

# CB CYLINDERS SERIES

SHORT STROKE COMPACT  
WITH ADJUSTABLE MAGNETIC SENSORS



# CB CYLINDERS SERIES

## SHORT STROKE COMPACT WITH ADJUSTABLE MAGNETIC SENSORS



The **CB series** comprises compact cylinders with short stroke and adjustable **magnetic sensors**. The particular small size and the restrained weight make these cylinders ideal for moulding applications of plastics and locks.

The choice of selected materials, the new superficial treatment, the severe controls of 100% of all cylinders produced and the quality of the means of production, grant high standards of quality, reliability and enduring product performance.

The seals used, supplied by premium suppliers, grant high performance and international availability. The wide range of seals, allows us to offer cylinders for applications with different kinds of hydraulic fluids, speed, frequency and operating temperature.

### Technical specifications:

- Adjustable proximity sensors type SEP "Hall effect" IP67
- Adjustable proximity sensors type SER "Reed effect" IP67
- Nominal pressure 16 MPa (continuous operation)
- Maximum pressure 25 MPa
- Bore 25-100 mm
- 4 Mounting style
- Body extracted from full block with rear head integrated
- New treatment of hard anodic oxidation
- Improved endurance to usury and abrasion
- Surface hardness increased to 400-600 Vickers

### Options:

- Chromed/inox AISI316 rod
- Standard version
- Magnetic version
- Viton seals (only in N version)

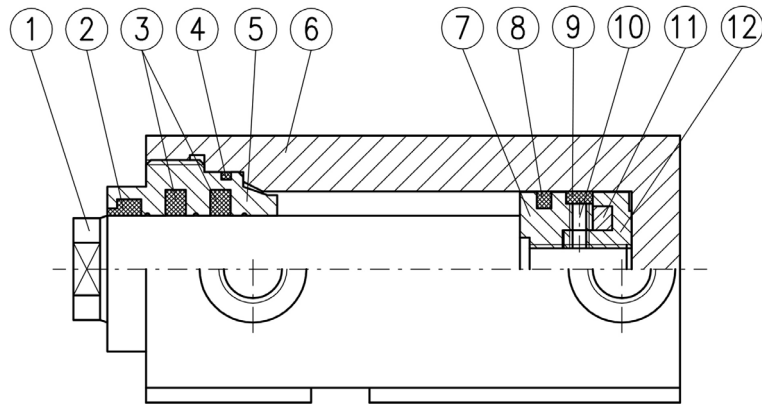
### EPC Cylinder configurator

This is an innovative tool that allows the client to configure CB cylinders in a rapid and intuitive way, guiding the technician through the choices of all the options available. Once the cylinder code is defined, the EPC software provides 2D, 3D, and gives the user the possibility to save projects and request offers.

With the complete access, reserved to the purchasing department, it is possible to make orders directly.

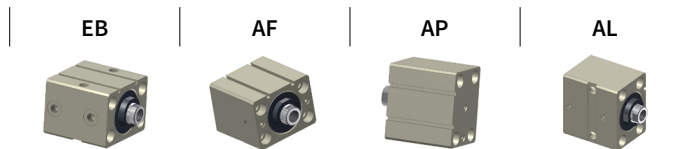
For all orders received through EPC an extra discount will be applied.

Login at: <http://configuratore.grices.it/>



N°	ITEM	MATERIAL
1	Rod	Steel
2	Scraper	Nitrile rubber
3	Rod seals	Nitrile rubber + PTFE
4	O-Ring	Nitrile rubber
5	Guide sleeve	Cast iron
6	Body	Light alloy
7	Front seal holder	Light alloy
8	Piston seal	Nitrile rubber + PTFE
9	Piston guide	PTFE
10	O-Ring	Nitrile rubber
11	Permanent magnet	-
12	Rear seal holder	Light alloy

