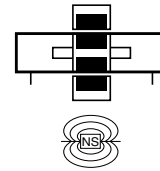


RODLESS CYLINDERS
 Ø 6 to 40 mm - double acting
 linear drive with magnetic coupling
with guided carrier
 with or without shock absorber



GENERAL

Detector Equipped for magnetic position detector
Fluid air or neutral gas, filtered, lubricated or not
Pressure 7 bar maxi
Temperature 0°C, + 60°C
Strokes (in mm)

Ø (mm)	6	10	16	20	25	32	40
min. without absorber	50	50	50	50	50	50	50
with absorber	100	100	100	100	100	150	150
max.	300	500	750	1000	1500	1500	1500

Force of the magnetic coupling :

Ø (mm)	6	10	16	20	25	32	40
Force (N)	21	60	160	300	460	730	1170

Max. allowable load

The maximum allowable load is defined by its positioning and by the cylinder specifications (see Mechanical properties).

Max. speed of carrier
Cushioning

0.5 m/s (this upper limit avoids magnetic breakaway).
 Elastic cushioning with or without shock absorber, not adjustable.

CONSTRUCTION

Cylinder tube Stainless steel.
Front and rear covers Anodized light alloy.
Slide unit Light alloy with nitrile wear rings and seals.
Piston Stainless steel and light alloy.
Piston seals Nitrile (NBR).
Magnets Rare earths, a highly performing magnetic material.
Guide rings Teflon.



B

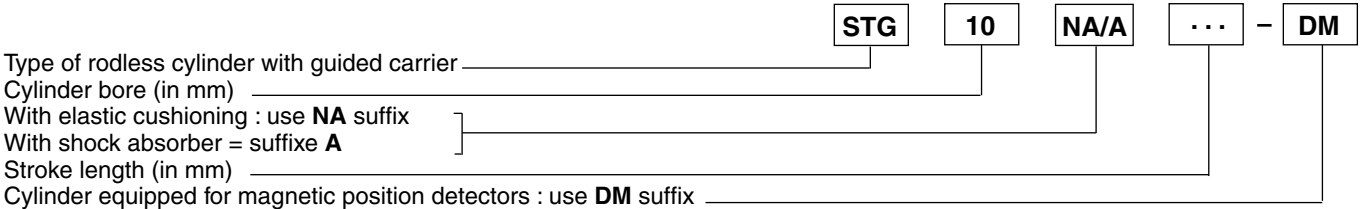
CHOICE OF EQUIPMENT

Cylinder bore in mm	CYLINDER WITH ELASTIC CUSHIONING		CYLINDER WITH SHOCK ABSORBER		Connection Ø
	CODE	REFERENCES	CODE	REFERENCES	
6	44550008 *	STG 6 NA .*. -DM	44550015 *	STG 6 A .*. -DM	M 5
10	44550009 *	STG 10 NA .*. -DM	44550016 *	STG 10 A .*. -DM	M 5
16	44550010 *	STG 16 NA .*. -DM	44550017 *	STG 16 A .*. -DM	M 5
20	44550011 *	STG 20 NA .*. -DM	44550018 *	STG 20 A .*. -DM	G 1/8
25	44550012 *	STG 25 NA .*. -DM	44550019 *	STG 25 A .*. -DM	G 1/8
32	44550013 *	STG 32 NA .*. -DM	44550020 *	STG 32 A .*. -DM	G 1/8
40	44550014 *	STG 40 NA .*. -DM	44550021 *	STG 40 A .*. -DM	G 1/4

* Please specify stroke length (in mm)

MAGNETIC POSITION DETECTOR : see next pages

SPECIFYING THE REFERENCE OF A RODLESS CYLINDER WITH GUIDED CARRIER



ORDERING INFORMATION

On your order please specify : **44550009 + course : 200 mm** **STG 10 NA 200-DM**

