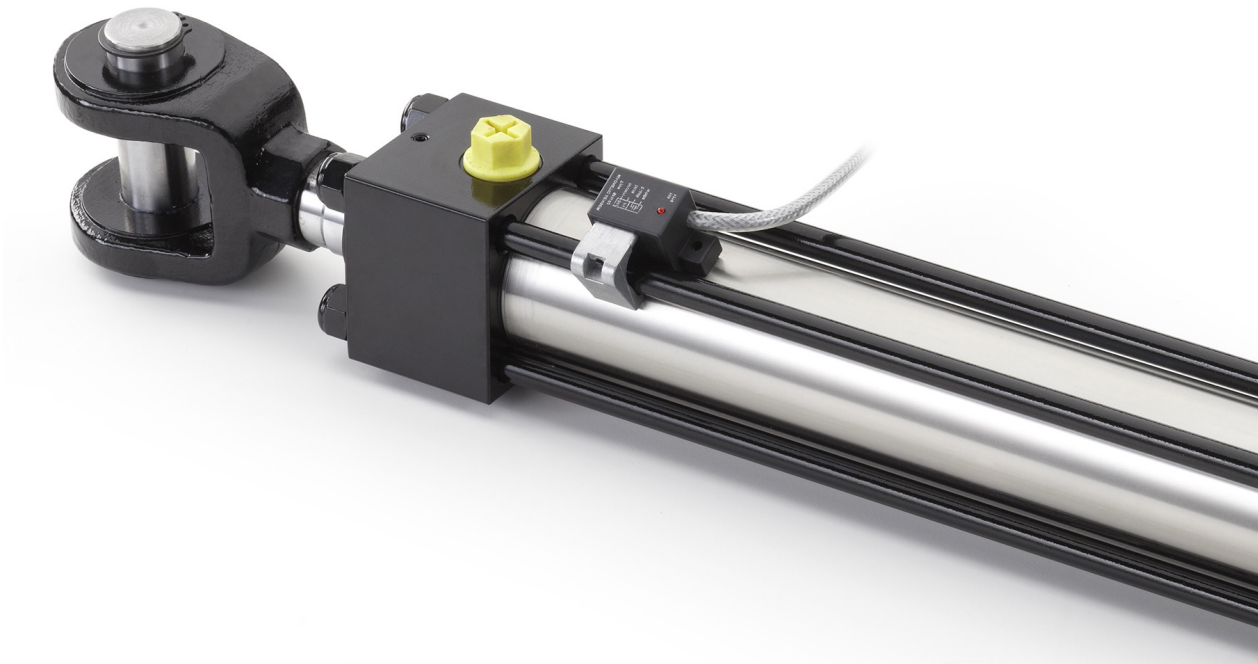
CHM
CYLINDERS SERIES

STANDARD ISO 6020/2 - 1991 -
DIN 24454 160 BAR COMPACT SERIES



GRICES HYDRAULIC CYLINDERS

CHM CYLINDERS SERIES

STANDARD ISO 6020/2 - 1991 -
DIN 24454 160 BAR COMPACT SERIES

CHM cylinder series, with **adjustable proximity sensors**, derives from the CH series and follows international standards **ISO 6020/2 and DIN 24554**. The compact construction with squared heads and tie rod fits to every kind of industrial application with continuous nominal pressure up to **12 MPa.**

The tube in stainless steel and the piston with integrated permanent magnet allows the sensor to detect the rod position. These sensors can be used to execute sequences of cycles or to set the desired position. The sensors are mounted with adjustable brackets on the tie rods and can be positioned along all cylinder stroke. As the sensors detect the integrated permanent magnet of the piston, the commutation of the electrical circuit occurs.

The sensor available is: **KPN** type, electronic with high sensitivity and infinite electronic life, with 3 circuit cables.