### Mounting style



# TECHNICAL CHARACTERISTICS

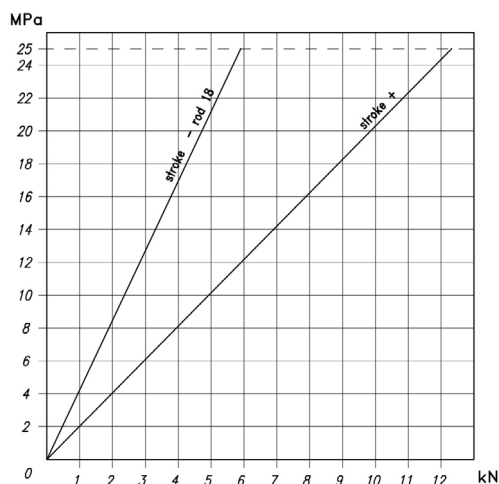
**SHORT STROKE COMPACT**  
WITH ADJUSTABLE MAGNETIC SENSORS



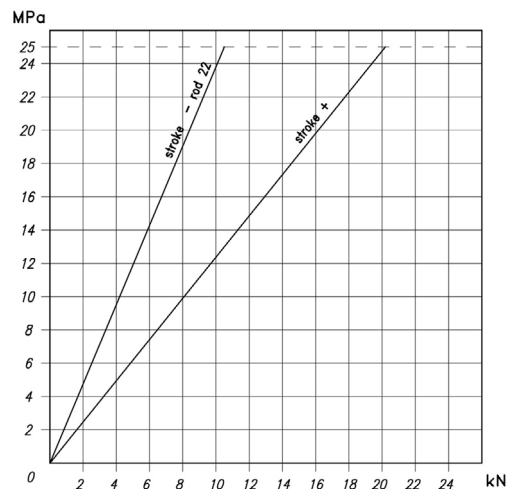
<b>Bore</b>	<b>mm</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>63</b>	<b>80</b>	<b>100</b>	
<b>Oil ports</b>	<b>BSP</b>	1/4"	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"	
<b>Rod diameter</b>	<b>mm</b>	18	22	22	28	28	36	45	
<b>Temperature</b>	<b>°C</b>	-20°C +80°C normal and magnetic version -20°C +135°C normal version only							
<b>Tolerance on stroke</b>	<b>mm</b>	+/- 0,5							
<b>Continuous working pressure</b>	<b>Mpa</b>	16							
	<b>(bar)</b>	160							
<b>Maximum intermittent pressure</b>	<b>Mpa</b>	25							
	<b>(bar)</b>	250							
<b>Maximum speed</b>	<b>m/s</b>	0,5							
		Limit the maximum speed of end of stroke piston to 0.1m/sec. It is always recommendable to limit speed with flow limiters <i>For any further explanations, contact our Technical Department</i>							
<b>Maximum capacity</b>	<b>l/s</b>	2	3	5	7	12	20	30	
<b>Net weight</b>	<b>Stroke 20 mm</b>	<b>Kg</b>	0,8	1,2	1,6	2,5	3,9	6,5	10,5
	<b>Stroke 50 mm</b>		1	1,5	1,9	3	4,5	7,5	12

