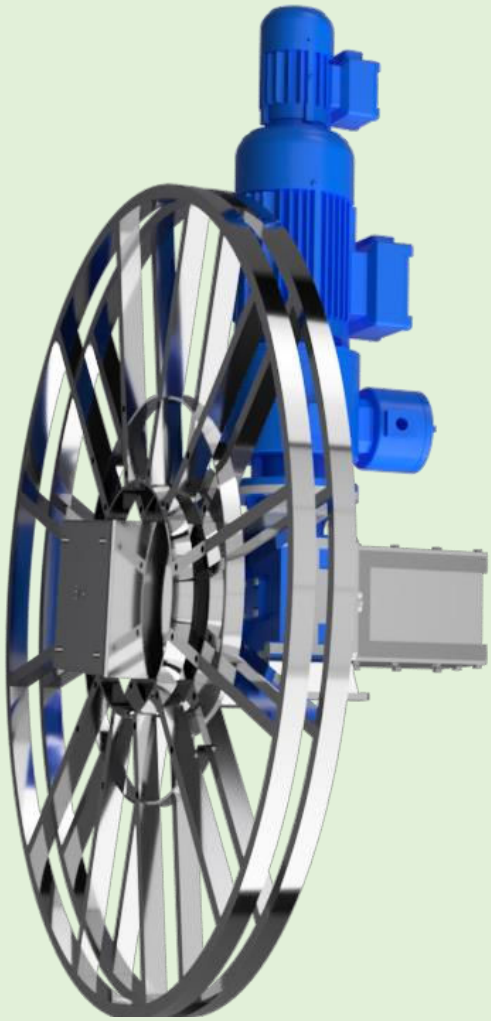
MCREX SERIES



ATEX

II2G Ex h IIB T5 Gb

1,0 Motor -driven cable reels MCREX - general technical data

The motor cable reels are used for the winding and unwinding of power and control cables, mainly in the lifting sectors, process machines, and water treatment plants.
The operation of the device consists of a steel drum inside which we have motor couple which are unwound and wound by the towing of the mobile vehicle.

2,0 Slip ring assembly

The slip ring assemblies are designed for an operational voltage of max. 400 / 1000 V.
Depending on the size and the application of the spring-driven cable reel both sliprings for the data transmission
(mA-range / data bus systems) and sliprings for power transmission (up to max. 150 A) can be used.
The individually admissible amperages of the slipring assemblies can be gathered from the selection list.
The material of the sping cable reeis is steel Correspond to protection class IP 66

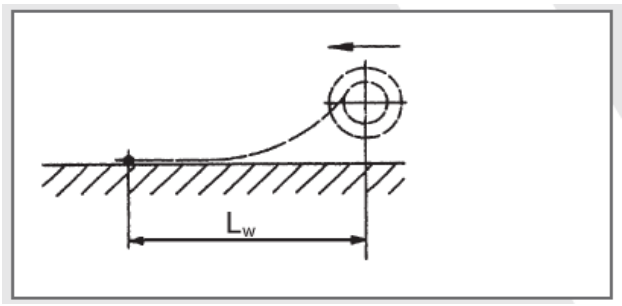
2.0 Purpose and applicability

The purpose of this document is to define the operating procedures, the resources and the sequence of activities that guarantee the compliance of the REEL SYSTEMS. Spring cable reel
to the following requirements:

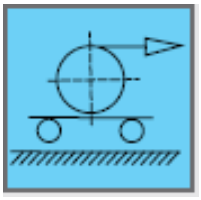
IIG	**Surface plant with presence of gas**
Ex h	**Protection type Ex h** **ISO IEC 80079-36 non-electrical devices for explosive atmospheres** **ISO IEC 80079-37: Non-electrical devices for explosive atmospheres** **ISO EN 60079-0 2017** **Explosive atmospheres - Part 0: electrical devices -: general rules**
II B	Group IIA: Group IIB:
T4 /T5°C	Temperature class of the wood pulverization system (maximum surface temperature) suitable for the corresponding temperature class of the flammable substance 100/135 C °
Gb	EPL protection level: category 2 zone 1 equipment (gas)
	Marcatura di conformità alla direttiva 2014/34 / UE ed alle relative norme tecniche
	Marking of conformity to directive 2014/34 / EU and related technical standards
Techical file Number	**FT-SPMEX01**
BODY O.N	N/A
Delivery recept	**CESI C1017262R**

