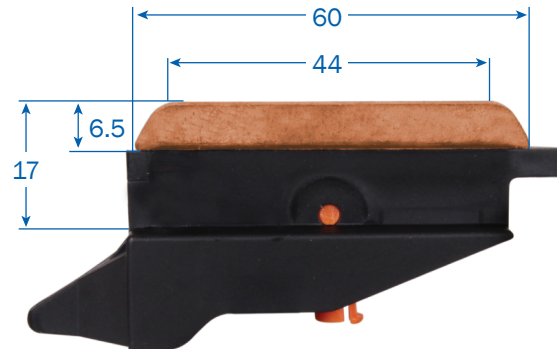


Type	No. of poles	Dim. a mm	Dim. b mm	Dim. c mm	Weight kg	Support rail	Order No.	
SA-DEAS-2/30-1-HS-2,5-1/1-1	1	15	50	17.5	0.172	1-pole	2823603	
SA-DEAS-2/30-2-HS-2,5-1/2-2	2	30	75	22.5	0.302	2-pole	2823604	
SA-DEAS-2/30-3-HS-2,5-1/3-4	3	45	100	27.5	0.432	4-pole	2823605	
SA-DEAS-2/30-4-HS-2,5-1/4-4	4	60	100	20.0	0.550	4-pole	2823606	
SA-DEAS-2/30-5-HS-2,5-1/4-6	5	75	125	25.0	0.680	6-pole	2823607	
SA-DEAS-2/30-6-HS-2,5-1/4-6	6	90	125	17.5	0.798	6-pole	2823608	
SA-DEAS-2/30-7-HS-2,5-1/4-8	7	105	150	22.5	0.928	8-pole	2820991	
SA-DEAS-2/30-8-HS-2,5-1/4-8	8	120	150	15.0	1.046	8-pole	2820993	
Available separately								
SA-DEAS-2/30-PH-6,3-PC-36	1	15	-		0.091	w/o	PH	2808560
SA-DEAS-2/30-PE-6,3-PC-36	1	15	-		0.089	w/o	PE	2808561

Replacement heads for collector DEAS



Rear replacement head



Front replacement head

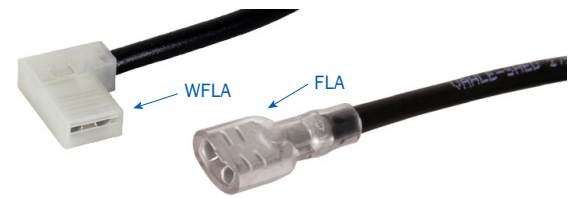
Type	Description	RH/mm	Weight kg	Order No. Phase	Order No. PE
SK-EK-DEAS-2/30-PH-36-6,3-H	Rear replacement head	0.5	0.016	2808580	-
SK-EK-DEAS-2/30-PE-36-6,3-H				-	2808581
SK-EK-DEAS-2/30-PH-36-6,3-V	Front replacement head	0.5	0.016	2808575	-
SK-EK-DEAS-2/30-PE-36-6,3-V				-	2808576

CONNECTING CABLES FLA, WFLA

Connecting cable FLA, WFLA, double insulated, highly flexible

For current collectors DEAS, EASL, cable length: 1 m, 3 m

Replace **x** in type, i.e. AL-WFLA2.5**x**-6.3, Phase, L=3m → AL-WFLA2.5**PH3**-6.3



For current collectors DEAS, EASL

Type (collectors DEAS, EASL)	Cross section mm ²	A Ø mm	Order No. Phase black L=1m (x=PH1)	Order No. PE green/yellow L=1m (x=PE1)	Order No. Phase black L=3m (x=PH3)	Order No. PE green/yellow L=3m (x=PE3)
AL-WFLA2.5 x -6.3	2.5	4.5	2809179/00-1	2809183/00-1	0168107/00-3	0168108/00-3
AL-FLA2.5 x -6.3	2.5	4.5	2809171/00	2809175/00	2809173/00	2809177/00
AL-FLA4 x -6.3	4.0	5.3	2823085/00-1	2823086/00-1	2823085/00-3	2823086/00-3

CONNECTING CABLES RKLA

Connecting cable RKLA, double insulated, flexible

- For joint caps with cable lug M5, cable length: 1 m, 5 m .
- For feed joints with cable lug M6, cable length: 1 m, 5m.

