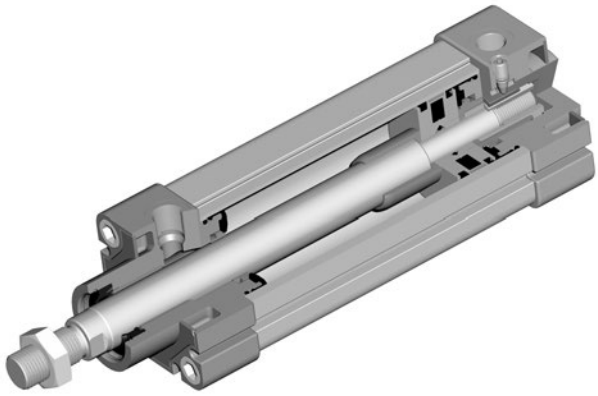
Cylinders ISO 6431 VDMA

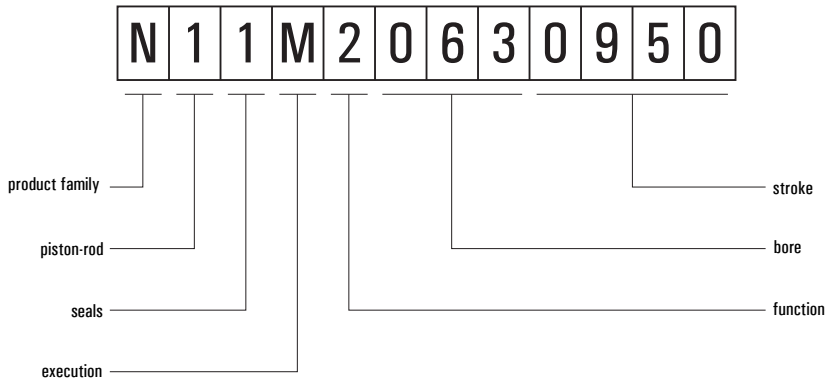
- Compliant to norm ISO 6431 VDMA
- High reliability and long lifetime
- Standard magnetic version
- With square profile (N series) or “easy” profile (E series)
- Special versions and strokes on request



Materials
Barrel: aluminium
Piston-rod: C45 (chromium plated) or stainless steel
End-cups: aluminium
Piston: technopolymer (standard) or aluminium (on request) - see table on next page
Seals: polyurethane or VITON
Piston-rod seals: polyurethane or VITON
Magnet: magnetic iron compound (not suitable for temperatures over +60°C)

Operating pressure	max 10 bar (145 PSI) max 1 MPa
Temperature range	standard (poliuretano/NBR): **-15+60°C (5-140° F)** VITON: max +110°C (230° F)
Bores	32; 40; 50; 63; 80; 100; 125; 160; 200; 250; 320 mm
Construction type	ø32 ... 125 : square aluminium profile
	ø160-320 : round profile with tie-rods
Strokes	standard: 25 ... 1000 mm; on request up to 3000 mm
Pneumatic cushoning	Standard on the whole range
Fluid	50μ filtered, lubricated or non lubricated air

coding example



Product family
N cylinders ISO 6431 ø32 ... 320 ***Standard Profile***
E cylinders ISO 6431 ø32 ... 125 ***Easy Profile***
K cylinders ISO 6431 ø32 ... 125 ***Tubes & Tirods***

Piston-rod
1 C45 chromium plated
2 stainless steel

Seals
1 polyurethane
2 all seals in VITON
3 rod seals in VITON

Execution
M magnetic
B magnetic with rod lock adaptor

Function
2 double acting with pneumatic cushioning

4 double acting with pneumatic cushioning, with through-rod

bore	maximum stroke (mm)
32	350
40	350
50	500
63	500
80	500
100	350
125	only aluminium
160	only aluminium
200	only aluminium
250	only aluminium
320	only aluminium

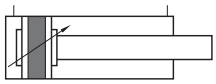
Maximum stroke for cylinders with standard piston in technopolymer. If the stroke is longer, the cylinder can be supplied only with piston in aluminium. The piston in technopolymer is not suitable for ATEX.

available versions

double acting

magnetic

with pneumatic cushioning



stroke \ bore	32	40	50	63	80	100	125	160	200	250 (**)	320 (**)
25	X	X	X	X	X	X	X				
50	X	X	X	X	X	X	X	X	X	X	X
75	X	X	X	X	X	X	X				
80	X	X	X	X	X	X	X	X	X		
100	X	X	X	X	X	X	X	X	X	X	X
125	X	X	X	X	X	X	X				
150	X	X	X	X	X	X	X	X	X		
160	X	X	X	X	X	X	X	X	X		
200	X	X	X	X	X	X	X	X	X	X	X
250	X	X	X	X	X	X	X	X	X		
300	X	X	X	X	X	X	X	X	X	X	X
320	X	X	X	X	X	X	X	X	X		
350	X	X	X	X	X	X	X				
400	X	X	X	X	X	X	X	X	X	X	X
450	X	X	X	X	X	X	X				
500	X	X	X	X	X	X	X	X	X	X	X
550	X	X	X	X	X	X	X				
600	X	X	X	X	X	X	X	X	X	X	X
650	X	X	X	X	X	X	X				
700	X	X	X	X	X	X	X	X	X	X	X
750	X	X	X	X	X	X	X				
800	X	X	X	X	X	X	X	X	X	X	X
850	X	X	X	X	X	X	X				
900	X	X	X	X	X	X	X	X	X	X	X
950	X	X	X	X	X	X	X				
1000	X	X	X	X	X	X	X	X	X	X	X

OPTIONS

The standard is marked with grey background

piston-rod material	
C45 chromium plated	stainless steel

seals material		
polyuret.	all seals in VITON	rod seals in VITON

rod lock adaptor

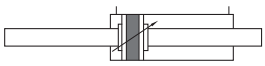
not available for bores 160-320

double acting

magnetic

with pneumatic cushioning

through-rod



stroke \ bore	32	40	50	63	80	100	125	160	200	250	320
25	X	X	X	X	X	X	X				
50	X	X	X	X	X	X	X	X	X		
75	X	X	X	X	X	X	X				
80	X	X	X	X	X	X	X	X	X		
100	X	X	X	X	X	X	X	X	X		
125	X	X	X	X	X	X	X				
150	X	X	X	X	X	X	X	X	X		
160	X	X	X	X	X	X	X	X	X		
200	X	X	X	X	X	X	X	X	X		
250	X	X	X	X	X	X	X	X	X		
300	X	X	X	X	X	X	X	X	X		
320	X	X	X	X	X	X	X	X	X		
350	X	X	X	X	X	X	X				
400	X	X	X	X	X	X	X	X	X		
450	X	X	X	X	X	X	X				
500	X	X	X	X	X	X	X	X	X		
550	X	X	X	X	X	X	X				
600	X	X	X	X	X	X	X	X	X		
650	X	X	X	X	X	X	X				
700	X	X	X	X	X	X	X	X	X		
750	X	X	X	X	X	X	X				
800	X	X	X	X	X	X	X	X	X		
850	X	X	X	X	X	X	X				
900	X	X	X	X	X	X	X	X	X		
950	X	X	X	X	X	X	X				
1000	X	X	X	X	X	X	X	X	X		

OPTIONS

The standard is marked with grey background

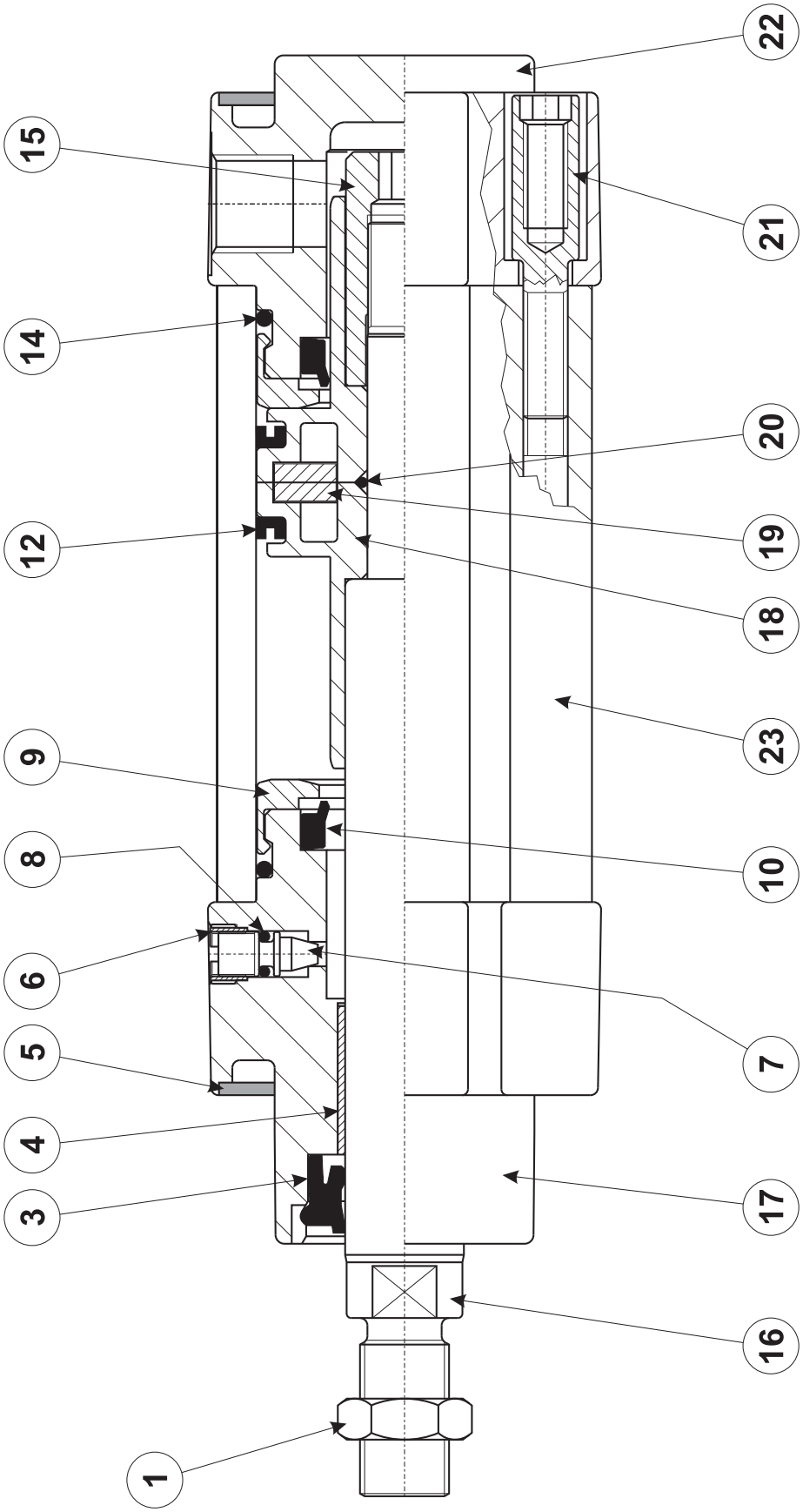
piston-rod material	
C45 chromium plated	stainless steel

seals material		
polyuret.	all seals in VITON	rod seals in VITON

rod lock adaptor

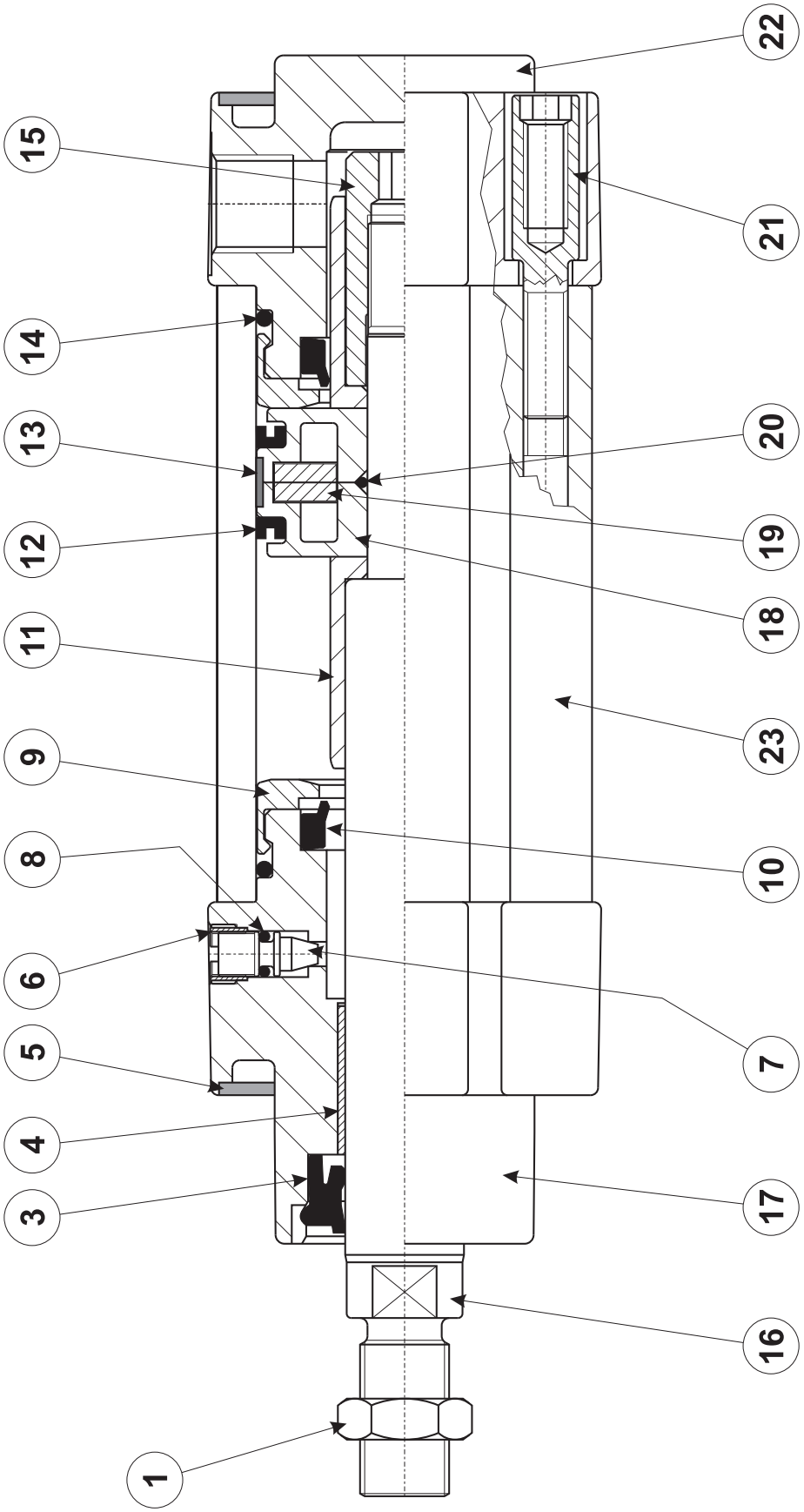
not available for bores 160-320

the drawing is valid from bore 32 to bore 125 - **PISTON IN TECHNOPOLYMER**



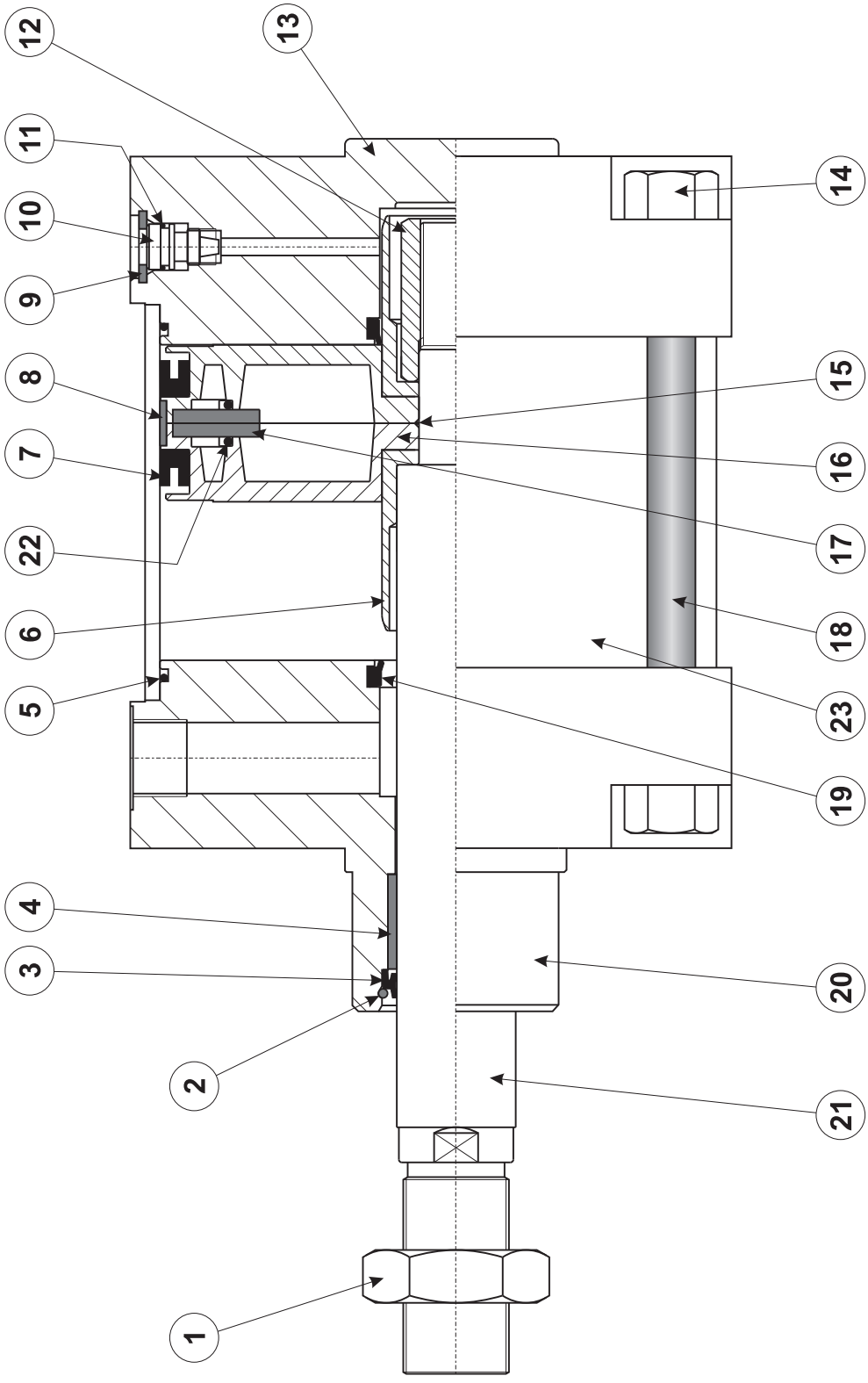
1. Hexagonal rod nut
3. Piston-rod seal: polyurethane or VITON
4. Guide bushing: self-lubricating material
5. Protection plate: MOPLEN
6. Ring for cushioning screw: nickeled brass
7. Cushioning screw: nickeled brass
8. O-Ring seal for cushioning screw: NBR or VITON
9. Bumper: HYTREL
10. Seal for cushioning: polyurethane or VITON
12. Piston lip seal: polyurethane or VITON
14. O-Ring head seal: NBR o VITON
15. Compass rod locking: UNI 5105 material 35S Mn Pb 10, zinc plated
16. Rod: C45 chromium plated steel or stainless steel AISI 304
17. Front head: aluminium alloy die-casting
18. Piston with ogive: technopolymer
19. Magnet: magnetic iron compound
20. O-Ring piston seal: NBR or VITON
21. Head assembling screw: self-threading till bore 63, then normal to tap
22. Rear head: aluminium alloy die-casting
23. Barrel: profiled, calibrated, anodized aluminium

