



Mould Hydraulic Systems

Double rod compact Hydraulic Cylinders 350 bar

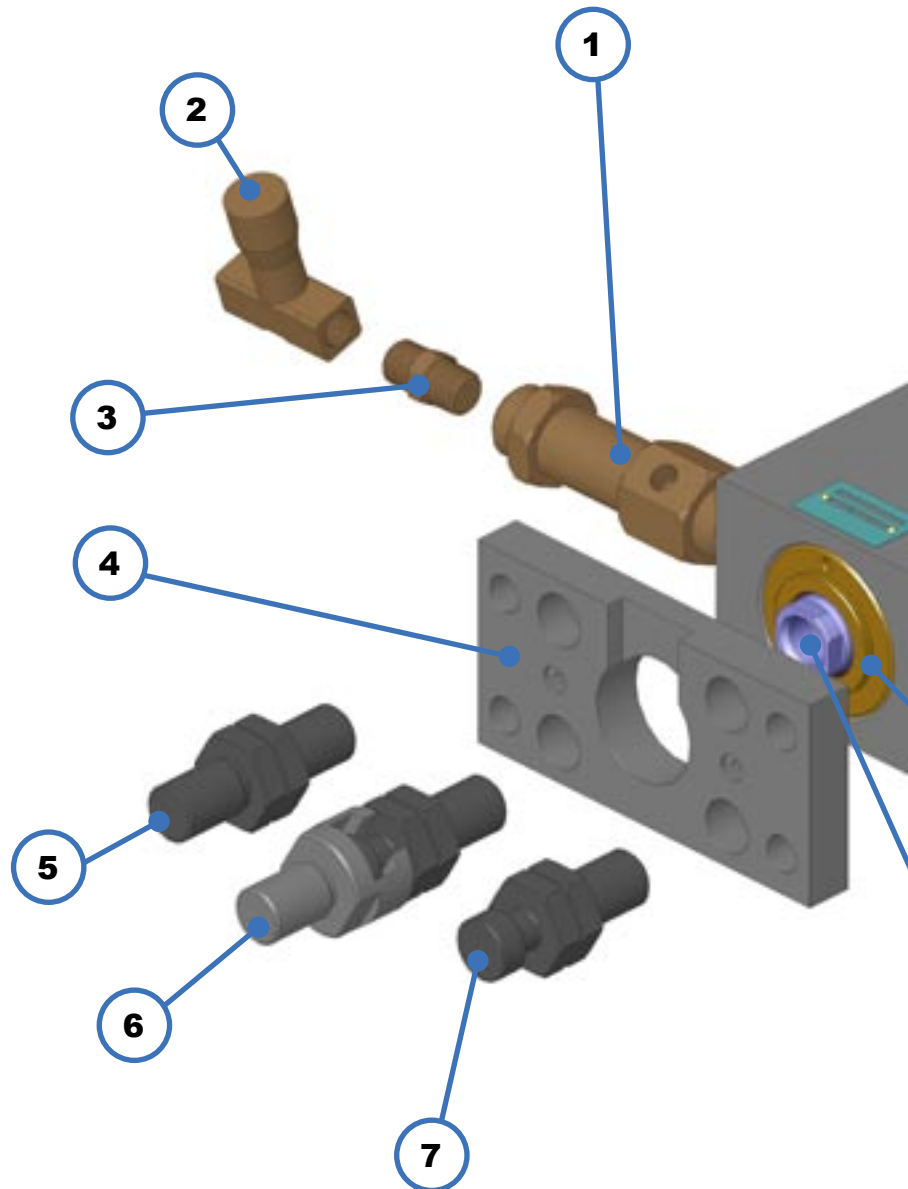


V350CBR

V350CBR

V350CBX Double rod compact

- 1 Accessory:
Pilot operated non return valve to increase the force of the cylinder to keep pushing (see accessory catalogue).
- 2 Accessory:
Unidirectional flow controller to regulate or reduce the speed of the piston (see accessory catalogue).
- 3 Accessory:
Steel hydraulic pipe fittings for non return valves and flow controllers (see accessory catalogue).
- 4 Steel applicable flange (see page N/20). It is equipped with screws for clamping on the cylinder. It is available for bore over 40 mm.
- 5 Accessory:
Male thread rod accessory with locknut (see accessory catalogue).
- 6 Accessory:
Floating joint rod end with locknut and female floating joint, providing an easier clamping of the cylinder on the mould (see accessory catalogue).
- 7 Accessory:
Floating joint rod end style with locknut (see accessory catalogue).
- 8 Integrated rod-piston group all in one in hardened steel (58 HRC) with antioxidant covering to facilitate lubrication and sliding.
- 9 Cartridge in cast iron with guide supports in cast iron for a higher mechanical resistance. With low friction seals in PTFE+Bronze and O-Rings in Viton®.
- 10 Steel body with low roughness for a better sliding.
Customisation option with 3 possible clamping styles and 3 different types of oil ports (see page N/6-N/12).
- 11 Integrated mechanical micro switches for end stroke position monitoring (see pages N/14-N/17).
- 12 Cover protection for the mechanical micro switches.



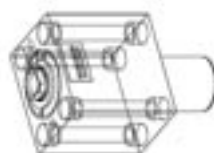
et hydraulic cylinders 350 bar

General Characteristics:

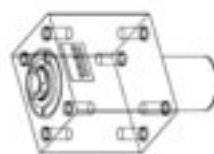
- **Maximum working pressure:** up to 350 bar (for details see pages N/6 ÷ N/8)
- **Bore:** from Ø 32 to Ø 100 mm.
- **Rod diameter:** 22 ÷ 45 mm.
- **Stroke:** 30 or 50 mm. (for details see page N/5)
- **Working temperature:**
 - without micro switches:** from -20°C to +160°C
 - with micro switches:** from -20°C to +120°C

AVAILABLE CLAMPING STYLES

(for details see pages N/6 ÷ N/8)



- Longitudinal through holes (4)



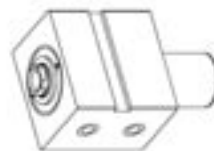
- Frontal and back threaded holes (4+4)



- Lateral through holes (2 or 4 according to the stroke) with keyway

AVAILABLE OIL DELIVERY PORTS

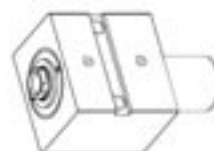
(for details see pages N/9 ÷ N/12)



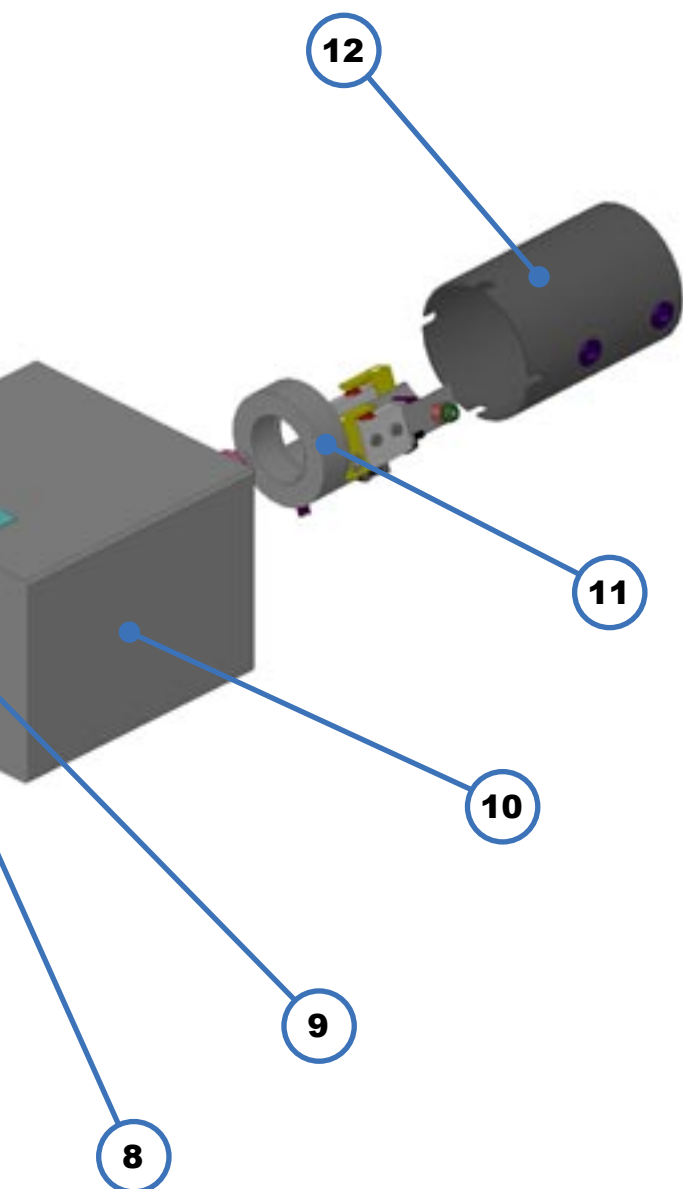
- Left and right positioned threaded holes