Cylinder code followed by stroke length (in mm) _____
 or cylinder reference followed by stroke length (in mm) _____

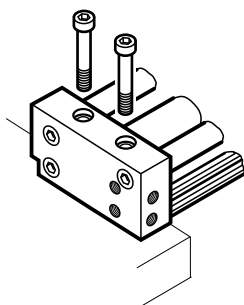
NOTE : Detectors must be ordered separately
 DETECTOR - Detector code and quantity **88144 ...**

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AVAILABLE MOUNTINGS

● ADJUSTABLE MOUNTING

The front and rear covers are rectangular and allow a screwed radial mounting (no additional accessory).



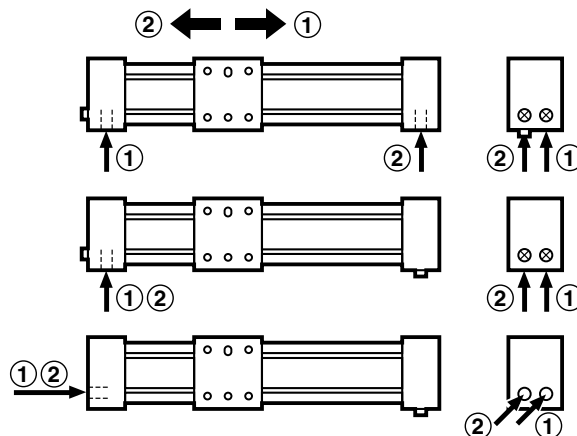
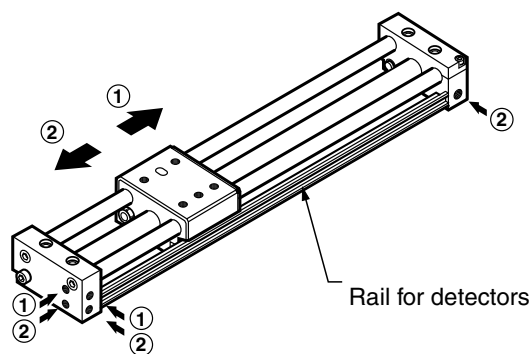
● SEVERAL CONNECTIONS AVAILABLE

The rodless cylinder with guided carrier is always equipped with a rail for magnetic position detectors. This specially designed rail includes a pressure supply pipe from one head cover to the other, the left one fitted with various ports. This mounting allows 3 axial or radial connections.

Note: Supplying pressure through both ports of a same head cover, mainly for large wiring, offers many advantages :

- reduced wiring
- positioning of the control valve close to the 2 ports
- less damage on piping due to mechanical movements
- reduced dimensions

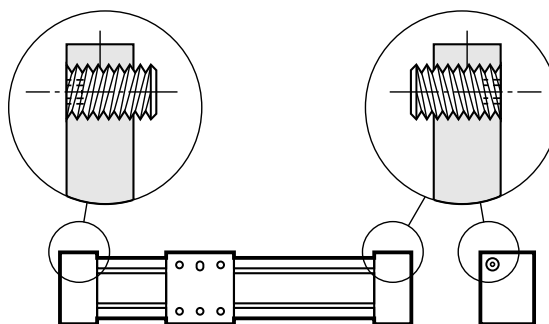
Close unused ports



● ADJUSTABLE STROKE

The stroke of the rodless cylinder with guided carrier may be adjusted from + 1 mm to - 6 mm screwing up/down the side stops of stroke end :

- Down to - 3 mm, adjusting stroke length from one side or both sides.
- Down to - 3 mm to - 6 mm or up to + 1 mm from both sides.



● CUSHIONING

The rodless cylinders with guided carrier are available in two versions :

- with elastic cushioning with polyurethane dampers
- with built-in, not adjustable shock absorber, acting on both stroke ends.

● MAGNETIC POSITION DETECTORS

The cylinder is equipped for sensors detecting stroke end and/or intermediate positions. These reed detectors are directly fitted on the rail and are operated by a permanent magnet within the carrier.