5 ,0 Horizontal cable pay-off

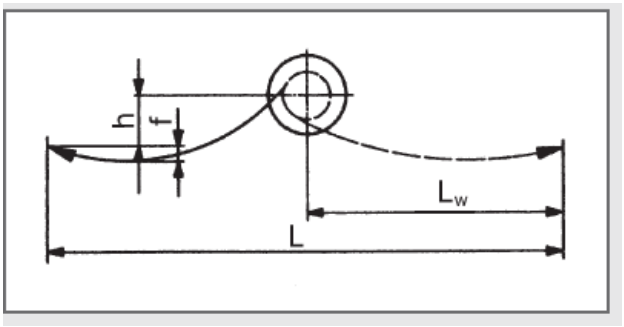
a)



Cable pay-off to 1 direction



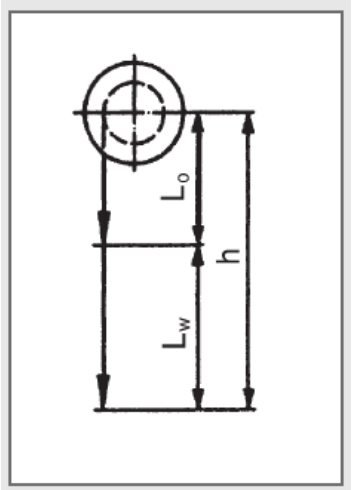
b)



Cable pay-off to 2 directions

Vertical cable pay-off downwards

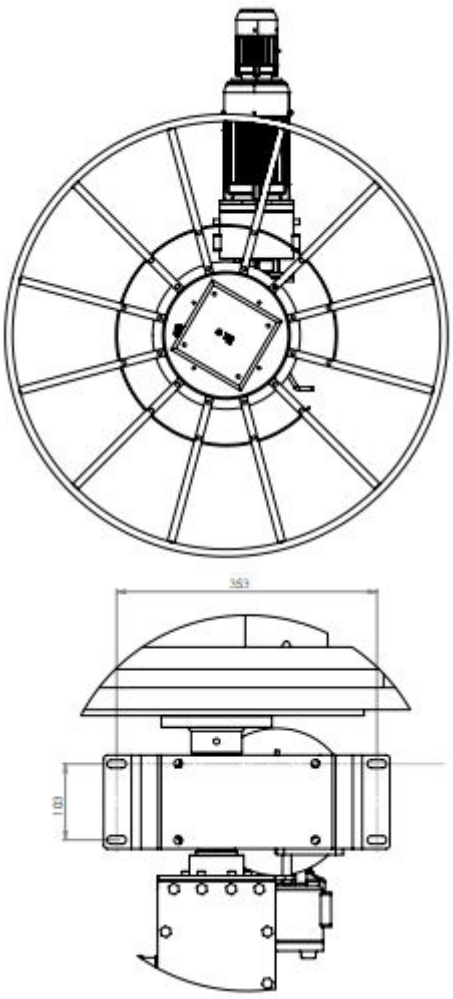
c)

