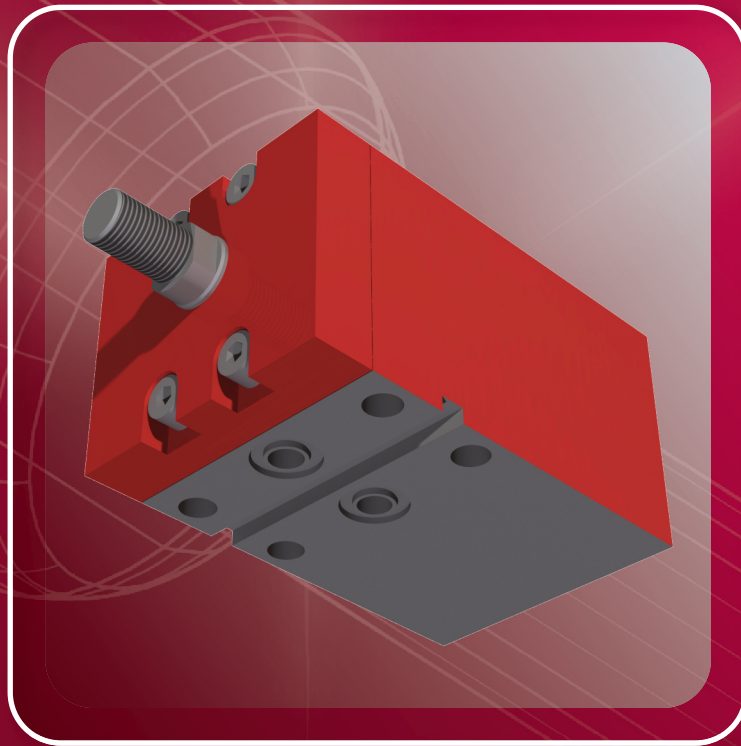


Hydraulic Cylinders

Double Acting



VSM SERIE

ISO Seals

Maximum working Pressure : 300 bar

Bores : Ø25 to 125 mm





GENERAL CHARACTERISTICS

- Use Pressure : 160 - 300 bar maxi
- Test Pressure : 450 bar
- Fluids : Hydraulic Mineral oils HM-HL
10 to 40 Cst at 50 °C
very low-flammability inflammables C or D class
- Temperature : from -20 to +80 °C : Seals class N
up to +200 °C : Seals class V
glycol water max 90 °C : Seals class G
- Operating speed : 0.5 m/sec max.
- Filtering : ISO 17/14 or better
- Direct fitting ports «manifold»
- Sealing by O-Ring

FORCES

- Thrust force (daN)

Ø Bore	Section cm ²	Pressure (bar)						
		90	120	140	160	180	200	300
25	4,90	441	588	686	784	882	980	1 470
32	8,04	724	965	1 126	1 286	1 447	1 608	2 412
40	12,56	1 130	1 507	1 758	2 010	2 261	2 512	3 768
50	19,63	1 767	2 356	2 748	3 141	3 533	3 926	5 889
63	31,17	2 805	3 740	4 364	4 987	5 611	6 234	9 351
80	50,26	4 523	6 031	7 036	8 042	9 047	10 052	15 078
100	78,54	7 069	9 425	10 996	12 566	14 137	15 708	23 562
125	122,72	11 045	14 726	17 181	19 635	22 090	24 544	36 816

All dimensions are in mm

- Pull force (daN)

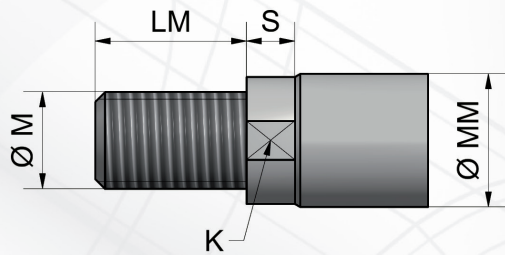
Ø Bore	Ø Rod	Annular area cm ²	Pressure (bar)						
			90	120	140	160	180	200	300
25	16	2,90	261	348	406	464	522	580	870
32	18	5,50	495	660	770	880	990	1 100	1 650
40	22	8,76	788	1 051	1 226	1 402	1 577	1 752	2 628
50	28	13,48	1 213	1 618	1 887	2 157	2 426	2 696	4 044
63	36	21,00	1 890	2 520	2 940	3 360	3 780	4 200	6 300
80	45	34,36	3 092	4 123	4 810	5 498	6 185	6 872	10 308
100	56	53,91	4 852	6 469	7 547	8 626	9 704	10 782	16 173
125	70	84,24	7 582	10 109	11 794	13 478	15 163	16 848	25 272