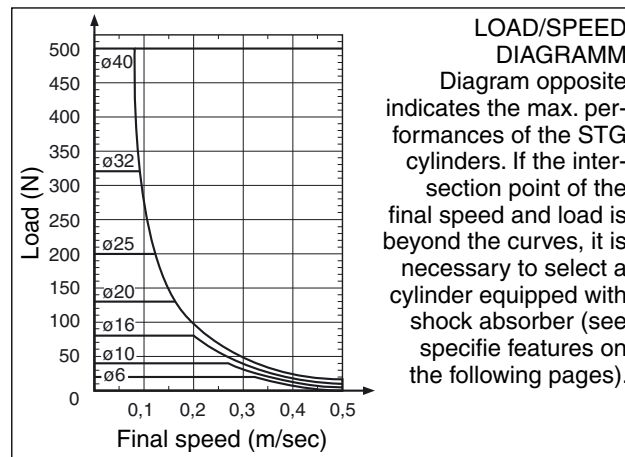
● REDUCED MAINTENANCE

The slide bearings with teflon rings protected by scrapers allow the cylinder tube and side guide rails to operate without lubrication.

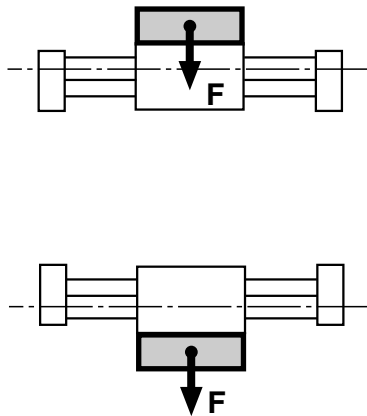


With elastic cushioning

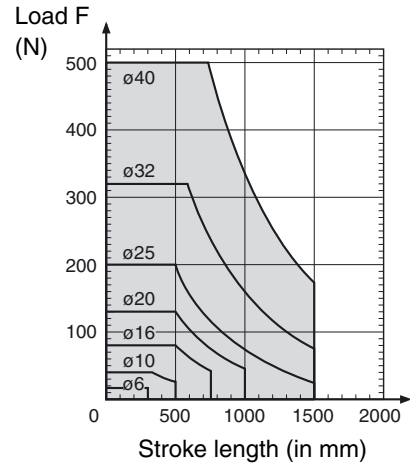
With shock absorber



The rodless cylinder is essentially recommended for sliding loads over long strokes. The load may be positioned directly over / under the cylinder while conforming to the maximums defined according to the cylinder stroke.

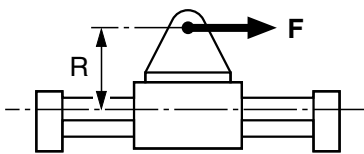


Cylinder bore (in mm)	Max. load F (N)
6	15
10	40
16	80
20	130
25	200
32	320
40	500



HORIZONTALLY OPERATING SLIDE UNITS

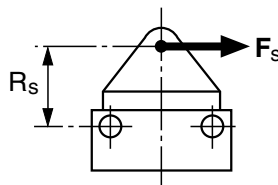
Due to linear drive and load positioning over the rodless cylinder, an effort results from sliding the load. Depending on the maximum values of moments and efforts shown in tables below, determine the diameter of the appropriate cylinder.



