

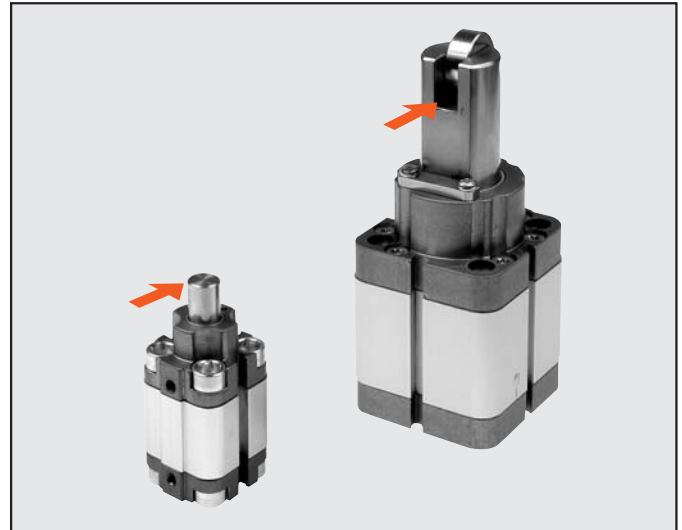
# COMPACT STOPPER CYLINDER


## Ø 20, Ø 32, Ø 50, Ø 80

Compact stopper cylinders designed for stopping moving parts or chucks.

- With or without magnet execution
- Single-acting, oversize extended piston rod
- Can be also used as double-acting with spring return
- Fixing centre distances to ISO 6431 – VDMA 24562 for Ø 32, Ø 50, Ø 80 and French standard NFE 49-004-1 and 2 (UNITOP).

In the relevant cylinder slots, it is possible to mount retracting magnetic sensor.

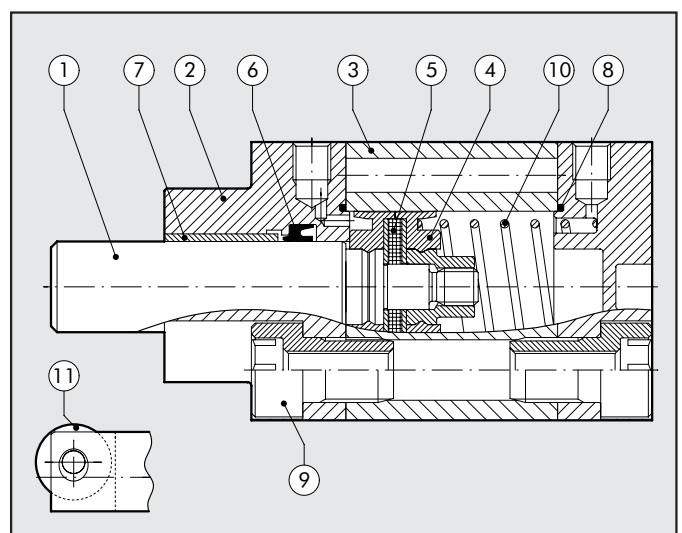


 Chuck impact direction

TECHNICAL DATA	
Operating pressure	max 10 bar (max 1 MPa-145 psi)
Temperature range	-10°C ÷ +80°C
Fluid	Unlubricated air. Lubrication, if used, must be continuous.
Stroke bore	mm Ø 20 x 15; Ø 32 x 20; Ø 50 x 30; Ø 80 x 30; Ø 80 x 40 with NFE 49-004-1 and 2 fixing centre distances (UNITOP)
	mm Ø 32 x 20; Ø 50 x 30; Ø 80 x 30; Ø 80 x 40 with ISO 6431 VDMA24562 fixing centre distances.
Design	With profile, heads with screws
Versions	Single-acting extended rod, Can be also used as double-acting with spring return
Magnet for sensors	All versions come complete with magnet. Supplied without magnet on request.
Notes	For correct operation, it is advisable to use 50µm filtered air
Inrush pressure	Ø 20: 1,2 bar; Ø 32 e Ø 50: 1 bar; Ø 80: 0,5 bar
Weight	g Trunnion version ø20 stroke 15 mm = 210; ø32 stroke 20 mm = 420; ø50 stroke 30 mm = 1.190
	Roller version ø20 stroke 15 mm = 220; ø32 stroke 20 mm = 460; ø50 stroke 30 mm = 1.300 ø80 stroke 30 mm = 4.500; ø80 stroke 40 mm = 4.750

### COMPONENTS Ø 20

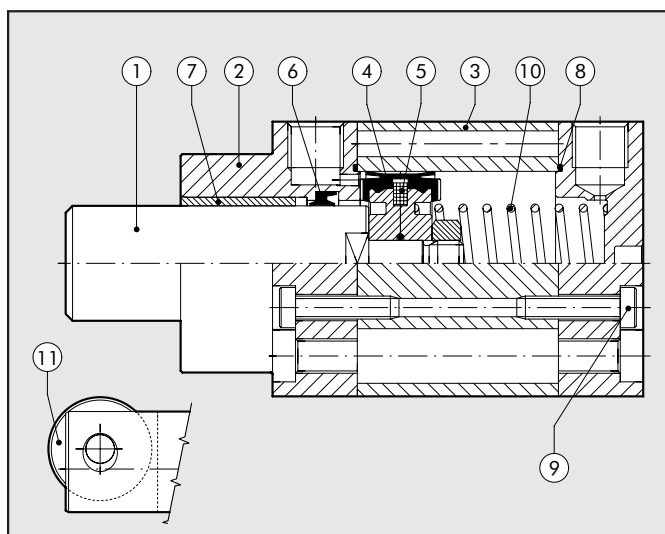
- ① PISTON ROD: Stainless steel, thick chromed
- ② HEAD: extruded anodised aluminium alloy
- ③ JACKET: drawn anodised and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane
- ⑤ MAGNET: neodymium-plastic
- ⑥ PISTON ROD GASKET: polyurethane
- ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑧ STATIC O-RINGS: NBR
- ⑨ SECURING SCREWS: zinc-plated steel
- ⑩ RETURN SPRING: spring stainless steel
- ⑪ WHEEL: zinc-plated steel