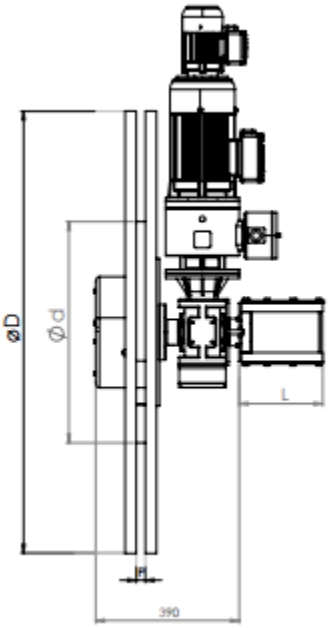


5,2 Cable data for cable standard

SLIP RING	Cross section	Weight (kg/m)	Ø [mm]
4X40A	4G6	0,39	16,9
4X60A	4G10	0,61	18,9
4X80A	4G16	0,94	22,5
4X100A	3x25+3G6	1,24	25,4
4X150A	3x35+3G10	1,64	28,2
4x200A	3X50+3G16	2,10	32
4X250	3X70+3G25	2,70	36
5X40A	5G6	0,49	18,4
5X60A	5G10	0,72	21,4
5X80A	5G16	1,12	24,7
5X100A	5G25	1,57	30,7
12X20A	12X2,5	0,7	21
18X20A	18X1,5	0,43	17,4
18X20A	18X2,5	0,76	21,8
24X20A	24X2,5	0,7	20,3
24X20A	24X2,5	1,07	25,8
36X20A	36X1,5	0,92	22,4
36X20A	36X2,5	1,45	28,8
42X20A	42X2,5	1,52	30,9

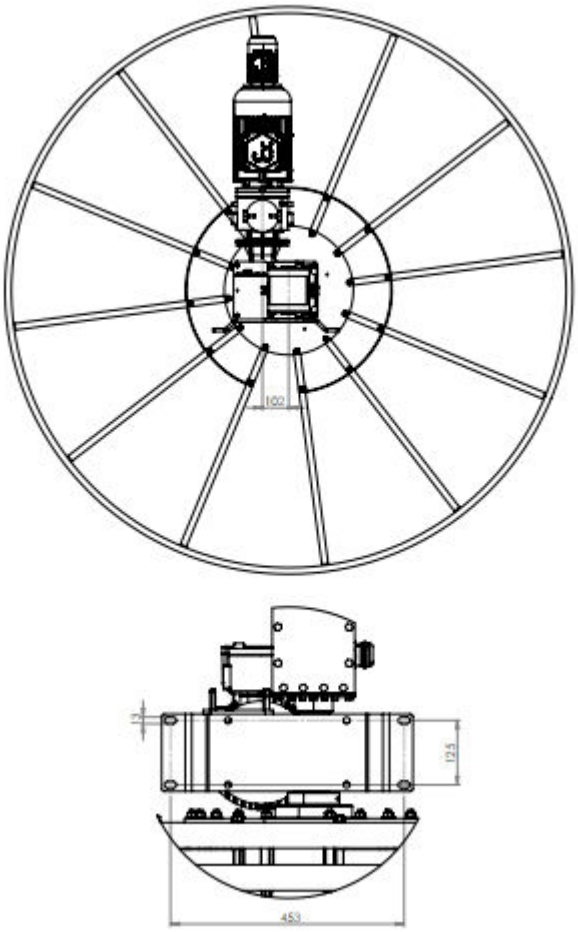
5,3 MCREX A090

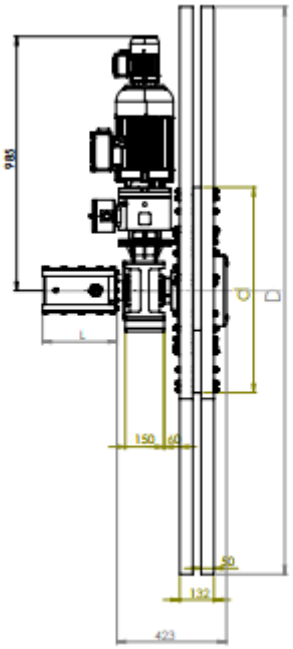




SERIES	TYPE	D	d	L SREX151	L SREX152	CABLE
MCREX	A090	1200	600	155	225	15-24
MCREX	A090	1400	600	155	225	15-24
MCREX	A090	1600	600	155	225	15-24