the drawing is valid from bore 32 to bore 125 - **PISTON IN ALUMINIUM**



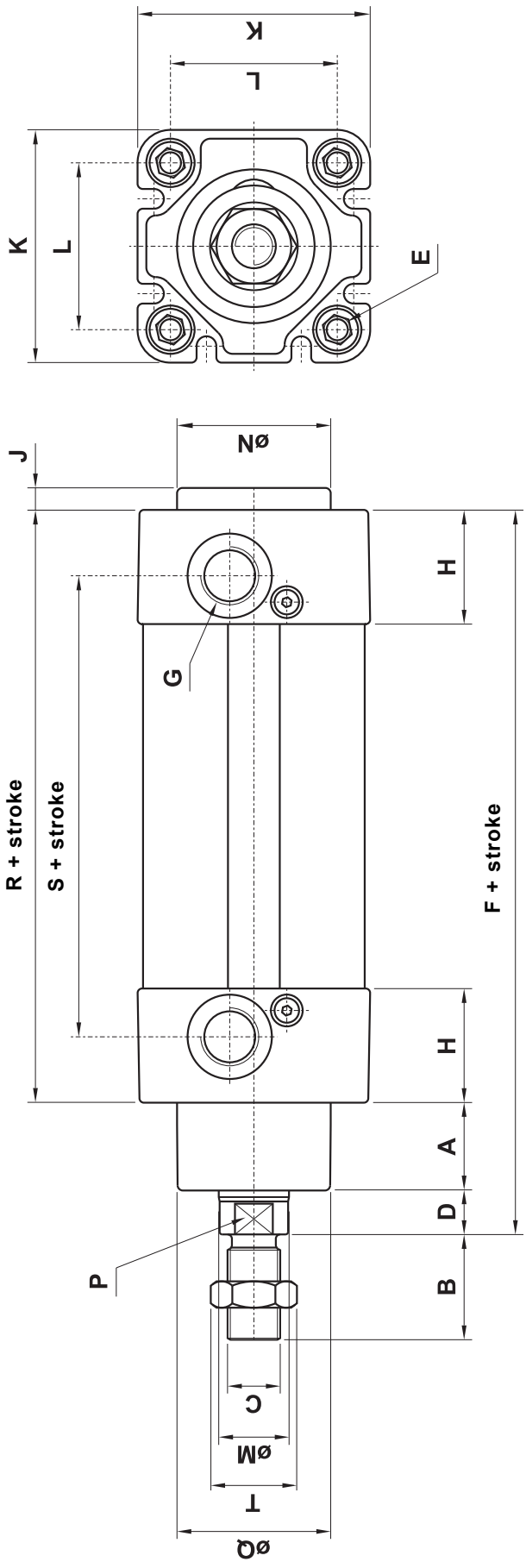
1. Hexagonal rod nut
3. Piston rod seal: polyurethane or VITON
4. Guide bushing: self-lubricating material
5. Protection plate: MOPLEN
6. Ring for cushioning screw: nickeled brass
7. Cushioning screw: nickeled brass
8. O-Ring seal for cushioning screw: NBR or VITON
9. Bumper: HYTREL
10. Seal for cushioning: polyurethane or VITON
11. Ogive: aluminium
12. Piston lip seal: polyurethane or VITON
13. Piston guide ring: bronze PTFE
14. O-Ring head seal: NBR or VITON
15. Compass rod locking: UNI 5105 material 35S Mn Pb 10, zinc plated
16. Rod: C45 chromium plated steel or stainless steel AISI 304
17. Front head: aluminium alloy die-casting
18. Piston: aluminium
19. Magnet: magnetic iron compound
20. O-Ring piston seal: NBR or VITON
21. Head assembling screw: self-threading till bore 63, then normal
22. Rear head: aluminium alloy die-casting
23. Barrel: profiled, calibrated, anodized aluminium

the drawing is valid for bore 160 and 200



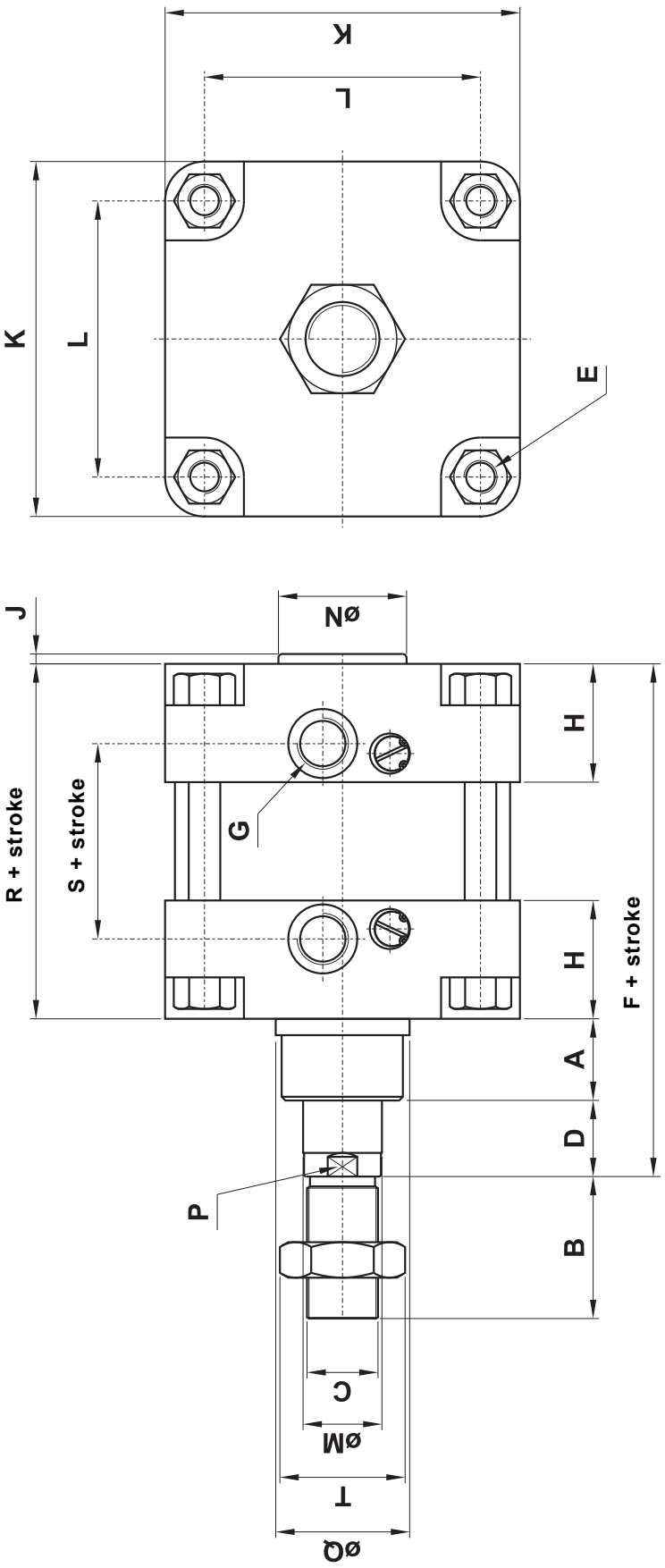
1. Hexagonal rod nut
2. Stainless steel ring for seal fixing
3. Piston rod seal: polyurethane or VITON
4. Guide bushing: sintered bronze
5. O-Ring head seal: NBR or VITON
6. Ogiva: aluminium
7. Piston lip seal: polyurethane or VITON
8. Piston guide ring
9. Safety cushioning ring
10. Cushioning screw: brass OT58
11. O-Ring seal for cushioning screw: NBR or VITON
12. Compass rod locking
13. Rear head: aluminium alloy shell casting
14. Head assembling screw
15. O-Ring piston seal: NBR or VITON
16. Piston: aluminium
17. Magnet: magnetic iron compound
18. Tie rod: stainless steel
19. Cushioning seal: polyurethane or VITON
20. Front head: aluminium alloy shell casting
21. Rod: C45 cromium plated steel or stainless steel AISI 304
22. O-Ring piston keeping seal: NBR or VITON
23. Barrel: aluminium, round tube

ø32 ... 125



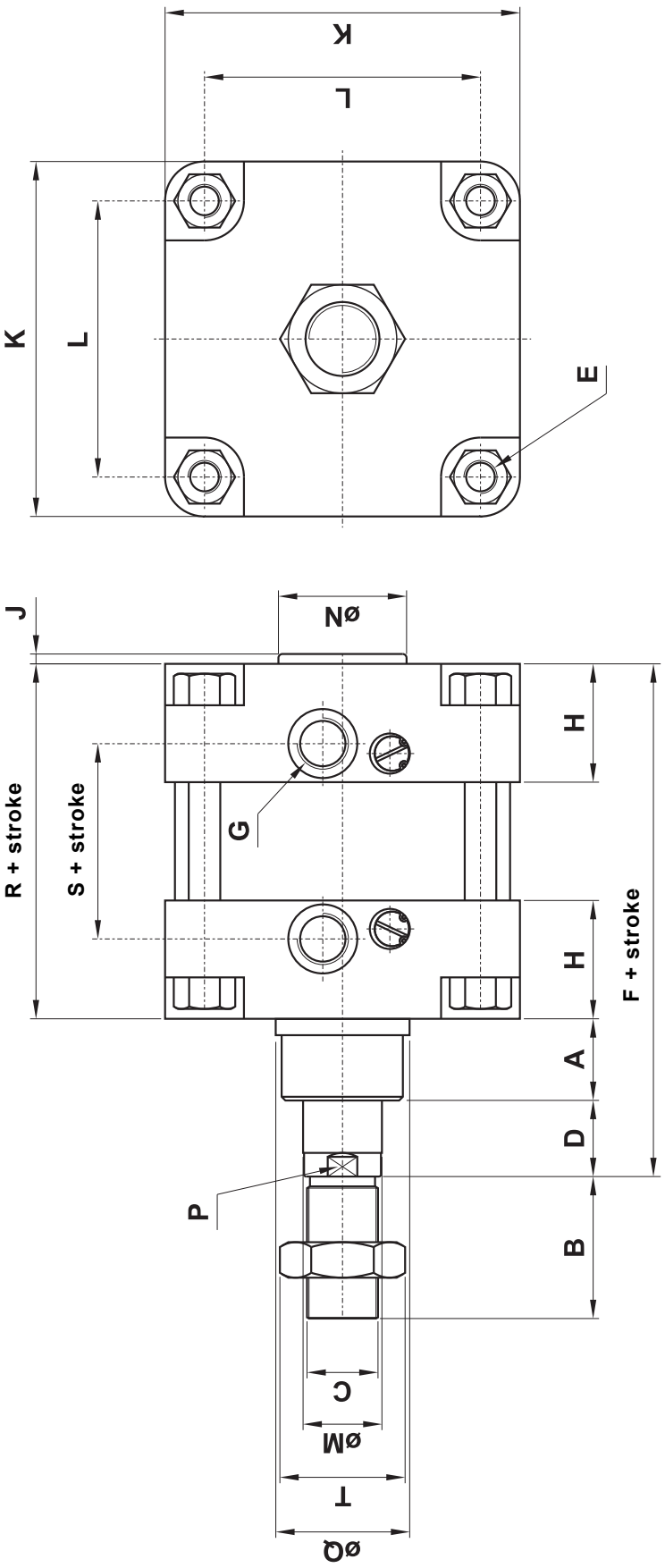
ø	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
32	16	22	M10x1.25	10	M6	120	G1/8"	25.5	5	47	32.5	12	30	CH 10	30	94	63.6	CH 17
40	20	24	M12x1.25	10	M6	135	G1/4"	28	5	53	38	16	35	CH 13	35	105	76	CH 19
50	25	32	M16x1.5	12	M8	143	G1/4"	30	5	64	46.5	20	40	CH 17	40	106	69.4	CH 24
63	25	32	M16x1.5	12	M8	158	G3/8"	31	5	74	56.5	20	45	CH 17	45	121	85.2	CH 24
80	32.5	40	M20x1.5	13.5	M10	174	G3/8"	34	5	94	72	25	45	CH 22	45	128	90	CH 30
100	35	40	M20x1.5	16	M10	189	G1/2"	35	5	112	89	25	55	CH 22	55	138	104	CH 30
125	40	54	M27x2	25	M12	225	G1/2"	41	5	136	110	32	60	CH 27	60	160	112	CH 41

ø160-200



ø	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
160	50	72	M36x2	30	M16	260	G3/4"	50	6	180	140	40	65	CH 36	65	180	119	CH 55
200	55	72	M36x2	40	M16	275	G3/4"	50	6	220	175	40	75	CH 36	75	180	119	CH 55

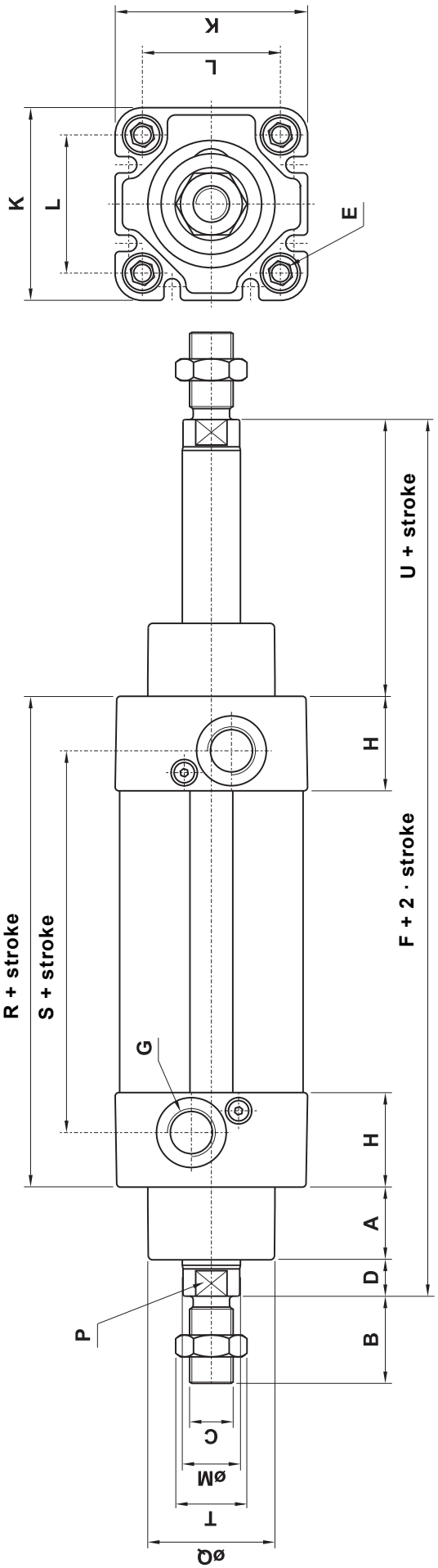
ø250-320



ø	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
250	76	84	M42x2	29	M20	305	G1"	54	10	270	220	50	90	CH 46	90	200	136	CH 65
320	85	96	M48x2	35	M24	340	G1"	57	10	350	270	63	110	CH 55	110	220	156	CH 75

ø32 ... 125

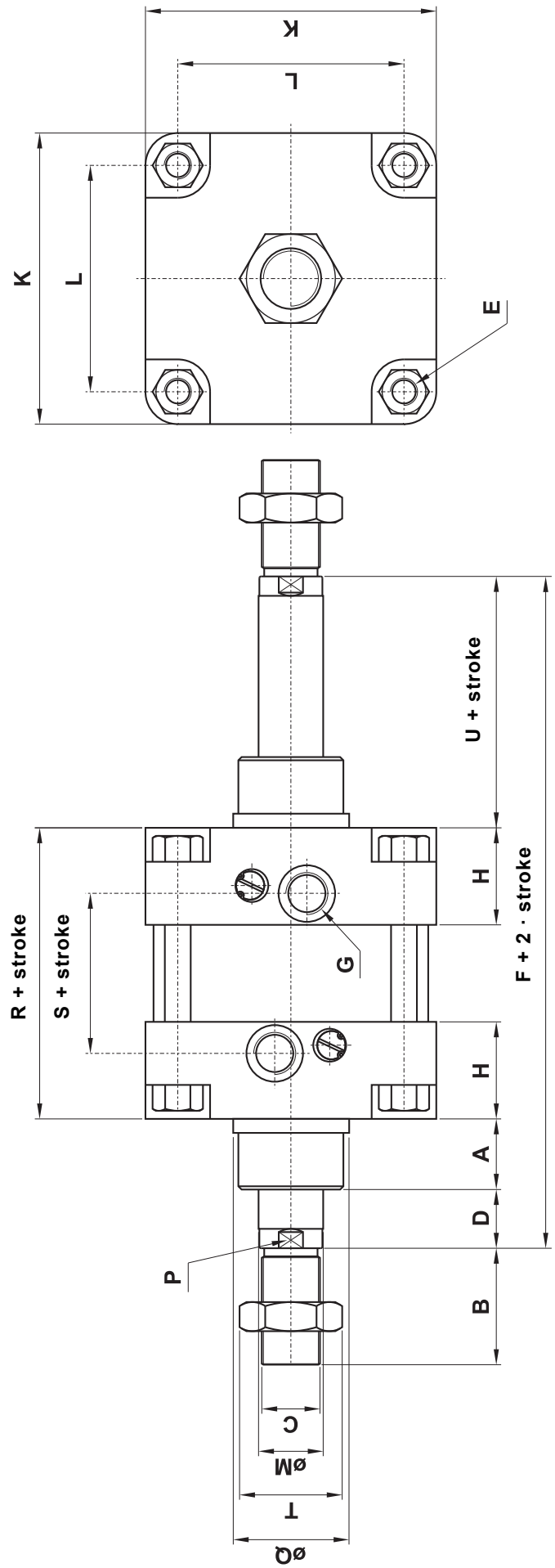
VERSION WITH THROUGH-ROD



ø	A	B	C	D	E	F	G	H	K	L	M	P	Q	R	S	T	U
32	16	22	M10x1.25	10	M6	146	G1/8″	25.5	47	32.5	12	CH 10	30	94	63.6	CH 17	26
40	20	24	M12x1.25	10	M6	165	G1/4″	28	53	38	16	CH 13	35	105	75	CH 19	30
50	25	32	M16x1.5	12	M8	180	G1/4″	30	64	46.5	20	CH 17	40	106	69.4	CH 24	37
63	25	32	M16x1.5	12	M8	195	G3/8″	31	74	56.5	20	CH 17	45	121	85.2	CH 24	37
80	32.5	40	M20x1.5	13.5	M10	220	G3/8″	34	94	72	25	CH 22	45	128	90	CH 30	46
100	35	40	M20x1.5	16	M10	240	G1/2″	35	112	89	25	CH 22	55	138	104	CH 30	51
125	40	54	M27x2	25	M12	290	G1/2″	41	136	110	32	CH 27	60	160	112	CH 41	65

ø160-200

VERSION WITH THROUGH-ROD



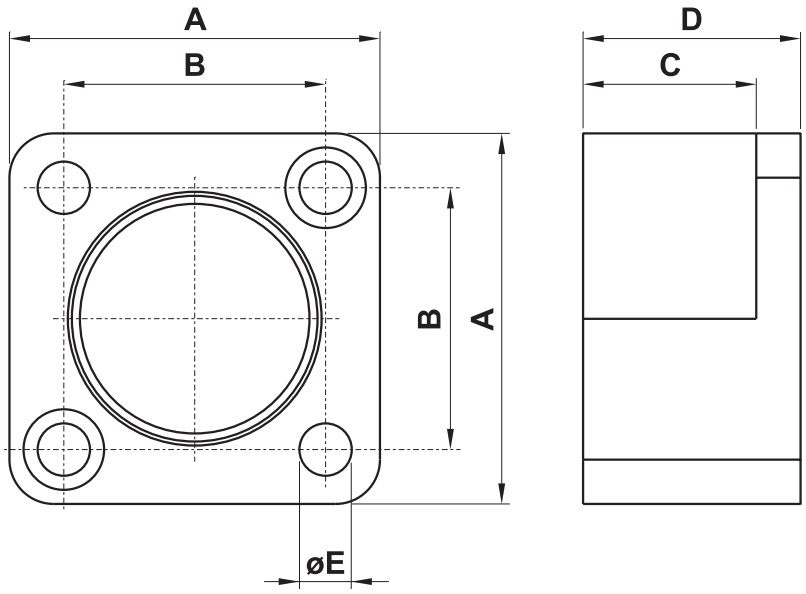
ø	A	B	C	D	E	F	G	H	K	L	M	P	Q	R	S	T	U
160	50	72	M36x2	30	M16	340	G3/4"	50	180	140	40	CH 36	65	180	119	CH 55	80
200	55	72	M36x2	40	M16	370	G3/4"	50	220	175	40	CH 36	75	180	119	CH 55	95