- Frontal with O-Rings



- Lateral with O-Rings





ORDER COMPILATION SYMBOLS

(see page N/5)

Bore	032	040	050	063	080	100
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(see pages N/6 ÷ N/8)

Clamping style	B	C	E
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(see pages N/9 ÷ N/12)

Type of ports	G	N	O
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(see pages N/9 ÷ N/12)

Position of ports	M	M	F
	H	H	E
	D	D	

CN **050** **B** **G** **H** **G** **M** **30,0**

V350CBR

(see page N/13)

G	I	Rod end style
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(see pages N/14 - N/17)

*	M	L	Mechanical micro switches
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30,0	50,0	Stroke
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Double rod compact hydraulic cylinders 350 bar

BORE AND STROKE (expressed in mm.)

ORDER CODE : **CN** **050** **30,0**

THRUST (P) and TRACTION FORCE (T) in Kg.

∅ Bore	∅ Rod	80 bar		140 bar		200 bar		250 bar		300 bar		350 bar	
		P	T	P	T	P	T	P	T	P	T	P	T
032	22	553	339	967	593	1382	848	1727	1060	2072	1272	2418	1484
040	22	914	701	1600	1226	2286	1752	2857	2190	3429	3768	4000	3066
050	28	1480	1078	2589	1886	3699	2694	4624	3368	5548	5888	6473	4715
063	28	2402	2000	4204	3500	6005	5000	7507	6251	9008	9347	10509	8751
080	36	3929	3205	6875	5609	9822	8013	12277	10017	14733	15072	17188	14023
100	45	6190	5008	10832	8765	15474	12521	19342	15651	23211	23550	27079	21911

Maximum working pressure and oil flow

∅ Bore	Pressure Kg/cm ² with oil delivery		Flow l/min.
	NPT - BSP	O-Ring	
32	350	175	6
40	350	175	10
50	350	175	14
63	300	150	24
80	300	150	40
100	300	150	60

stroke tolerance + ^{0,5}/₀ mm.

STROKE in mm.

∅ Bore	30,0	50,0
32		
40		
50		
63		
80		
100		

Available strokes

Maximum applicable mass and speed

∅ Bore	30	40	50	63	80	100
Kg	10	17	25	30	40	45
m/s	0,1	0,1	0,1	0,1	0,1	0,1

- The maximum impact speed between the piston and the heads, must never exceed 0.1 m/sec. For any need, please contact our technical department.
- It is always advisable to limit speed with flow controllers (see accessory catalogue).

Double rod compact hydraulic cylinders 350 bar

CLAMPING STYLE

ORDER CODE :

CN

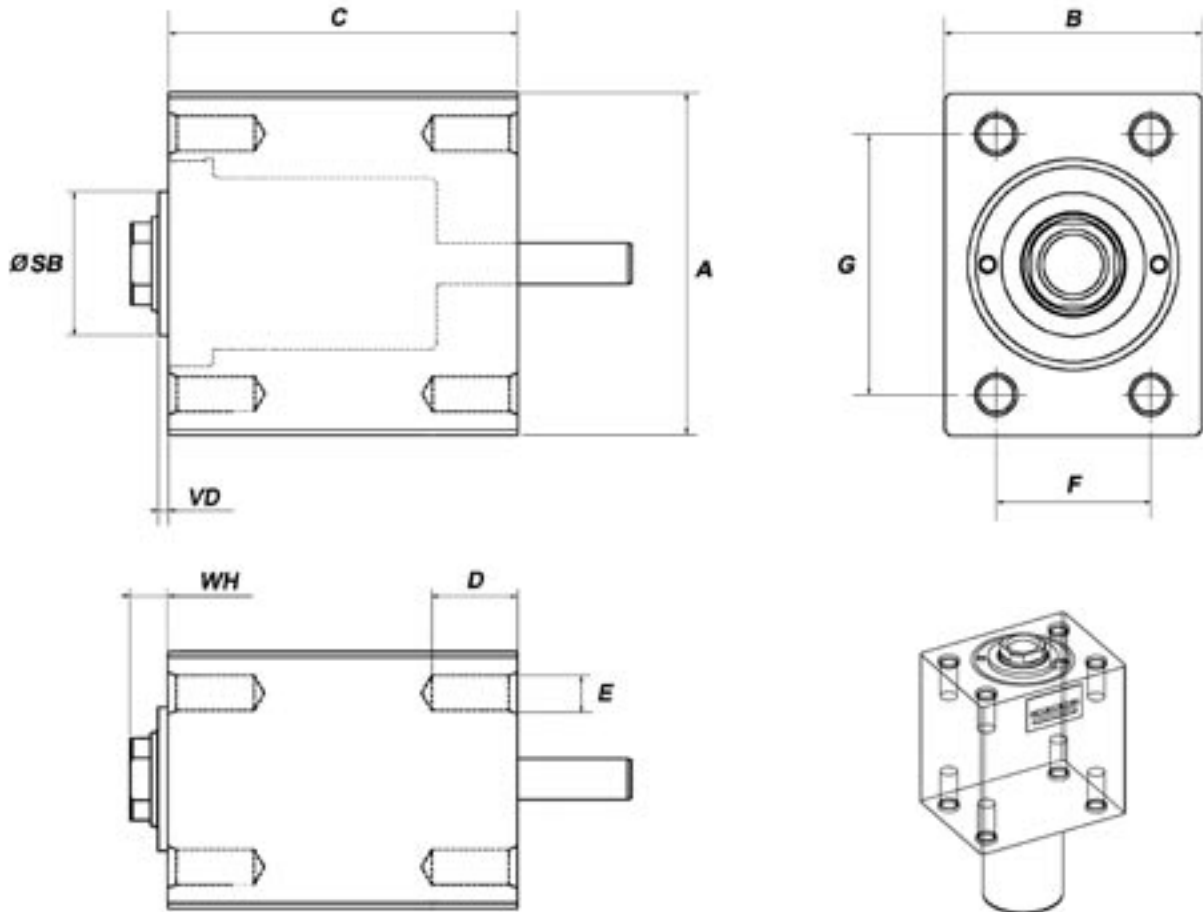
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B

✓

CLAMPING WITH LONGITUDINAL FRONTAL AND BACK THREADED HOLES (4+4)

B



Ø Bore	Ø Rod	Stroke	C	A	B	D	E	F	G	Ø SB h9	VD	WH
32	22	30	92,5	75	55	20	M10×1,5	35	55	45	3	11
		50	112,5									
40	22	30	99,5	85	63	20	M10×1,5	40	63	45	3	11
		50	119,5									
50	28	30	102	100	75	20	M12×1,75	45	76	42	3	11
		50	122									
63	28	30	103	115	90	20	M12×1,75	55	90	50	3	12
		50	123									
80	36	30	116	140	110	30	M16×2	75	110	60	3	13,5
		50	136									
100	45	30	124	170	140	30	M16×2	95	135	72	3	15
		50	144									