All dimensions are in mm

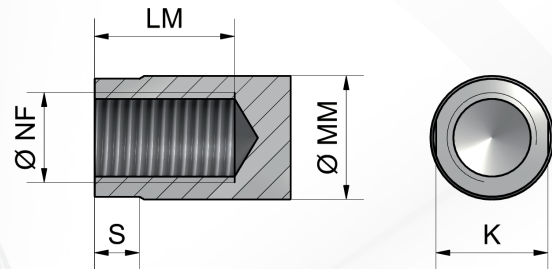


ROD END

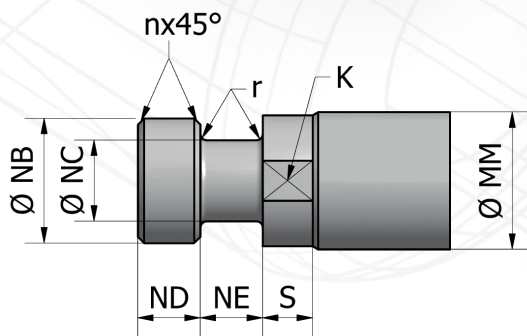
EXTERIOR THREAD (code1)



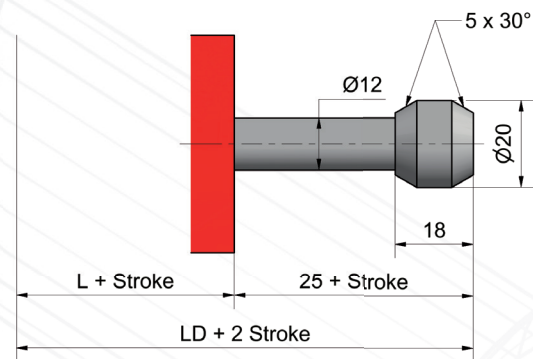
INTERIOR THREAD (code2)



TENON (code3)



INFORMATION ROD (codeD)