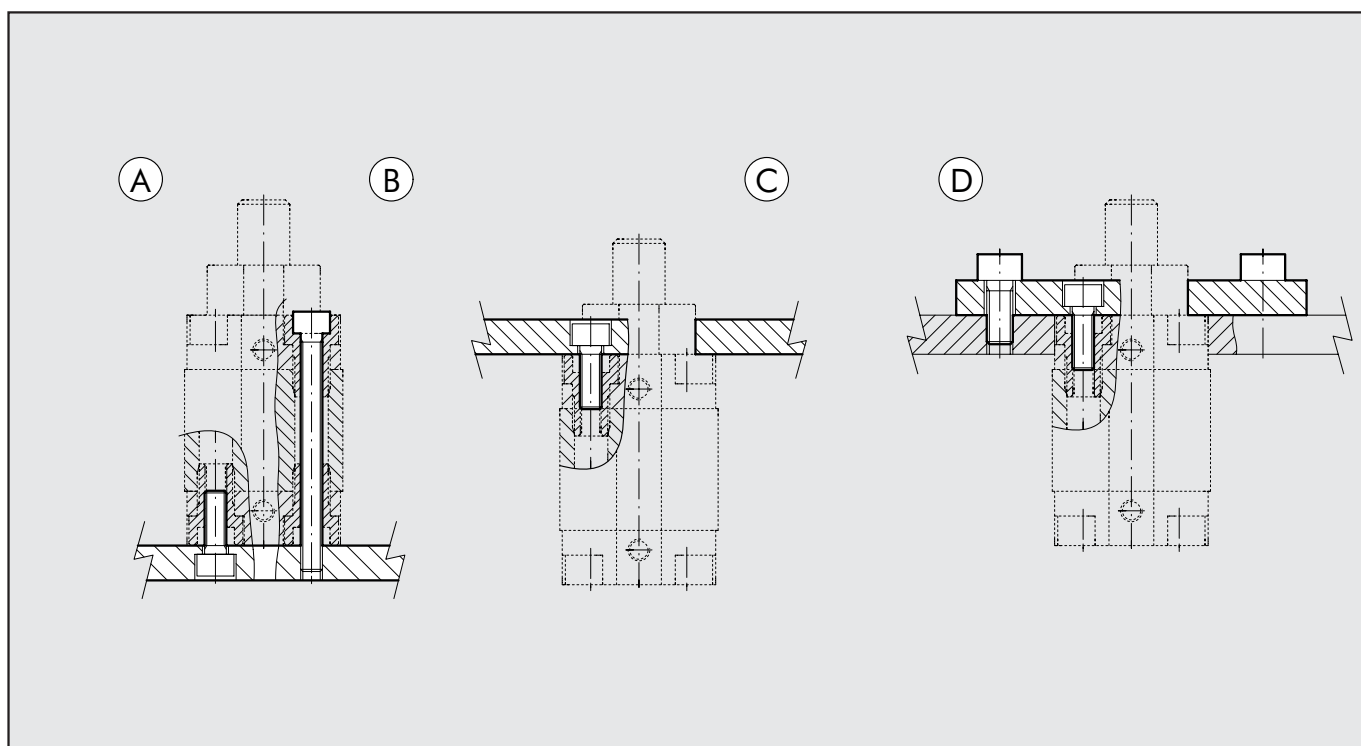


## COMPONENTS Ø 32, Ø 50 e Ø 80

- ① PISTON ROD: Stainless steel, thick chromed
- ② HEAD: extruded anodised aluminium alloy
- ③ JACKET: drawn anodised and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane
- ⑤ MAGNET: Ø32 neodymium-plastic - Ø 50÷80 plastoferrite
- ⑥ PISTON ROD GASKET: polyurethane
- ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert.
- ⑧ STATIC O-rings: NBR
- ⑨ SECURING SCREWS: zinc-plated steel
- ⑩ RETURN SPRING: spring stainless steel
- ⑪ WHEEL: zinc-plated steel