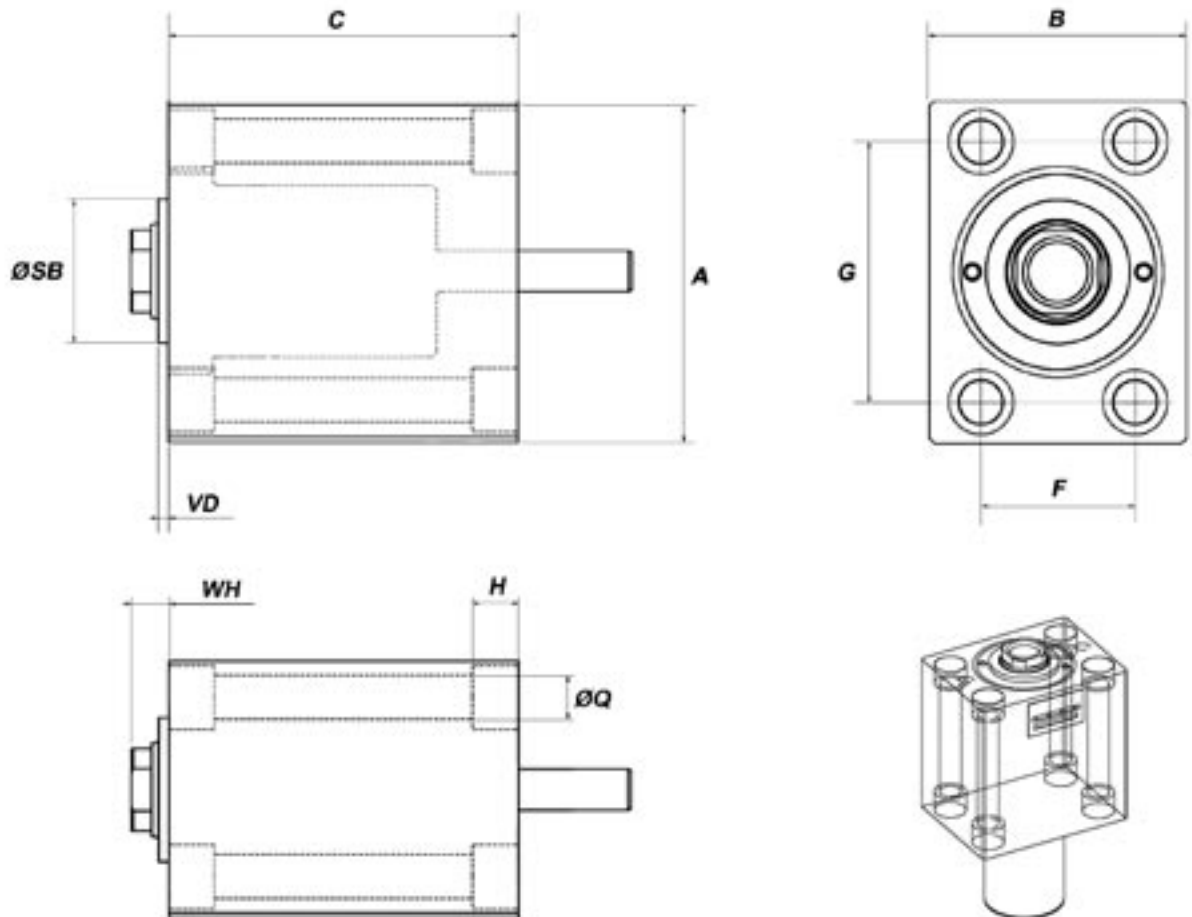
Double rod compact hydraulic cylinders 350 bar

CLAMPING STYLE

ORDER CODE : **CN** **C**

C

CLAMPING WITH LONGITUDINAL THROUGH HOLES (4)



Ø Bore	Ø Rod	Stroke	C	A	B	F	H	Q	G	Ø SB h9	VD	WH
32	22	30	92,5	75	55	35	11	10,5	55	45	3	11
		50	112,5									
40	22	30	99,5	85	63	40	11	10,5	63	45	3	11
		50	119,5									
50	28	30	102	100	75	45	13	13	76	42	3	11
		50	122									
63	28	30	103	115	90	55	13	13	90	50	3	12
		50	123									
80	36	30	116	140	110	75	17	17	110	60	3	13,5
		50	136									
100	45	30	124	170	140	95	17	17	135	72	3	15
		50	144									

Double rod compact hydraulic cylinders 350 bar

CLAMPING STYLE

ORDER CODE :

CN

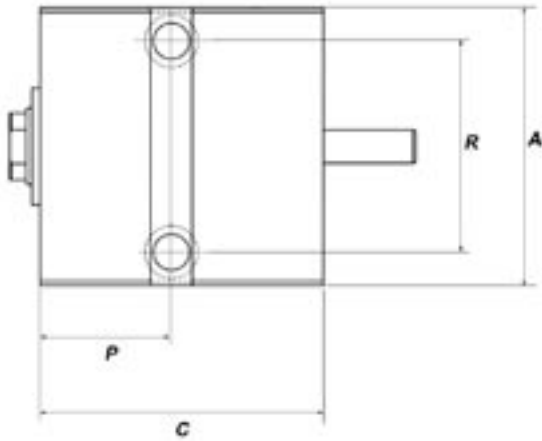
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E

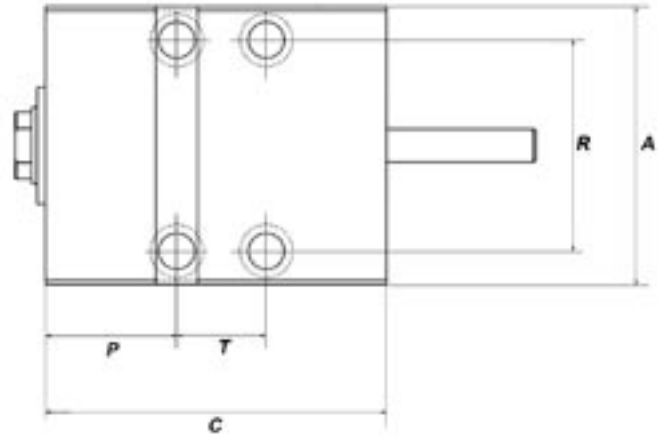
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FOOT CLAMPING WITH LOCKING KEY-WAY

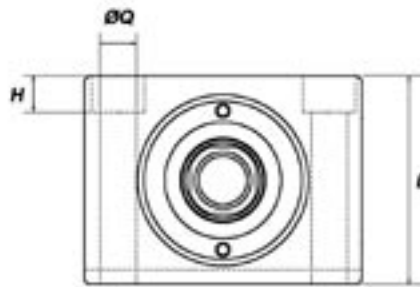
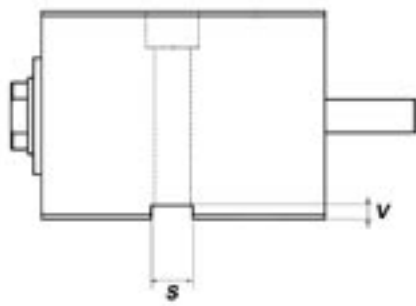
E



Stroke 30



Stroke 50



Ø Bore	Ø Rod	Stroke	C	T	A	B	H	P	Q	R	S	V
32	22	30	92,5	-	75	55	11	43	10,5	55	12	3
		50	112,5	29								
40	22	30	99,5	-	85	63	11	44,5	10,5	63	12	3
		50	119,5	35								
50	28	30	102	-	100	75	13	47	13	76	15	5
		50	122	32								
63	28	30	103	-	115	90	13	49	13	95	15	5
		50	123	28,5								
80	36	30	116	-	140	110	17	59	17	110	20	5
		50	136	28,5								
100	45	30	124	-	170	140	17	65	17	135	20	5
		50	144	30								

Double rod compact hydraulic cylinders 350 bar

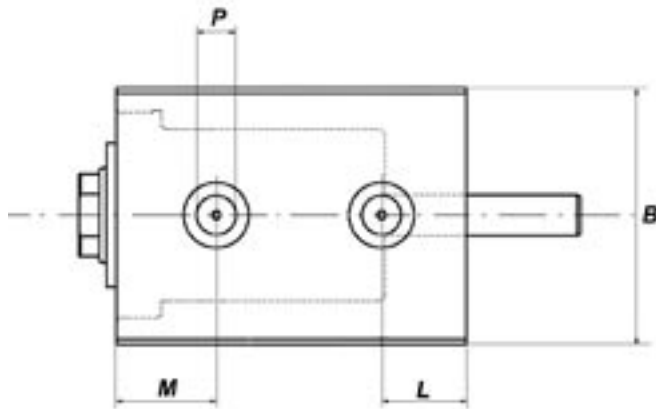
OIL DELIVERY PORTS (type and position)

ORDER CODE : **CN** **G** **H**

GH

STANDARD

LEFT-POSITIONED THREAD
lateral ports with BSP thread
(European standard)