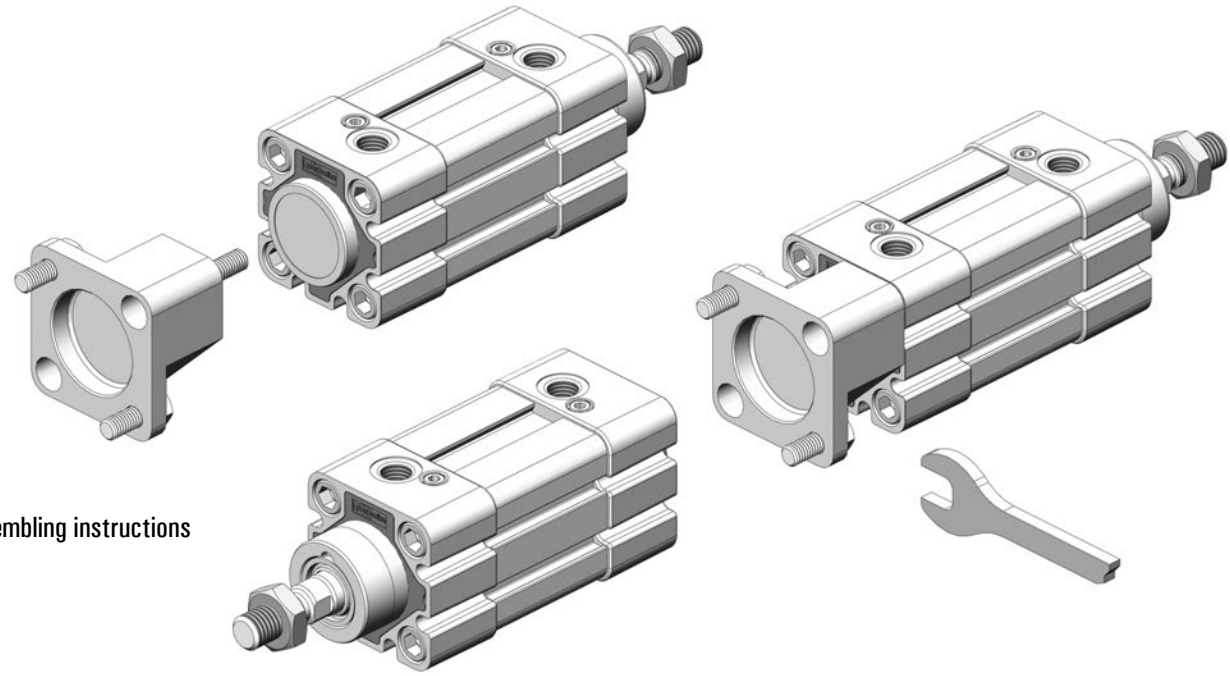
Seals Kit

MAGNETIC, standard seals					
normal			passing-through rod		
for bore	part number	code	for bore	part number	code
32	**SGM032**	21.100.2	32	**SGM032P**	21.110.2
40	**SGM040**	21.101.2	40	**SGM040P**	21.111.2
50	**SGM050**	21.102.2	50	**SGM050P**	21.112.2
63	**SGM063**	21.103.2	63	**SGM063P**	21.113.2
80	**SGM080**	21.104.2	80	**SGM080P**	21.114.2
100	**SGM100**	21.105.2	100	**SGM100P**	21.115.2
125	**SGM125**	21.106.2	125	**SGM125P**	21.116.2
160	**SGM160**	21.107.2	160	**SGM160P**	21.117.2
200	**SGM200**	21.108.2	200	**SGM200P**	21.118.2
MAGNETIC, VITON seals					
normal			passing-through rod		
for bore	part number	code	for bore	part number	code
32	**SGM032V**	21.120.2	32	**SGM032PV**	21.130.2
40	**SGM040V**	21.121.2	40	**SGM040PV**	21.131.2
50	**SGM050V**	21.122.2	50	**SGM050PV**	21.132.2
63	**SGM063V**	21.123.2	63	**SGM063PV**	21.133.2
80	**SGM080V**	21.124.2	80	**SGM080PV**	21.134.2
100	**SGM100V**	21.125.2	100	**SGM100PV**	21.135.2
125	**SGM125V**	21.126.2	125	**SGM125PV**	21.136.2
160	**SGM160V**	21.127.2	160	**SGM160PV**	21.137.2
200	**SGM200V**	21.128.2	200	**SGM200PV**	21.138.2

Intermediate flange for opposite ISO 6431 cylinders

This intermediate flange has to be inserted between two ISO 6431 VDMA cylinders to form an opposite cylinder. It is sold in kit with all necessary pieces for installation.





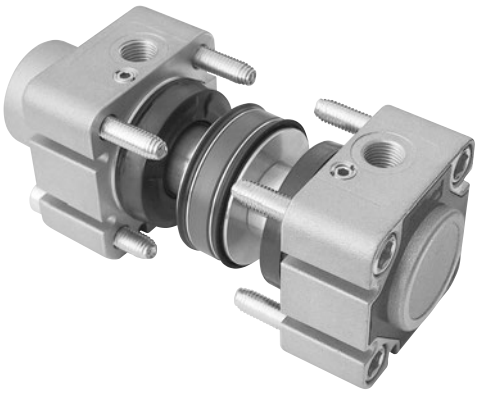
Assembling instructions

code	for bore	A	B	C	D	E
21.190.2	32	46	32.5	21.5	27	6.5
21.191.2	40	52	38	20.5	27	6.5
21.192.2	50	63	46.5	25.5	32	8.5
21.193.2	63	73	56.5	21.5	28	8.5
21.194.2	80	92	72	31	38	10.5
21.195.2	100	110	89	31	38	10.5
21.196.2	125	134	110	33	44	12.5

cylinder kit

The kit contains:

- Pre mounted heads with bushing, bumper and cushioning
- Piston with magnet, seals and guide ring (for aluminium piston)
- Ogive
- Screws
- Protection plates
- All necessary seals



MAGNETIC, standard seals					
normal			through-rod		
for bore	part number	code	for bore	part number	code
32	**KSM032**	21.001.3	32	**KSM032P**	21.011.3
40	**KSM040**	21.002.3	40	**KSM040P**	21.012.3
50	**KSM050**	21.003.3	50	**KSM050P**	21.013.3
63	**KSM063**	21.004.3	63	**KSM063P**	21.014.3
80	**KSM080**	21.005.3	80	**KSM080P**	21.015.3
100	**KSM100**	21.006.3	100	**KSM100P**	21.016.3
125	**KSM125**	21.007.3	125	**KSM125P**	21.017.3
160	**KSM160**	21.008.3	160	**KSM160P**	21.018.3
200	**KSM200**	21.009.3	200	**KSM200P**	21.019.3
MAGNETIC, VITON seals					
normal			through-rod		
for bore	part number	code	for bore	part number	code
32	**KSM032V**	21.021.3	32	**KSM032PV**	21.031.3
40	**KSM040V**	21.022.3	40	**KSM040PV**	21.032.3
50	**KSM050V**	21.023.3	50	**KSM050PV**	21.033.3
63	**KSM063V**	21.024.3	63	**KSM063PV**	21.034.3
80	**KSM080V**	21.025.3	80	**KSM080PV**	21.035.3
100	**KSM100V**	21.026.3	100	**KSM100PV**	21.036.3
125	**KSM125V**	21.027.3	125	**KSM125PV**	21.037.3
160	**KSM160V**	21.028.3	160	**KSM160PV**	21.038.3
200	**KSM200V**	21.029.3	200	**KSM200PV**	21.039.3

cylinder kit assembly instructions

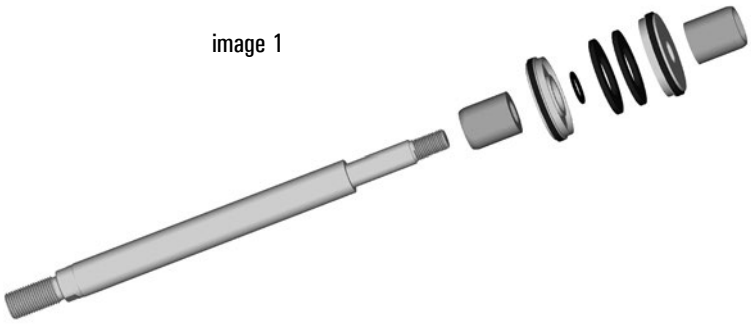
INSTRUCTIONS TO USE ISO 6431 ASSEMBLING CYLINDER KIT

All components contained in this ISO 6431 assembling pneumatic cylinder kit are manufactured with first quality materials. In order to ensure consistent quality and to respect accurate dimensional tolerances, die-cast heads and all internal components are lathes' and numerical control work centres' machine worked. The cylinder is designed and built to offer high performances also in the hardest work conditions. To ensure constant quality, the assembly has to be executed according to the instructions reported below. All safety standards have to be respected during installation and cylinder testing.

1. PRELIMINARY OPERATIONS

Before assembling, blow with compressed air and clean accurately surfaces, all components and the barrel previously cut to the desired length. The cylinder has to be installed in a clean and dustless work environment.

image 1

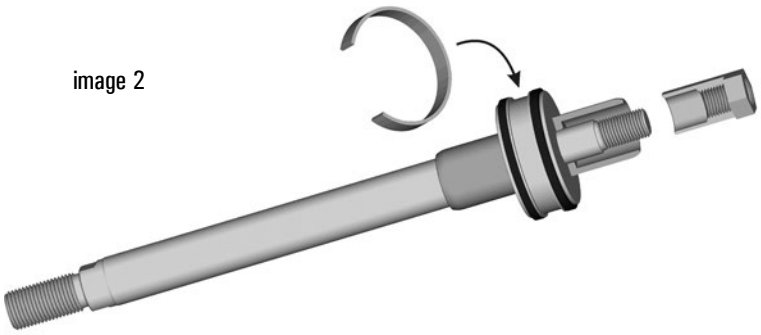


2. ASSEMBLE PISTON ON THE ROD

Insert the following components in this order on the rod (Refer to image 1): ogive, semi-piston, O-Ring seal, attracting magnets , semi-piston, ogive.
Before screwing, put on the rod thread one or two drops of threadlocker. Screw the nut on the rod respecting the torque given in the following table:

bore	torque	
	aluminium piston	technopolymer piston
32	10 Nm	7 Nm
40	20 Nm	9 Nm
50	30 Nm	15 Nm
63	45 Nm	19 Nm
80	60 Nm	27 Nm
100	60 Nm	35 Nm
125	70 Nm	-
160-200	80 Nm	-

image 2



3. INSERT THE LOCK ROD-PISTON IN THE BARREL

With an appropriate grease (eventually purchasable from AZ Pneumatica) lubricate lightly the barrel inside, piston seals and heads seals. Position the guide ring in teflon-copper (available only for aluminium pistons), lubricated with grease, around the piston (see image 2); insert the lock rod-piston, previously assembled, in the barrel paying attention to not damage the piston seals (see image 3). To simplify this operation, it is possible to purchase a specific adaptor from AZ Pneumatica.

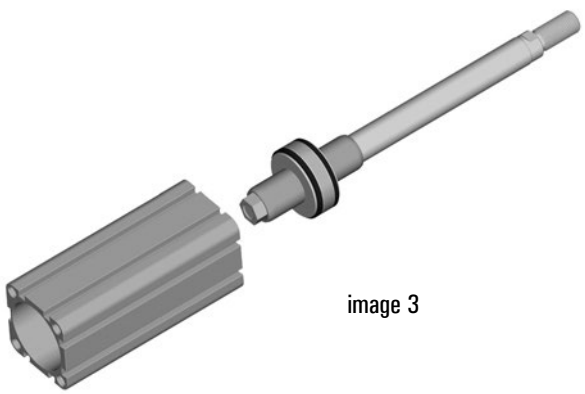


image 3

4. ASSEMBLE HEADS

Insert front and rear head in the tube, paying attention to not damage the O-Ring seals.
Head lock screws are self-tapping till the M8 thread (bore 63). For larger diameter screws is recommended to thread the barrel, even if is possibile use them ,with effort, as they were self-tapping. In any case, before tightening the screws is necessary to lubricate the threading with some drops of hydraulic oil. Screw manually or with a pneumatic utensil almost till the end. To tighten definitely the screws is necessary to use a torque wrench or a pneumatic utensil with torque indication. Act progressively till the torque given in the following table:

TORQUE FOR MOUNTING HEAD SCREW

bore	torque
32	10 Nm
40	10 Nm
50	22 Nm
63	22 Nm
80	40 Nm
100	40 Nm
125	50 Nm
160-200	60 Nm

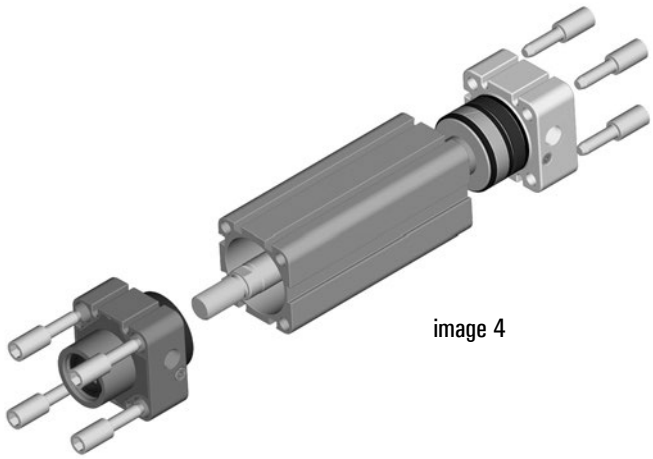


image 4

Screw the nut on the front part of the rod, now the cylinder is assembled.

5. TESTING

Connect the cylinder to a five way valve and activate it a few times to verify the correct operation.

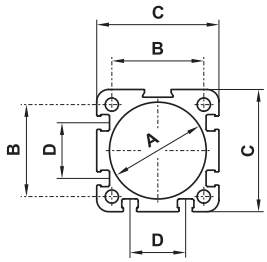
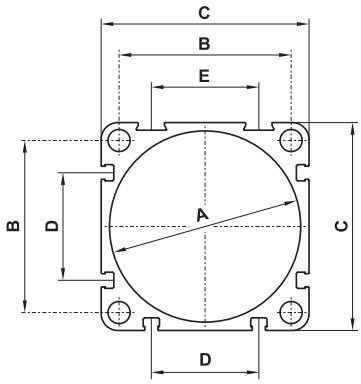
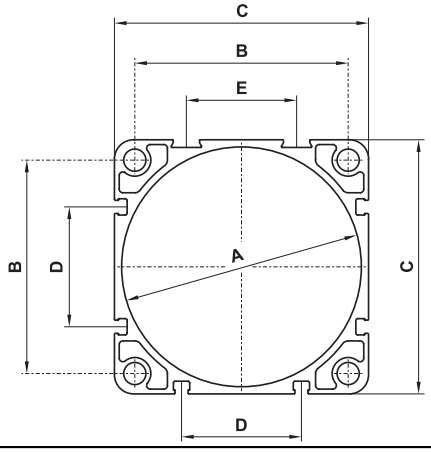
Do the following operations at 2 bar (30 PSI) pressure and at 7 bar (101 PSI) pressure or more .
- verify the perfect holding of front head and of location of cushioning screw;
- verify the perfect holding of rear head and of location of cushioning screw;
- verify the perfect holding of scraper ring;
- verify the perfect piston holding between the two chambers.

For obvious reasons, these operations have to be executed with air supply.

Once verified the perfect holding of cylinder in all parts, regulate the dampings as needed and eventually insert the caps in the feed opening. Now the cylinder is ready to be used.

Contact AZ Pneumatica in case of doubts.

STANDARD profile for N series

	order code	dimensions [mm]					weight [kg/m]
		A	B	C	D	E	
	**000.510.7**	ø32 H11	32.5	44.5	17	-	2.198
	000.511.7	ø40 H11	38	50.5	23	-	2.506
	000.512.7	ø50 H11	46.5	60.3	26	-	3.394
	**000.513.7**	ø63 H11	56.5	70	37	35	3.452
	000.514.7	ø80 H11	72	87	45	45	5.214
	**000.515.7**	ø100 H12	89	106	50	46	5.619
	000.516.7	ø125 H12	110	132	56	50	7.788

chemical composition	Cu	Fe	Mn	Mg	Si	Zn	Cr	Ti	Al
	≤ 0.10	≤ 0.35	≤ 0.10	0.45÷0.90	0.20÷0.60	≤ 0.10	≤ 0.10	≤ 0.10	rest

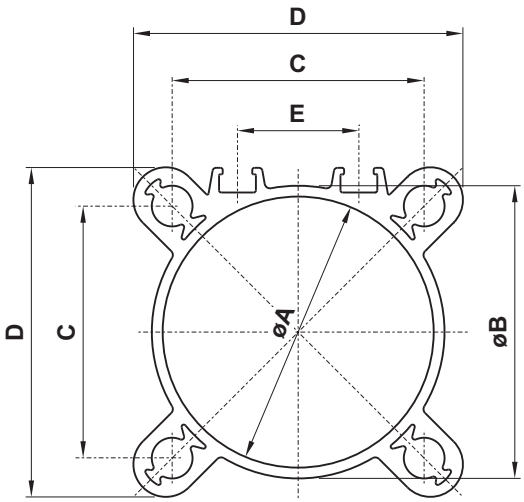
Fixing holes

from ø32 to ø63 : prepared for metric thread through rolling or self-tapping screws

from ø80 to ø125 : prepared for metric thread through rolling

Round profile for cylinders
ø160: **000.517.7**
ø200: **000.518.7**

EASY profile for E series

	order code	dimensions [mm]					weight [kg/m]
		A	B	C	D	E	
	**000.530.7**	ø32 H11	36	32.5	44.4	13 ±0.2	1.407
	000.531.7	ø40 H11	44	38	51	18.8 ±0.2	1.644
	000.532.7	ø50 H11	54	46.5	60.8	22.4 ±0.25	2.035
	000.533.7	ø63 H11	67	56.5	70.9	32.6 ±0.3	2.312
	000.534.7	ø80 H11	84	72	87	41 ±0.3	2.877
	000.535.7	ø100 H12	104.5	89	105.5	53 ±0.3	3.873
	000.536.7	ø125 H12	130	110	131	64 ±0.35	5.316

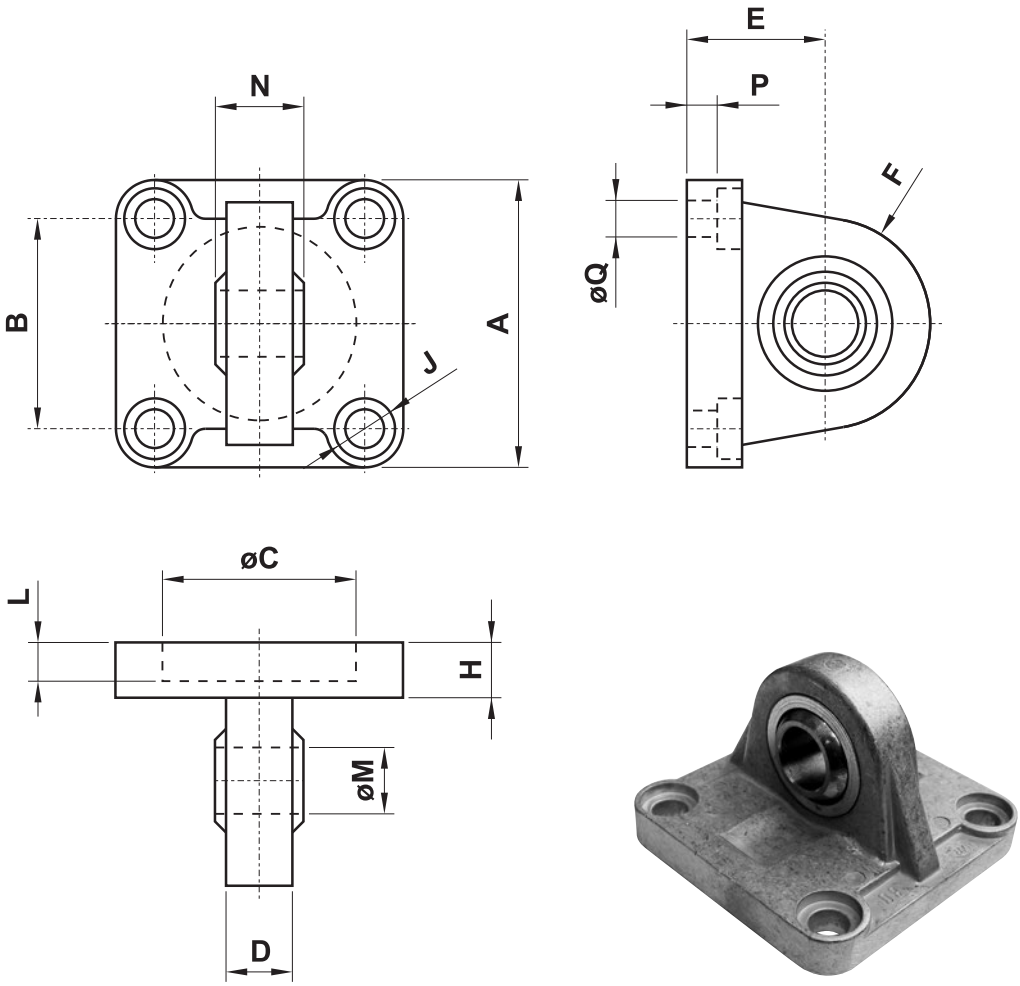
chemical composition	Cu	Fe	Mn	Mg	Si	Zn	Cr	Ti	Al
	≤ 0.10	≤ 0.35	≤ 0.10	0.45 ÷ 0.90	0.20 ÷ 0.60	≤ 0.10	≤ 0.10	≤ 0.10	rest