$M = F \times R$

Cylinder bore (in mm)	Max. moment M (N.m)	Max F* (N)
6	0,3	13
10	1	36
16	2,5	100
20	5,5	180
25	10	280
32	16	438
40	25	702

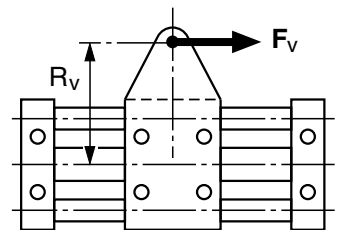
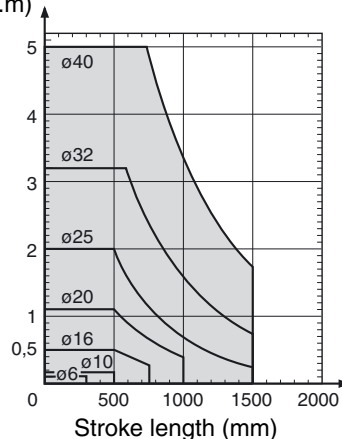
* up to 7 bar



$M_s = F_s \times R_s$

Cylinder bore (in mm)	Max. moment Ms (N.m)
6	0,06
10	0,2
16	0,5
20	1,1
25	2
32	3,2
40	

Max. moment Ms depending on the stroke length (N.m)



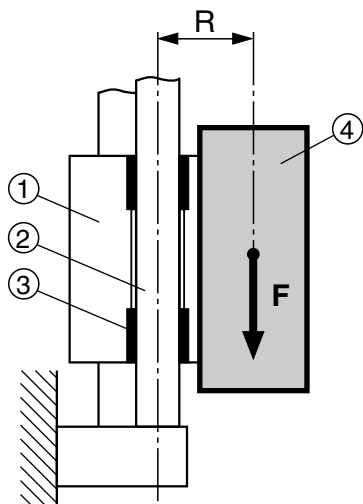
$M_v = F_v \times R_v$

Cylinder bore (in mm)	Max. moment Mv (N.m)	Max. Fv* (N)
6	0,3	13
10	1	36
16	2,5	100
20	5,5	180
25	10	280
32	16	438
40	25	702

* up to 7 bar

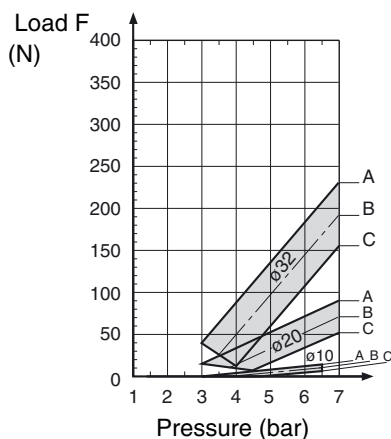
VERTICALLY OPERATING SLIDE UNITS

For vertically operating slide units, please refer to the diagram below to determine the relation between the load, the torsional moment M and the supply pressure.

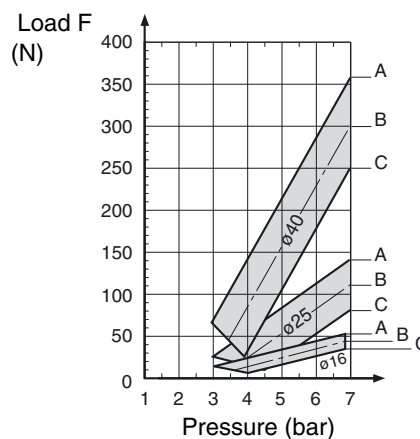


Torsional moment :
 $M = F \times R$

- ① - Rodless carrier with guided carrier
- ② - Cylinder guide rods
- ③ - Guide bearings
- ④ - Load



- Ⓐ - Curves with moment M = 0
- Ⓑ - Curves with moment M = see (B) above
- Ⓒ - Curves with moment M = see (C) above