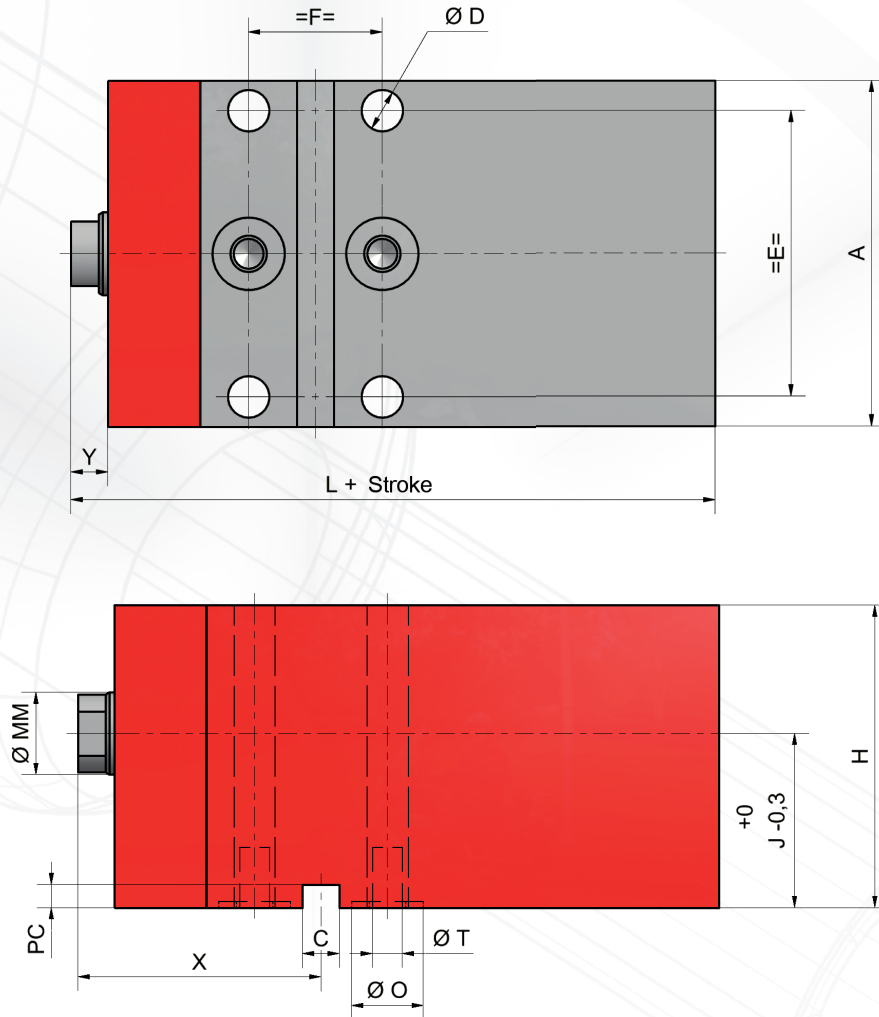
Ø Bore	25	32	40	50	63	80	100	125
Ø MM (Ø Rod)	16	18	22	28	36	45	56	70
K	12	14	17	22	30	36	46	60
LM	20	20	25	30	40	50	60	70
Ø M	M12x1,25	M12x1,25	M16x1,5	M20x1,5	M27x2	M33x2	M42x2	M52x2
Ø NB	14	16	20	25	33	42	53	67
Ø NC	8	10	13	16	22	30	36	46
ND	6	8	10	13	16	20	30	30
NE	6	8	10	13	16	20	30	30
n	0,5	1	1	1	2	2	2	2
r	1	1	1	1	2	2	2	2
Ø NF	M8x1,25	M8x1,25	M10x1,5	M16x1,5	M20x1,5	M27x2	M33x2	M42x2
S	5	6	8	8	10	12	12	13

All dimensions are in mm

VSM SERIE

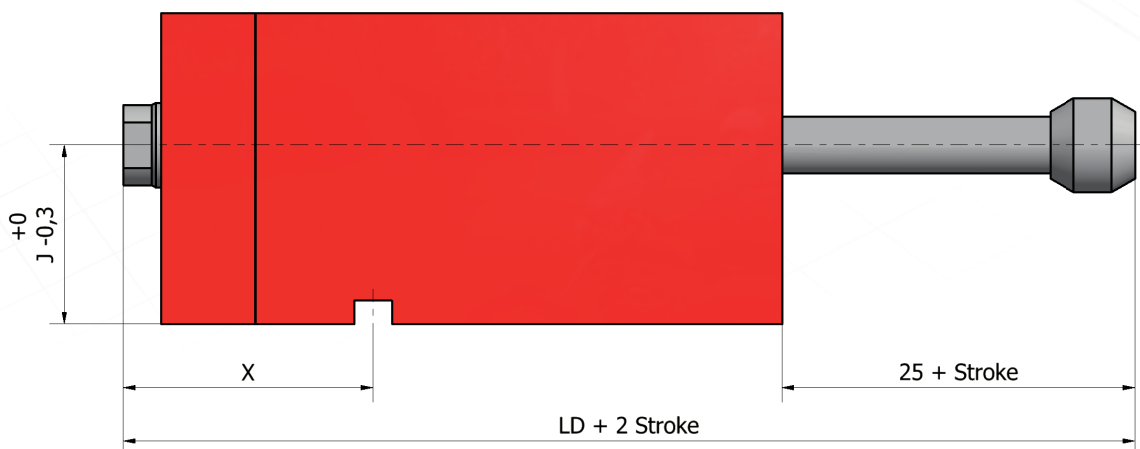
VOLUME

- Anticipate the screw head height in addition to the H dimension or choose LV option