Fixing holes

from ø32 to ø63 : prepared for metric thread through rolling or self-tapping screws

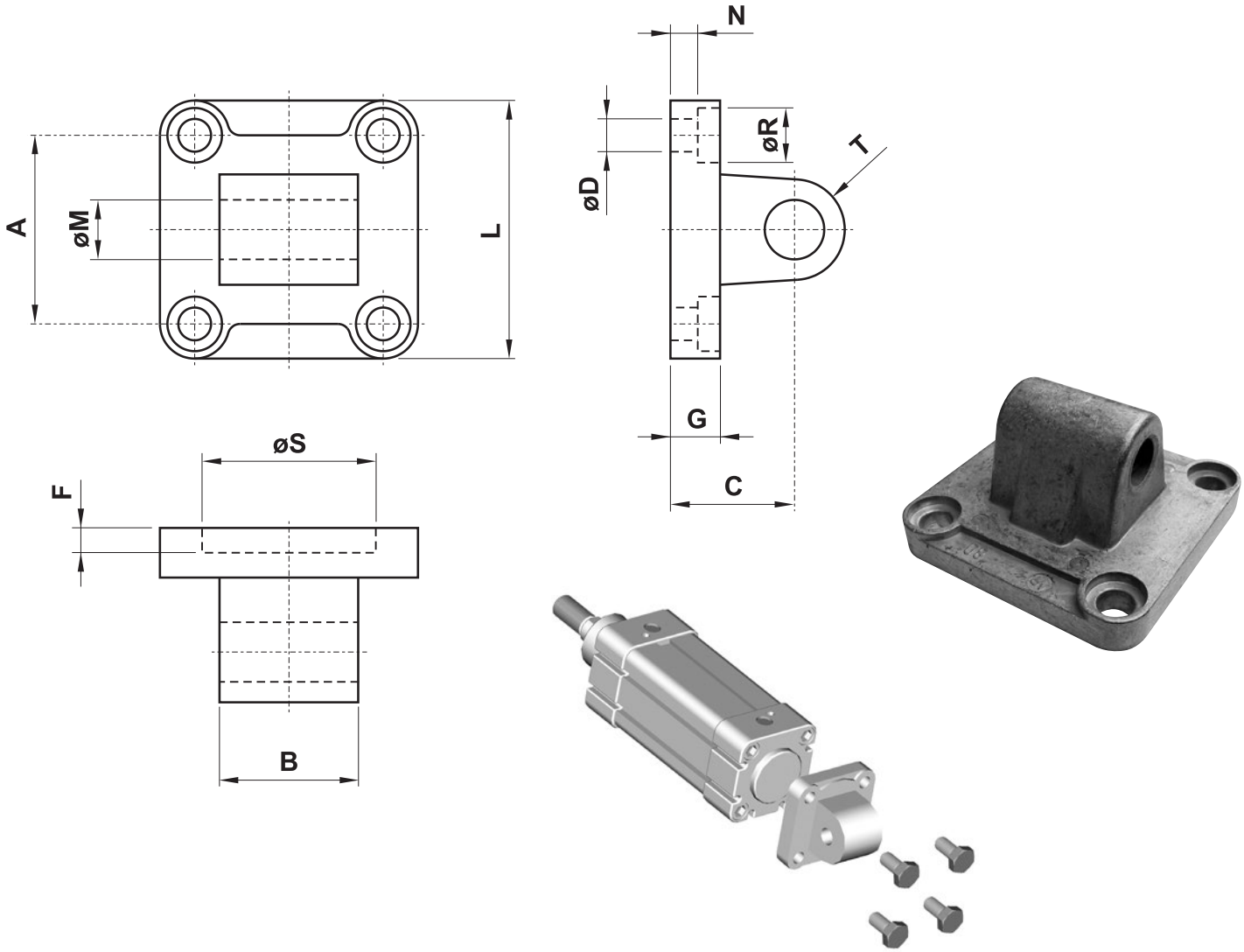
from ø80 to ø125 : prepared for metric thread through rolling

NARROW MALE HINGE WITH ARTICULATED HEAD DIN 648K



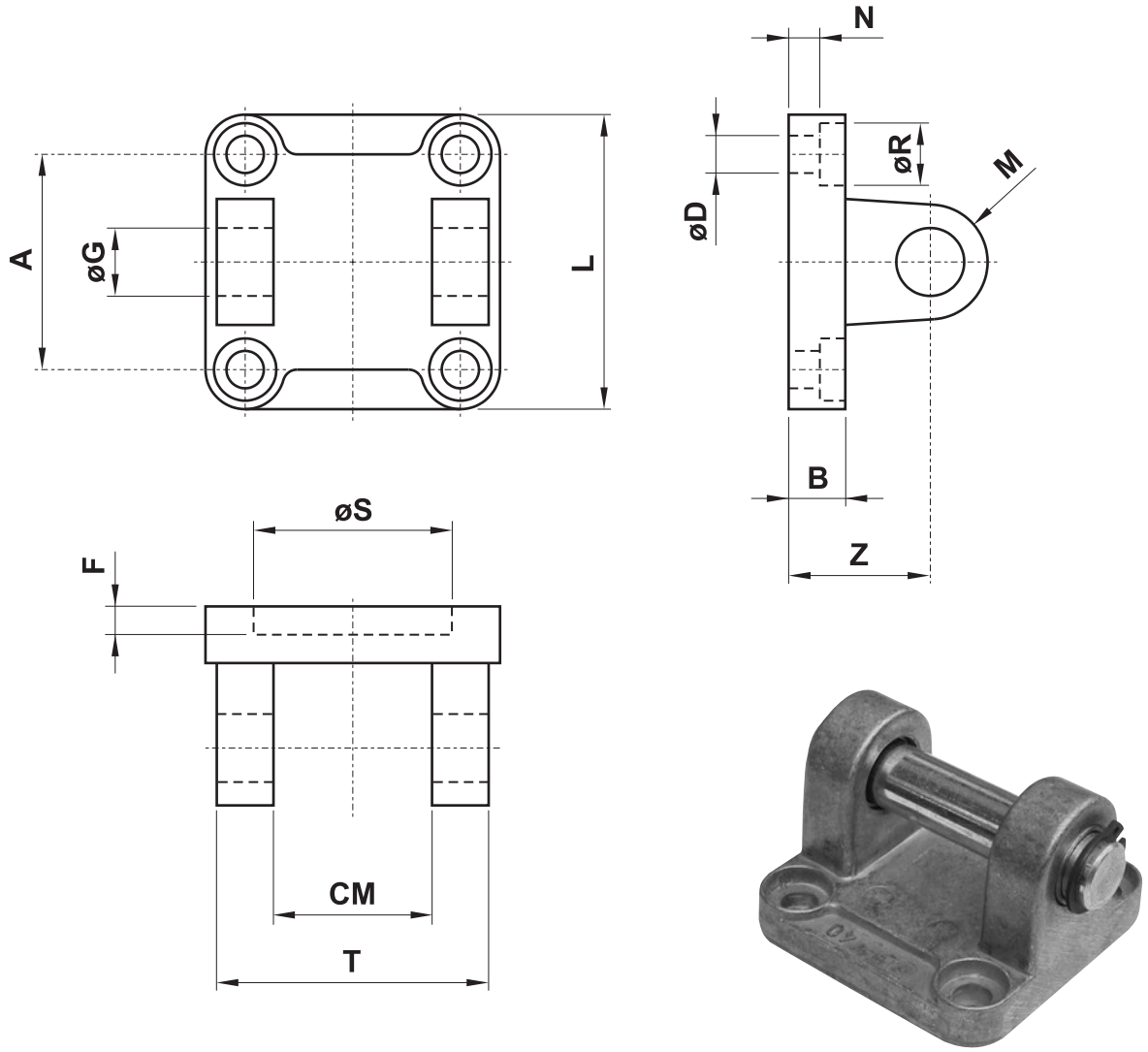
part number	for bore	A	B	C	D	E	F	H	J	L	M	N	P	Q
CMSS032	32	45	32.5	30	10.5	22	16	9	ø11	5	10	14	5.5	6.6
CMSS040	40	52	38	35	12	25	19	9	ø11	5	12	16	5.5	6.6
CMSS050	50	65	46.5	40	15	27	21	11	ø15	5	16	21	6.5	9
CMSS063	63	75	56.5	45	15	32	24	11	ø15	5	16	21	6.5	9
CMSS080	80	95	72	45	18	36	28.5	14	ø18	5	20	25	10	11
CMSS100	100	115	89	55	18	41	30	14	ø18	5	20	25	10	11
CMSS125	125	140	110	60	25	50	40	20	ø20	7	30	37	10	13.5
CMSS160	160	180	140	65	28	55	45	20	ø26	7	35	43	10	18
CMSS200	200	220	175	75	28	60	48	25	ø26	7	35	43	11	18

MALE HINGE MP4



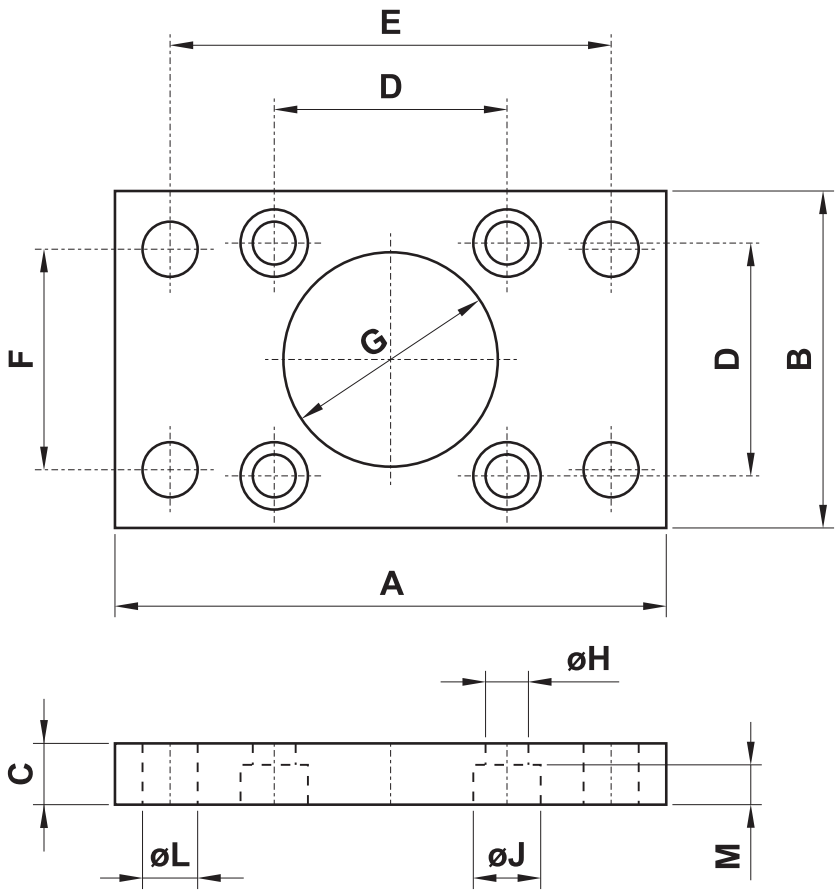
part number	part number	for bore	A	B	C	D	F	G	L	M	N	R	S	T
standard	with bronze bushing													
CMIS032	**CMKS032**	32	32.5	26	22	6.6	5	9	45	10	5.5	11	30	10
CMIS040	**CMKS040**	40	38	28	25	6.6	5	9	52	12	5.5	11	35	12
CMIS050	**CMKS050**	50	46.5	32	27	9	5	11	65	12	6.5	15	40	12
CMIS063	**CMKS063**	63	56.5	40	32	9	5	11	75	16	6.5	15	45	16
CMIS080	**CMKS080**	80	72	50	36	11	5	14	95	16	10	18	45	16
CMIS100	**CMKS100**	100	89	60	41	11	5	14	115	20	10	18	55	20
CMIS125	**CMKS125**	125	110	70	50	14	7	20	140	25	10	20	60	25
CMIS160	**CMKS160**	160	140	90	55	18	7	20	180	30	10	26	65	25
CMIS200	**CMKS200**	200	175	90	60	18	7	25	220	30	11	26	75	25

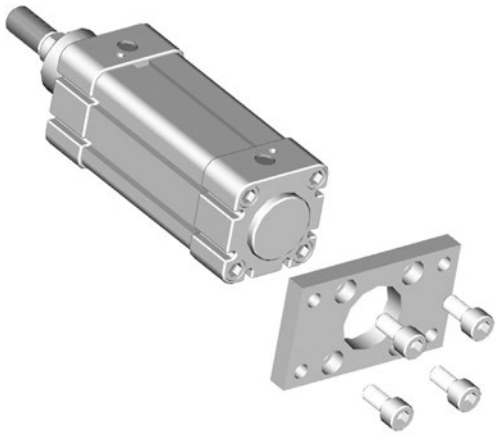
FEMALE HINGE MP2 WITH PIN



part number	part number	for bore	A	B	CM	D	F	G	L	M	N	R	S	T	Z
standard	with bronze bushing														
CFIS032	**CFKS032**	32	32.5	9	26	6.6	5	10	45	10	5.5	11	30	45	22
CFIS040	**CFKS040**	40	38	9	28	6.6	5	12	52	12	5.5	11	35	52	25
CFIS050	**CFKS050**	50	46.5	11	32	9	5	12	65	12	6.5	15	40	60	27
CFIS063	**CFKS063**	63	56.5	11	40	9	5	16	75	16	6.5	15	45	70	32
CFIS080	**CFKS080**	80	72	14	50	11	5	16	95	16	10	18	45	90	36
CFIS100	**CFKS100**	100	89	14	60	11	5	20	115	20	10	18	55	110	41
CFIS125	**CFKS125**	125	110	20	70	14	7	25	140	25	10	20	60	130	50
CFIS160	**CFKS160**	160	140	20	90	18	7	30	180	25	10	26	65	170	55
CFIS200	**CFKS200**	200	175	25	90	18	7	30	220	25	11	26	75	170	60

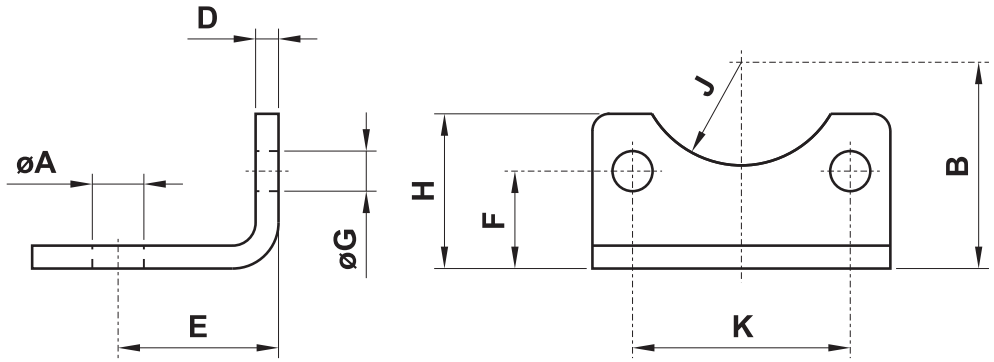
FLANGE

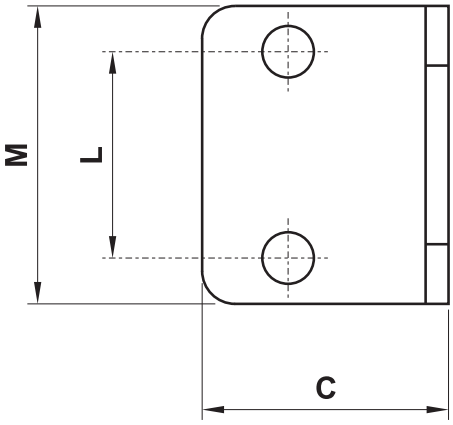


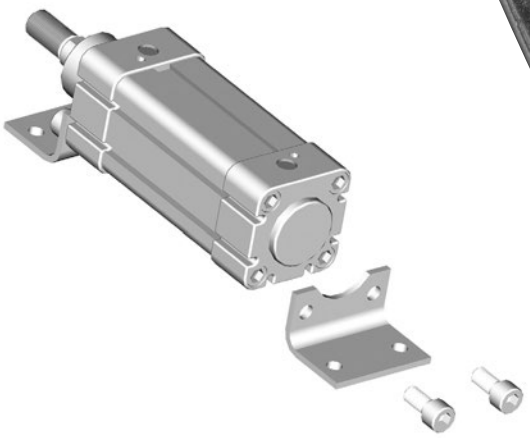


part number	for bore	A	B	C	D	E	F	G	H	J	L	M
FLIS032	32	80	45	10	32.5	64	32	ø30	6.6	10.5	7	6.5
FLIS040	40	90	52	10	38	72	36	ø35	6.6	11	9	6.5
FLIS050	50	110	65	12	46.5	90	45	ø40	9	15	9	8.5
FLIS063	63	120	75	12	56.5	100	50	ø45	9	15	9	8.5
FLIS080	80	150	95	16	72	126	63	ø45	11	18	12	10.5
FLIS100	100	170	115	16	89	150	75	ø55	11	18	14	10.5
FLIS125	125	205	140	20	110	180	90	ø60	13.5	20	16	12.5
FLIS160	160	260	180	20	140	230	115	ø65	18	26	18	16.5
FLIS200	200	300	220	25	175	270	135	ø75	18	26	22	16.5

FOOT MOUNTING





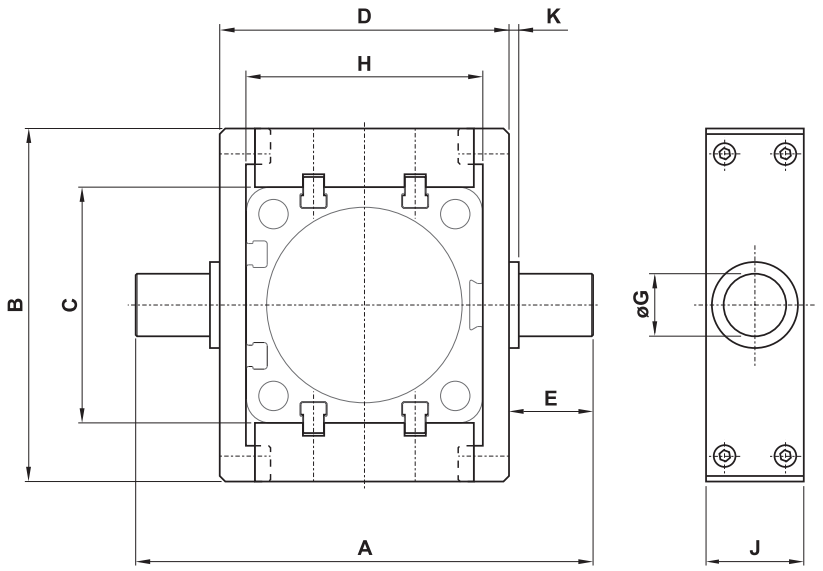


part number*	for bore	A	B	C	D	E	F	G	H	J	K	L	M
PBIS032	32	7	32	35	4	24	15.75	7	30	15	32.5	32	45
PBIS040	40	9	36	36	4	28	17	7	30	17.5	38	36	52
PBIS050	50	9	45	47	5	32	21.75	9	36	20	46.5	45	65
PBIS063	63	9	50	45	5	32	21.75	9	35	22.5	56.5	50	75
PBIS080	80	12	63	55	6	41	27	11	47	22.5	72	63	95
PBIS100	100	14	71	57	6	41	26.5	11	53	27.5	89	75	115
PBIS125	125	16	90	70	8	45	35	14	70	30	110	90	140
PBIS160	160	18	115	75	9	60	45	18	100	32.5	140	115	180
PBIS200	200	22	135	100	12	70	47.5	18	100	37.5	175	135	220