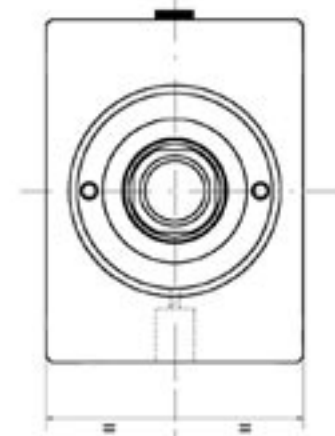
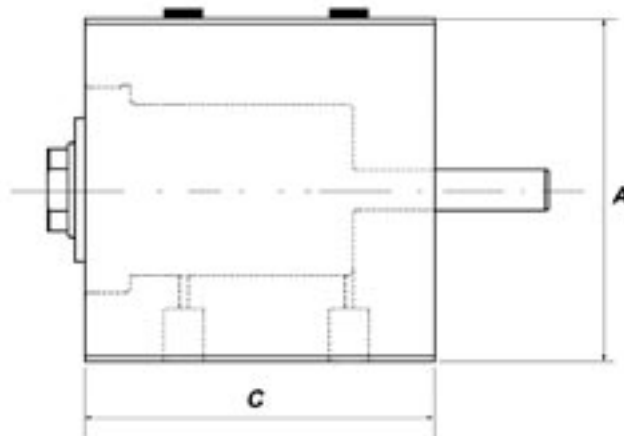


ATTENTION: The caps can protude (5 mm. Max.) on the opposite side of the ports on both oil delivery sides.

For both oil delivery sides (right and left) BSP type please insert code « GD »

NH

LEFT-POSITIONED THREAD
Lateral ports with NPT thread
(American standard)



ATTENTION: The caps can protude (5 mm. Max.) on the opposite side of the ports on both oil delivery sides.

For both oil delivery sides (right and left) NPT type please insert code « ND »

Ø Bore	Ø Rod	Stroke	C	A	B	L	M	P	
								BSP	NPT
32	22	30	92,5	75	55	24	26,5	1/4"	1/4"
		50	112,5					1/4"	1/4"
40	22	30	99,5	85	63	24	28,5	1/4"	1/4"
		50	119,5					1/4"	1/4"
50	28	30	102	100	75	25	29	1/4"	1/4"
		50	122					1/4"	1/4"
63	28	30	103	115	90	25,5	29	3/8"	3/8"
		50	123					3/8"	3/8"
80	36	30	116	140	110	25,5	36	1/2"	1/2"
		50	136					1/2"	1/2"
100	45	30	124	170	140	26	42	1/2"	1/2"
		50	144					1/2"	1/2"

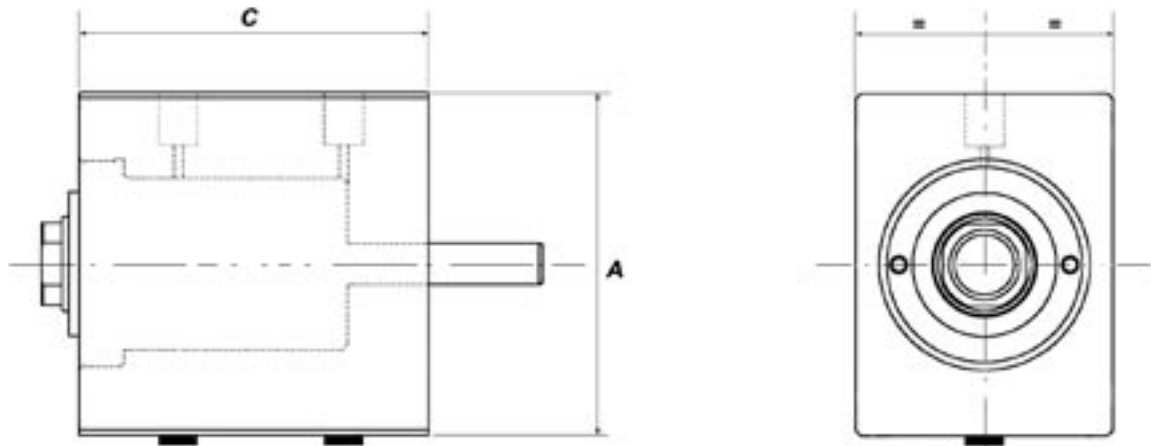
Double rod compact hydraulic cylinders 350 bar

OIL DELIVERY PORTS (type and position)

ORDER CODE : **CN** **G** **M**

GM

RIGHT-POSITIONED THREAD
lateral ports with BSP thread
(European standard)

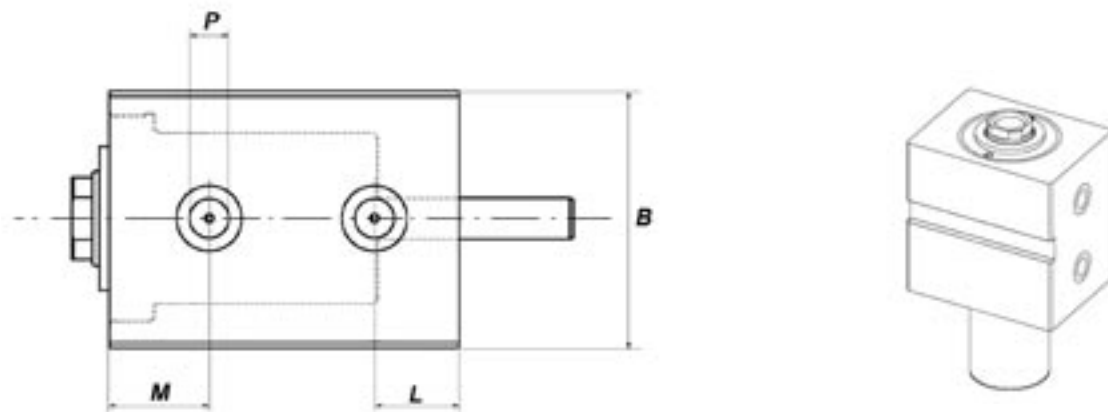


ATTENTION: The caps can protude (5 mm. Max.) on the opposite side of the ports on both oil delivery sides.

For both oil delivery sides (right and left) BSP type please insert code « GD »

NM

RIGHT-POSITIONED THREAD
Lateral ports with NPT thread
(American standard)



ATTENTION: The caps can protude (5 mm. Max.) on the opposite side of the ports on both oil delivery sides.

For both oil delivery sides (right and left) NPT type please insert code « ND »

Ø Bore	Ø Rod	Stroke	C	A	B	L	M	P	
								BSP	NPT
32	22	30	92,5	75	55	24	26,5	1/4"	1/4"
		50	112,5						
40	22	30	99,5	85	63	24	28,5	1/4"	1/4"
		50	119,5						
50	28	30	102	100	75	25	29	1/4"	1/4"
		50	122						
63	28	30	103	115	90	25,5	29	3/8"	3/8"
		50	123						
80	36	30	116	140	110	25,5	36	1/2"	1/2"
		50	136						
100	45	30	124	170	140	26	42	1/2"	1/2"
		50	144						