## FORCE PRESSURE DIAGRAMS

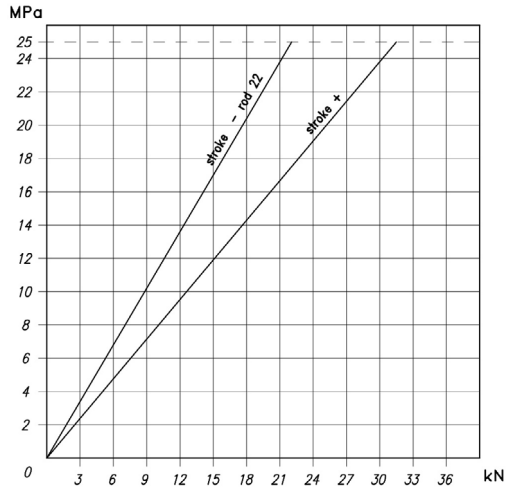
Bore 25



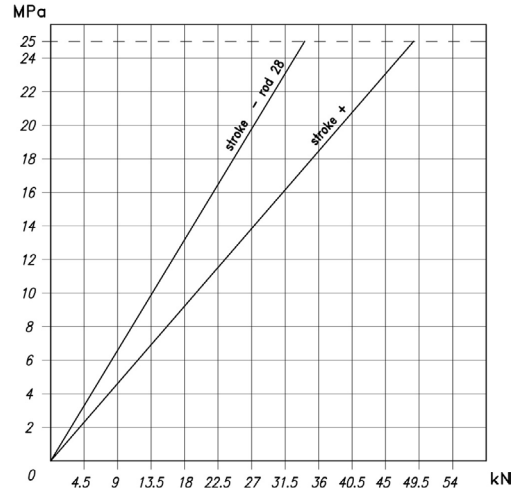
Bore 32



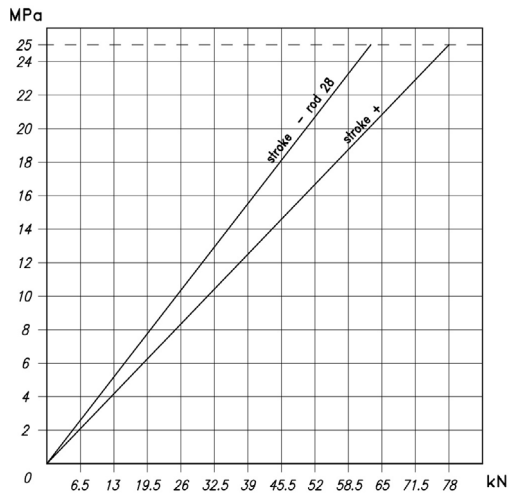
Bore 40



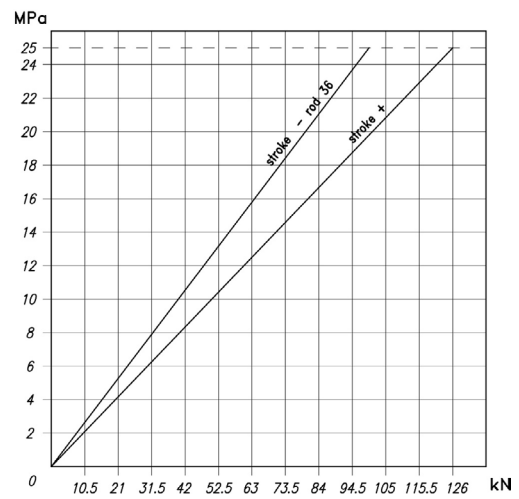
Bore 50



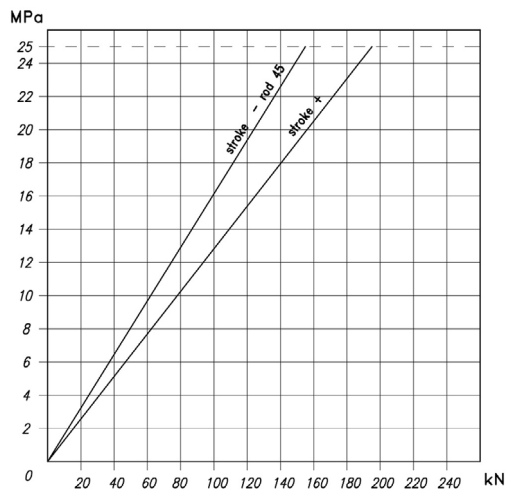