5,4 MCREX A112





SERIES	TYPE	D	d	L SREX153	L SREX152	CABLE ø
MCREX	A112	1600	600	285	225	25-34
MCREX	A112	1800	600	285	225	25-34
MCREX	A112	2000	800	285	225	25-34
MCREX	A112	2200	800	285	225	25-34

6,0 ELECRICAL EQUIPMENT

N°	ELECTRICAL DEVICE	TYPE EX PROTETION	EPL
1	SLIP RING	**Ex d**	Gb
2	MOTOR COUPLE	**Ex d**	Gb
3	BRAKE	**Ex d**	Gb
4	FAN	**Ex d**	Gb
5	GEAR BOX	**Ex h**	Gb
6	JUCTION BOX	**Ex e**	Gb
7	CABLE GLAND	**Ex d**	Gb

MOTOR COUPLE

6,1 Typical diagram of an 8-pole torque motor Nb the motor torque remains constant up to values of about 400 rpm)

1– Block Phase

During the block stage, the motor can be either not supplied (long block), or being supplied along the winding direction (short block) allowing the system to slip.

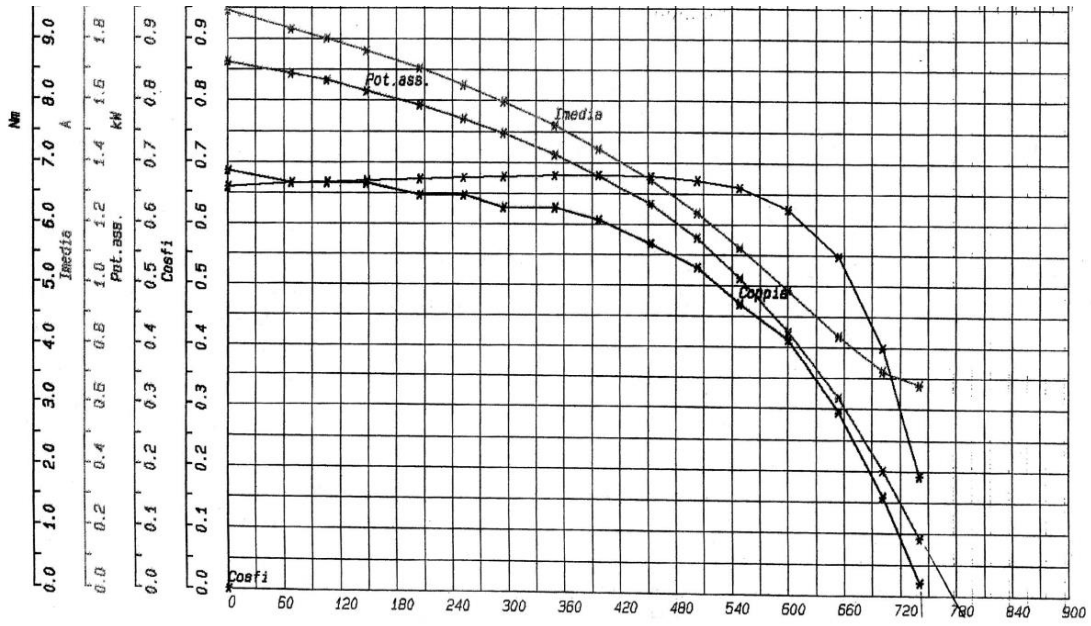
2– Unwinding Phase

During the unwinding phase, the motor is supplied along the cable winding direction, and the cable is unwound trough traction by the operating machine.

