

# BLOCK CYLINDERS, single- and double-acting



## Block cylinders

- single-acting without spring return
- single-acting with spring return
- double-acting

## Seal types

- **Buna N**
  - Operating temperature  
-10 to +60 °C
- **VITON®**
  - up to a maximum of 150 °C

## Power range

- from d16 at 100 bar = 2 kN
- up to d100 at 500 bar = 392 kN

## Wide range of strokes

- five standard stroke lengths
- from 16 mm to 200 mm
- special stroke lengths on request

## Alternative hydraulic oil feed

- 1/4" or 1/2"
- O-ring flange connector
  - Side
  - Piston rod end
  - Base

## Special designs available at short notice

**NEW - NEW - NEW**  
With metal wiper ring

## Flexible functional module

- Design of jigs and fixtures
- Mould making
- Plant construction
- Mechanical engineering
- Toolmaking

## The technical advantages of the HYDROKOMP block cylinder

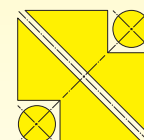
Block cylinders are popular design elements in all areas where very powerful short strokes are required. Their compact cubic shape facilitates attachment and guarantees high operating pressures.

Various versions of hydraulic oil feed cover the whole range of applications.

**HYDROKOMP** block cylinders offer technical advantages in the area of the seal at the piston-rod end. A double hydraulic seal is used here as standard, guaranteeing extremely low leakage in continuous operation.

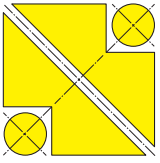
All block cylinders are also equipped with a metal wiper ring, which prevents any metal shavings from penetrating into the flexible wiper ring.

If you need any special variations we will glad to help and advise you. Just ask us and we'll help.

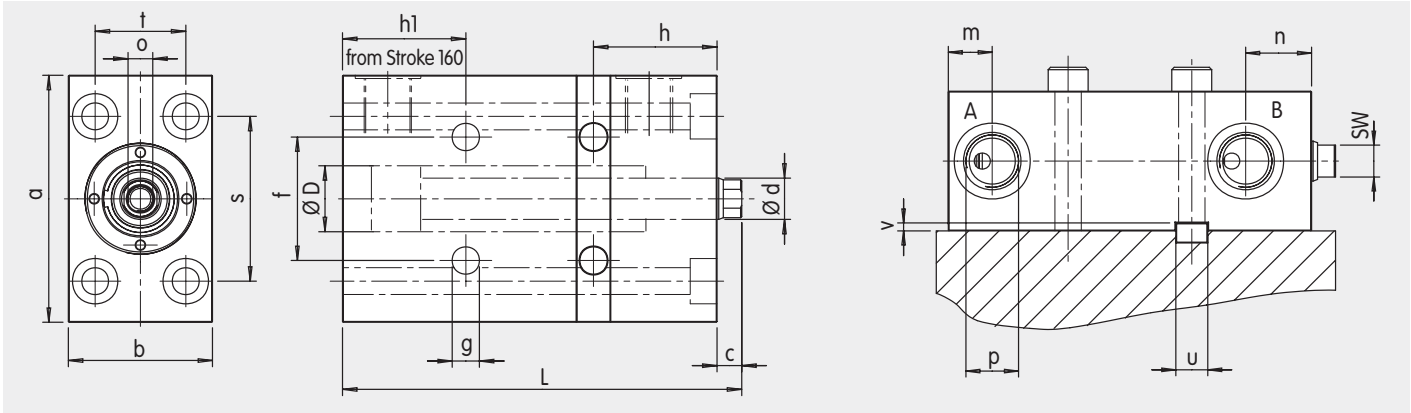


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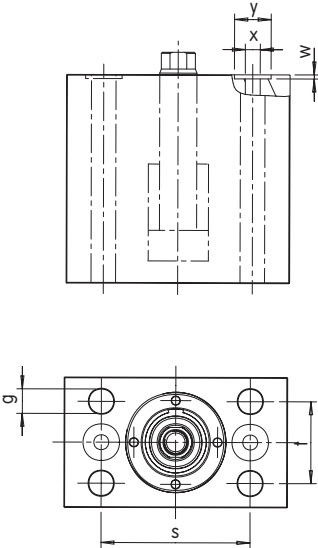


