

CURRENT COLLECTORS FOR OVERHEAD CRANES



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CURRENT COLLECTORS FOR OVERHEAD CRANES

Current collectors for overhead cranes

Use

Current collectors for overhead cranes for keeping electrical connection between the power lead (trolley wire) and the electrical equipment of the crane device intended for movement.

Installation, operation and maintenance

Check the condition of screw connections of the flexible joint before installing the current collector. Also remember to remove the protective coat from the collector shoe using extraction naphtha. Pay attention to the position of the flexible joint inside the collector when connecting the power lead. It is recommended to grease the friction parts before use and during the operation of current collectors by applying few drops of acid-free oil. Depending on the amount of dust in the working environment but not less than twice a month, the maintenance of current collectors is limited to periodic inspection and clearing the impurities such as dust and other materials, this applies especially to the insulator, and inspecting the wear of the shoe. If the collector shoe is worn in 4/5, please replace it.

Notes

Per the order of the National Labour Inspectorate (IP-19/610-23/89) special protective mesh must be installed under current collectors to prevent falling details in case of failure of the collector.

Technical drawings of current collectors in ".dwg" format are available at www.pokoj.com.pl in the section Offer, Design materials.

TYPE M

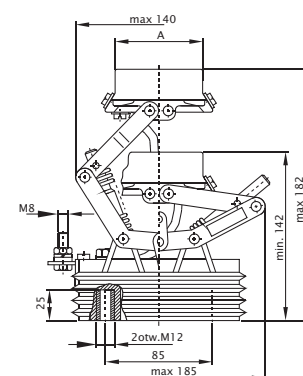
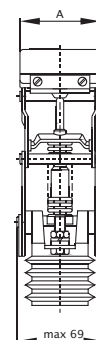
Spring current collectors type M – small

Operating conditions

Ambient temperature	-30...+55°C
Relative humidity of air at +20°C +55°C	90% 5%
Installation altitude	<2000 m above sea level

Technical data

SIZES	63	100	160
Standard	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001
Nominal voltage of insulation	1kV	1kV	1kV
Test voltage for checking the insulation's electric strength	3,5kV	3,5kV	3,5kV
Max. speed	2m/s	2m/s	2m/s
Rated current at interrupted operation	63A	100A	160A
Rated current at continuous operation	40A	63A	100A
Thermal current 0.1s	5kA	6kA	7kA
Rated peak current	8kA	9kA	10kA
Contact force to trolley wire for rated deflection	25N±50%	25N±50%	45N±50%
Rated shoe deflection	160mm	160mm	160mm
Mechanical durability	0,5x10 ⁶ cycles	0,5x10 ⁶ cycles	0,5x10 ⁶ cycles
Shoe size (A)	68mm	80mm	100mm
Weight MM	1,25kg±10%	1,50kg±10%	1,80kg±10%
MS	1,65kg±10%	2,10kg±10%	2,45kg±10%
MZ	1,50kg±10%	1,90kg±10%	2,40kg±10%



Variants of M current collectors

NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
(M) type current collector with metal graphite shoe type (M)	31-3000	MM63	31-3100	MM100	31-3200	MM160
(M) type current collector with brass shoe type (S)	31-4000	MS63	31-4100	MS100	31-4200	MS160
(M) type current collector with zinc shoe type (Z)	31-5000	MZ63	31-5100	MZ100	31-5200	MZ160

Parts for type M current collectors

NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
Metal graphite collector shoe type (M) for copper trolley wires	33-3000	for MM63 (D-431601)	33-3100	for MM100 (D-431602)	33-3200	for MM160 (D-431603)
Brass collector shoe type (S) for copper trolley wires, allowed short-time work with steel trolley wire	33-4000	for MS63 (D-327401)	33-4100	for MS100 (D-327402)	33-4200	for MS160 (D-327403)
Zinc collector shoe type (Z) for steel trolley wires	33-5000	for MZ63 (D-431201)	33-5100	for MZ100 (D-431202)	33-5200	for MZ160 (D-431203)
Current collector body for collector shoe type (M)	31-3010		31-3110		31-3210	
Current collector body for collector shoe type (S)	31-4010		31-4110		31-4210	
Current collector body for collector shoe type (Z)	31-5010		31-5110		31-5210	