The choice of selected materials, the severe controls of 100% of all cylinders produced and the quality of the means of production, allow us to reach 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:

- Standard ISO 6020/2 and DIN 24554.
- Adjustable proximity sensors type KPN “Hall effect” IP67
- Nominal pressure 12 MPa (continuous operation)
- Maximum pressure 16 MPa
- Bore 25-100 mm
- Stroke up to 4000 mm
- Single or double rod
- Up to 3 rod diameter per bore
- 13 Mounting styles Ref. ISO MP1 - MP3 - MS2 - MT1 - MT2 - ME5 - ME6 - MP5 - MX6 - MX2 - MX5 - MX3 - MX1

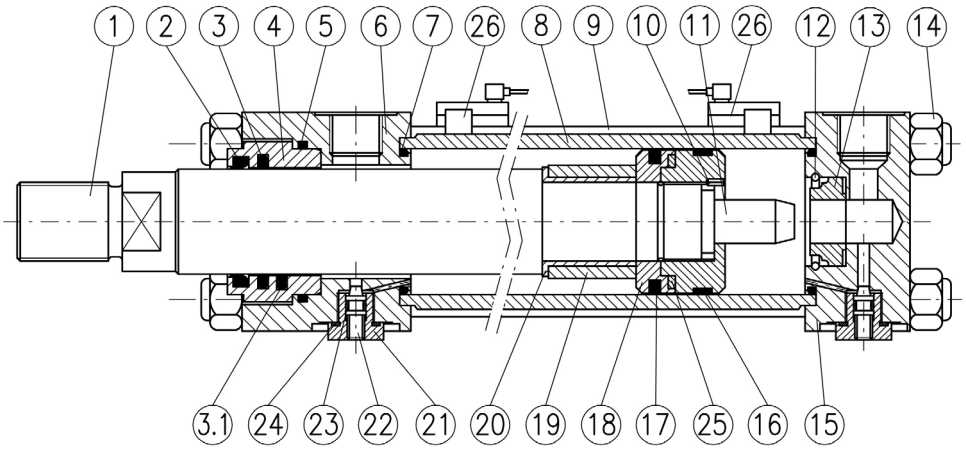
Options:

- Fixed or adjustable cushionings
- Air bleeds
- Rod treatment : chromed, induction hardened and chromed, nickel-chromed
- Drainage

EPC Cylinder configurator

This is an innovative tool that allows the client to configure CHM 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 PDF drawings, 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.

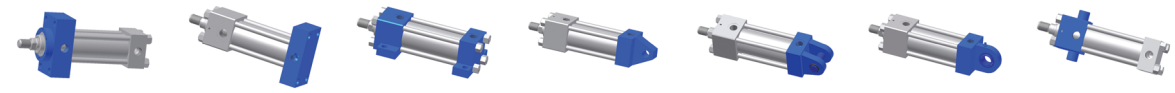
Login at: http://configuratore.grices.it/



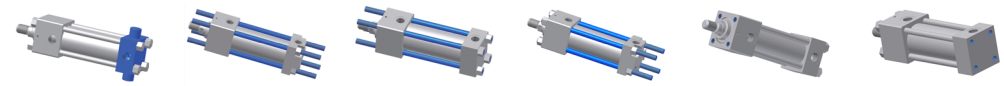
N°	ITEM	MATERIAL
1	Rod	Chromium-plated steel
2	Dust scraper	Polyurethane
3	Rod seal	Polyurethane / PTFE
3.1	2nd Rod seal (option L)	Polyurethane / PTFE
4	Guide sleeve	Cast iron
5	O-Ring + PBK	Nitrile rubber + Polyurethane
6	Head	Steel
7	O-Ring + PBK	Nitrile rubber + Polyurethane
8	Body	Nonmagnetic stainless steel
9	Tie rod	Steel
10	Safety pin	Steel
11	Cushioning spur	Steel
12	Toroidal ring	Steel
13	Rear cushioning bushing	Bronze
14	Self-braking nut	Steel
15	Rear head	Steel
16	Anti-friction slide	PTFE
17	Piston seal	Nitrile rubber PTFE / Polyurethane
18	Piston	Nonmagnetic steel
19	Front cushioning sleeve	Steel
20	Spacer	Steel
21	Safety plug	Steel
22	Adjustment needle	Steel
23	O-Ring	Nitrile rubber
24	Locknut	NBR
25	Position indicator	-
26	Sensor switch	-