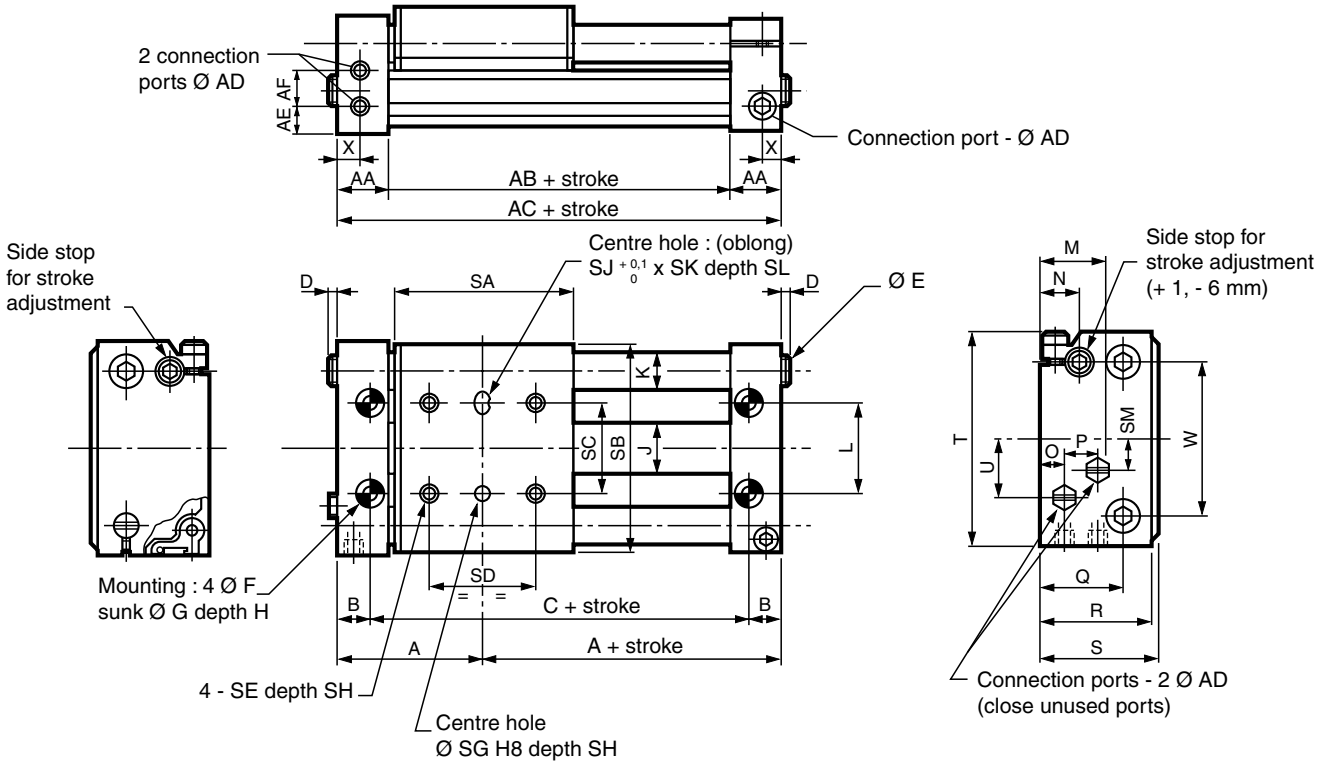
Cylinder bore (in mm)	Ⓑ Max. moment M/2 (N.m)	Ⓒ Max. moment M (N.m)
6	0,15	0,3
10	0,5	1
16	1,25	2,5
20	2,75	5,5
25	5	10
32	8	16
40	12,5	25

SHOCK ABSORBERS CHARACTERISTICS

- Double acting, non adjustable
- Max. final speed ; 0,5 m/s

∅ Cylinder (mm)	6	10	16	20	25	32	40
Max. inertial force W3 (J)	0,5	1	2,5	4	6	13,5	27
Absorber stroke (mm)	6	8	10	10	12	15	18