## COMPACT STOPPER CYLINDER FIXING OPTIONS

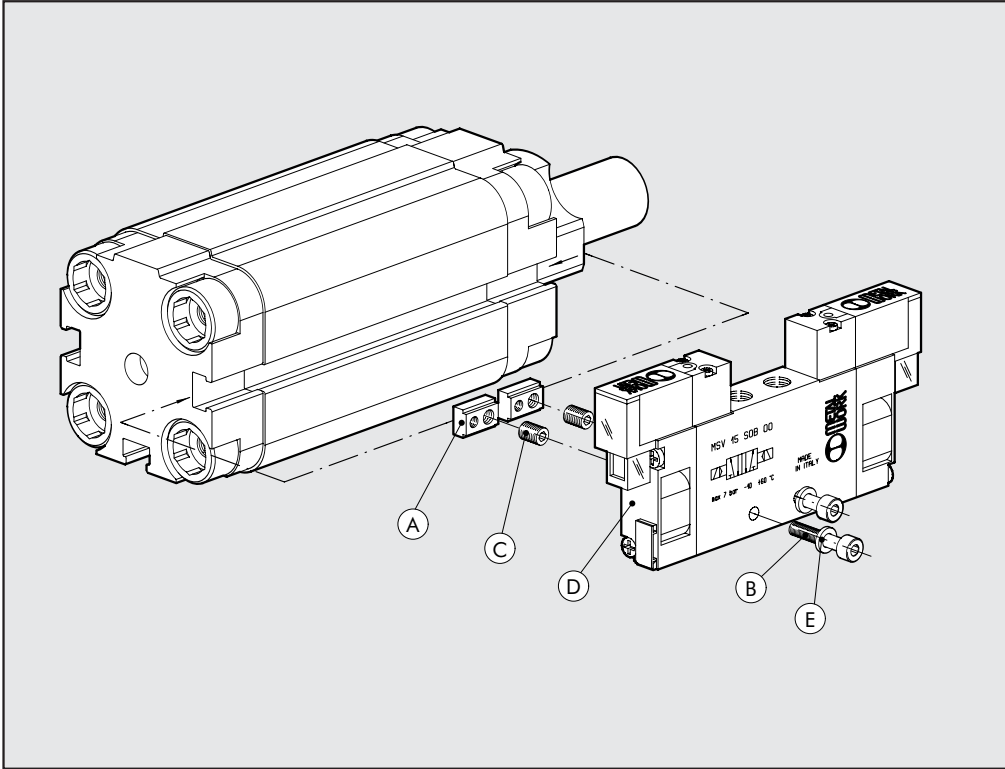


- Fixing with screws, using the thread in the rear heads (Fig. A).
- Direct fixing from above using long through screws or tie rods (Fig. B). Non-magnetic stainless steel must be used (e.g. AISI 304)
- Fixing with screws, using the thread in the front heads (Fig. C).
- Fixing using flange fixed onto the cylinder (Fig. D)

## FORCE OF SPRINGS IN COMPACT STOPPER CYLINDERS (THEORETICAL)

Stroke bore	Ø 20 x 15	Ø 32 x 20	Ø 50 x 30	Ø 80 x 30	Ø 80 x 40
Min. load (N)	13,7	22,4	50,2	97,9	71,0
Max. load (N)	21,2	36,0	115,9	178,5	178,5

## VALVE ASSEMBLY ON CYLINDER



With this type of cylinder, the valves (D) can be mounted directly using the retracting sensor slot, without requiring the use of intermediate brackets. This can be done using the special plates (A) which come with both M3 and M4 threads, and screws (B) of the size, type and quantity shown in the table below.

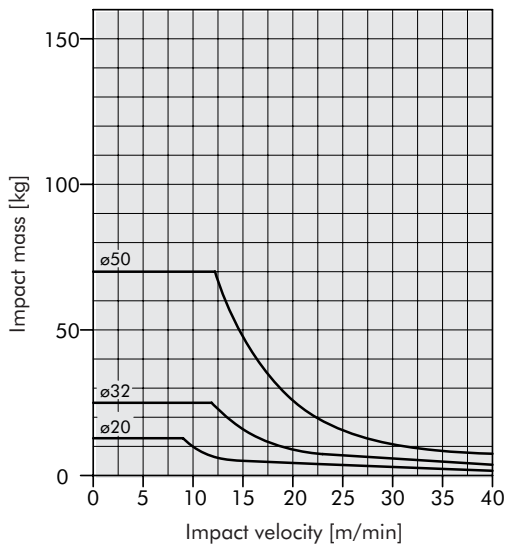
The plates are supplied complete with 2 stud pins, one M3 and one M4 (C).

After the valve centre distance and the position of the valve have been determined, the plates can be secured to the cylinder. A "position memory" will be created to facilitate subsequent maintenance on the valve.

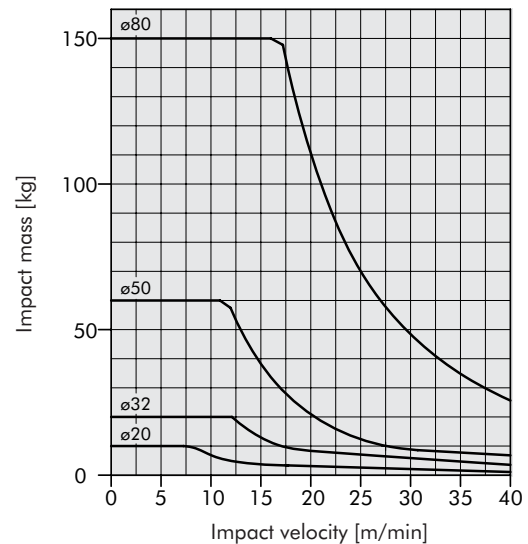
Type of valve to mount (D)	Fixing plate (A) cod. 0950003000	Position memory: grub screw (C) to be used	Screw (B) for connection to the cylinder (one per plate)	Washer (B) (one per screw)
MACH 11	n. 2	M4	M3x16 UNI 5931 (DIN 912)	A3.2 UNI 1751 (DIN 127A)
SERIE 70 1/8	n. 2	M3	M4x25 UNI 5931 (DIN 912)	—
SERIE 70 1/4	n. 2	M3	M4x30 UNI 5931 (DIN 912)	A4.3 UNI 1751 (DIN 127A)