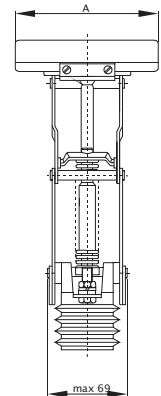


CURRENT COLLECTORS FOR OVERHEAD CRANES

Spring current collectors type D – big

Technical data

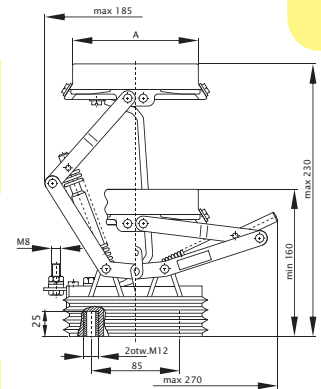
SIZES		100	160	250
Standard		ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001
Nominal voltage of insulation		1kV	1kV	1kV
Test voltage for checking the insulation's electric strength		3,5kV	3,5kV	3,5kV
Max. speed		2m/s	2m/s	2m/s
Rated current at interrupted operation		100A	160A	250A
Rated current at continuous operation		63A	100A	160A
Thermal current 0.1s		6kA	7kA	10kA
Rated peak current		9kA	10kA	15kA
Contact force to trolley wire for rated deflection		25N±50%	45N±50%	85N±50%
Rated shoe deflection		190mm	190mm	190mm
Mechanical durability		0,5x10 ⁸ cycles	0,5x10 ⁸ cycles	0,5x10 ⁸ cycles
Shoe size (A)		80mm	100mm	140mm
Weight	DM	1,75kg±10%	2,00kg±10%	3,00kg±10%
	DS	2,20kg±10%	2,60kg±10%	4,15kg±10%
	DZ	2,00kg±10%	2,60kg±10%	4,00kg±10%



TYPE D

Variants of D current collectors

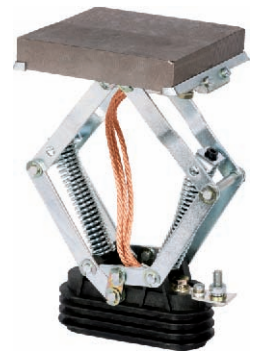
NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
(D) type current collector with metal graphite shoe type (M)	31-0100	DM100	31-0200	DM160	31-0300	DM250
(D) type current collector with brass shoe type (S)	31-1100	DS100	31-1200	DS160	31-1300	DS250
(D) type current collector with zinc shoe type (Z)	31-2100	DZ100	31-2200	DZ160	31-2300	DZ250



Parts for type D current collectors

NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
Metal graphite collector shoe type (M) for copper trolley wires	33-3100	for DM100 (D-431602)	33-3200	for DM160 (D-431603)	33-0300	for DM250 (D-452500)
Brass collector shoe type (S) for copper trolley wires, allowed short-time work with steel trolley wire	33-4100	for DS100 (D-327402)	33-1200	for DS160 (D-327403)	33-1300	for DS250 (D-327404)
Zinc collector shoe type (Z) for steel trolley wires	33-5100	for DZ100 (D-431202)	33-5200	for DZ160 (D-431203)	33-5300	for DZ250 (D-431204)
Current collector body for collector shoe type (M)	31-0110		31-0210		31-0310	
Current collector body for collector shoe type (S)	31-1110		31-1210		31-1310	
Current collector body for collector shoe type (Z)	31-2110		31-2210		31-2310	

Note: Metal graphite collector shoe D-452500 for current collectors **DM250** is made up by two parts with the dimensions 70x140 (140 is the dimension between the collector shoe holders)



CURRENT COLLECTORS FOR OVERHEAD CRANES

Non-spring current collectors type B – side

Technical data

SIZES	63	100	160
Standard	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001
Nominal voltage of insulation	1kV	1kV	1kV
Test voltage for checking the insulation's electric strength	3,5V	3,5V	3,5V
Max. speed	2m/s	2m/s	2m/s
Rated current at interrupted operation	63A	100A	160A
Rated current of continuous operation	40A	63A	100A
Thermal current 0.1s	5kA	6kA	7kA
Rated peak current	8kA	9kA	10kA
Contact force to trolley wire	25N±50%	25N±50%	40N±50%
L/D dimension	70mm / M6	87mm / M8	100mm / M8
Weight BP	0,55kg±10%	0,70kg±10%	0,85kg±10%
BS	—	0,80kg±10%	0,90kg±10%