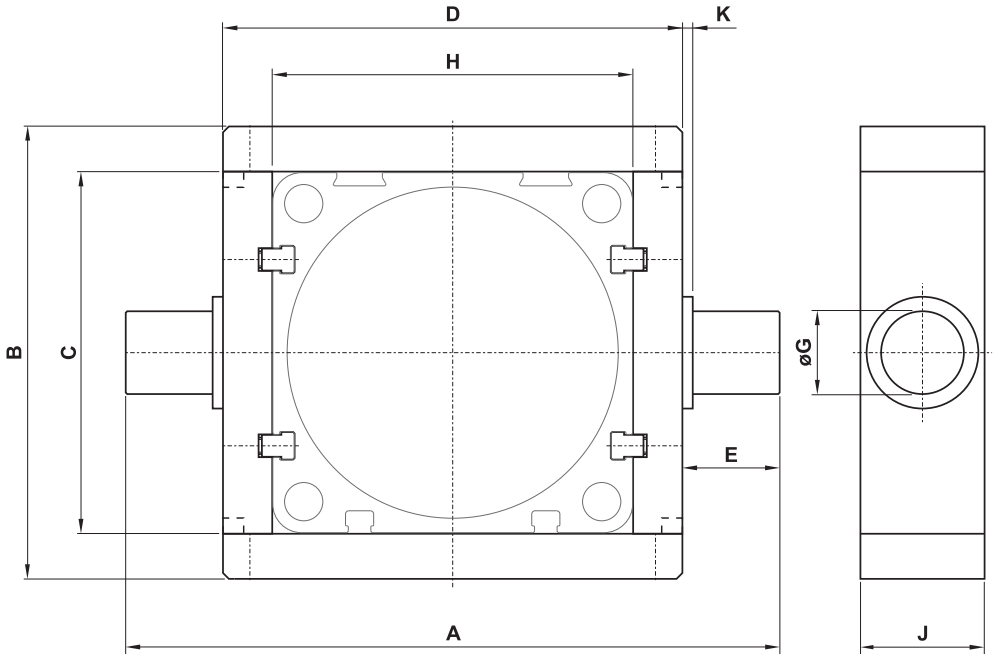
* Part number refers to a single element, not to the couple

INTERMEDIATE TRUNNION - ONLY FOR "N" SERIES

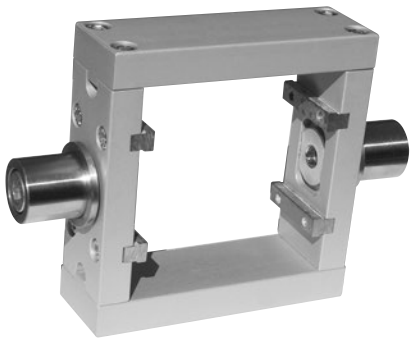
bores: 32, 40, 50



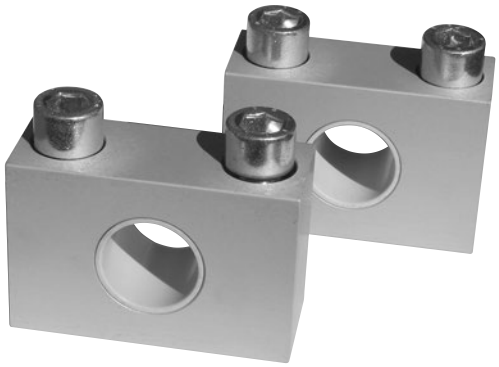
bores: 63, 80, 100, 125

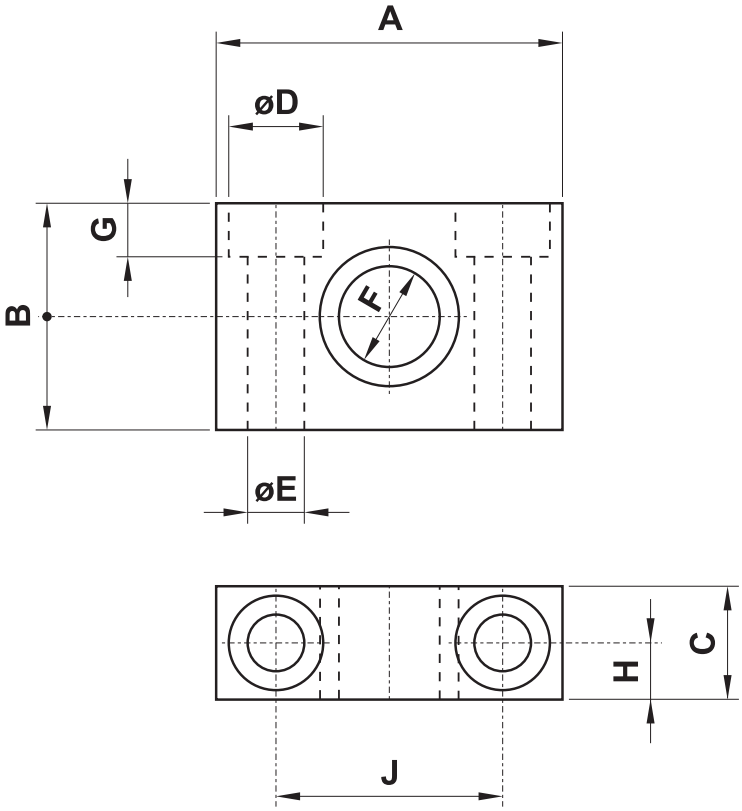


part number	for bore	A	B	C	D	E	G	H	J	K
CIN032	32	87	65	44.5	52	17.5	12	45	25	2
CIN040	40	105	74.8	50.5	62	21.5	16	51	25	2.5
CIN050	50	117	90.3	60.3	74	21.5	16	60.8	25	2.5
CIN063	63	136	94.5	70.5	91	22.5	20	70	30	2.5
CIN080	80	156	109.3	87.5	111	22.5	20	87	30	2.5
CIN100	100	195	134	106.6	129	33	25	106	40	2.5
CIN125	125	223	160	132.6	157	33	25	132	40	2.5



SUPPORT FOR INTERMEDIATE TRUNNION

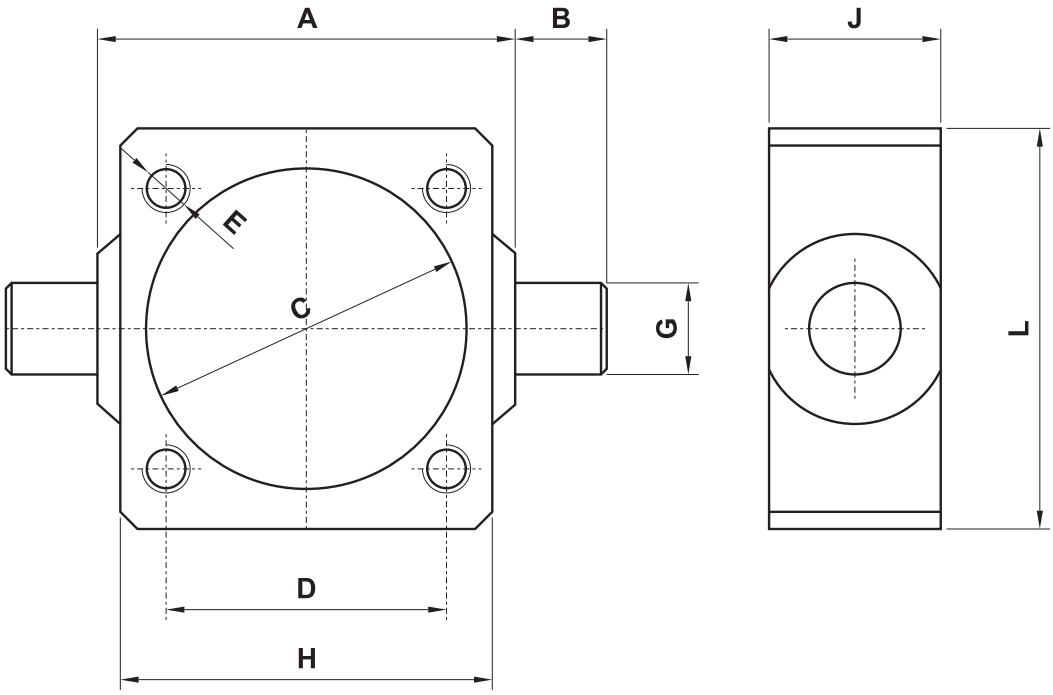




part number*	for bore	A	B	C	D	E	F	G	H	J
SNINT 032 B	32	46	30	15	10.5	6.5	ø12	6.5	7.5	32
SNINT 040-050 B	40-50	55	35	20	14	9	ø16	8	10	36
SNINT 063-080 B	63-80	65	40	20	17	11	ø20	12	10	42
SNINT 100-125 B	100-125	75	50	30	19	14	ø25	10	15	50

* Part number refers to a couple of elements

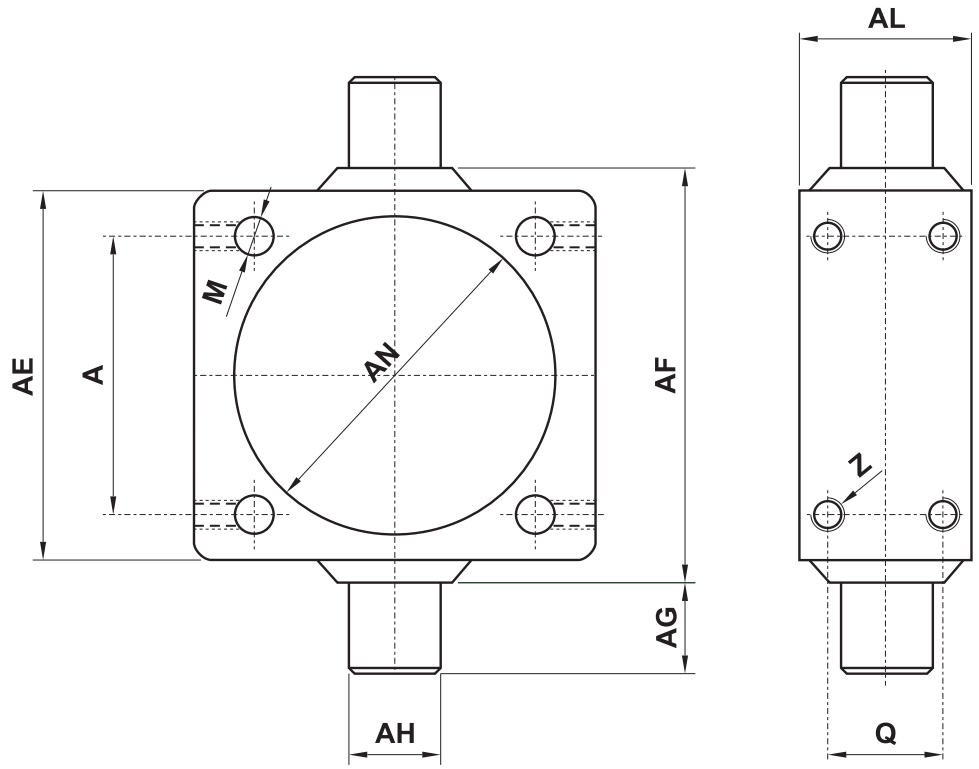
FIXED INTERMEDIATE TRUNNION
for cylinders bores 160 and 200
tie-rods version



This intermediate trunnion can be mounted only on a cylinder with round barrel and tie-rods.
The request for cylinders with tie-rods must be clearly specified on the order.
On the order please specify also the position where the fixing element should be mounted on the cylinder.

part number	for bore	A	B	C	D	E	G	H	J	L
CSIS160TI	160	200	32	ø171	140	M16	ø32	190	40	190
CSIS200TI	200	250	32	ø211	175	M16	ø32	240	40	240

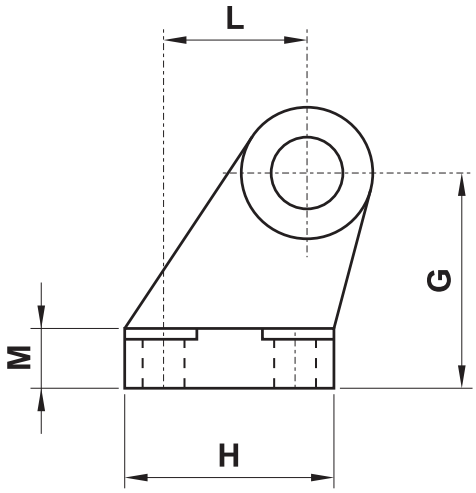
ADJUSTABLE INTERMEDIATE TRUNNION
for cylinders bores 160 and 200
tie-rods version

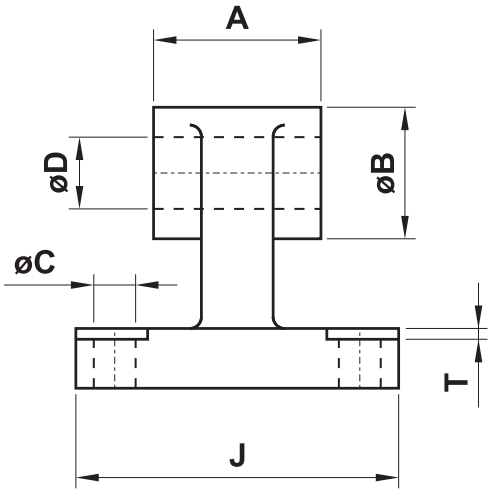


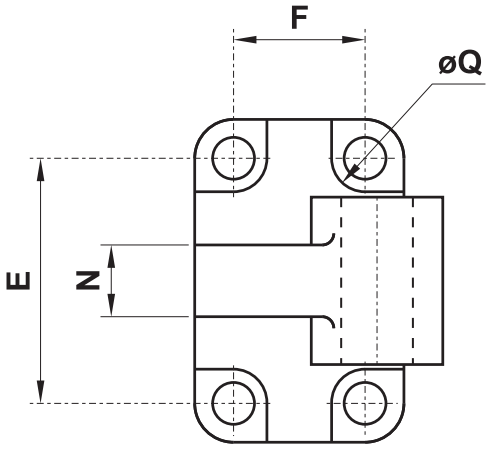
This intermediate trunnion can be mounted only on a cylinder with round barrel and tie-rods.
ATTENTION: This adjustable intermediate trunnion, even if it is correctly mounted on the cylinder, because of the weight can move and cause very serious injury. To avoid this it is better to **use a fixed intermediate trunnion!**

part number	for bore	A	AE	AL	AH	AG	AF	AN	M	Q	Z
26.327.2N	160	140	190	40	ø32	32	200	ø171	ø16.25	18	M12
26.328.2N	200	175	240	40	ø32	32	250	ø211	ø16.25	18	M12

RECTANGULAR JOINT
CETOP RP107P NORM

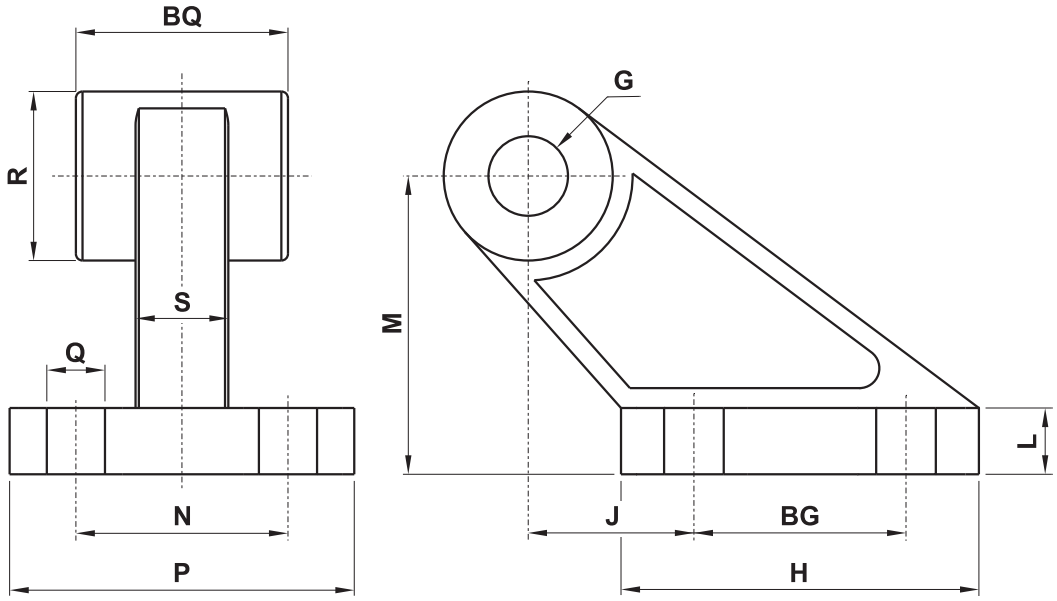






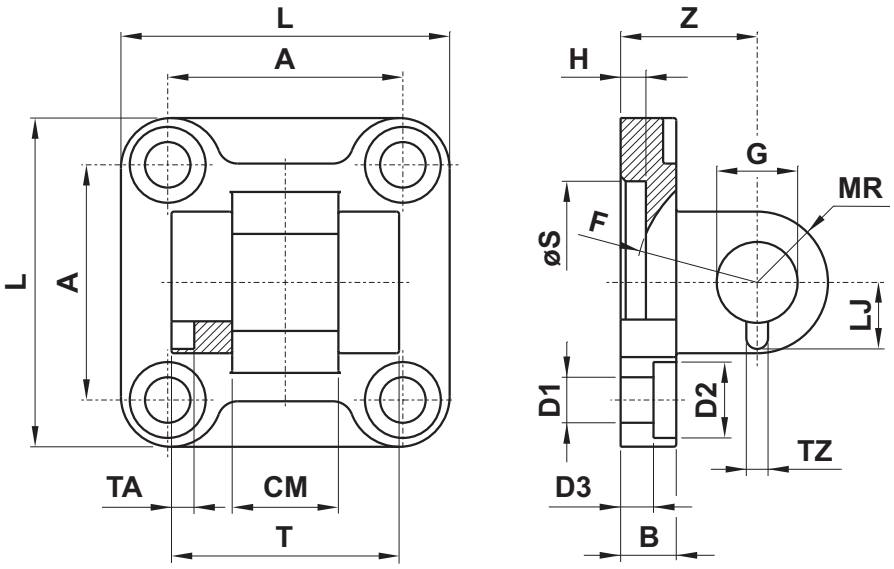
part number	for bore	A	B	C	D	E	F	G	H	J	L	M	N	Q	T
COIS032	32	26	20	6.6	10	38	18	32	31	51	21	8	10	11	1.6
COIS040	40	28	22	6.6	12	41	22	36	35	54	24	10	15	11	1.6
COIS050	50	32	26	9	12	50	30	45	45	65	33	12	16	15	1.6
COIS063	63	40	30	9	16	52	35	50	50	67	37	14	16	15	1.6
COIS080	80	50	30	11	16	66	40	63	60	86	47	14	20	18	2.5
COIS100	100	60	38	11	20	76	50	71	70	96	55	17	20	18	2.5
COIS125	125	70	45	14	25	94	60	90	90	124	70	20	30	20	3.2
COIS160	160	90	63	14	30	118	88	115	126	156	97	25	36	20	4
COIS200	200	90	63	18	30	122	90	135	130	162	105	30	40	26	4

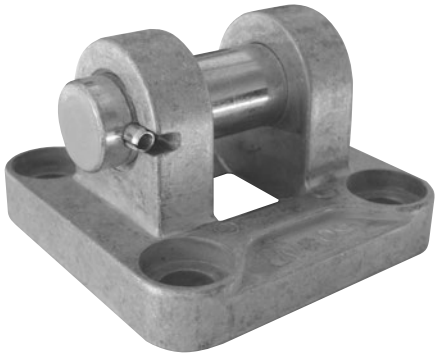
RECTANGULAR JOINT
ISO 6431 - VDMA



part number	for bore	Q	BG	H	J	L	M	N	P	S	R	BQ	G
COVDMA32	32	ø7	20	37	18	8	32	25	41	9	19	26	ø10
COVDMA40	40	ø9	32	54	25	10	45	32	52	14	25.5	28	ø12
COVDMA50	50	ø9	32	54	25	10	45	32	52	14	25.5	32	ø12
COVDMA63	63	ø11	50	75	32	12	63	40	63	14	32	40	ø16
COVDMA80	80	ø11	50	75	32	12	63	40	63	14	32	50	ø16
COVDMA100	100	ø14	70	103	40	17	90	50	80	22	42	60	ø20
COVDMA125	125	ø14	70	103	40	17	90	50	80	22	46	70	ø25
COVDMA160	160	ø18	110	154	50	20	140	63	110	26	53.5	89	ø30
COVDMA200	200	ø18	110	154	50	20	140	63	110	26	53.5	89	ø30

NARROW FEMALE HINGE FOR JOINT WITH ARTICULATED HEAD DIN 648K



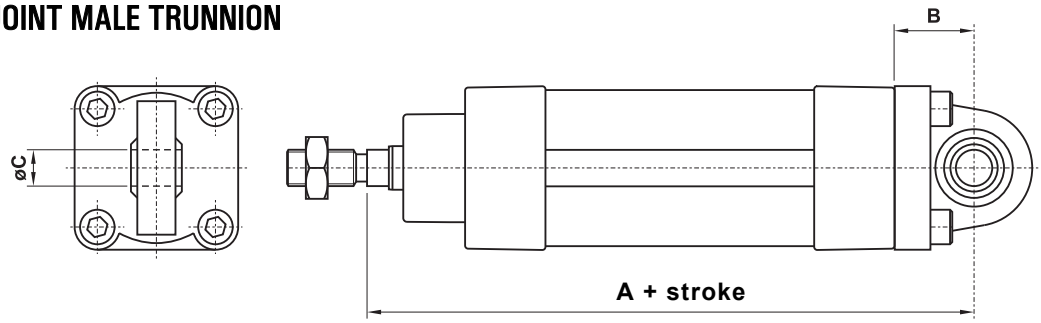


part number	for bore	L	T	CM	A	Z	H	B	D3	S	G	MR	D1	D2	TA	TZ	LJ	F
CFSIS032	32	45	34	14	32.5	22	5	9	5.5	30	ø10	10	ø6.6	ø11	3	3.3	11.5	17
CFSIS040	40	52	40	16	38	25	5	9	5.5	35	ø12	12	ø6.6	ø11	4	4.3	12	20
CFSIS050	50	65	45	21	46.5	27	5	11	6.5	40	ø16	14	ø9	ø15	4	4.3	14	22
CFSIS063	63	75	51	21	56.5	32	5	11	6.5	45	ø16	18	ø9	ø15	4	4.3	14	25
CFSIS080	80	95	65	25	72	36	5	14	10	45	ø20	20	ø11	ø18	4	4.3	16	30
CFSIS100	100	115	75	25	89	41	5	14	10	55	ø20	22	ø11	ø18	4	6.3	16	32
CFSIS125	125	140	97	37	110	50	7	20	10	60	ø30	25	ø14	ø20	6	6.3	24	42
CFSIS160	160	180	122	43	140	55	7	20	10	65	ø35	30	ø18	ø26	6	6.3	26.5	46
CFSIS200	200	220	122	43	175	60	7	25	11	75	ø35	30	ø18	ø26	6	6.3	26.5	49

Fixing elements for cylinders ISO 6431 VDMA

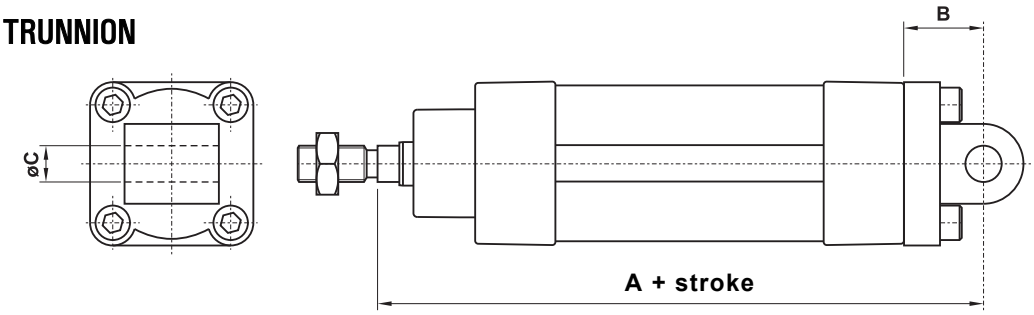
BALL-JOINT MALE TRUNNION

CMSS...