Bore 63

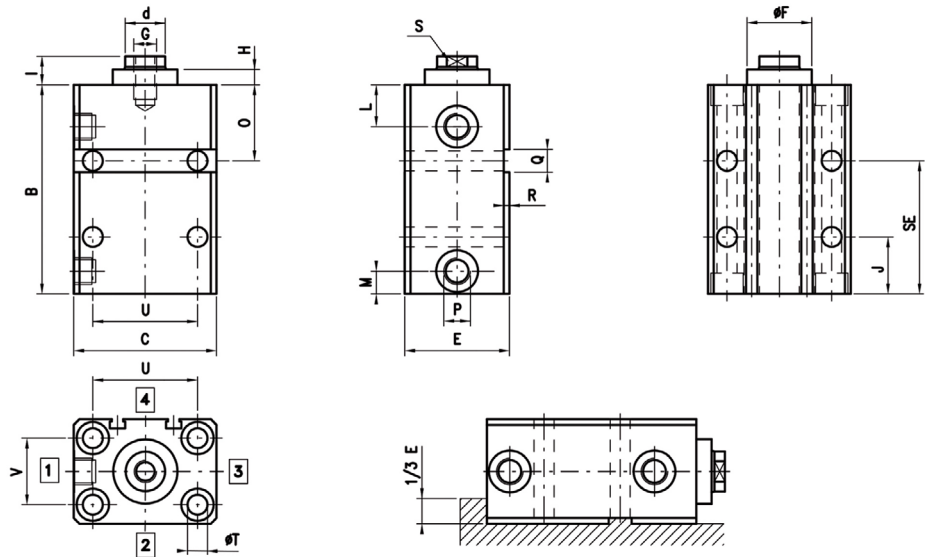
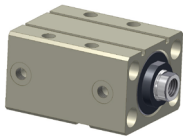
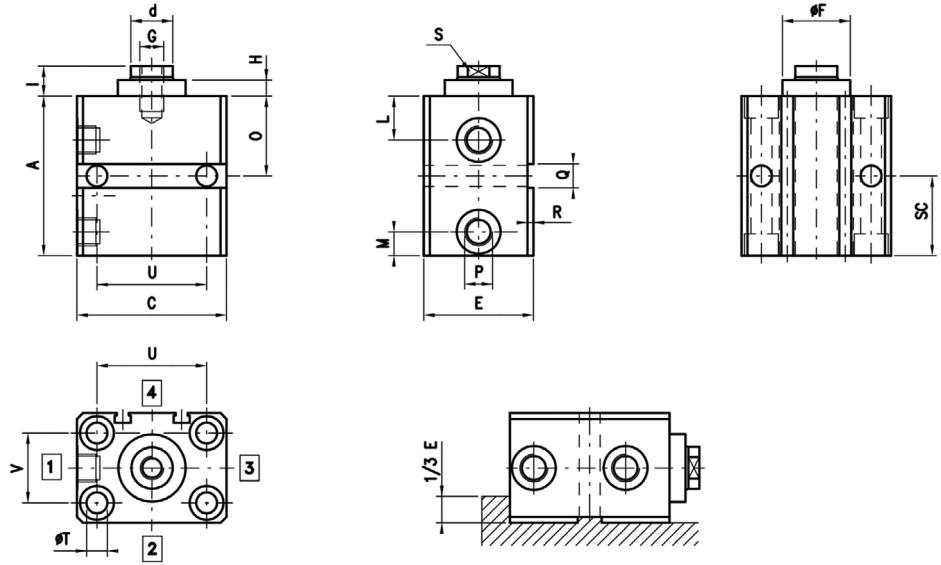
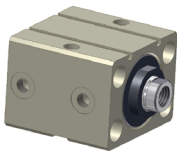


Bore 80



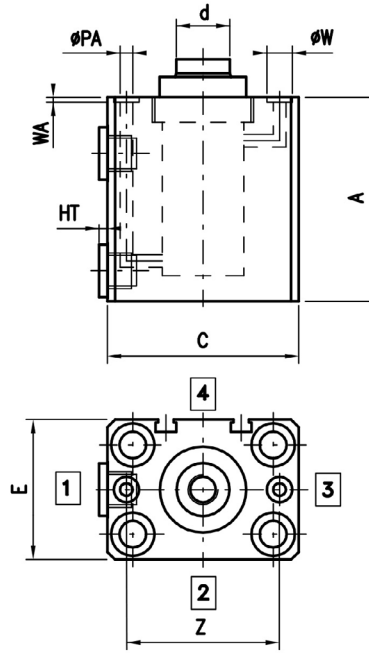
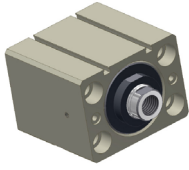
Bore 100