Replace **x** in type, i.e. AL-RKLA2.5**x**-M6, Phase, L=1m → AL-RKLA2.5**PH1**-M6



For joint caps

Type (joint caps)	Cross section, mm ²	A Ø mm	lug	Order No. Phase black L=1m (x=PH1)	Order No. PE green/yellow L=1m (x=PE1)	Order No. Phase black L=5m (x=PH5)	Order No. PE green/yellow L=5m (x=PE5)
AL-RKLA2.5 x -M5	2.5	4.5	M5	2808971/00	2808958/00	2808971/00-5	2808958/00-5
AL-RKLA4 x -M5-HL	4.0	5.3	M5	2821809/00	2821810/00	2821809/00-5	2821810/00-5
AL-RKLA6 x -M5-HL	6.0	6.5	M5	2808965/00	2808967/00	2808965/00-5	2808967/00-5

For feed joints

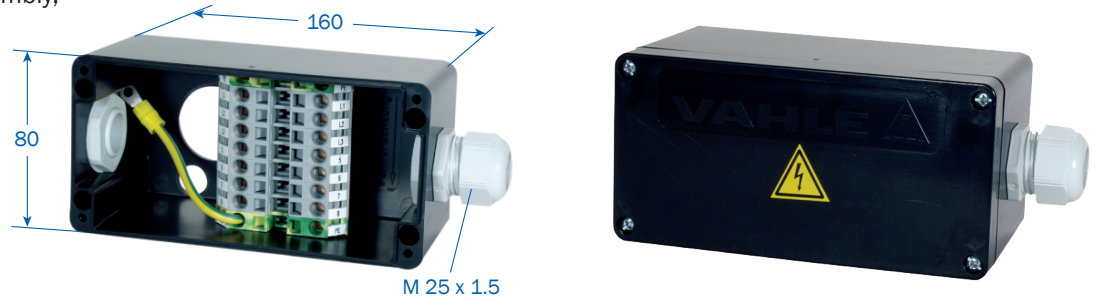
Type (feed joints)	Cross section, mm ²	A Ø mm	lug	Order No. Phase black L=1m (x=PH1)	Order No. PE green/yellow L=1m (x=PE1)	Order No. Phase black L=5m (x=PH5)	Order No. PE green/yellow L=5m (x=PE5)
AL-RKLA2.5 x -M6	2.5	4.5	M6	2808979/00	2808978/00	2808979/00-5	2808978/00-5
AL-RKLA4 x -M6-HL	4.0	5.3	M6	2808751/00	2808752/00	2808751/00-5	2808752/00-5
AL-RKLA6 x -M6-HL	6.0	6.5	M6	2808745/00	2808759/00	2808745/00-5	2808759/00-5
AL-RKLA10 x -M6-HL	10.0	8.3	M6	2808753/00	2808754/00	2808753/00-5	2808754/00-5
AL-RKLA16 x -M6-HL	16.0	8.3	M6	2808756/00	2808762/00	2808756/00-5	2808762/00-5

Cable Weight per meter for 2.5mm² ~0.04 kg/m, for 4mm² ~0.06 kg/m, for 6mm² ~0.1 kg/m

TERMINAL BOXES

Terminal boxes AKE

for feed terminal and isolating assembly,
max. 7 terminals 6 mm²
2 terminals 6 mm² PE



Type	Weight kg	Order No.
ES-AKE1-PH7 x 2L6-PE2 x 2L6-M25	0.445	169462

Terminal boxes AKB

for separating sections

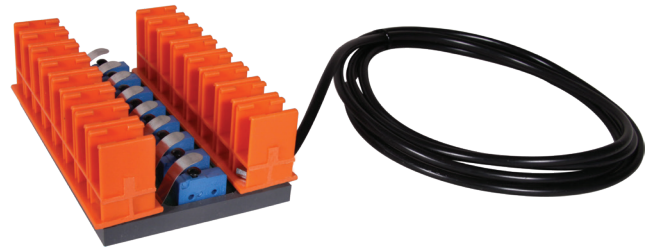


Type	Weight kg	Order No.
ES-AKB1-PH4x2L6-PE2x2L6	0.469	169481

Brush wear indicator KVT 100 N

The brush wear indicator automatically checks the brushes for wear. A pulse is triggered when a brush is worn out. Installation in front of a repair section is practical for automatic operation of a switch. Adjusted at factory. Required cutout in FS channel. Length: 80 mm, height: see table.

Suitable for travel speeds up to 75 m/min.



Type	Weight kg	No. of poles	Height	Order No.
VT-KVT100-2-NC	0.376	2	32	2807533
VT-KVT100-3-NC	0.340	3	47	2807534
VT-KVT100-4-NC	0.368	4	62	2807535
VT-KVT100-5-NC	0.268	5	77	2807536
VT-KVT100-6-NC	0.356	6	92	2807537
VT-KVT100-7-NC	0.356	7	107	2807538
VT-KVT100-8-NC	0.404	8	122	2807539

ASSEMBLY ACCESSORIES

See installation manuals for more details

Curve tool

for bending FABA 100 vertically and horizontally.
Order filling rods separately.