X = Indicate at order

INFORMATION ROD



VSM SERIE

Ø Bore	25	32	40	50	63	80	100	125
Ø MM (Ø Rod)	16	18	22	28	36	45	56	70
A	60	75	90	100	120	150	170	200
C	6	8	8	10	12	16	16	20
Ø D	6,6	9	11	11	13	13	15	17
E	46	62	72	82	98	126	146	170
F	23	29	34	35	42	44	48	56
H	50	66	76	86	106	130	155	182
Ø J	26	38	45	50	60	70	85	100
L + Stroke ± 1mm	73	90	105	105	130	139	154	180
LD + 2 Stroke	98	115	130	130	155	164	179	205
Ø O - O-Ring Seals	R7	R9	R12	R12	R13	R14	R14	R14
PC	4	5	5	5	5	5	5	5
Ø T	5,5	6,5	10	10	12	14	14	14
X min.	43	53	60	60	72	76	87	97
X max.	X min. + Stroke							
Y	7	8	10	10	12	14	14	15

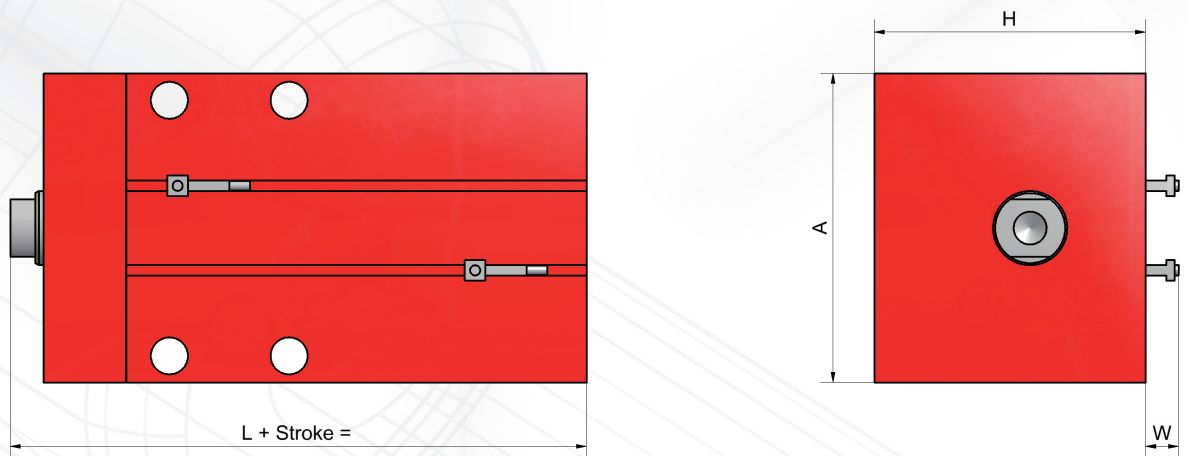
All dimensions are in mm

VSM SERIE

■ MAGNETIC SENSOR ONLY Ø32 TO 80

WORKING PRESSURE, 160 BAR MAXIMUM

- Anticipate the screw head height in addition to H dimension or choose LV option



Ø Bore	32	40	50	63	80
L	90	105	105	130	139
W	8	8	8	8	8

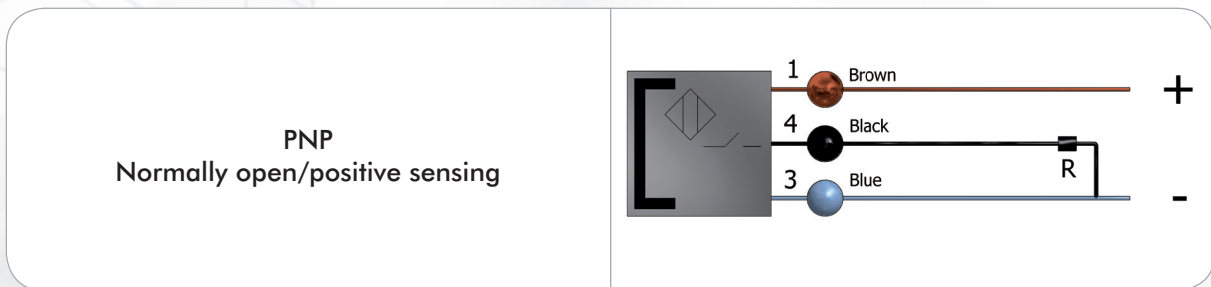
All dimensions are in mm

Note : For all VSM type magnetic detection cylinders, a minimum stroke of 15 mm is mandatory.
Operating Temperature - 25 + 85 °C.