3– Winding Phase

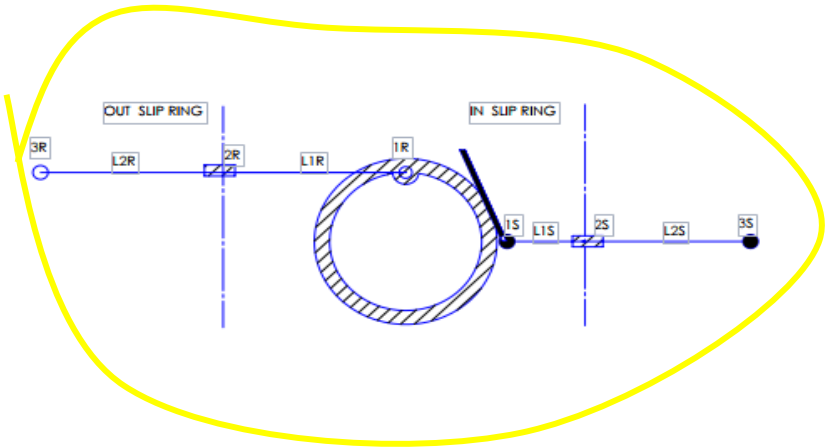
3– Winding Phase

During the winding phase, the motor is supplied along winding. The torque motor can operate on a continuous basis (100%) without being damaged, since it can
resist temperatures of 100°C and above.



6.0 ELECTRICAL CONTACT SLIP RING

The SREX506 power slip ring series are primarily designed for use in hazardous areas in sectors , offshore, oil & gas ect.
The leaf foil brush system is a particular brush that slides on a surface of a brass or bronze ring.
It has the function of transmitting power electricity, analog and digital signals from a fixed point (brush) to a rotating mobile one (ring) (input = ring / output = brush)



The main advantages of the system are:

1) Compactness and constructive simplicity;
2) Ease of maintenance;
3) Low electrical resistivity values (0.2 <R <6 mohm)
4) Good values of the characteristic impedance of the ring / brush system
5) Low friction value (Good ring / brush smoothness).
7) Low overheating at the contact point.
8) Low overtemperature values of the terminals in case of failure
9) Rapid cooling in case of failure at the contact point

6,1 SLIP RING SREX150 SERIES

Mechanical Data

Parameter	Value
Enclosure type	EXPLOSION PROOF Ex db
Enclousure material	STEEL
Protetion	IP66
Working Temperature	;-40+60
Operating Humidity	0~85% RH
Rotating shaft on ball bearings	sealed and lubricated for life
Rotating Speed max	1~50 RPM
surface treatment	MECHANICAL ELEMENTS (zinc nickel (1000 hours of salt spray))
Torque	20N.m;- 50Nm/40 ring