## LOAD GRAPH

### TRUNNION VERSION



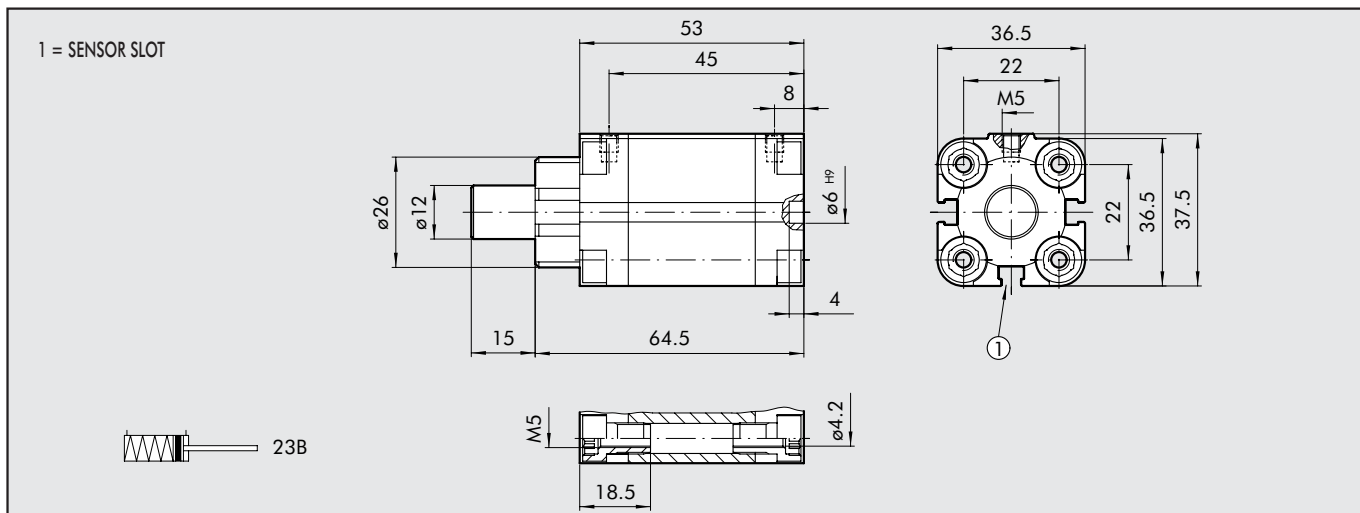
### ROLLER VERSION



With stopper cylinders it is important to keep to the values shown in the graph to prevent early breakage of the mechanical parts. The values shown are only valid with about 1 mm plastic deformation (stopper on chuck).



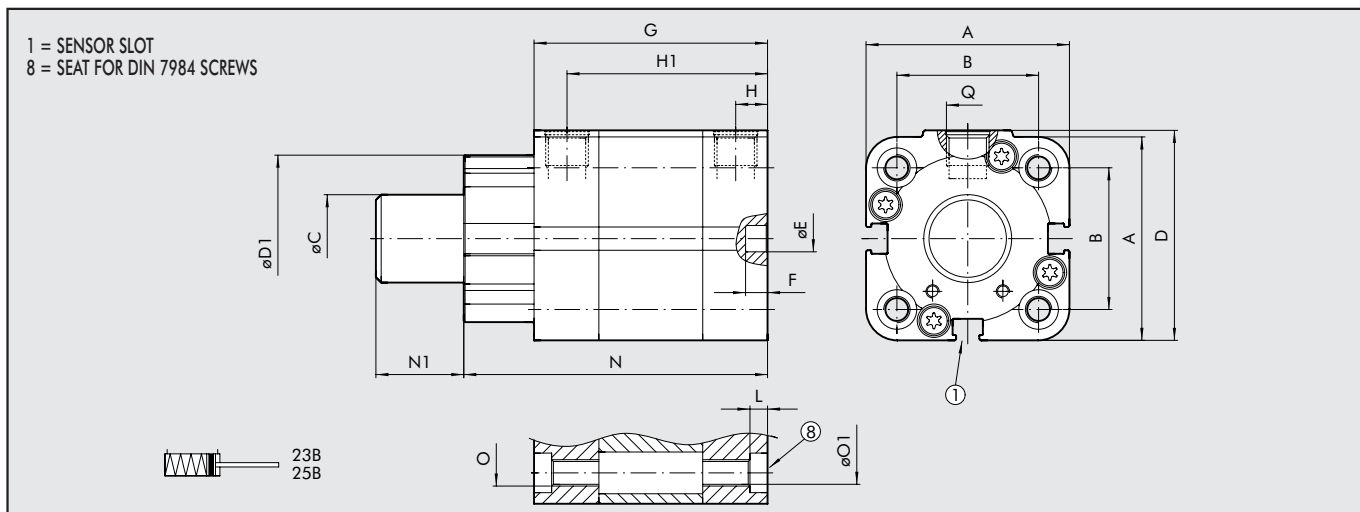
## Ø20 STROKE 15 mm TRUNNION VERSION



### ORDERING CODES

Code	Description
23B0200015XP	Compact stopper cylinder, trunnion Ø20, stroke 15
23BS200015XP	Compact stopper cylinder, trunnion Ø20, stroke 15 (non-magnetic version)