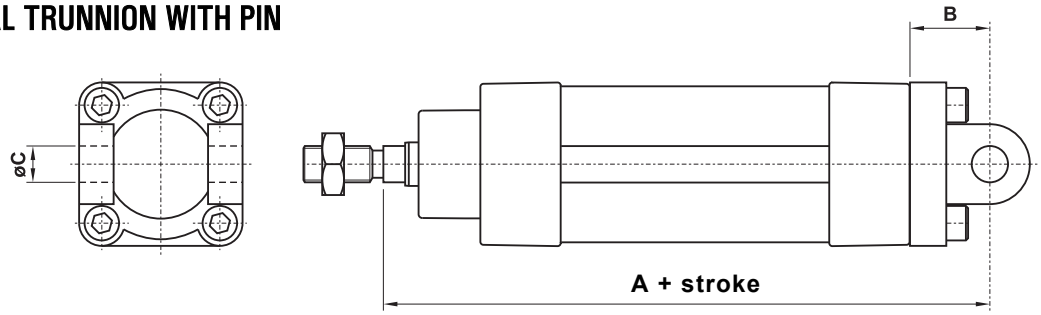
MALE TRUNNION

CMIS...
CMKS...



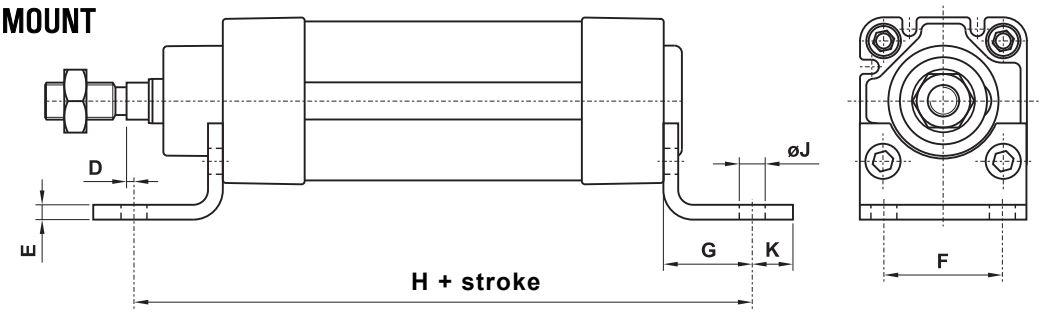
FEMAL TRUNNION WITH PIN

CFIS...
CFKS...



FOOT MOUNT

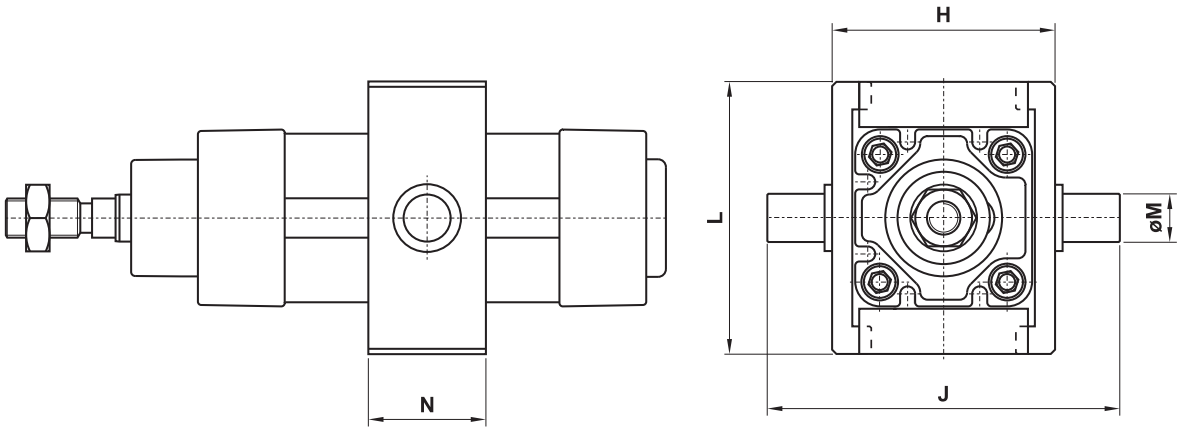
PBIS...



ø	A	B	C	D	E	F	G	H	J	K
32	142	22	10	2	4	32	24	142	7	11
40	160	25	12	2	4	36	28	161	9	8
50	170	27	12	5	5	45	32	170	9	15
63	190	32	16	5	5	50	32	185	9	13
80	210	36	16	5	6	63	41	210	12	14
100	230	41	20	10	6	75	41	220	14	16
125	275	50	25	20	8	90	45	250	16	25
160	315	55	30	20	9	115	60	300	18	15
200	335	60	30	25	12	135	70	320	22	30

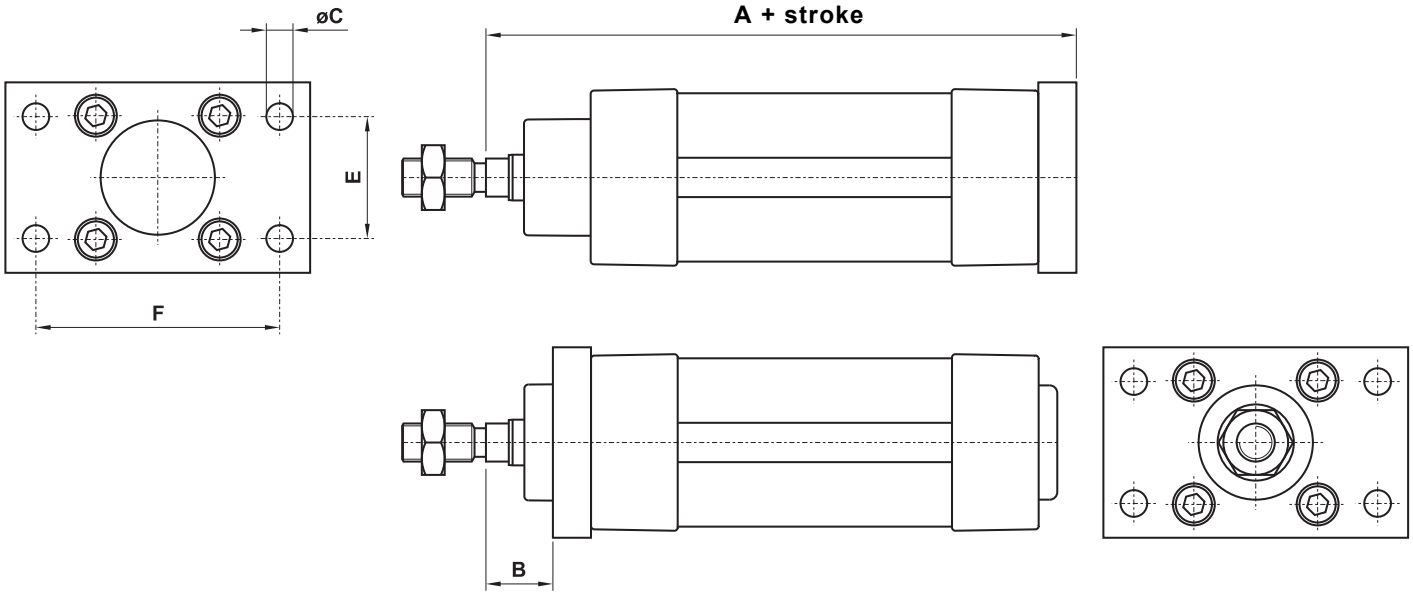
INTERMEDIATE TRUNNION PER ESTRUSO - ONLY FOR "N" SERIES

CIN...
CSIS...TI



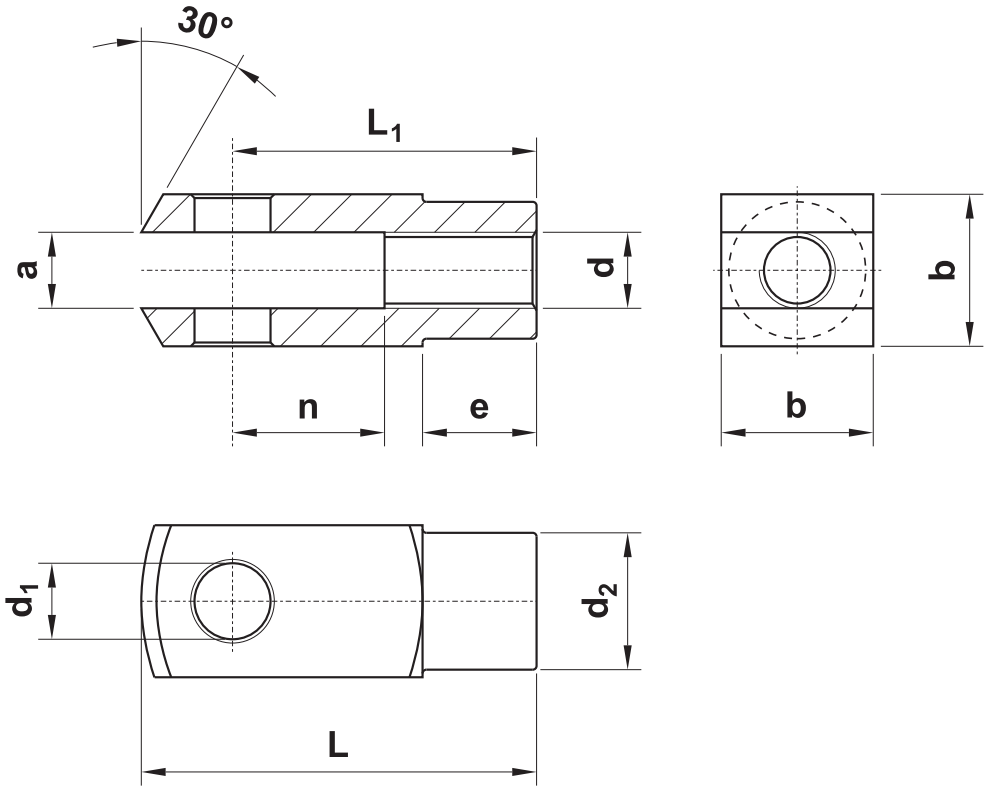
FLANGE

FLIS...



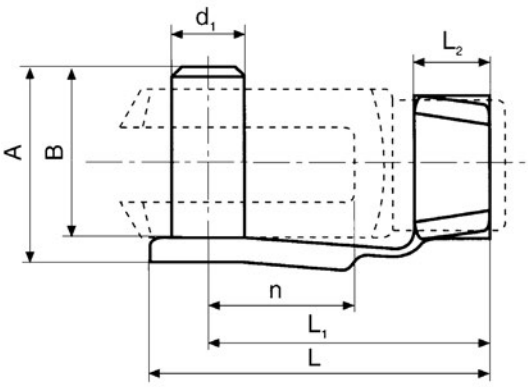
ø	A	B	C	E	F	H	J	L	M	N
32	130	16	7	32	64	52	87	65	12	25
40	145	20	9	36	72	62	105	74.8	16	25
50	155	25	9	45	90	74	117	90.3	16	25
63	170	25	9	50	100	91	136	94.5	20	30
80	190	30	12	63	126	111	156	109.3	20	30
100	205	35	14	75	150	129	195	134	25	40
125	245	45	16	90	180	156.7	222.7	160	25	40
160	280	60	18	115	230	190	262	200	32	40
200	300	70	22	135	270	240	312	250	32	40

FORKS



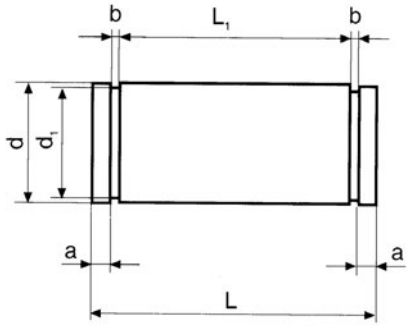
part number	for bores	d	a	b	d_1	d_2	e	L	L_1	n	supplied with
FR8C10	8-10	M4x0.7	4	8	ø4	ø8	6	21	16	8	clip
FR12C16	12-16	M6x1	6	12	ø6	ø10	9	31	24	12	clip
FRC20	20	M8x1.25	8	16	ø8	ø14	12	42	32	16	clip
FR25C32	25-32	M10x1.25	10	20	ø10	ø18	15	52	40	20	clip
FRC40	40	M12x1.25	12	24	ø12	ø20	18	62	48	24	clip
FR50C63	50-63	M16x1.5	16	32	ø16	ø26	24	83	64	32	clip
FR80C100	80-100	M20x1.5	20	40	ø20	ø34	30	105	80	40	clip
FRC125	125	M27x2	30	55	ø30	ø48	38	148	110	54	pin
FR160C200	160-200	M36x2	35	70	ø35	ø60	40	188	144	72	pin

CLIPS FOR FORKS



code	used for fork	d_1	n	A	B	L	L_1	L_2
26.119.0	**M4x0.7**	4	8	11	9	19	15	5
26.120.0	**M6x1**	6	12	16	14	28	23	6
26.121.0	**M8x1.25**	8	16	22	19	37	31	8
26.122.0	**M10x1.25**	10	20	26	23	46	39	10
26.123.0	**M12x1.25**	12	24	32	28	55	47	12
26.124.0	**M16x1.5**	16	32	40	36	72	62	14
26.125.0	**M20x1.5**	20	40	48	44	88	72	16

PINS FOR FORKS

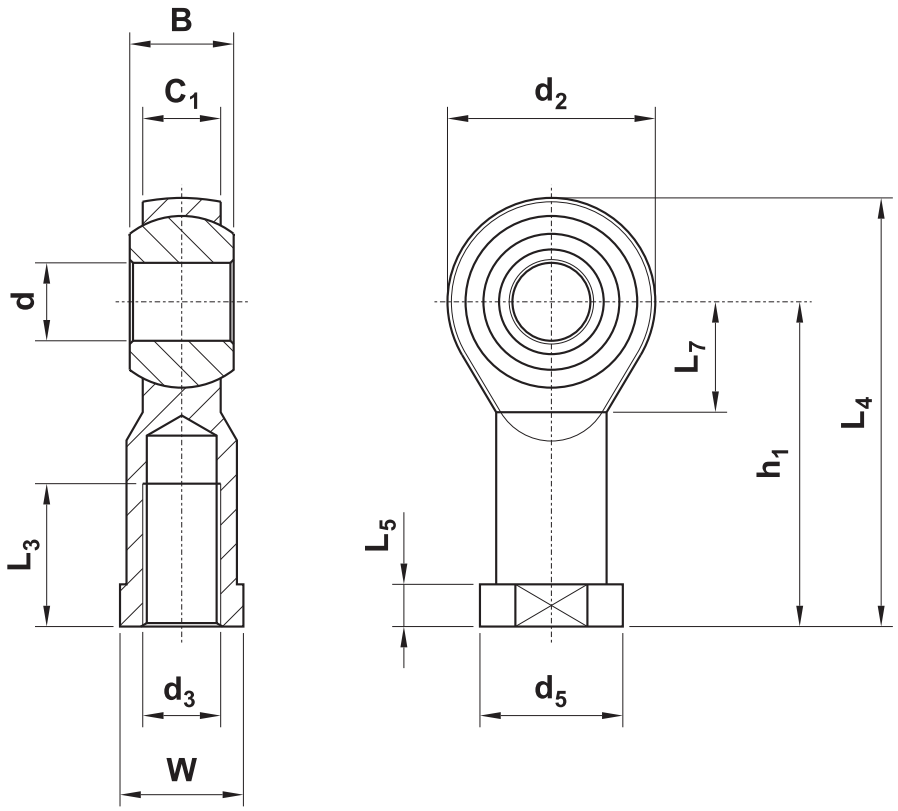


used for fork	d	L	d_1	L_1	a	b
M27x2	30	65	28.6	55	3.4	1.6
M36x2	35	84	33.4	70	5.4	1.6

NUTS FOR PISTON-ROD

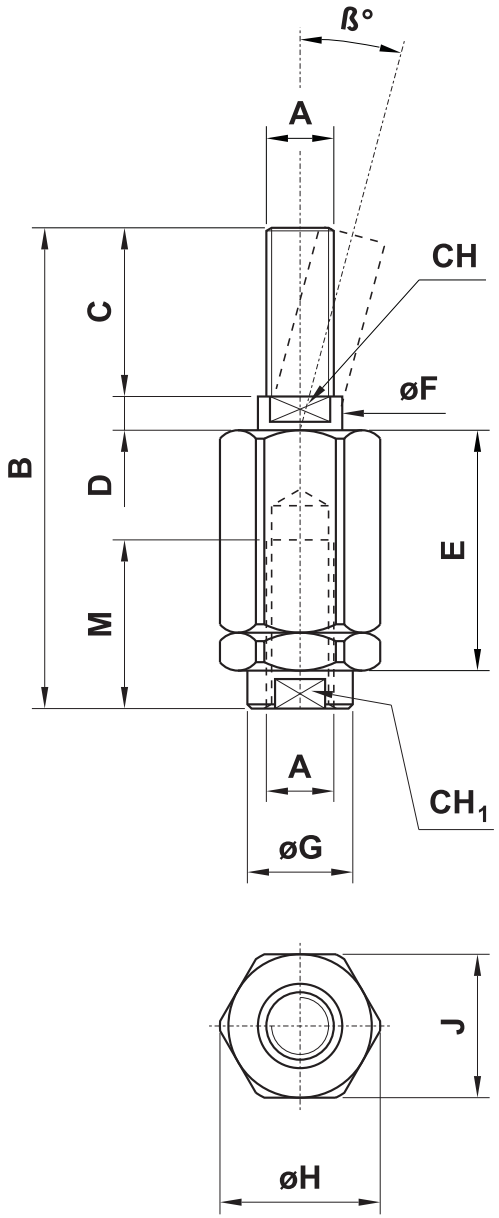
STANDARD part number	**STAINLESS STEEL** part number	code	for bore	thread	key
DSMC8-10		26.196.2	8-10	M4x0.7	7
DSMC12-16		26.197.2	12-16	M6x1	10
DSMC20		26.198.2	20	M8x1.25	13
DSIS032	**DSIS032X**	21.750.0	25-32	M10x1.25	17
DSIS040	**DSIS040X**	21.751.0	40	M12x1.25	19
DSIS05063	**DSIS05063X**	21.752.0	50-63	M16x1.5	24
DSIS080100	**DSIS080100X**	21.753.0	80-100	M20x1.5	30
DSIS125	**DSIS125X**	21.754.0	125	M27x2	41
DSIS160200	**DSIS160200X**	21.755.0	160-200	M36x2	55