DIMENSIONS AND WEIGHTS



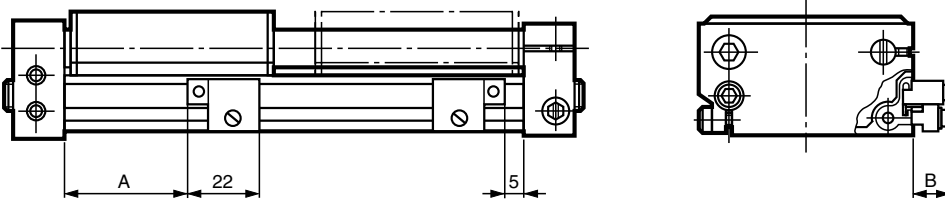
Ø (mm)	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T
6	34	9	50	4	M8 x 1,25	3,4	6,5	3,3	6,8	6	16	14,5	10	6	8,5	22	26	27	50
10	37,5	9	57	3	M10 x 1,5	4,5	8	4,5	11	10	20	18	12	6	11,5	26	33	34	60
16	48	11	74	4	M10 x 1,5	5,5	9,5	5	17,4	12	30	20	12	7	12	27	36	38	70
20	52,5	13	79	3	M12 x 1,75	5,5	9,5	5,5	21,4	14	35	24	15	8	14,5	33	44	46	84
25	57	14	86	4	M14 x 2	6,6	11	6,5	26,4	16	40	26	16	8,5	16,5	36	48	50	94
32	68,5	16	105	2	M18 x 2,5	9	14	8,5	33,6	20	50	31	20	10	20	44	58	60	116
40	76,5	19	115	4	M20 x 2,5	9	14	8,5	41,6	25	65	37,5	24	12	24	52	70	72	140

Ø (mm)	U	W	X	AA	AB	AC	AD	AE	AF	SA	SB	SC	SD	SE	SF	SG	SH	SJ
6	11	32	5	13	42	68	M5 x 0,8	6	10,5	40	48	20	20	M4 x 0,7	7	4	4	4
10	16	44	5	14	47	75	M5 x 0,8	6	11,5	45	59	25	25	M4 x 0,7	7	4	4	4
16	18	50	5,5	17	62	96	M5 x 0,8	7	12	60	68	30	35	M5 x 0,8	8	5	5	5
20	23	60	7,5	19	67	105	G 1/8	8	14,5	65	82	36	38	M5 x 0,8	9	5	5	5
25	23	68	7,5	21	72	114	G 1/8	8,5	16,5	70	92	42	40	M6 x 1	10	6	6	6
32	32	85	8	25	87	137	G 1/8	10	20	85	114	52	50	M8 x 1,25	14	8	8	8
40	41	102	10	28	97	153	G 1/4	12	24	95	138	62	55	M8 x 1,25	16	8	8	8

Ø (mm)	SK	SL	SM	Weights (Kg)	
				1	2
6	6	4	0	0,260	0,070
10	6	4	16	0,470	0,160
16	7	5	18	0,770	0,230
20	7	5	23	1,270	0,320
25	8	6	23	1,670	0,400
32	10	8	32	3,110	0,600
40	10	8	41	5,200	0,900

1 - Weight of cylinders with stroke 0
 2 - Weight to be added per 100 mm length

DIMENSIONS WITH DETECTORS



Cylinder bore (in mm)	A min.	B
6	16	6
10	21	6
16	35	6
20	40	0
25	45	0
32	60	0
40	70	0

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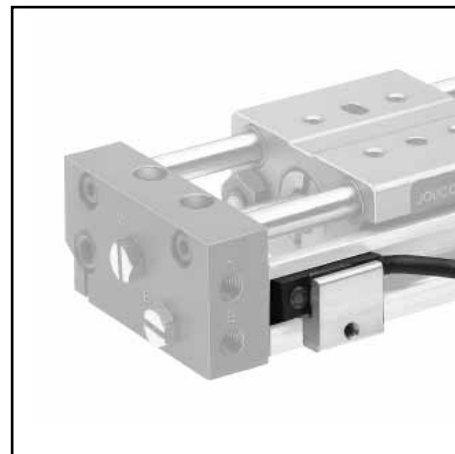
OPERATING SYSTEM

A permanent magnet mounted on the rodless cylinder carrier operates on stroke end a reed switch (ILS) mounted on the cylinder cover. The detector is fitted with a warning lamp which lights when the contact is closed.