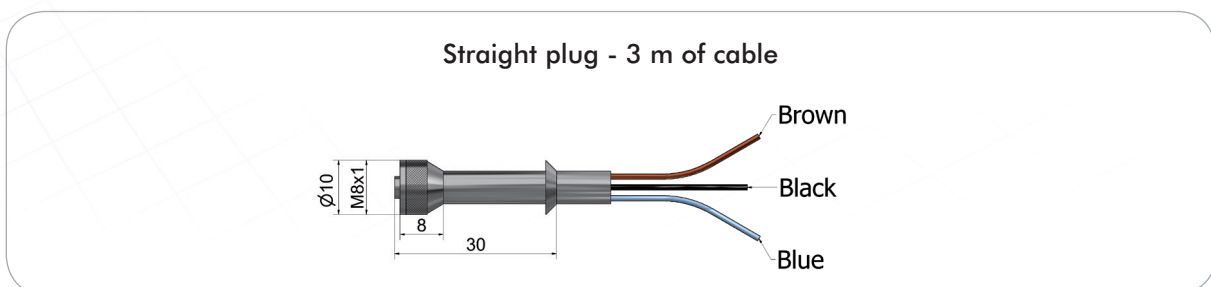
WARNING !!!

- To avoid any contact errors no external magnetic field which exceeds 1 Ka/m shall surround the cylinder.
- There must be no ferritic material close to the magnetic sensors.
- Covers must be provided against ferritic swarf.
- Ambient temperature must not exceed + 85° C.

TECHNICAL CHARACTERISTICS OF MAGNETIC SENSOR.



Operating voltage U_B	10...30 V DC
Voltage drop U_d	$\leq 3,1V$
Rated insulation voltage U_i	75 V DC
Eff.operating current I_o	200 mA
No-load current I_o max.	≤ 30 mA
Polarity reversal protected	Yes
Short circuit protected	Yes
Intervention protected	Yes
Rated switching field strength $ H_n $	1,2 kA/m
Assured switching field streng	≥ 2 kA/m
Hysteresis of $ H_n $	≤ 45 %
Temperature drift $ H_n $	$\leq 0,3$ %/°C
Ambient temperature T_a	-25...+85 °C
Enclosure Type per IEC 60529	IP 67
Approvals/ conformity	CE, cULus
Housing material	LCP
Connection type	Cable with connector M8





■ HOW TO ORDER

Serie	Cylinder	VSM
Ø Bore	Indicate the diameter in mm 25, 32, 40, 50, 63, 80, 100, 125	***
Mounting	Fitting ports	MS
Rod end	Exterior thread	1
	Interior thread	2
	Tenon	3
Seals quality	Standard seals, +80° maxi	N
	Viton seals, +200° maxi	V
	Glycol water , +90° maxi	G
Stroke	Indicate real stroke in mm	***
Rod	Single rod	S
	Information rod	D
X dimension	Indicate in mm	***

■ OPTIONAL AVAILABLE ON REQUEST

Magnetic sensor	From Ø32 to Ø80 Seals quality N Working pressure 160 bar maxi	DM
-----------------	---	----

■ EXAMPLE

Serie	Ø Bore	Mounting	Rod end	Seals	Stroke	Rod	OPTION
VSM	80	MS	2	G	120	S	DM

*HPS reserves the right to modify at any time and without notice the dimensions that are presented only for guidance.



Head office:

Hydraulique Production Systems

62, chemin de la Chapelle Saint-Antoine

Z.A.C. - 95300 ENNERY - FRANCE

Tél. : +33.1.34.35.38.38 - Fax : +33.1.30.75.08.08

E-mail : hps@hp-systems.fr - www.hp-systems.fr