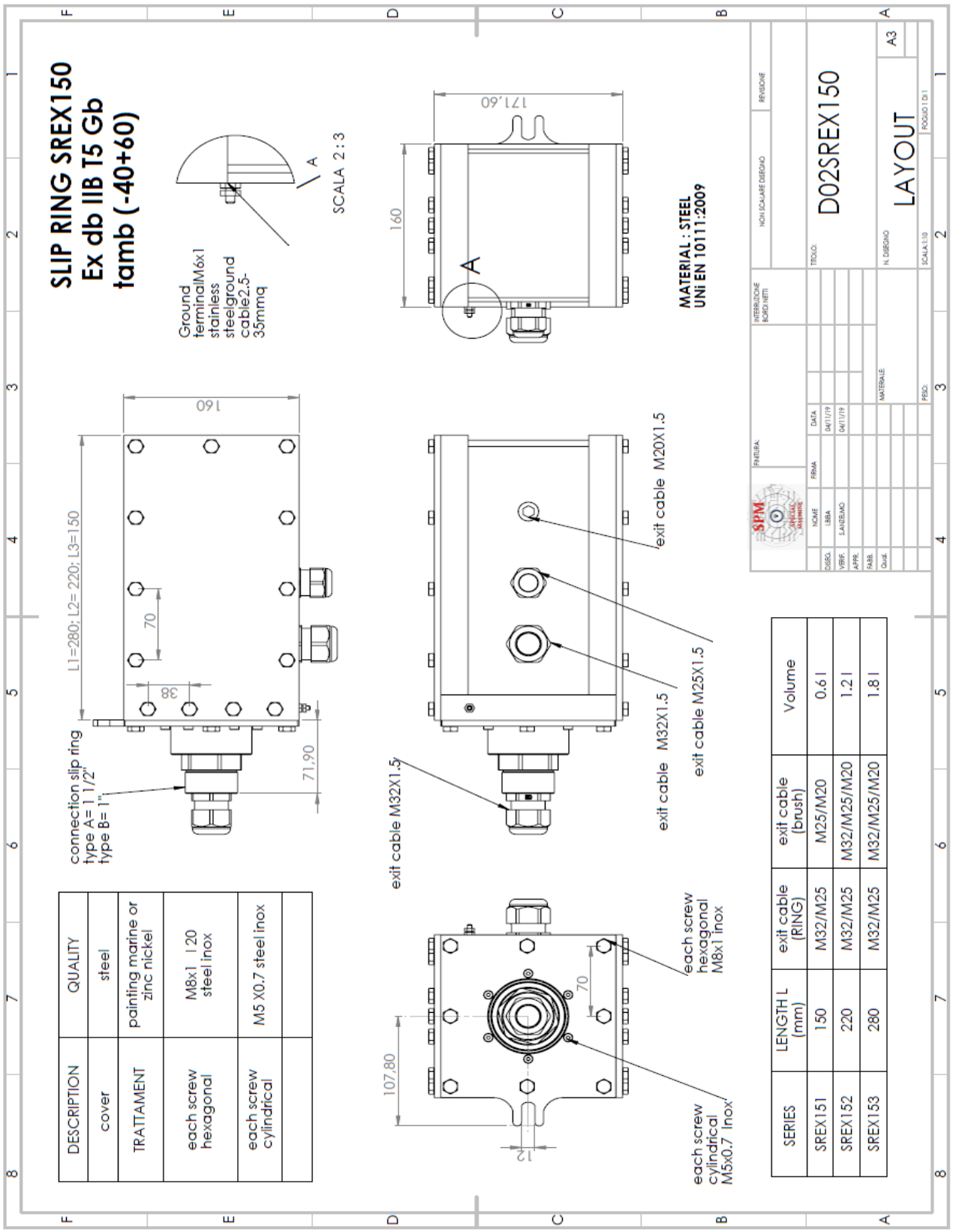
Electrical Data

Parameter	Value		
	Power	Auxiliar	Signal
ring slip ring	bronze / nickel plated	bronze / nickel plated	bronze gold
brush slip ring	beryllium copper/nichel plated	beryllium copper/nichel plated	beryllium /copper gold
Rated Voltage	220/2500V	110/220V	<24Vdc
Rated current	In<600A	In<25A	In<2A
Insulation Resistance	1000V	500V	250V
Lead Wires	4-70mmq	0,75-2,5mmq	<0,5mmq
Electrical Noise	<1mΩ	<8mΩ	<5mΩ
Cable gland	stainless steel, nickel-plated brass Exd M20/M25/M32/M40		
armored / non-armored cable	cable type armored, PUR ,		
Conduit	Hose: 1/2" , 3/4", 1"1 1/2"		
slip ring attachment	FLANGE		

Directive & Standard

Directives	Directive 2014/34/UE IECEx Scheme
Standard	IEC 60079-1:2016 Explosive atmospheres. Equipment protection by flameproof enclosures "d" IEC 60079-0 2018 Explosive atmospheres - Part 0: Equipment - General requirements

6,2 Slip Ring Layout



DESCRIPTION	QUALITY
cover	steel
TRATTAMENT	painting marine or zinc nickel
each screw hexagonal	M8x1 l 20 steel inox
each screw cylindrical	M5 X0.7 steel inox

SERIES	LENGTH L (mm)	exit cable (RING)	exit cable (brush)	Volume
SREX151	150	M32/M25	M25/M20	0.6 l
SREX152	220	M32/M25	M32/M25/M20	1.2 l
SREX153	280	M32/M25	M32/M25/M20	1.8 l

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