SWIVEL BALL JOINT



STANDARD part number	STAINLESS STEEL part number	for bores	d_3	d	B	C_1	d_2	d_5	h_1	L_3	L_4	L_5	L_7	W
TS8T10	**TS8T10X**	8-10	M4x0.7	ø5	8	6	18	ø11	27	10	36	4	10	9
TS12T16	**TS12T16X**	12-16	M6x1	ø6	9	6.75	20	ø13	30	12	40	5	11	11
TST20	**TST20X**	20	M8x1.25	ø8	12	9	24	ø16	36	16	48	5	13	14
TS25T32	**TS25T32X**	25-32	M10x1.25	ø10	14	10.5	28	ø19	43	20	57	6.5	15	17
TST40	**TST40X**	40	M12x1.25	ø12	16	12	32	ø22	50	22	66	6.5	17	19
TS50T63	**TS50T63X**	50-63	M16x1.5	ø16	21	15	42	ø27	64	28	85	8	23	22
TS80T100	**TS80T100X**	80-100	M20x1.5	ø20	25	18	50	ø34	77	33	102	10	27	30
TST125	**TST125X**	125	M27x2	ø30	37	25	70	ø50	110	51	145	15	36	41
TS160T200	**TS160T200X**	160-200	M36x2	ø35	43	28	80	ø58	125	56	165	17	41	50

SELF-ALIGNING JOINTS



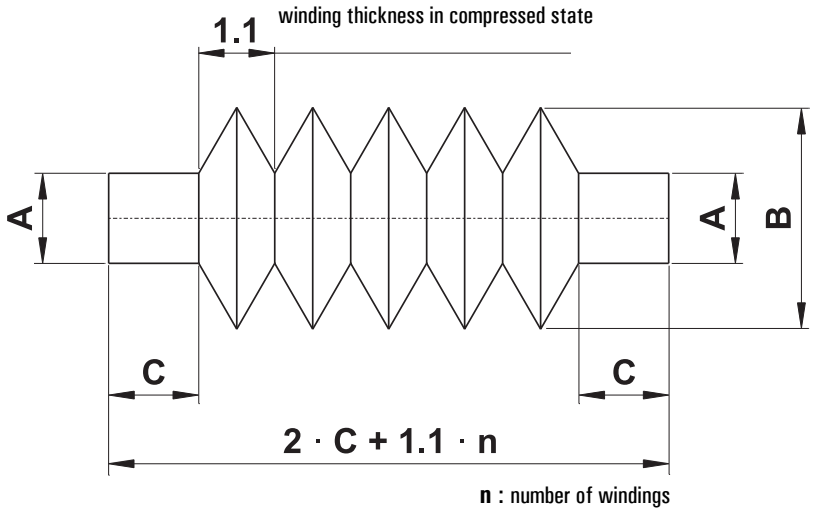
part number	for bores	A	B	C	D	E	F	G	H	J	M	CH	ß°	CH_1
SN12D16	12-16	M6x1	35	10	3.5	17.5	6	8.5	14.5	13	10	5	10	7
SND20	20	M8x1.25	57	20	4	28.5	8	12.5	19	17	20	7	10	11
SN25D32	25-32	M10x1.25	71	20	5	35	14	22	32	30	20	12	10	19
SND40	40	M12x1.25	75	24	5	35	14	22	32	30	20	12	10	19
SN50D63	50-63	M16x1.5	103	32	8	54	22	32	45	41	32	20	10	30
SN80D100	80-100	M20x1.5	119	40	8	54	22	32	45	41	40	20	10	30
SND125	125	M27x2	147	54	10	60	32	57	70	65	48	24	8	54

PISTON ROD PROTECTION COVERS

Piston rod protection cover for ISO 6431 VDMA cylinders, in double-sided hyped-up cloth (fabric). Water, oil and dust resistant. Colour: blue.
The protection cover must be fixed on the piston rod by two clamps, not provided with the protection cover.

SO	A	1	0

size identification — number of windings



n : number of windings

for cylinder ø	A	B	C	number of windings for 100 mm stroke	size identification
32; 40	30	60	36	10	A
50; 63; 80	40	80	46	8	B
100; 125	55	130	40	4	C
160; 200	70	155	55	3	D
250; 320	110	180	60	3	E

bore	maximum stroke (mm)	corresponding number of windings
32	90	9
40	90	9
50	130	11
63	130	11
80	140	12
100	330	14
125	550	22
160	870	27
200	1170	36

If the cylinder stroke is longer than the value in this table, we advise to increase the dimension D of the piston rod length (refer to pages 414-415) by 1.1 mm for each winding.

Example: a cylinder bore 80 and stroke 300 needs 24 windings. It is necessary to increase the piston rod length by (24–12) x 1.1 mm = 13.2 mm.
The cylinder with longer piston rod must be ordered as special (please contact the commercial office).

Rod blocking device

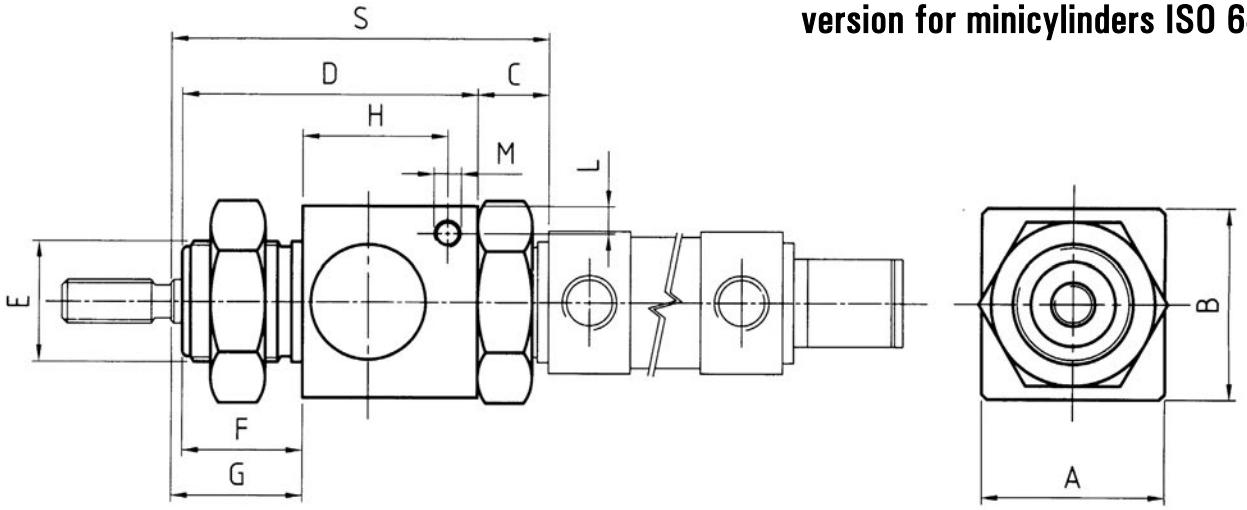
The rod blocking device can be used with cylinders ISO 6431 VDMA (bores from 32 to 125) and with minicylinders ISO 6432 (bores from 12 to 25).
The device is normally locked. It is unlocked by applying a pneumatic signal. Therefore it is possible to block the cylinder in case of pressure drop or to stop the movement in intermediate positions.

Materials
Body: aluminium (anodize treatment)
Internal parts: brass
Pistons: polymer
Springs: steel

Minimum actuating pressure		3 bar (43.5 PSI) 0.3 MPa										
Temperature range		**-15+60°C (5-140° F**										
Construction type		Mechanical bi-directional										
Function		NC (pneumatic piloted unlock)										
Locking force	ø	12	16	20	25	32	40	50	63	80	100	125
	force (N)	200	200	490	490	790	1240	1930	3060	5400	7700	12040
Fluid		50μ filtered, lubricated or non lubricated air										

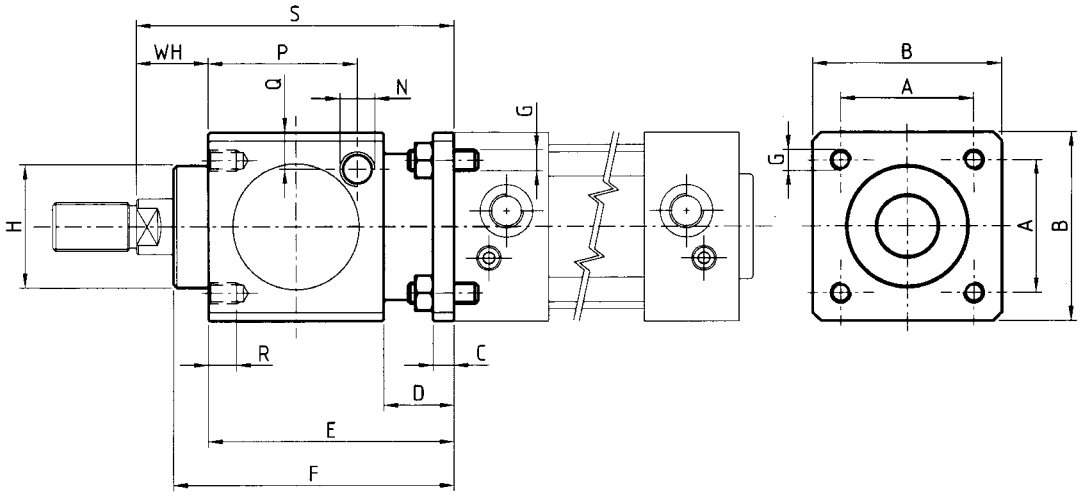
Rod blocking device

version for minicylinders ISO 6432



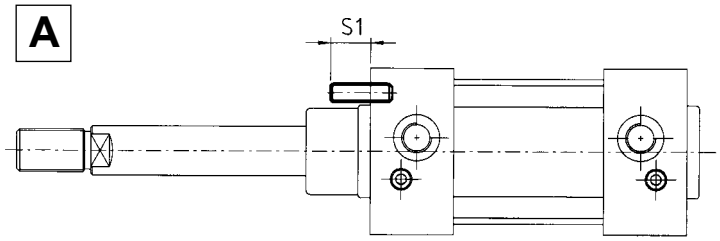
model	for bores	A	B	C	D	E	F	G	H	L	M
BM012	12-16	30	29.5	10.5	44.5	M16x1.5	17	22	24.5	4	M5
BM020	20	35	33.5	13	54	M22x1.5	22	24	26.5	4.5	M5
BM025	25	35	33.5	13	54	M22x1.5	22	28	26.5	4.5	M5

version for cylinders ISO 6431

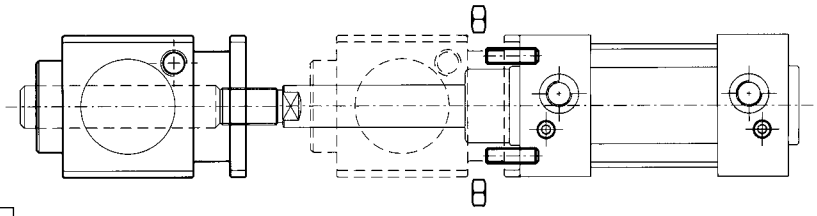


part number	for bores	A	B	C	D	E	F	G	H	WH	N	P	Q	R	S
BM032	32	32.5	47	6	22.5	60	67.5	M6	30	26	G1/8"	33.5	9.5	8	86
BM040	40	38	54	6	20	70	80	M6	35	30	G1/8"	42.5	10.5	8	100
BM050	50	46.5	65	8	24	90	100	M8	40	32	G1/8"	58	12.5	12	122
BM063	63	56.5	75	8	24	90	100	M8	45	37	G1/8"	59	17.5	12	127
BM080	80	72	95	12	32	110	120	M10	45	46	G1/4"	69	17.5	16	156
BM100	100	89	114	12	32	110	120	M10	55	51	G1/4"	69	27	16	161
BM125	125	110	140	20	45	140	156	M12	60	65	G1/4"	84.5	20	20	205

assembling scheme

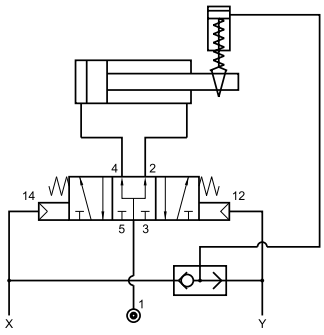


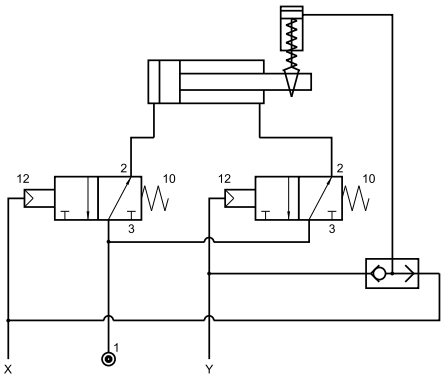
CILINDRO Φ	32	40	50	63	80	100	125
S1	12	12	16	16	22	22	32



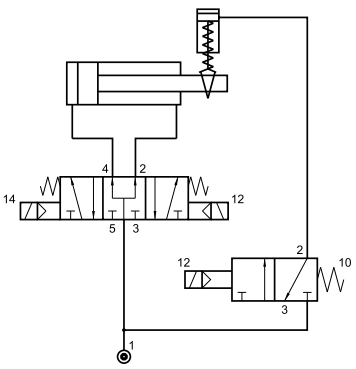
connection scheme

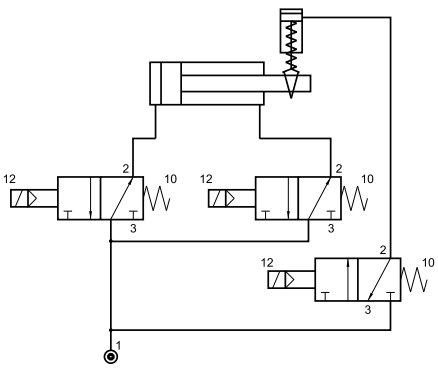
pneumatic control





electropneumatic control



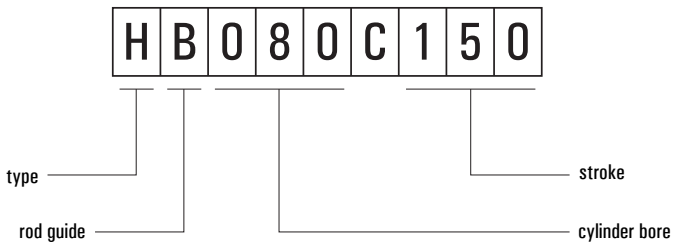


- Guide units for cylinders ISO 6431 and minicylinders ISO 6432
- Available versions: type “U” with sintered bronze rod guide (code UB...) - cylinder bores from 12 to 100
  type “H” with sintered bronze rod guide (code HB...) - cylinder bores from 12 to 100
  type “H” with linear ball bearings (code HS...) - cylinder bores from 12 to 100

- Type “U” with sintered bronze rod guide: movements with medium loads and low speeds
- Type “H” with sintered bronze rod guide: movements with heavy loads and low speeds
- Type “H” with linear ball bearings: movements with medium loads and high speeds

Materials
Body: aluminium (anodize treatment)
Rods: C40 (chromium plated)

coding example



Type
H “H” type
U “U” type

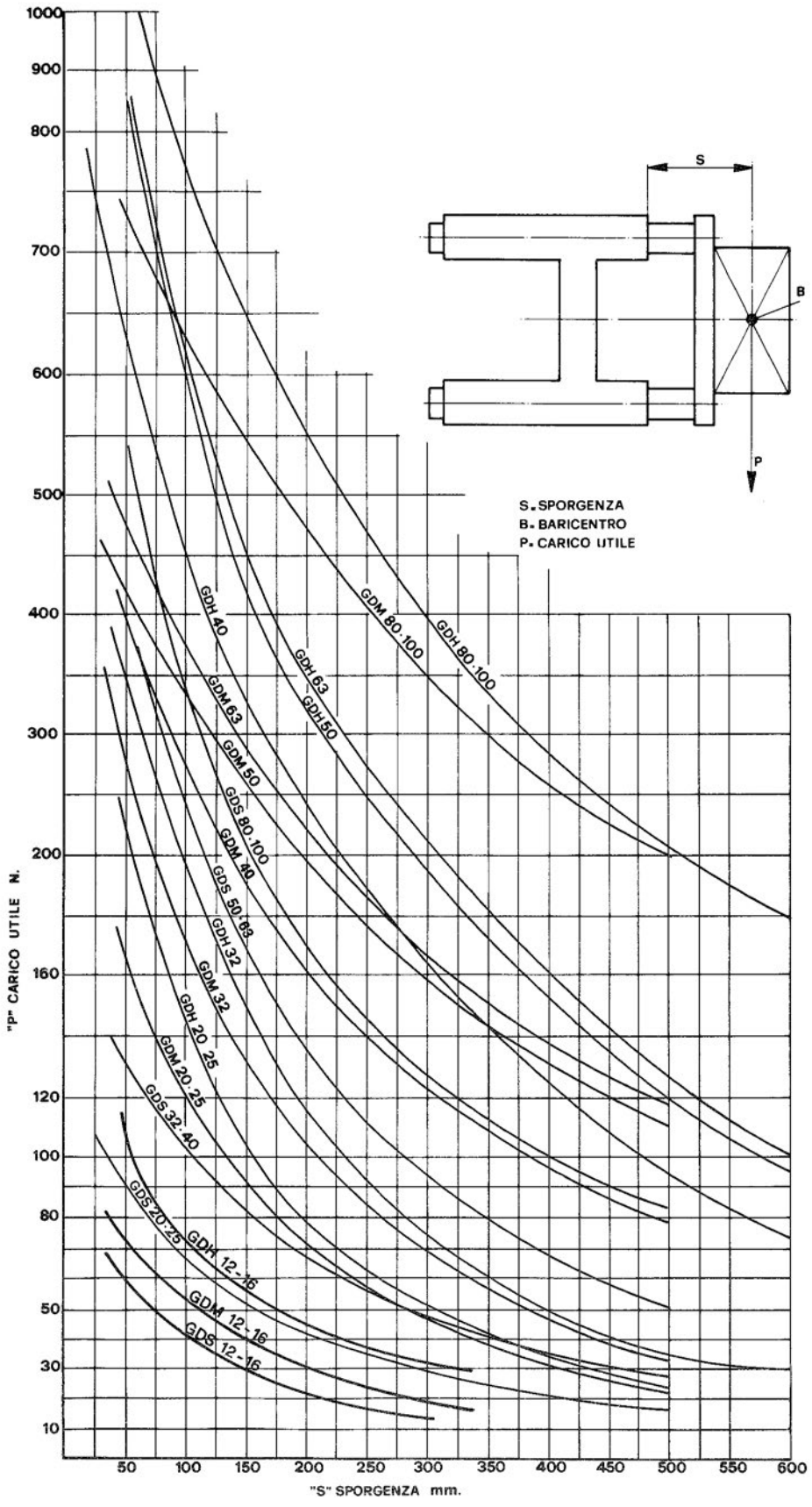
Rod guide
B sintered bronze
S linear ball bearings

available bores and strokes

stroke \ bore	12* 16	20	25	32	40	50	63	80	100
50	X	X	X	X	X	X	X	X	X
100	X	X	X	X	X	X	X	X	X
150				X	X	X	X	X	X
160	X	X	X						
200	X	X	X	X	X	X	X	X	X
250	X	X	X	X	X	X	X	X	X
300				X	X	X	X	X	X
400				X	X	X	X	X	X
500				X	X	X	X	X	X