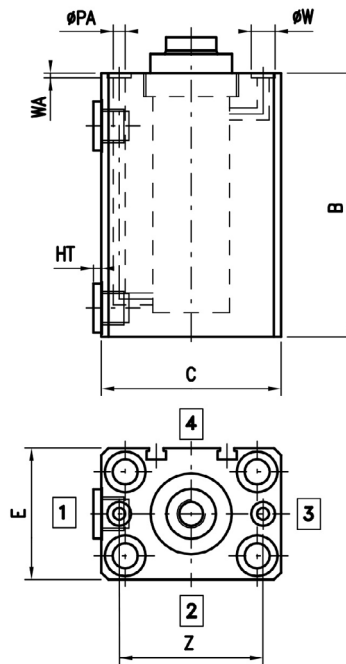
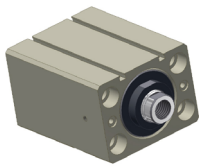


BORE	d	A	B	C	E	F	G	H	I	J	L	M	O	P	Q	R	S	SC	SE	T	U	V
25	18	77	107	65	45	32	M10	6,5	14	30	22	12	37	1/4"	10	2	14	40	70	9	50	30
32	22	80	110	75	55	34	M12	8	15	30	22	12	40	1/4"	12	3	18	40	70	11	55	35
40	22	93	123	85	63	34	M14	7	17	35	24	14	43	1/4"	12	3	18	50	80	11	63	40
50	28	95	125	100	75	42	M20	8	20	35	25	14,5	45	1/4"	15	5	24	50	80	13	76	45
63	28	105	135	115	90	50	M20	7	20	40	29	21	55	3/8"	15	5	24	50	80	13	90	55
80	36	120	150	140	110	60	M27	7	20	50	35	25	60	1/2"	20	5	32	60	90	17	110	75
100	45	130	160	170	140	72	M33	8	25	60	37	28	70	1/2"	20	5	40	60	90	17	135	95

**AF** Front supply stroke 20 mm



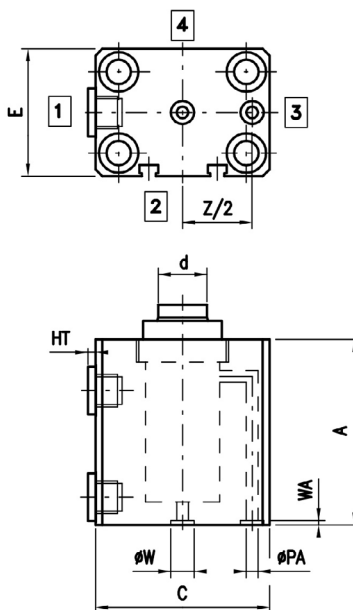
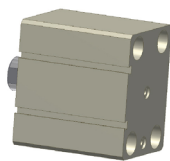
**AF** Front supply stroke 50 mm



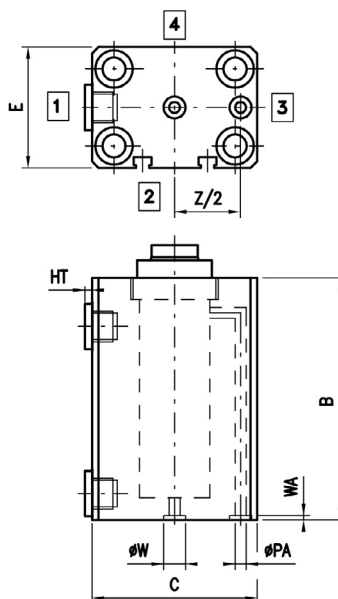
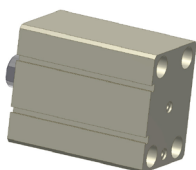
BORE	d	A	B	C	E	HT	PA	W	WA	Z
25	18	77	107	65	45	5	5	10	1,9	51
32	22	80	110	75	55	5	5	10	1,9	60
40	22	93	123	85	63	5	5	10	1,9	65
50	28	95	125	100	75	5	5	10	1,9	80
63	28	105	135	115	90	5	6	13	1,9	95
80	36	120	150	140	110	5	6	13	1,9	118
100	45	130	160	170	140	5	6	13	1,9	140