Double rod compact hydraulic cylinders 350 bar

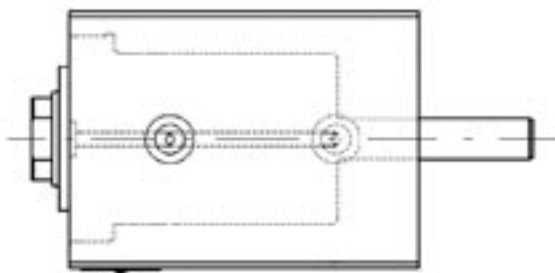
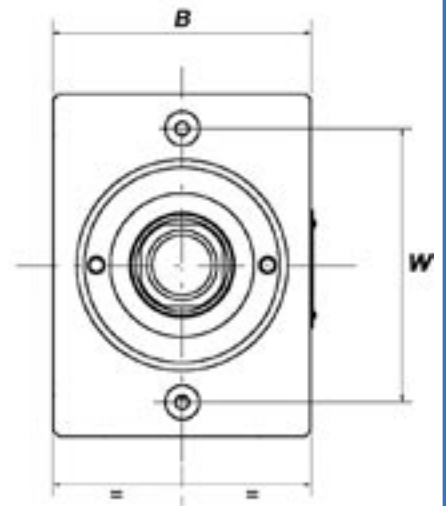
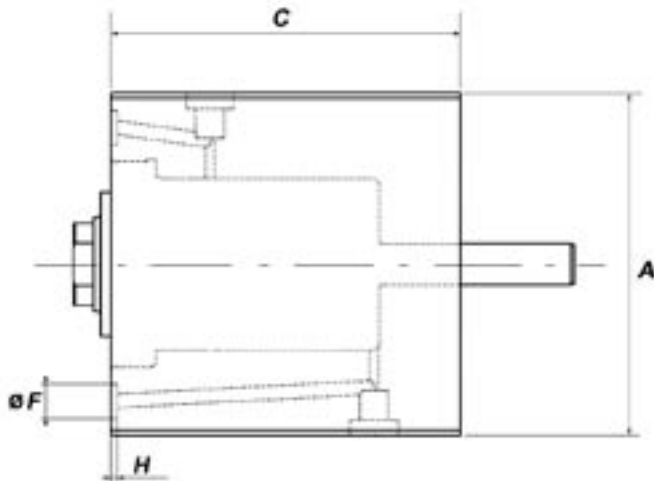
OIL DELIVERY PORTS (type and position)

ORDER CODE : **CN** **O** **F**

Unavailable with calmping style « E »

OF

FRONTAL MANIFOLD OIL DELIVERY
Ports for integrated oil delivery without fittings (O-Rings included in the supply)



Max. bore of the plate oil delivery port: mm. 3 Max. (Ø 32-50); mm. 5 Max. (Ø 63-100).
Max. eccentricity mm. 0,5. O-Rings in Viton® included in the supply.

Ø Bore	Ø Rod	Stroke	C	A	B	W	F	H
32	22	30	92,5	75	55	60	10	1,9
		50	112,5					
40	22	30	99,5	85	63	65	10	1,9
		50	119,5					
50	28	30	102	100	75	80	10	1,9
		50	122					
63	28	30	103	115	90	95	13	1,9
		50	123					
80	36	30	116	140	110	118	13	1,9
		50	136					
100	45	30	124	170	140	140	13	1,9
		50	144					

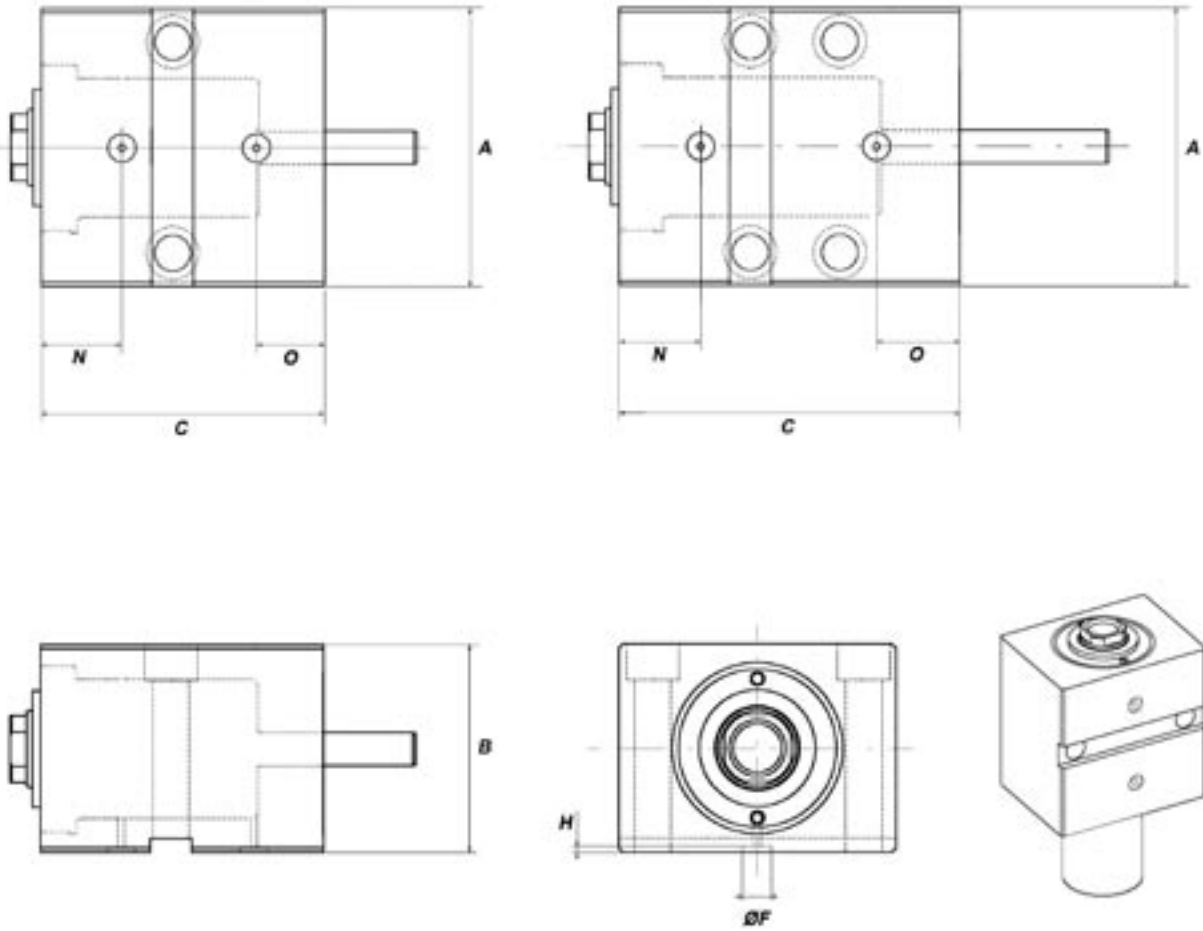
Double rod compact hydraulic cylinders 350 bar

OIL DELIVERY PORTS (type and position)

ORDER CODE : **CN** **O** **E**

OE

LATERAL OIL DELIVERY WITH O-RINGS
Ports for integrated oil delivery without fittings (O-Rings included in the supply)



Max. bore of the plate oil delivery port: mm. 3 Max. (Ø 32-50); mm. 5 Max. (Ø 63-100).
Max. eccentricity mm. 0,5. O-Rings in Viton® included in the supply.

Ø Bore	Ø Rod	Stroke	C	A	B	H	F	N	O
32	22	30	92,5	75	55	1,9	10	26,5	24
		50	112,5						
40	22	30	99,5	85	63	1,9	10	28,5	24
		50	119,5						
50	28	30	102	100	75	1,9	10	29	25
		50	122						
63	28	30	103	115	90	1,9	13	29	25,5
		50	123						
80	36	30	116	140	110	1,9	13	36	25,5
		50	136						
100	45	30	124	170	140	1,9	13	42	26
		50	144						

Double rod compact hydraulic cylinders 350 bar

ROD END STYLE

ORDER CODE : **CN** **G**

G	STANDARD	
I	UNF-UNEF THREAD (American standard)	

Ø Bore	Ø Rod	C	D	E	M	P	U	V	WH
32	22	M12×1,75	20	6	21	18	1/2-20	3	11
40	22	M14×2	20	6	21	18	9/16-18	3	11
50	28	M20×2,5	30	6	27	24	3/4-16	3	11
63	28	M20×2,5	30	7	27	24	3/4-16	3	12
80	36	M27×3	40	8	35	32	1-12	3	13,5
100	45	M33×3,5	50	9	44	40	1-1/4-12	3	15

Double rod compact hydraulic cylinders 350 bar

MECHANICAL MICRO SWITCHES

ORDER CODE : **CN** *****

WITHOUT MECHANICAL MICRO SWITCHES Supplied with back rod only

M

WITH COMPACT MECHANICAL MICRO SWITCHES Cylinder with micro switches (nr.2) and protection with cables

The output of the cables can be regulated by rotating the protection cover.