Mounting style

FA ISO ME5 | **FP** ISO ME6 | **PI** ISO MS2 | **CM** ISO MP3 | **CF** ISO MP1 | **CS** ISO MP5 | **OA** ISO MT1



OP ISO MT2 | **AP** ISO MX1 | **TA** ISO MX3 | **TP** ISO MX2 | **ZA** ISO MX5 | **ZP** ISO MX6



TECHNICAL CHARACTERISTICS

STANDARD ISO 6020/2 - 1991 -
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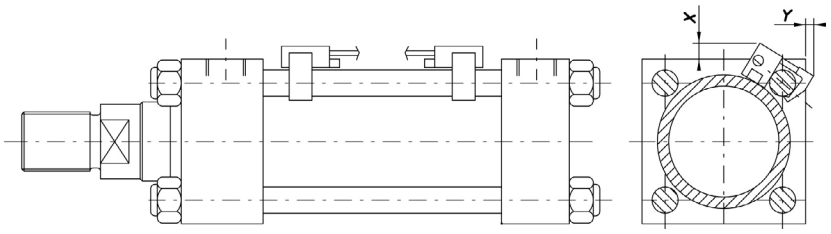
ADJUSTABLE POSITION SENSORS

The sensors mounted on the cylinder body and detect the presence of the magnetic field created by the magnet inside the cylinder. The sensor is a switch and accordingly must be always mounted in series to a load (of inductive, resistive or capacitive type), without exceeding the limits of its electrical characteristics. The LED sensors work at a minimum voltage of 20V, because of their display circuit. Sensors are provided with 3 m long cable. The sensor dimensions are indicated in the table below, and must be added to dimensions specified for series CH.

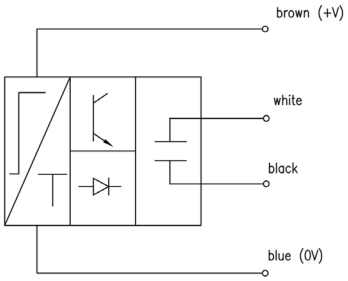


Bore	25	32	40	50	63	80	100
X (mm)	33	32	29	26	24	21	22
Y (mm)	21	23	17	15	14	10	12

TECHNICAL CHARACTERISTICS

PARAMETER	Unit	SFM01
Nominal voltage DC	V	24 ±20%
Visual signal led	-	SI
Relay contact output	-	SI
PNP output	-	SI
NPN output	-	SI
Reverse polarity protection	-	SI
Short circuit protection	-	SI
Inductive load protection	-	SI
Power supply noise protection	-	SI
Electrical nominale life (worst case)	n	200.000
Mechanical nominal life (worst case)	n	10e7
Position repeatability const. temp.	mm	0,1
Hysteresis		0,3
Switch off time (15-80ms)	-	SI
Max working temperature	°C	70
Protection level	-	IP67
Max. admitted current	A	1 30W
Delay	msec	15
Armoured cable 4x0.25	-	-

Circuit



AVAILABLE MODELS

The OI execution is not available. Any other execution is manufactured with 25 to 100mm bore.

SENSOR INSTALLATION

When the sensors are located near the cylinder heads (< 15mm), magnetic interference can occur, caused by the magnetic field generated by the piston magnet and cylinder heads. This can cause difficulties in sensors commutation.
For further information contact our Technical Department.