ELECTRICAL CHARACTERISTICS

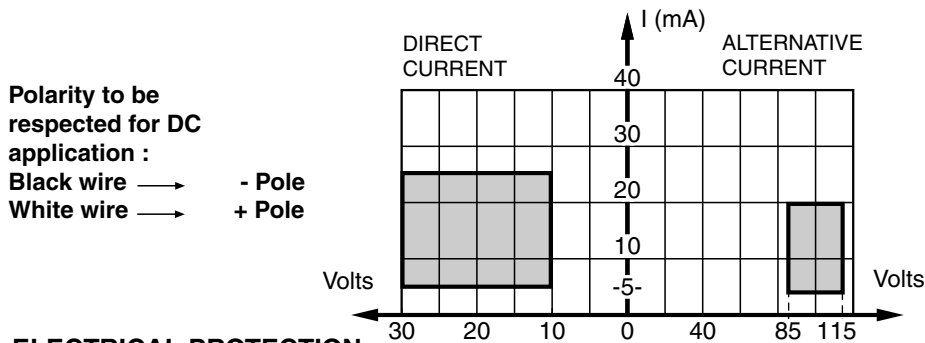
MAX. SWITCHING POWER

- AC current : 3.45 VA
- DC current : 0.75 W
- SWITCHING VOLTAGE : 10 to 30 VDC - 85 to VAC (1)
- MAX. SWITCHING CURRENT : 25 mA VDC - 20 mA VAC
- CONTACT RESISTANCE : 100 mΩ
- INSULATION RESISTANCE : 100 MΩ
- WITHSTAND VOLTAGE : 500 V
- RESPONSE TIME opening : 0.05 ms
- closing : 0.4 ms
- REPEATABILITY : ± 0.1 mm
- LIFE : 5 X 10⁶ operations
- AMBIENT TEMPERATURE : 0°C to + 60°C
- ELECTRICAL PROTECTION : see below
- HOUSING : plastic PBT
- NF C20010 PROTECTION : IP42
- CONNECTION : 1 Ø 3 mm cable, 1.5 m long, 2 conductors 0.15 mm²
- INDICATOR LAMP : Red diode (LED) which lights when the contact is closed



(1) The indicator lamp gives a voltage drop approx. 2.5 V.

NOTE : The operating point must be within the shaded zone. Any overvoltage or overintensity may damage the detector.



ELECTRICAL PROTECTION

INDUCTIVE LOAD		100V/1A Diode	100 Ω / 4W		INDUCTIVE LOAD
RESISTIVE LOAD		Protection not necessary	0,1 μF 630 V		RESISTIVE LOAD

R = 4 W Resistor= Standard CCTU Resistors, code RP 59
 C = Paper, polycarbonate or metalized mylar capacitor.

The user is responsible for supply and assembly of Resistors, Capacitors or Diodes.

DETECTOR CODE

DESCRIPTION	Ø Cylinder (mm)	CODE
Magnetic position detector with reed switch (ILS) and wire outlet for rodless cylinder with guided carrier - type STG	6-10-16	88144525
	20-25-32-40	88144526

The detector is supplied with a securing collar adapted to the cylinder diameter.

PARTICULAR APPLICATIONS

- Detectors used for direct control of incandescent lamps :
 The power specified on the lamp is based on its resistance when hot, the resistance is very low when turned on with the lamp cold and the amperage can become very great and may exceed the ILS rating, allowance should therefore be made for the actual wattage of the bulb when cold.
- With wiring longer than 10 m, a 1000 Ω resistor must be fitted in series with the detector to reduce the capacitance effect caused by the wiring.