Ø Bore	Ø Rod	Stroke	H	V	F	J	S	Q	Z
32	22	30	33,5	60	12	M6×1	15	4,5	48
		50	53,5	80					
40	22	30	33,5	60	12	M6×1	15	4,5	48
		50	53,5	80					
50	28	30	33,5	60	12	M6×1	15	4,5	48
		50	53,5	80					
63	28	30	33,5	60	12	M6×1	15	4,5	48
		50	53,5	80					
80	36	30	33,5	60	12	M6×1	15	4,5	48
		50	53,5	80					
100	45	30	33,5	60	12	M6×1	15	4,5	48
		50	53,5	80					

Double rod compact hydraulic cylinders 350 bar

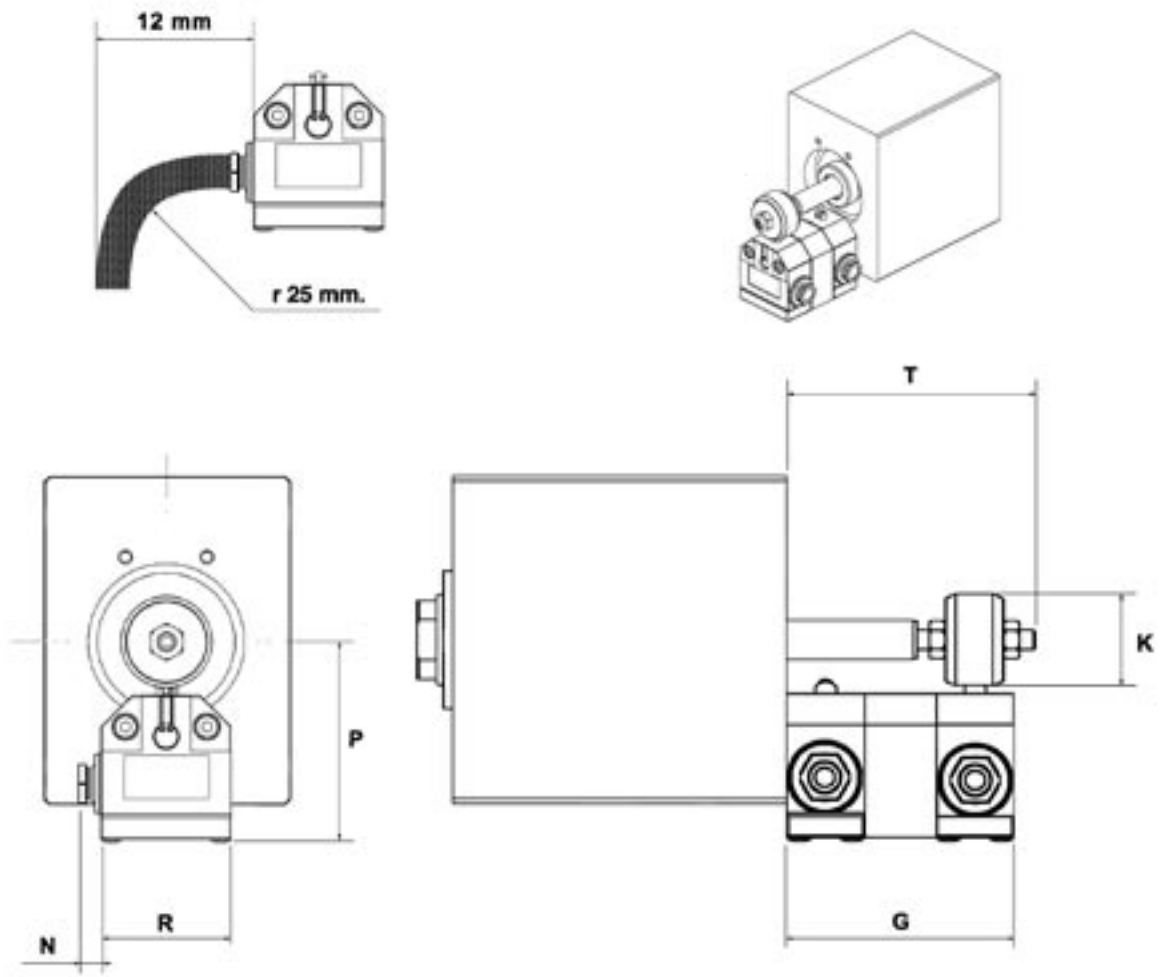
MECHANICAL MICRO SWITCHES

ORDER CODE : **CN** **L**

ONLY AVAILABLE FROM BORE Ø50

L

WITH HIGH RESISTANCE MECHANICAL MICRO SWITCHES
Cylinder with micro switches (2) fitted with pre-cabled armoured cables



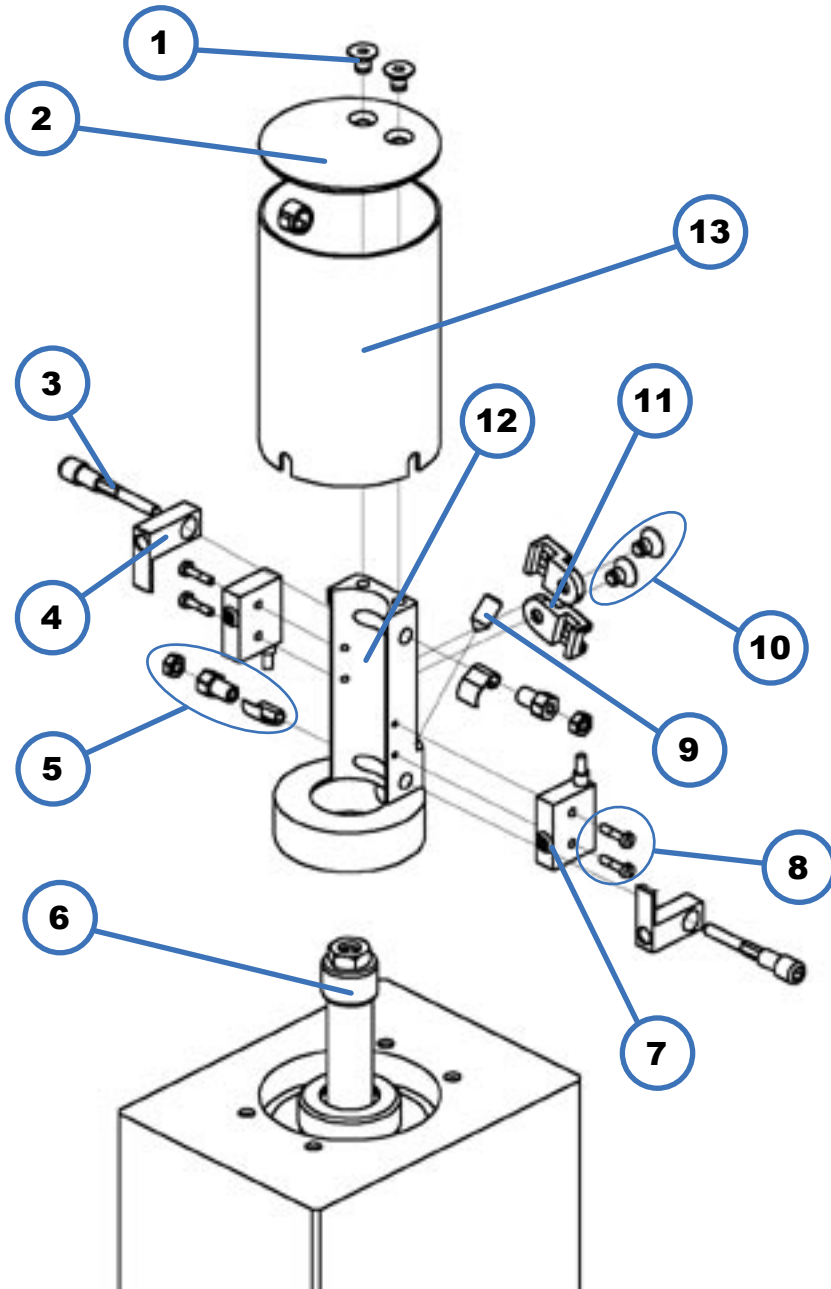
Ø Bore	Ø Rod	Stroke	T	G	K	P	R	N
50	28	30	63,3	57,8	28	61,5	40	7
		50	83,3	75,8				
63	28	30	64	57,8	28	61,5	40	7
		50	84	75,8				
80	36	30	64,5	57,8	28	61,5	40	7
		50	84,5	75,8				
100	45	30	64	57,8	28	61,5	40	7
		50	84	75,8				