\*For missing quotes see base execution

**AP** Rear supply stroke 20 mm



**AP** Rear supply stroke 50 mm

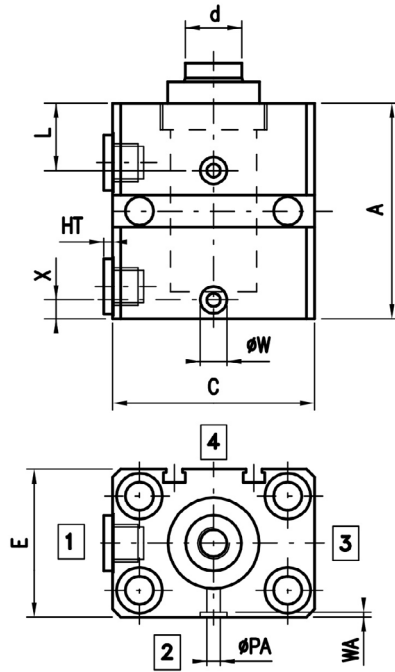
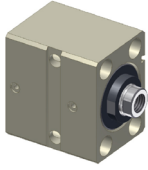


BORE	d	A	B	C	E	HT	PA	W	WA	Z
25	18	77	107	65	45	5	5	10	1,9	51
32	22	80	110	75	55	5	5	10	1,9	60
40	22	93	123	85	63	5	5	10	1,9	65
50	28	95	125	100	75	5	5	10	1,9	80
63	28	105	135	115	90	5	6	13	1,9	95
80	36	120	150	140	110	5	6	13	1,9	118
100	45	130	160	170	140	5	6	13	1,9	140

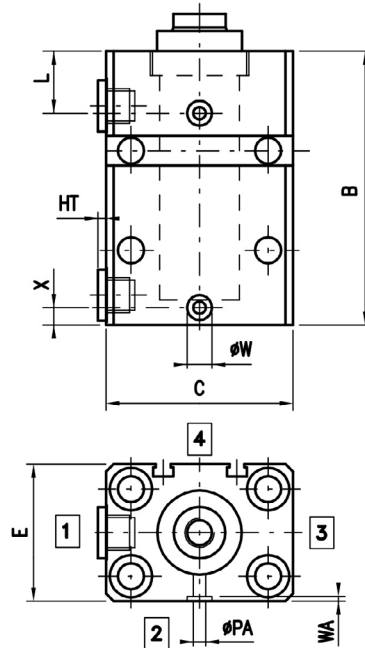
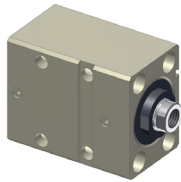
\*For missing quotes see base execution



**AL** Side supply stroke 20 mm

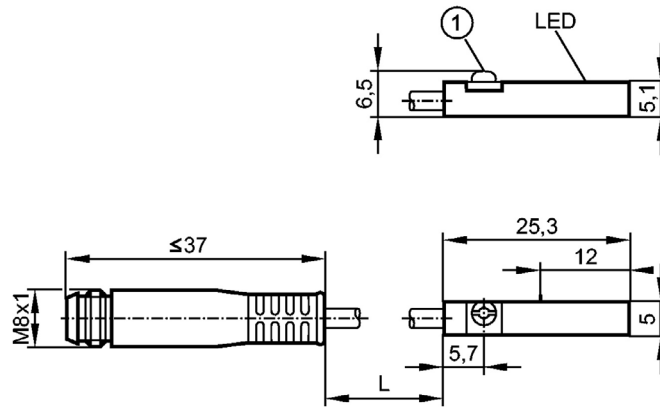


**AL** Side supply stroke 50 mm



BORE	d	A	B	C	E	HT	L	PA	W	WA	X
25	18	77	107	65	45	5	22	5	10	1,9	7
32	22	80	110	75	55	5	22	5	10	1,9	7
40	22	93	123	85	63	5	24	5	10	1,9	10
50	28	95	125	100	75	5	25	5	10	1,9	10
63	28	105	135	115	90	5	29	6	13	1,9	15
80	36	120	150	140	110	5	35	6	13	1,9	17
100	45	130	160	170	140	5	37	6	13	1,9	20