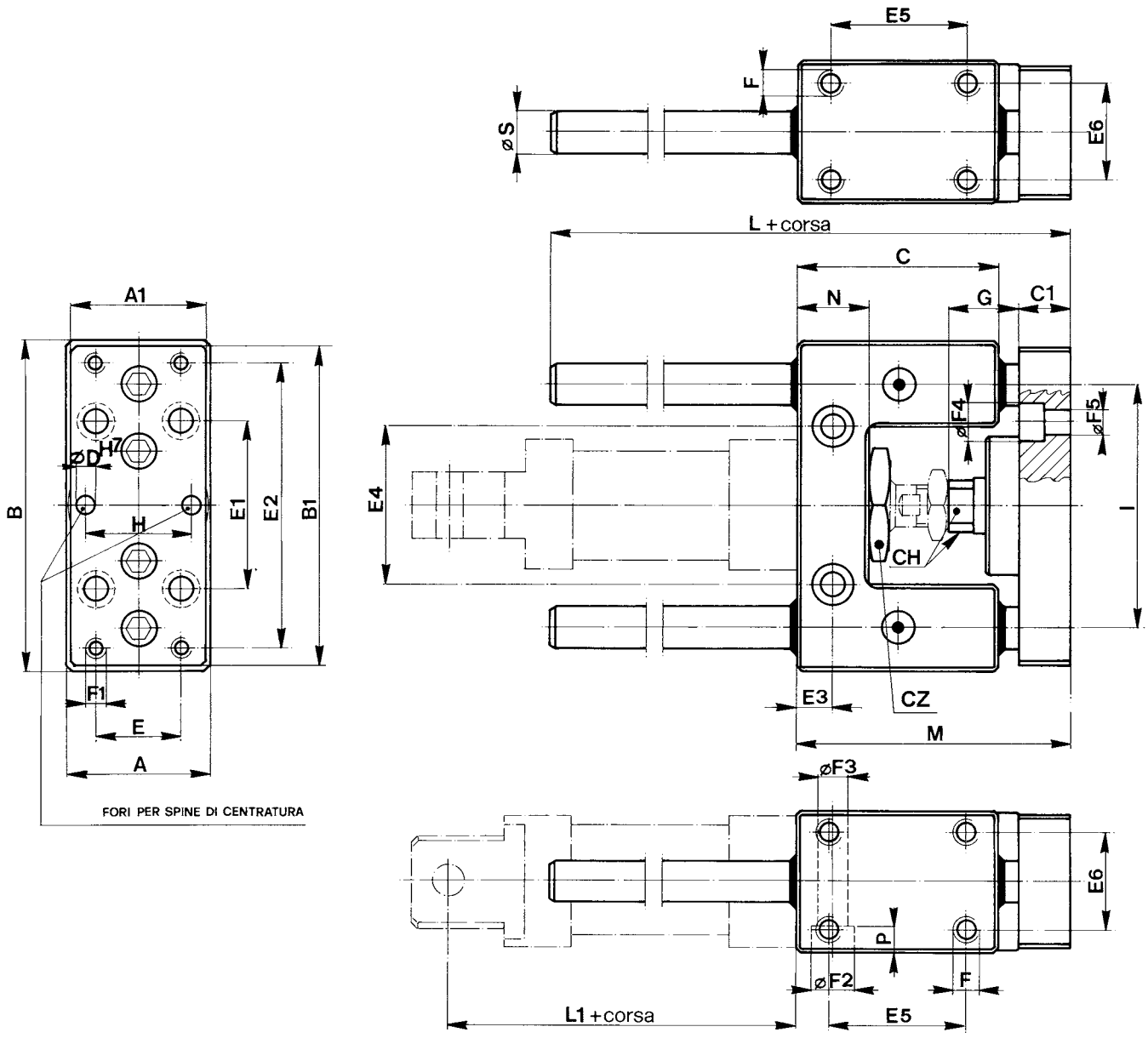
* The guide unit for bore 12 is used also for bore 16, with the same code.

Carico ammissibile / *Permissible loads*



tipo "U" per microcilindri ISO 6432

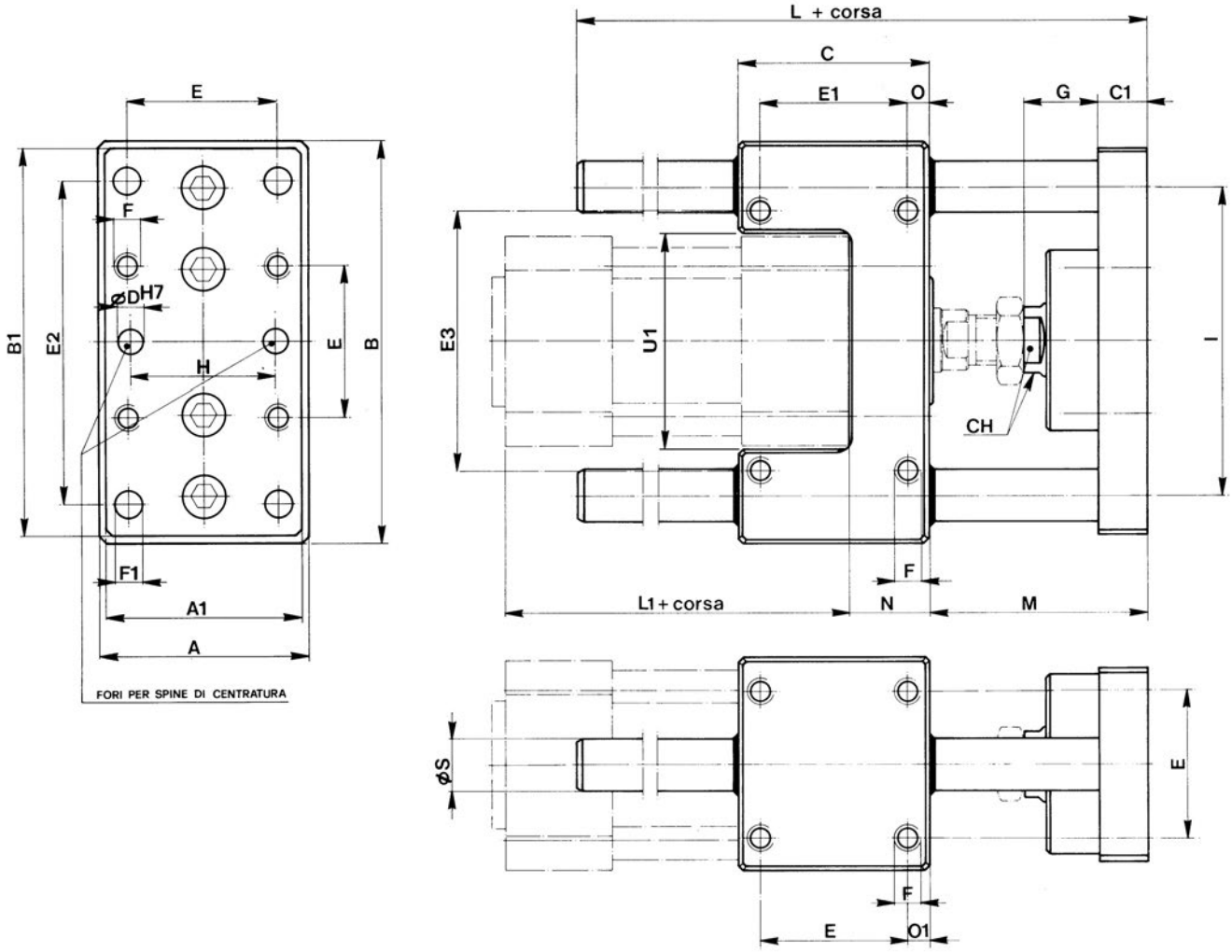
type "U" for minicylinders ISO 6432



ø CIL	A	A1	B	B1	C	C1	CH	CZ	D	E	E1	E2	E3	E4	E5	E6	F	F1	F2	F3	F4	F5	G	H	I	L	L1	M	N	P	S
12 16	30	27	65	63	38	10	8	19	4	15	32	54	6.5	24	25	22	M4	M4	8.5	5.1	7.5	4.5	12	15	46	70	53 60	51	13	5.5	8
20	34	32	79	76	48	12	12	27	6	20	40	68	8.5	38	32.5	23	M6	M5	10.5	6.5	9	5.5	22	20	58	83	71	65	17	6.5	10
25	34	32	79	76	48	12	12	27	6	20	40	68	8.5	38	32.5	23	M6	M5	10.5	6.5	9	5.5	17	20	58	83	76	65	17	6.5	10

tipo "U" per cilindri ISO 6431

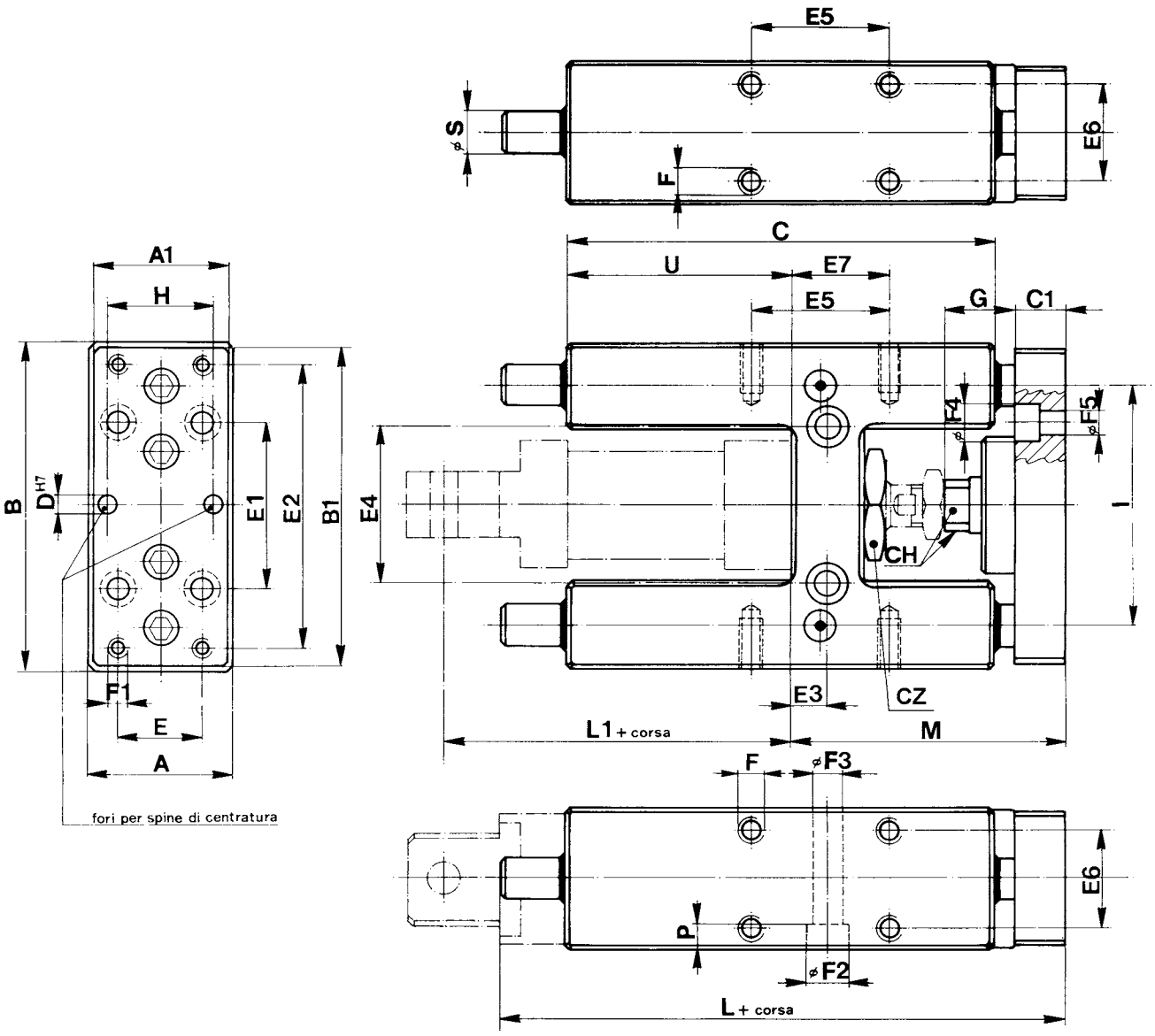
type "U" for cylinders ISO 6431



ø CIL	A	A1	B	B1	C	C1	D	E	E1	E2	E3	F	F1	G	H	I	L	L1	M	N	O	O1	S	CH	U1
32	48	45	100	90	48	12	6	32.5	32.5	78	58	M6	6.5	20	31	74	106	94	54	17	7.8	7.8	12	13	48
40	56	50	106	105	58	12	6	38	38	84	64	M6	6.5	22	36	80	117	105	55	21	10	10	12	15	54
50	66	60	125	124	59	15	6	46.5	46.5	100	80	M8	9	23	45	96	129	106	68	25	6.3	6.3	16	21	67
63	76	70	132	125	76	15	6	56.5	56.5	105	95	M8	9	23	45	104	146	121	68	25	9.8	9.8	16	21	76
80	98	90	165	155	90	18	6	72	50	130	130	M10	11	30	56	130	170	128	78	34	20	9	20	27	97
100	118	110	185	175	110	18	6	89	70	150	150	M10	11	30	56	150	190	138	78	39	20	10.5	20	27	117

tipo "H" per microcilindri ISO 6432

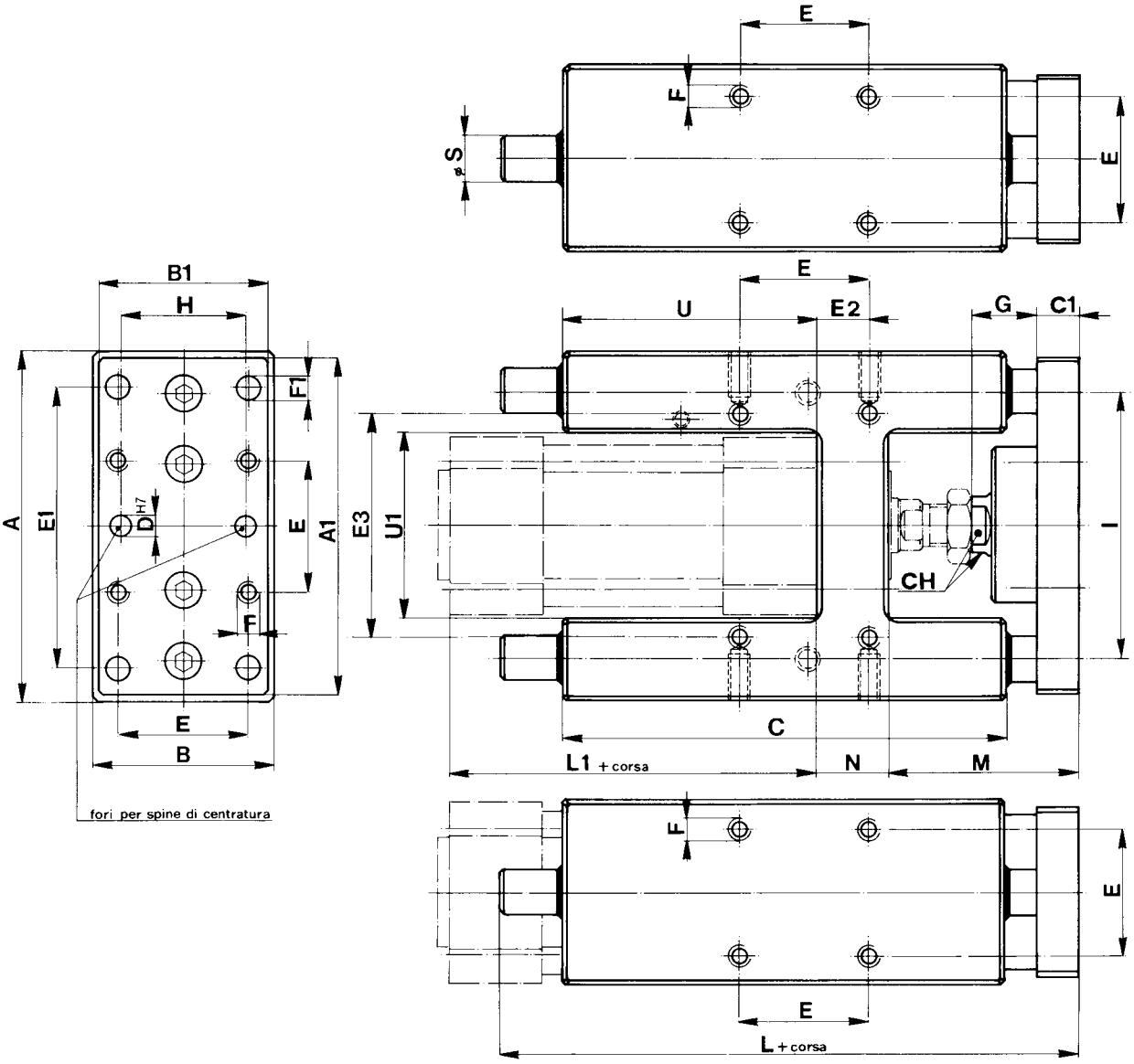
type "H" for minicylinders ISO 6432



ø CIL	A	A1	B	B1	C	C1	CH	CZ	D	E	E1	E2	E3	E4	E5	E6	E7	F	F1	F2	F3	F4	F5	G	H	I	L	L1	M	P	S	U
12 16	30	27	65	63	75	10	8	19	4	15	32	54	6.5	24	32.5	22	11	M4	M4	8.5	5.1	7.5	4.5	12	15	46	130	53 60	51	5.5	8	37
20	34	32	79	76	108	12	12	27	6	20	40	68	8.5	38	32.5	23	15	M6	M5	10.5	6.5	9	5.5	22	20	58	159	71	65	6.5	10	58
25	34	32	79	76	108	12	12	27	6	20	40	68	8.5	38	32.5	23	15	M6	M5	10.5	6.5	9	5.5	17	20	58	159	76	65	6.5	10	58

tipo "H" per cilindri ISO 6431

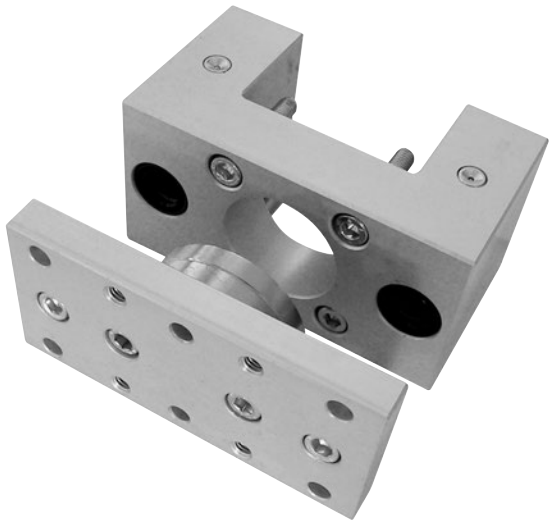
type "H" for cylinders ISO 6431



ø CIL	A	A1	B	B1	C	C1	CH	D	E	E1	E2	E3	F	F1	G	H	I	L	L1	M	N	S	U	U1
32	97	90	50	45	125	12	13	6	32.5	78	4.3	61	M6	6.5	20	31	74	177	94	54	17	12	76	50.5
40	115	105	58	50	136	12	15	6	38	84	11	69	M6	6.5	22	36	87	192	105	55	21	16	81	58.5
50	137	124	70	60	144	15	21	6	46.5	100	18.5	85	M8	9	23	45	104	237	106	68	26	20	79	70.5
63	152	145	85	70	176	15	21	6	56.5	105	15.3	100	M8	9	23	45	119	237	121	68	26	20	111	85.5
80	189	180	105	100	215	20	27	6	72	130	21	130	M10	11	30	56	148	280	128	78	34	25	128	106
100	213	200	130	120	220	20	27	6	89	150	24.5	150	M10	11	30	56	173	280	138	78	39	25	128	131

guide units kit

Kit includes all necessary pieces. Rods are not included.
The drawing for rod machining is available on:
http://www.azpneumatica.com/azweb/ita/kitguid.htm



"U" type with sintered bronze rod guide		
for bore	part number	code
12-16	**KUB012-016**	27.271.0
20	**KUB020**	27.272.0
25	**KUB025**	27.273.0
32	**KUB032**	27.274.0
40	**KUB040**	27.275.0
50	**KUB050**	27.278.0
63	**KUB063**	27.279.0
80	**KUB080**	27.280.0
100	**KUB100**	27.281.0

"H" type with sintered bronze rod guide		
for bore	part number	code
12-16	**KHB012-016**	27.259.0
20	**KHB020**	27.250.0
25	**KHB025**	27.251.0
32	**KHB032**	27.252.0
40	**KHB040**	27.253.0
50	**KHB050**	27.254.0
63	**KHB063**	27.255.0
80	**KHB080**	27.256.0
100	**KHB100**	27.257.0

"H" type with linear ball bearings		
for bore	part number	code
12-16	**KHS012-016**	27.260.0
20	**KHS020**	27.261.0
25	**KHS025**	27.268.0
32	**KHS032**	27.262.0
40	**KHS040**	27.263.0
50	**KHS050**	27.264.0
63	**KHS063**	27.265.0
80	**KHS080**	27.266.0
100	**KHS100**	27.267.0