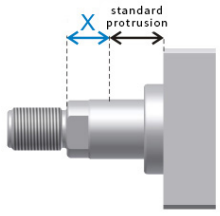
EXAMPLE OF ORDER ACRONYM

CHM/50/28/0/530/FA00A00I000KPN0Q132R13200

CHARACTERISTIC	DESCRIPTION	SYM.	EXAMPLE
SERIES	Tie rod execution, with magnetic sensors	CHM	**CHM**/
BORE	Indicate in mm		CHM/**50**/
ROD	Indicate in mm		CHM/50/**28**/
ROD N°2	Indicate in mm (piston rod only)		CHM/50/28/**0**/
STROKE	Indicate in mm		CHM/50/28/0/**530**/
EXECUTION	Rear + front protruding tie rods	AP	CHM/50/28/0/530/**FA**
	Front flange	FA	
	Rear flange	FP	
	Feet	PI	
	Female hinge	CF	
	Male hinge	CM	
	Joint hinge	CS	
	Front trunnion	OA	
	Rear trunnion	OP	
	Front protruding tie rods	TA	
	Rear protruding tie rods	TP	
	Front treaded holes	ZA	
	Rear treaded holes	ZP	
CUSHIONING	None	0	CHM/50/28/0/530/FA**0**
	Front cushioning	1	
	Rear cushioning	2	
	Front + rear cushioning	3	
SPACER	None	0	CHM/50/28/0/530/FA0**0**
	50 mm	1	
	100 mm	2	
	150 mm	3	
	200 mm	4	
SEALS	Elastomer + nitrile (standard)	A	CHM/50/28/0/530/FA00**A**
	Nitrile + ptfe (anti-friction)	B	
1° ROD ENDS	Type M (standard)	0	CHM/50/28/0/530/FA00A**0**
	Type D	D	
	Type F	F	
	Hammer head	U	
2° ROD ENDS	Type M (standard)	0	CHM/50/28/0/530/FA00A0**0**
	Type D	D	
	Type F	F	
	Hammer head	U	
AIR BLEEDS	None	0	CHM/50/28/0/530/FA00A00**I**
	Front	G	
	Rear	H	
	Front + rear	I	
DOUBLE ROD SEAL	None	0	CHM/50/28/0/530/FA00A00I**0**
	Double rod seal	L	
DRAINAGE	None	0	CHM/50/28/0/530/FA00A00I0**0**
	Rod side	W	

CHARACTERISTIC	DESCRIPTION	SYM.	EXAMPLE
ROD TREATMENT	None	**0**	CHM/50/28/0/530/FA00A00I00**0**
	Heavy chromium-plated, 0.045Mm thick, 100H salt mist iso 3768	**p**	
	Hardening and chromium-plating	**T**	
	Ni-CROMAX30 chromium-plated, nickelplated, ASTM B 117 1000h	**N**	
SENSOR SWITCHES	None	**0**	CHM/50/28/0/530/FA00A00I000**KPN**
	SFM 01	**KPN**	
N° OF SWITCHES	Indicate quantity		CHM/50/28/0/530/FA00A00I000KPN**0**
FRONT HEAD			
POS. OIL PORTS	Side **1** / Side **2** / Side **3** / Side **4**		CHM/50/28/0/530/FA00A00I000KPN0**Q1**
POS. CUSHIONING	**0** if not requested		CHM/50/28/0/530/FA00A00I000KPN0Q1**3**
	Side **1** / Side **2** / Side **3** / Side **4**		
POS. AIR BLEED	**0** if not requested		CHM/50/28/0/530/FA00A00I000KPN0Q13**2**
	Side **1** / Side **2** / Side **3** / Side **4**		
REAR HEAD			
POS. OIL PORTS	Side **1** / Side **2** / Side **3** / Side **4**		CHM/50/28/0/530/FA00A00I000KPN0Q132**R1**
POS. CUSHIONING	**0** if not requested		CHM/50/28/0/530/FA00A00I000KPN0Q132R1**3**
	Side **1** / Side **2** / Side **3** / Side **4**		
POS. AIR BLEED	**0** if not requested		CHM/50/28/0/530/FA00A00I000KPN0Q132R13**2**
	Side **1** / Side **2** / Side **3** / Side **4**		
*EXTRA ROD N°1 X1 QUOTE	Indicate mm		CHM/50/28/0/530/FA00A00I000KPN0Q132R132**0**
*EXTRA ROD N°2 X2 QUOTE	Indicate mm		CHM/50/28/0/530/FA00A00I000KPN0Q132R13200
OPTIONS			
HYDRAULIC PLATE	ISO Cetop 03	**NG03**	*if requested, indicate at the end of the code* CHM/50/28/0/530/FA00A00I000KPN0Q132R13200/**NG03**
	ISO Cetop 05	**NG05**	

**Specify the possible extra-rod (X) size in addition to the standard rod protrusion:*



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.