Double rod compact hydraulic cylinders 350 bar

MECHANICAL MICRO SWITCHES

Two position end stroke control switches

Technical data	
Case material	die-cast anodized aluminium
Protection according to DIN 40050	IP 67
Dimensions	DIN 41 635, B-form
Max. cable temperature (°C)	from -20 up to +150
Max. external temperature (°C)	from -20 up to +130
Mechanical life time (operations)	30 × 10 ⁶ (according to VDE 0630)
Button sliding	no maintenance required
Contacts	exchange contacts
Max. wire section	0,05 mm ²
Electrical dimensioning	B-form, according to VDE 0110
Isolation voltage AC/DC	250 V
Opening power at 250 V. 40-60 Hz	CosF 0,7/4 A cosF 0,4/2,5 A
Opening power with DC	2A 250VAC
Circuit protection (fuses)	6A delayed - 10A rapid
Cable mm. (diameter - length)	Ø4×3000



COMPONENTS

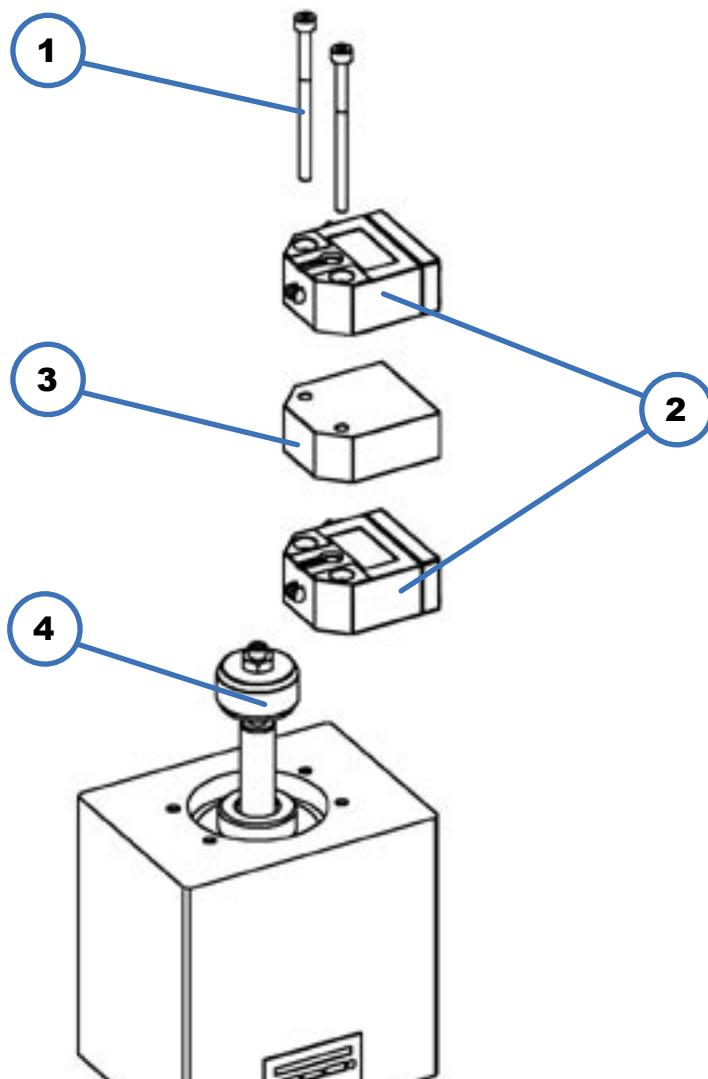
- 1- Cover fixing screw (nr.2)
- 2- Protection cover
- 3- Lever fixing screw
- 4- Switch lever
- 5- Lever return spring
- 6- Micro switch regulation cam
- 7- Mechanical micro switches
- 8- Switch fixing screw (2)
- 9- Locking grub screw for switch support
- 10- Fixing screws for cable locking (2)
- 11- Cable clamp (2)
- 12- Switch group support
- 13- Micro switch protection cover

Double rod compact hydraulic cylinders 350 bar

MECHANICAL MICRO SWITCHES

Micro switches are fitted in order to complete the whole stroke with a $\pm 0,5$ mm. security.

Technical data	
Case material	die-cast anodized aluminium
Protection according to DIN 40050	IP 67
Max. external temperature (°C)	from -5 up to +80
Mechanical life time (operations)	30×10^6 (according to VDE 0630, part 2)
Button material	stainless steel
Button sliding	no maintenance required
Button type	wheel
Switching system	with rapid release
Contacts	exchange contacts
Max. wire section	1 mm ²
N° of operations per minute	200
Electrical dimensioning	B-form, according to VDE 0110
Isolation voltage AC/DC	250 V
Opening power at 250 V. 40-60 Hz	CosF 0,7/4 A cosF 0,4/2,5 A
Opening power with DC	2A 250VAC
Minimum voltage	12V
Minimum voltage at 12 V	10 mA
Circuit protection (fuses)	6A delayed – 10A rapid
Cable mm. (diameter - length)	Ø6×2500

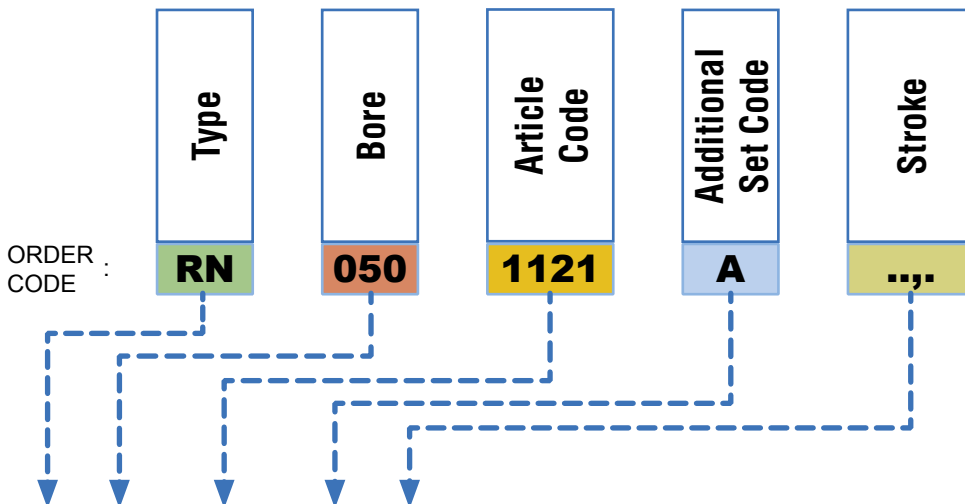


COMPONENTS

- 1- Switch fixing screw (2)
- 2- Mechanical micro switches
- 3- Spacer
- 4- Cam

Double rod compact hydraulic cylinders 350 bar

SPARE PARTS



RN	...	6010	A		Rod seals	2
RN	...	6020	A		Piston seals	4
RN	...	6030			O-Ring in Viton ® for integrated oil delivery	-
RN	...	0310			Rod cartridge without seals	1
RN	...	6015	A		Rear rod seals kit	13
RN	...	0310	A		Rod cartridge with seals	1+2