Type	Description	Weight kg/m	Order No.
MZ-BVF100	Curve tool FABA 100	18.031	2809323
MZ-BSF100-6,8X3,2-100-HB-PVCR-S	Filling rods 100 m in rolls	0.032	2806611
MZ-BPF100-5-VB-PVCS-R	Curve Profile 5 m in rods	0.250	2806612

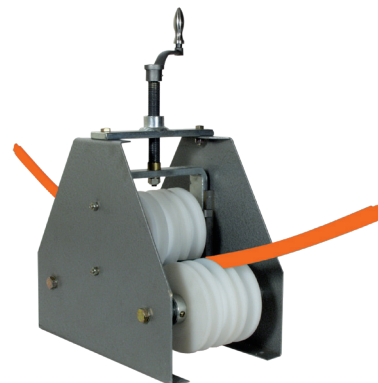


Table saw

for cutting insulator and conductor profiles with length gauge. Connection: 230 Volts, 50 Hz..

Type	Description	Weight kg/m	Order No.
MZ-KS10	Table saw	6.500	165276
MZ-SB	Replacement saws spare blade SB	0.070	165263



Conductor joint assembly tool

For connecting with joints.

Type	Weight kg	Order No.
MZ-VZF100	1.420	2809345



SAFETY NOTE

To avoid pinching hazards it is necessary to ensure that the safety intervals between fixed and moving system parts (0.5 m) are maintained by arranging the conductor rails/conductor lines and collectors/towing arms accordingly at site!

For a free quote, please submit your inquiry in your preferred format, including any relevant drawings and sketches.

sales.usa@vahle.com, Phone: +1 713.465.9796, Fax: +1 713.465.1851



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Download related catalogs, operation manuals, and more at
<https://www.vahle.com/en/download>



QUESTIONNAIRE FABA100

sales.usa@vahle.com, Phone: +1 713.465.9796, Fax: +1 713.465.1851

Please fill out the following questionnaire in order to determine which conductor bar system is right for your application. Copy / print this page, fill out the questionnaire, and send it to your VAHLE experts. For tracks with funnels etc., we require sketches to enable us to prepare a quotation. We can offer an alternative VAHLE system that suits your requirements.

Contact Information

Company Name	<input type="text"/>	Contact Person	<input type="text"/>
Address	<input type="text"/>	Email Address	<input type="text"/>
State	<input type="text"/>	ZIP	<input type="text"/>
		Phone Number	<input type="text"/>

System Information

<input type="checkbox"/> New Application	<input type="checkbox"/> Replacement	<input type="checkbox"/> Add on existing system
Application Type (i.e. concrete buggy) details are helpful: i.e. load	Desired Hanger Spacing max. 0.8 m <input type="text"/> m <input type="text"/> ft	
Total System Length	<input type="text"/> m <input type="text"/> ft	System Layout (Straight / Curves / Funnels / Other)
Total Number of Conductors	<input type="text"/>	<input type="text"/>
Will one be a ground conductor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

please provide sketches or drawings when applicable

Power Requirements

Operating voltage	<input type="text"/> Volt	<input type="text"/> Hz	AC/DC	<input type="text"/>
Total system amperage (example 50A at 40% duty cycle)	<input type="text"/>		Max. voltage drop allowed (typically 3% - 5%)	<input type="text"/> %
Power Feed(s) Location (end feed, center feed, several feeds)	<input type="text"/>		Duty Cycle % (DC, ED)	<input type="text"/> %
No. of Devices /Consumers in the system	<input type="text"/>		Power consumption of each device	<input type="text"/> hp, A, kW
Max. Travel Speed	<input type="text"/> m/min	<input type="text"/> ft/min	Type of motors (usually frequency controlled)	<input type="text"/>
<input type="checkbox"/> collector cable downwards	<input type="checkbox"/> collector cable lateral			

Environment

Install Location indoor / Cold Storage	<input type="text"/>
Ambient Temperature	<input type="text"/> min. <input type="text"/> max. <input type="text"/> °C <input type="text"/> °F
Interested in VAHLE certified installation?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Additional Comments: dirt, dust, salty air, corrosive, Please specify if you want data communication / positioning system.

If detailed motor information is available, please specify below
For the calculation, it is important to consider engines that can operate simultaneously. This helps to calculate and quote the optimal system.

Machine type 1. Information about motors kW, Amperes or hp.

	Motor name	Motor power	hp, Amp, kW	Type of Motors
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

example: Motor 1 main load, motor 2 main travel, motor 3 cross travel

Machine type 2. Information about motors kW, Amperes or hp.

	Motor name	Motor power	hp, Amp, kW	Type of Motors
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Please send us the form after it is filled out to receive a free quote.



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