## Ø 32 STROKE 20 mm; Ø 50 STROKE 30 mm TRUNNION VERSION

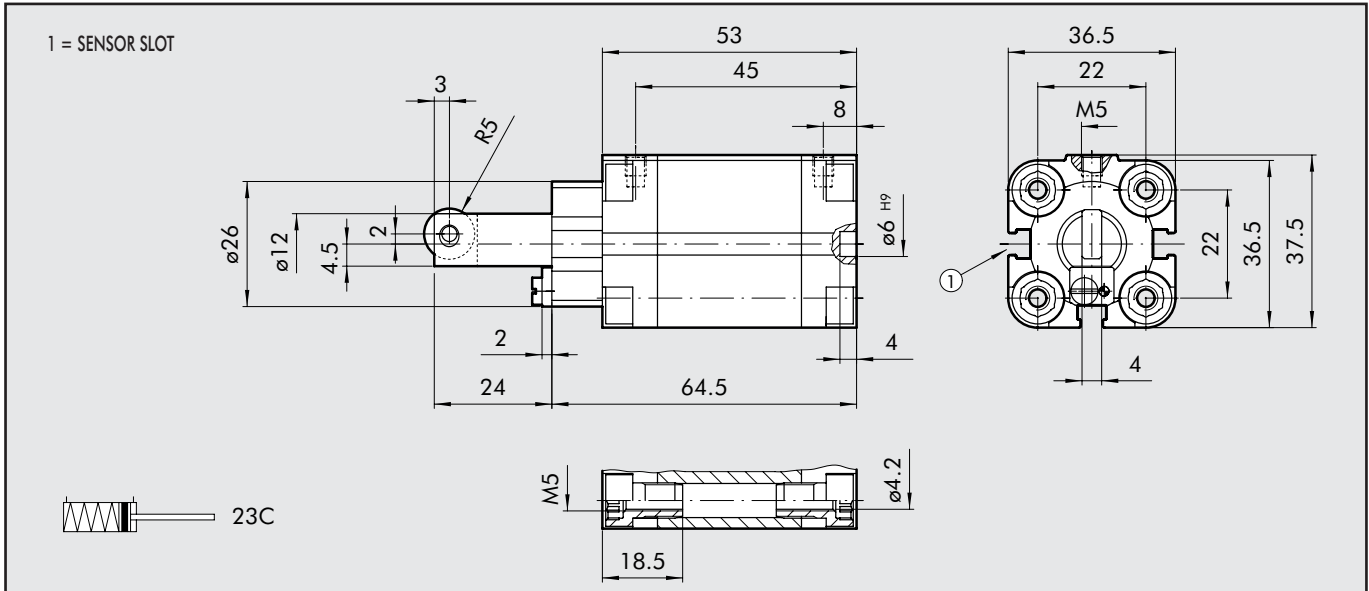


	A	B		ØC	D	D1	ØE	H9	F	G	H	H1	L	N	N1	O		ØO1		Q
		ISO	UNITOP													ISO	UNITOP			
Ø 32x20	47	32.5 <sup>+0.1</sup> <sub>-0.4</sub>	32 <sup>+0.4</sup>	20	48.5	38	6	4	64.5	7.5	57	4	80.5	20	M6	M6	5.2	5.2	G1/8	
Ø 50x30	67	46.5	50	32	69	53	6	4	75.5	7.5	68	4.5	99.5	30	M8	M8	6.2	6.2	G1/8	

### ORDERING CODES

Code	Description
23B0320020XP	Compact stopper cylinder, trunnion Ø32, stroke 20 UNITOP
25B0320020XP	Compact stopper cylinder, trunnion Ø32, stroke 20 ISO 6431
23BS320020XP	Compact stopper cylinder, trunnion Ø32, stroke 20 UNITOP (non-magnetic version)
25BS320020XP	Compact stopper cylinder, trunnion Ø32, stroke 20 ISO 6431 (non-magnetic version)
23B0500030XP	Compact stopper cylinder, trunnion Ø50, stroke 30 UNITOP
25B0500030XP	Compact stopper cylinder, trunnion Ø50, stroke 30 ISO 6431
23BS500030XP	Compact stopper cylinder, trunnion Ø50, stroke 30 UNITOP (non-magnetic version)
25BS500030XP	Compact stopper cylinder, trunnion Ø50, stroke 30 ISO 6431 (non-magnetic version)