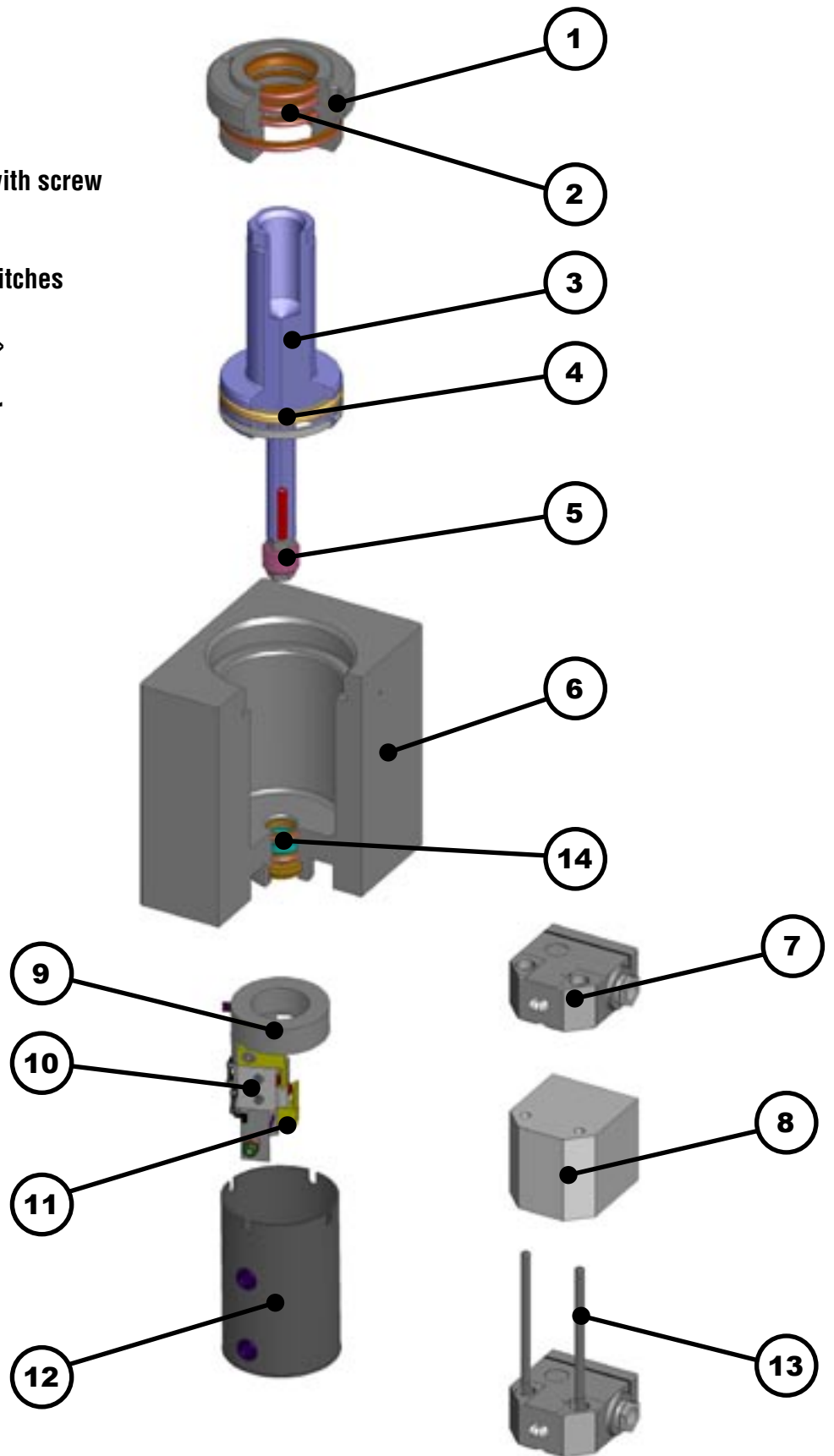
RN	...	1120	A	...	Piston/rod with rod end type « G » + seals	3+4
RN	...	1121	A	...	Piston/rod with rod end type « I » + seals	

RN	...	1912M		...	Clamping « B », threaded ports BSP right	6
RN	...	1912H		...	Clamping « B », threaded ports BSP left	
RN	...	1914M		...	Clamping « B », threaded ports NPT right	
RN	...	1914H		...	Clamping « B », threaded ports NPT left	
RN	...	1931F		...	Clamping « B », ports with O-Rings at head	
RN	...	1916M		...	Clamping « C », threaded ports BSP right	
RN	...	1916H		...	Clamping « C », threaded ports BSP left	
RN	...	1918M		...	Clamping « C », threaded ports NPT right	
RN	...	1918H		...	Clamping « C », threaded ports NPT left	
RN	...	1936F		...	Clamping « C », ports with O-Rings at head	
RN	...	1921M		...	Clamping « E », threaded ports BSP right	
RN	...	1921H		...	Clamping « E », threaded ports BSP left	
RN	...	1923M		...	Clamping « E », threaded ports NPT right	
RN	...	1923H		...	Clamping « E », threaded ports NPT left	
RN	...	1940E		...	Clamping « E », ports with lateral O-Rings	
RN	...	1945D		...	Clamping « B », threaded ports NPT right and left	
RN	...	1949D		...	Clamping « C », threaded ports NPT right and left	
RN	...	1953D		...	Clamping « E », threaded ports NPT right and left	
RN	...	1943D		...	Clamping « B », threaded ports BSP right and left	
RN	...	1947D		...	Clamping « C », threaded ports BSP right and left	
RN	...	1952D		...	Clamping « E », threaded ports BSP right and left	

RN	...	6310	A	...	Micro complete group – type « M »	5+9+10+11+12
RN	...	6311	A	...	Micro complete group – type « L »	7+8+13
ZD		031920			Mechanical micro, type « M », with direct cable of 2,5 mt.	10
ZD		031914	A		Mechanical micro, type « L », with direct armoured cable of 2,5 mt.	7
RN	...	6312	A	...	Cover + brackets for switches type « M »	12+9
RN	...	6313	A	...	Spacer + fixing screws for switches type « L »	8+13
RN	...	6314	A		Couple of levers + operating springs for switches type « M »	11
RN	...	5010	A	...	Operating cam for switches type « M »	5
RN	...	5011	A	...	Operating cam for switches type « L »	

Double rod compact hydraulic cylinders 350 bar

- 1 Rod cartridge
- 2 Rod seals (kit)
- 3 Rod piston
- 4 Piston seals (kit)
- 5 Operating cam for switches with screw
- 6 Body
- 7 Mechanical micro, type « L »
- 8 Spacer + fixing screws for switches
- 9 Micro fixing bracket
- 10 Mechanical micro, type « M »
- 11 Couple of levers for switches
- 12 Micro switch protection cover
- 13 Fixing screws for switches
- 14 Rear rod seals (kit)



Double rod compact hydraulic cylinders 350 bar

ACCESSORY

ORDER CODE :

RM

040

2710

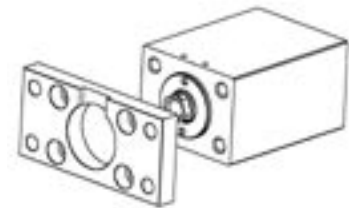
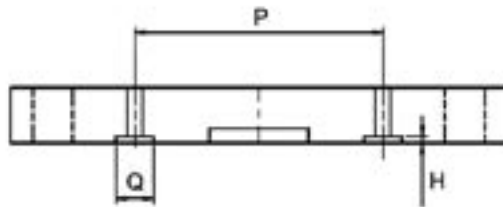
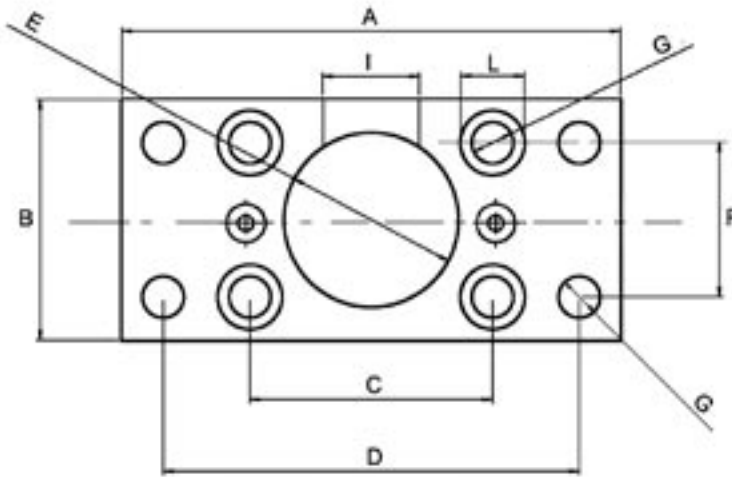
A

Insert Bore

2710

ONLY AVAILABLE FROM BORE Ø40 WITH CLAMPING STYLE « B »

FRONTAL APPLICABLE FLANGE WITH PRE-SET FOR O-RING
FRONTAL OIL DELIVERY (O-Rings included)



THE SCREW ARE INCLUDED.

Ø Bore	Ø Rod	A	B	C	D	H	E h7	F	G	S	I	L	Q	P
40	22	130	63	63	108	1,9	45	40	10,5	15	26	16,5	10	65
50	28	150	75	76	125	1,9	42	45	13	18	32	19	10	80
63	28	165	90	90	140	1,9	50	55	13	18	32	19	13	95
80	36	195	110	110	165	1,9	60	75	17	24	38	25	13	118
100	45	235	140	135	205	1,9	72	95	17	24	48	25	13	140

Mould Hydraulic Systems

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