Accessories

Cat. no.	Symbol
30-6100	Insulator NI D-310200



Variants of B current collectors

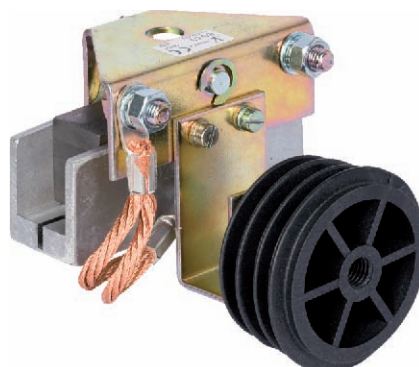
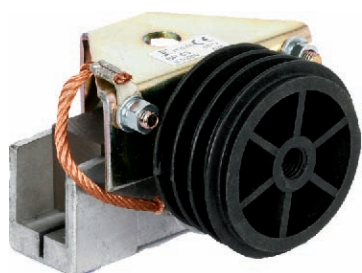
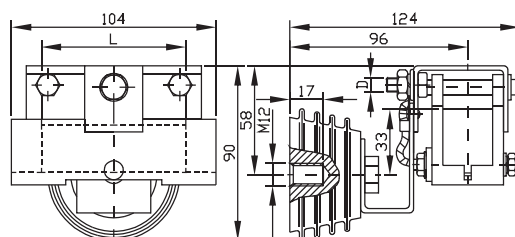
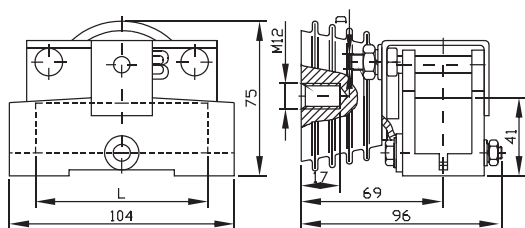
NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
Basic current collector type (P)	32-6000	BP63	32-6100	BP100	32-6200	BP160
Special current collector type (S)	32-7000	BS63	32-7100	BS100	32-7200	BS160

Parts for type B current collectors

NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
Metal graphite collector shoe type (M) for copper trolley wires	33-6000	for BP63 (D-433801)	33-6100	for BP100 (D-433802)	33-6200	for BS160 (D-433803)

BP

BS



CURRENT COLLECTORS FOR OVERHEAD CRANES

Non-spring current collectors type G – top

Technical data

SIZES	63	100	160
Standard	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001	ZN-99/S.I.A.E.-001
Nominal voltage of insulation	1kV	1kV	1kV
Test voltage for checking the insulation's electric strength	3,5V	3,5V	3,5V
Max. speed	2m/s	2m/s	2m/s
Rated current at interrupted operation	63A	100A	160A
Rated current at continuous operation	40A	63A	100A
Thermal current 0.1s	5kA	6kA	7kA
Rated peak current	8kA	9kA	10kA
Contact force to trolley wire	25N±50%	25N±50%	40N±50%
L/D dimension	70mm / M6	87mm / M8	100mm / M8
Weight BP	0,55kg±10%	0,70kg±10%	0,85kg±10%
BS	—	0,75kg±10%	0,90kg±10%

Accessories

Cat. no.	Symbol
30-6100	Insulator NI D-310200



Variants of G current collectors

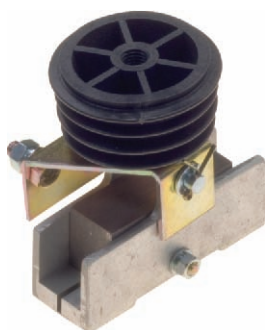
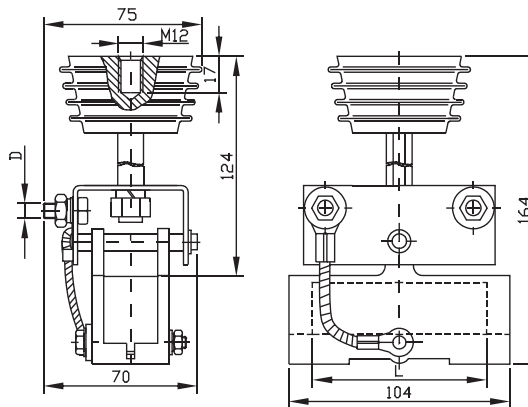
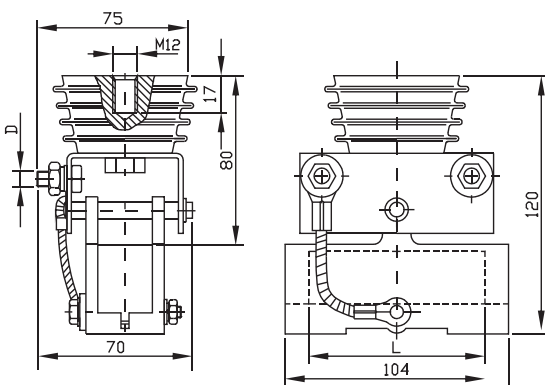
NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
Basic current collector type (P)	32-8000	GP63	32-8100	GP100	32-8200	GP160
Special current collector type (S)	—	—	32-9100	GS100	32-9200	GS160