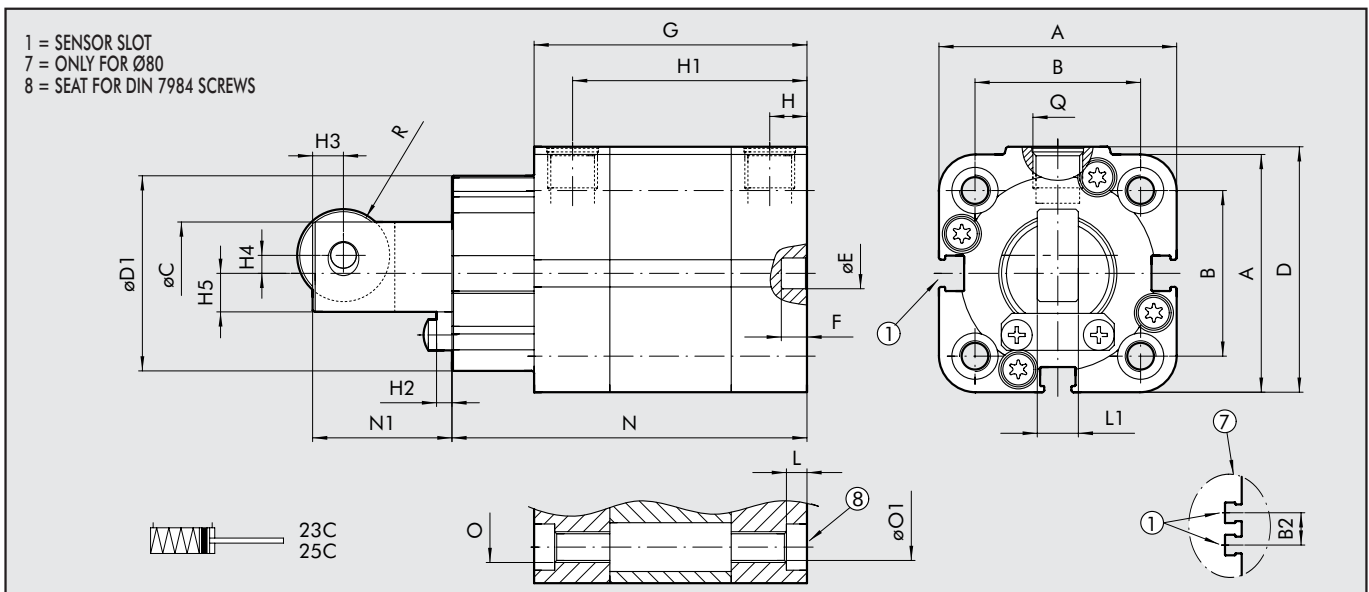
**Ø20 STROKE 15 mm ROLLER VERSION**



**ORDERING CODES**

Code	Description
23C0200015XP	Compact stopper cylinder, roller Ø20, stroke 15
23CS200015XP	Compact stopper cylinder, roller Ø20, stroke 15 (non-magnetic version)

**Ø 32 STROKE 20 mm; Ø 50 STROKE 30 mm; Ø80 STROKE 30 AND 40 mm ROLLER VERSION**



	B					D	D1	ØE H9	G	F	H	H1	H2	H3	H4	H5	O		ØO1	
	A	ISO	UNITOP	B2	ØC												ISO	UNITOP	ISO	UNITOP
Ø 32x20	47	32.5 ±0.1	32 ±0.1	-	20	48.5	38	6	64.5	4	7.5	57	3	6	3.5	7.5	M6	M6	5.2	5.2
Ø 50x30	67	46.5	50	-	32	69	53	6	75.5	4	7.5	68	4	6	7	12	M8	M8	6.2	6.2
Ø 80x30	102	72	82	17	50	105	76	8	126	4	8.5	117.5	8	10	11	18	M10	M10	8.5	8.5
Ø 80x40	102	72	82	17	50	105	76	8	136	4	8.5	127.5	8	10	11	18	M10	M10	8.5	8.5
	L	L1	N	N1	Q	R														
Ø 32x20	4	8	80.5	38	G1/8	9														
Ø 50x30	4.5	10	99.5	50.5	G1/8	12.5														
Ø 80x30	5.5	18	141	63	G1/8	18														
Ø 80x40	5.5	18	151	73	G1/8	18														



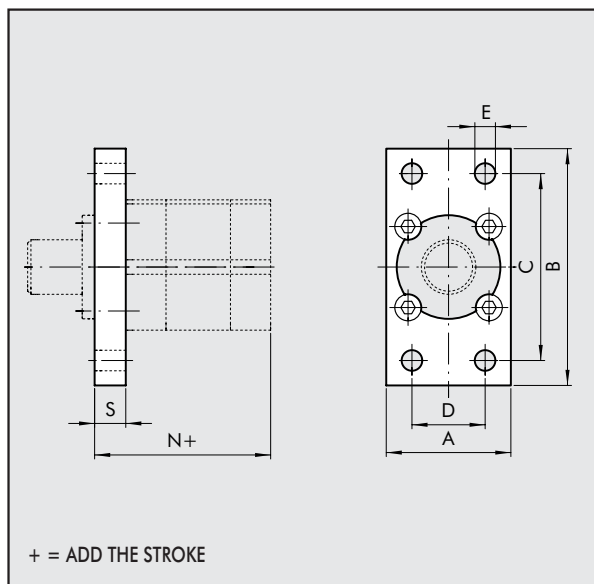
## ORDERING CODES

Code	Description
23C0320020XP	Compact stopper cylinder, roller Ø32, stroke 20 UNITOP
25C0320020XP	Compact stopper cylinder, roller Ø32, stroke 20 ISO 6431
23CS320020XP	Compact stopper cylinder, roller Ø32, stroke 20 UNITOP (non-magnetic version)
25CS320020XP	Compact stopper cylinder, roller Ø32, stroke 20 ISO 6431 (non-magnetic version)
23C0500030XP	Compact stopper cylinder, roller Ø50, stroke 30 UNITOP
25C0500030XP	Compact stopper cylinder, roller Ø50, stroke 30 ISO 6431
23CS500030XP	Compact stopper cylinder, roller Ø50, stroke 30 UNITOP (non-magnetic version)
25CS500030XP	Compact stopper cylinder, roller Ø50, stroke 30 ISO 6431 (non-magnetic version)
23C0800030XP	Compact stopper cylinder, roller Ø80, stroke 30 UNITOP
25C0800030XP	Compact stopper cylinder, roller Ø80, stroke 30 ISO 6431
23CS800030XP	Compact stopper cylinder, roller Ø80, stroke 30 UNITOP (non-magnetic version)
25CS800030XP	Compact stopper cylinder, roller Ø80, stroke 30 ISO 6431 (non-magnetic version)
23C0800040XP	Compact stopper cylinder, roller Ø80, stroke 40 UNITOP
25C0800040XP	Compact stopper cylinder, roller Ø80, stroke 40 ISO 6431
23CS800040XP	Compact stopper cylinder, roller Ø80, stroke 40 UNITOP (non-magnetic version)
25CS800040XP	Compact stopper cylinder, roller Ø80, stroke 40 ISO 6431 (non-magnetic version)