\* For missing quotes see base execution



1- eccentric mounting style

ELECTRICAL DATA	
Electrical model	DC PNP
Operating voltage (V)	10...30 DC; "supply class 2" cULus
Absorbed electric current (mA)	< 10
Insulation class	III
Reverse polarity protection	YES

OUTPUTS	
Output function	NO
Voltage drop (V)	< 2,5
Electric current capacity (mA)	100
Short circuit protection	YES
Overload protection	YES
Switching frequency (Hz)	6000

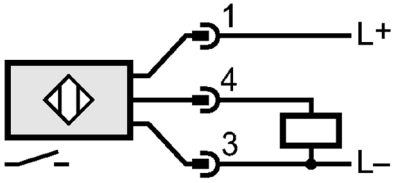
SURVEY FIELD	
Reaction sensibility (mT)	2,0
Transfer speed (m/s)	> 10

PRECISION / DEVIATION	
Hysteresis (mm)	< 1,0
Repeatability (mm)	< 0,2

REACTION TIMES	
Availability delay [ms]	< 30

ENVIRONMENTAL CONDITIONS	
Environment temperature (°C)	-25...85
Protection	IP 65 / IP 67

ELECTRICAL CONNECTION	
Connection	PUR / 0,3 cable; with M8 connector (with snap-on threaded joint)