Parts for type G current collectors

NAME	Cat. no.	Symbol	Cat. no.	Symbol	Cat. no.	Symbol
Metal graphite collector shoe type (M) for copper trolley wires	33-6000	for GP63 (D-433801)	33-6100	for GS100 (D-433802)	33-6200	for GS160 (D-433803)

GP

GS



CURRENT COLLECTORS FOR OVERHEAD CRANES

Selection of current collectors for trolley wires

Type of trolley wires	Current collector symbol	Current collector description		Rated current at interrupted operation	Rated current at continuous operation
		Spring current collectors with brass and zinc shoe, with the deflection:			
		rated	limit		
Steel profile rails	MS63; MZ63	160mm	142-182mm	63A	40A
	MS100; MZ100	160mm	142-182mm	100A	63A
	MS160; MZ160	160mm	142-182mm	160A	100A
	DS100; DZ100	190mm	160-230mm	100A	63A
	DS160; DZ160	190mm	160-230mm	160A	100A
	DS250; DZ250	190mm	160-230mm	250A	160A
		Spring current collectors with brass and metal graphite shoe, with the deflection:			
		rated	limit		
Copper profiled trolley wires	MS63; MM63	160mm	142-182mm	63A	40A
	MS100; MM100	160mm	142-182mm	100A	63A
	MS160; MM160	160mm	142-182mm	160A	100A
	DS100; DM100	190mm	160-230mm	100A	63A
	DS160; DM160	190mm	160-230mm	160A	100A
	DS250; DM250	190mm	160-230mm	250A	160A
		Non-spring side current collectors			
Copper round trolley wires	BP63;			63A	40A
	BP100;			100A	63A
	BS100;			100A	63A
	BP160;			160A	100A
	BS160;			160A	100A
		Non-spring top current collectors			
Copper round trolley wires	GP63;			63A	40A
	GP100;			100A	63A
	GS100;			100A	63A
	GP160;			160A	100A
	GS160;			160A	100A

Rated deflection is different depending on the type of collector shoe

Interchangeability table

Interchangeability of spring current collectors

Current collectors		Current collectors made until 1985	
Symbol	Rated current at interrupted operation	Symbol	Rated current
MM63; MZ63; MS63	63A	3210	40A
MM63; MZ63; MS63	63A	3212	40A
MM63; MZ63; MS63	63A	3212W	40A
MM100; MZ100; MS100	100A	3403	100A
DM100; DZ100; DS100	100A	3207	100A
DM100; DZ100; DS100	100A	3209	100A
MM160; MZ160; MS160	160A	3405	160A
2xDM250; 2xDZ250; 2xDS250	250A x2	3301	400A
2xDM250; 2xDZ250; 2xDS250	250A x2	3201	400A
2xDM250; 2xDZ250; 2xDS250	250A x2	3203	400A

Interchangeability of non-spring current collectors

Current collectors		Current collectors made until 1985	
Symbol	Rated current at interrupted operation	Symbol	Rated current
BP100	100A	2803	100A
BS100 (BP100)	100A	3002 ¹	100A
BS160 (BP160)	160A	3003 ²	160A
GS160 (GP160)	160A	3020 ³	160A
2xGS160 2x(GP160)	160A x2	3024 ³	250A

- 1) It is recommended to use BP 100 current collectors if it is possible to make a Ø13 to 30mm hole above the existing one (Ø17).
- 2) It is recommended to use BP 160 current collector if it is possible to make a Ø13 to 40mm hole above the existing one (Ø17).
- 3) The users should check if a basic (P) version of the current collector can be used.