## NOTES

## ACCESSORIES

### FLANGE Ø 32, Ø 50, Ø 80

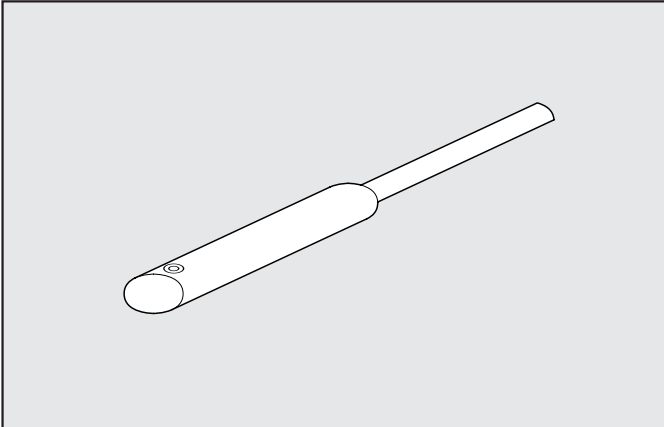


UNITOP codes	Ø	A	B	C	D	E	N	S	Weight [g]
W0950326302	32	50	80	64	32	7	54.5	10	210
W0950506302	50	68	110	90	45	9	57.5	12	502
W0950806302	80	107	160	135	63	12	111	15	1575

ISO codes	Ø	A	B	C	D	E	N	S	Weight [g]
W0950326302	32	50	80	64	32	7	54.5	10	210
W0950506312	50	65	110	90	45	9	57.5	12	447
W0950806312	80	95	153	126	63	12	112	16	1190

Note: Supplied with 4 screws.

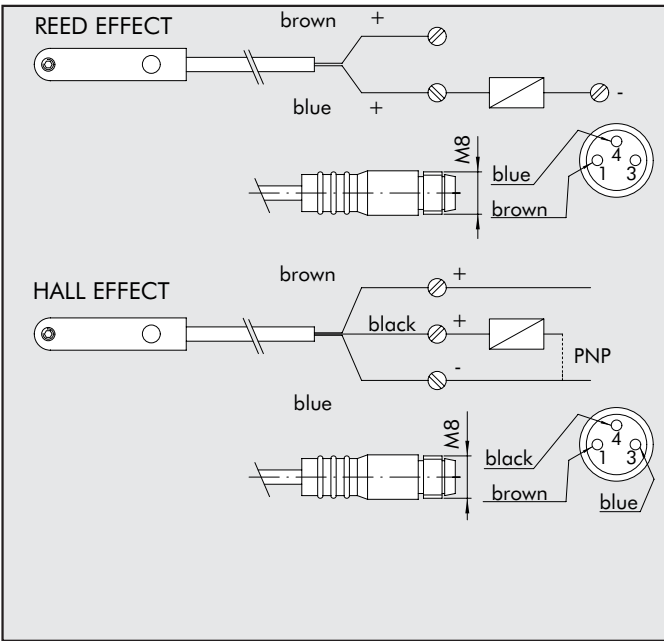
### SLIM SENSOR



Code	Description
W0952025390	HALL N.O. SENSOR, VERTICAL INSERTION 2.5m
W0952029394	HALL N.O. SENSOR, VERTICAL INSERTION 300 mm M8
W0952022180	REED N.O. SENSOR, VERTICAL INSERTION 2.5m
W0952028184	REED N.O. SENSOR, VERTICAL INSERTION 300 mm M8

This type of sensor can be inserted in the slot of the sensor from above. This means the cylinder heads do not require a through opening.