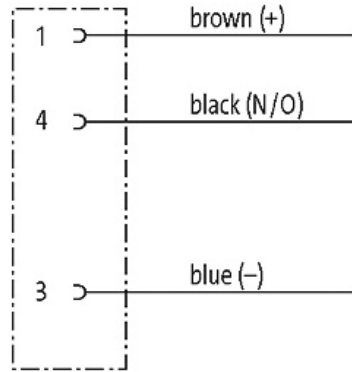


Cabling



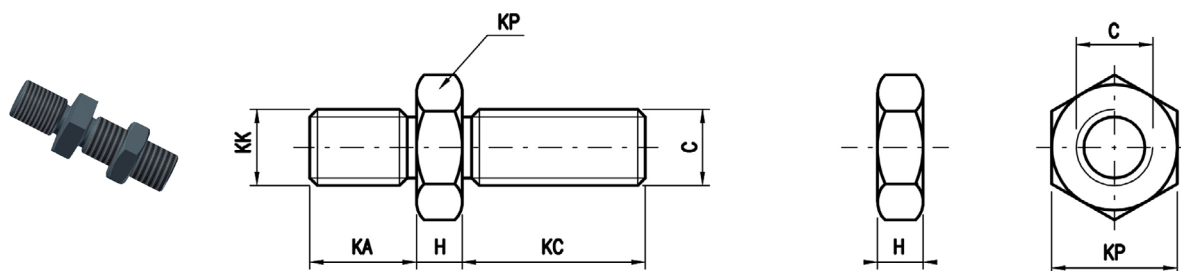
## CAP25 Cable for sensors

CABLE FOR SENSOR	
CAP25	3 wires cable, length = 5m with M8 connector



# TFD

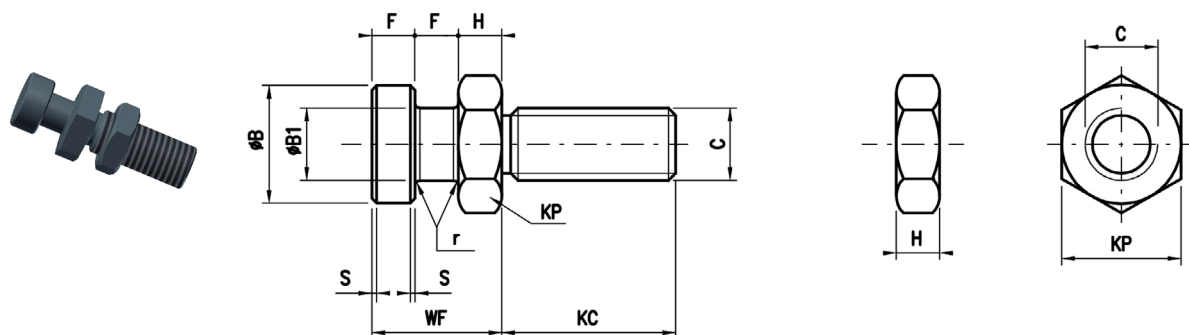
Male end with nut



Cod.	C	H	KA	KC	KK	KP
TFD25	M10	6	14	24	M10x1,25	17
TFD32	M12	7	16	28	M12x1,25	19
TFD40	M14	8	18	33	M14x1,5	22
TFD50	M20	9	28	39	M20x1,5	30
TFD63	M20	9	28	39	M20x1,5	30
TFD80	M27	12	36	52	M27x2	36
TFD100	M33	14	45	64	M33x2	46

# TMD

Hammer head with nut



Cod.	B	B1	C	F	H	KC	KP	r	s	WF
TMD25	16	10	M10	7	6	24	17	0,5	0,5	20
TMD32	18	11	M12	8	7	28	19	0,5	0,5	23
TMD40	18	11	M14	8	8	33	22	0,5	0,5	24
TMD50	22	14	M20	10	9	39	30	0,5	0,5	29
TMD63	22	14	M20	10	9	39	30	0,5	0,5	29
TMD80	28	18	M27	12,5	12	52	36	0,8	0,8	37
TMD100	35	22	M33	16	14	64	46	0,8	0,8	46

# EXAMPLE OF ORDER ACRONYM

## CB/50/20/EBBMD0

CHARACTERISTIC	DESCRIPTION	SYM.	EXAMPLE
SERIES	Short stroke	CB	CB/
BORE	Indicate in mm		CB/50/
ROD	Indicate in mm		CB/50/20/
EXECUTION	Standard	EB	CB/50/20/EB
	Front supply	AF	
	Rear supply	AP	
	Side supply	AL	
SEALS	Low friction (standard) -20 +80°C	B	CB/50/20/EBB
	Viton, low friction -20 +135°C*	C	
VERSION	Normal -20 +135°C*	N	CB/50/20/EBBM
	Magnetic -20 +80°C	M	
LIMITED STROKE	Indicate limited stroke value	D	CB/50/20/EBBMD0

\* Normal model N only

CHARACTERISTIC	DESCRIPTION	CODE
PNP SWITCH	Electrical magnetic sensor PNP with connection	SEP00
	5m cable with connection for PNP sensor	CAP25

# REPLACEMENT ORDER ACRONYM

CHARACTERISTIC	DESCRIPTION	SYM.	EXAMPLE
SEAL KIT	Short stroke	KCB	KCB
BORE	Indicate in mm		KCB/50/
SEALS	Low friction (standard) -20 +80°C	B	KCB/50/B
	Viton, low friction -20 +135°C*	C	

CHARACTERISTIC	DESCRIPTION	SYM.	EXAMPLE
ROD COMPLETED WITH PREMOUNTED PISTON	Short stroke	SCB	SCB
BORE	Indicate in mm		SCB/50/
STROKE	Indicate in mm		SCB/50/20/
SEALS	Low friction (standard) -20 +80°C	B	SCB/50/20/B
	Viton, low friction -20 +135°C*	C	
VERSION	Normal -20 +135°C*	N	SCB/50/20/BM
	Magnetic -20 +80°C	M	

\* Normal model N only

Login at: <http://configuratore.grices.it/>

Configure your cylinder in a quick and intuitive way choosing all the available options.

### Note

The indicated operating pressures are efficient for smooth applications without blows. For extreme loads or high operating pressures with high frequency, is necessary to use mounting styles and thread-rod links designed to be stress-resistant.

For further information contact our Technical Department.