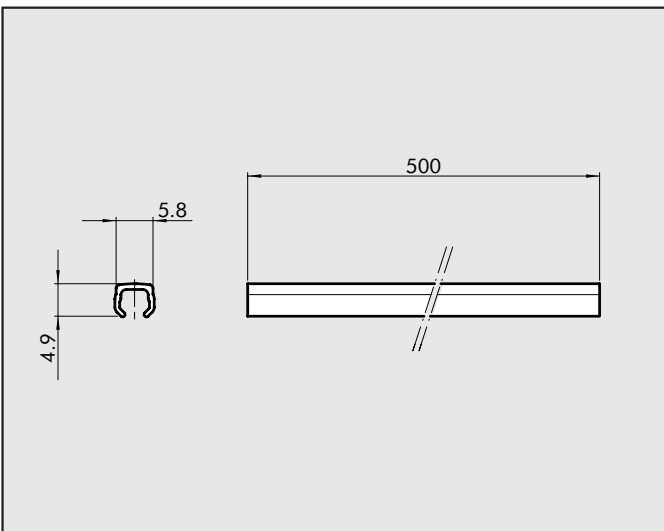
### WIRING DIAGRAM



### TECHNICAL DATA

	Reed	Effetto Hall
Type of contact	N.O.	N.O.
Switch	-	PNP
Supply voltage (U <sub>b</sub> )	V 10 ÷ 30 AC/DC	10 ÷ 30 DC
Power	W 3 (peak valve=6)	3
Voltage variation	-	≤ 10% di U <sub>b</sub>
Voltage drop	V -	≤ 2
Input current	mA -	≤ 10
Output current	mA ≤ 100	≤ 100
Switching frequency	Hz ≤ 400	≤ 5
Short-circuit protection	-	Yes
Over-voltage suppression	-	Yes
Polarity inversion protection	-	Yes
EMC	EN 60 947-5-2	EN 60 947-5-2
LED display	Yellow	Yellow
Magnetic sensitivity	2,8 mT ±25%	2,8 mT ±25%
Repeatability	≤ 0,1 mT	≤ 0,1 mT
Degree of protection (EN 60529)	IP 67	IP 67
Vibration and shock resistance	30 g, 11 ms, 10÷55 Hz, 1mm	30 g, 11 ms, 10÷55 Hz, 1mm
Temperature range	°C -25 ÷ +75	-25 ÷ +75
Sensor capsule material	PA66 + PA6I/6T	PA66 + PA6I/6T
2.5m connecting cable	PVC; 2 x 0,12 mm <sup>2</sup>	PVC; 3 x 0,14 mm <sup>2</sup>
Connecting cable with M8x1	Polyurethane; 2 x 0,14 mm <sup>2</sup>	Polyurethane; 3 x 0,14 mm <sup>2</sup>

### STRIP



Code	Description
W0950000160	SLOT STRIP 500 mm

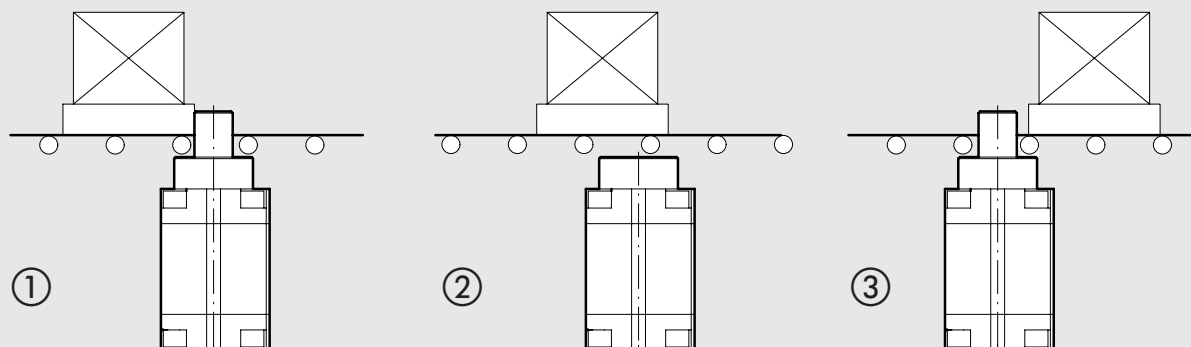
Note: The code corresponds to 1 piece.



## OPERATING DIAGRAMS

### TRUNNION VERSION

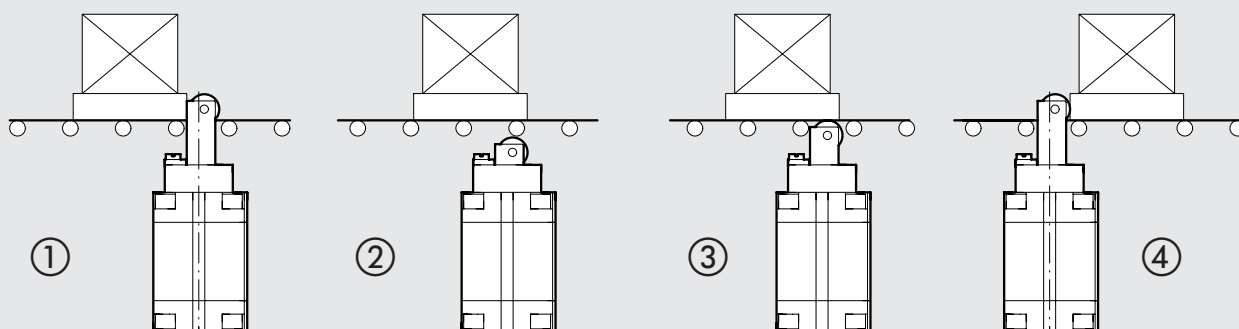
Direction of movement



- 1 - Deceleration of the chuck as it comes into contact with the piston rod, with plastic deformation of about 1 mm.
- 2 - The cylinder is pressurized to release the chuck.
- 3 - The pressure in the front chamber is maintained until the chuck has passed the stopper cylinder. The piston rod extends due to the effect of the spring and any pressure in the opposite chamber. The system is now ready to stop the next chuck.

### ROLLER VERSION

Direction of movement



- 1 - Deceleration of the chuck as it comes into contact with the piston rod, with plastic deformation of about 1 mm.
- 2 - The cylinder is pressurized to release the chuck.
- 3 - When the pressure in the front chamber drops, the piston rod extends due to the effect of the spring or any pressure until the wheel reaches the chuck and moves it on.
- 4 - After the chuck has passed, the cylinder extends the piston rod fully. The system is now ready to stop the next chuck.