**Designs A + B (1/4" thread connector, longitudinal or transverse bore)**



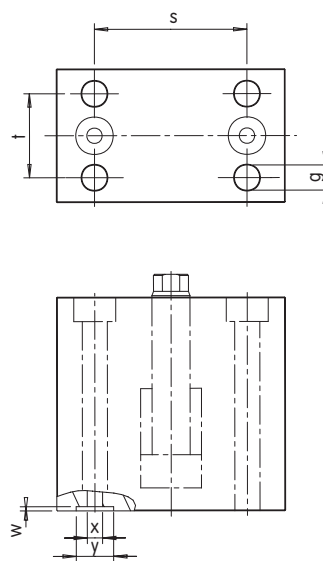
**Design C**

O-ring flange connector  
Piston rod end



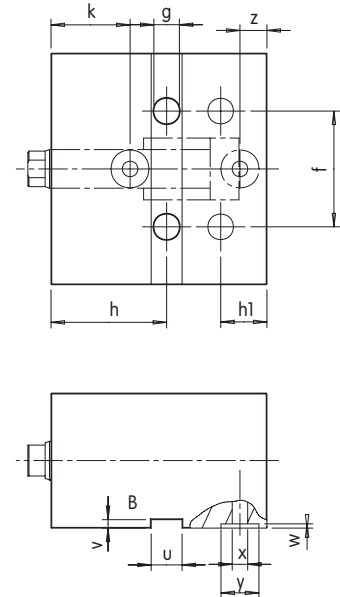
**Design D**

O-ring flange connector  
Base

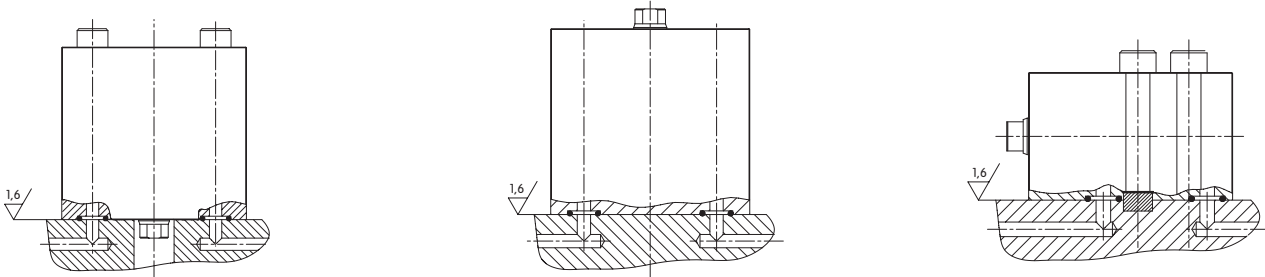


**Design E**

O-ring flange connector  
Side



**Sample installations**



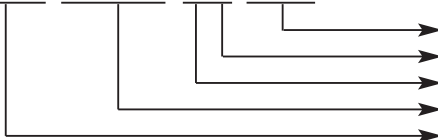
**Designs:**

A: 1/4" / 1/2" threaded connector, transverse bores, key slot  
B: 1/4" / 1/2" threaded connector, longitudinal bores

C: O-ring flange connector, piston rod end, longitudinal bores  
D: O-ring flange connector, base, longitudinal bores  
E: O-ring flange connector, side, transverse bores, key slot  
O-rings are included

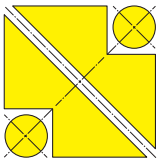
**Order number key**

**BZY-UUU-WWW-XY-ZZZ**



Count number, SA, DA  
Seal type: "P" Buna N, "V" VITON®  
Design: "A", "B", "C", "D", "E", see explanation above  
Stroke in mm  
Piston diameters: 016, 020, 025, 032, 040, 050, 063, 080, 100

Example: BZY-032-100-AP-001



<b>Piston Ø D</b>	<b>[mm]</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>63</b>	<b>80</b>	<b>100</b>
Rod Ø d	[mm]	10	12	16	20	25	32	40	50	63
Effective piston area	[cm <sup>2</sup> ]	2	3,1	4,9	8	12,5	19,6	31,1	50,3	78,4
Pressure force										
(100 bar) [kN]		2	3,1	4,9	8	12,5	19,6	31,1	50,3	78,4
Tensile force (100 bar)	[kN]	1,2	1,6	2,9	4,9	7,7	11,6	18,6	30,6	47,4
a	[mm]	60	60	65	75	85	100	125	160	200
b	[mm]	35	35	45	55	63	75	95	120	150
c	[mm]	6	7	7	10	10	10	14	14	15
f	[mm]	30	40	50	55	63	76	95	120	158
g (Ø)	[mm]	6,5	6,5	8,5	10,5	10,5	13	17	21	25
h	[mm]	30	30	33	38	40	44	50	60	64
h1	[mm]	/	/	26	27	27	30	41	47	54
k	[mm]	20,5	20,5	21	25	27	29,5	32	39	40
m	[mm]	11	11	11	11	11	13	17	21	25
n	[mm]	16,5	17	18	22	24	27	26	34	35
o x Depth of thread	[mm]	M 6 x 15	M 8 x 16	M 10 x 17	M 12 x 18	M 16 x 27	M 20 x 32	M 27 x 40	M 30 x 40	M 42 x 60
p		G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/2	G 1/2	G 1/2
s	[mm]	40	40	50	55	63	76	95	120	158
t	[mm]	22	22	30	35	40	45	65	80	108
u	[mm]	6	6	8	10	10	14	16	20	24
v	[mm]	2	2	2	3	3	5	5	7	7
w	[mm]	1,1	1,1	1,1	1,1	1,1	1,1	1,5	1,5	1,5
x	[mm]	4	4	4	5	6	6	8	8	8
y	[mm]	9,8	9,8	9,8	9,8	9,8	10,8	13,8	13,8	13,8
z	[mm]	7	7	7,5	10	10	13	16	21	25
SW	[mm]	8	10	13	17	22	27	36	46	55

#### SINGLE-ACTING WITH RETURN SPRING

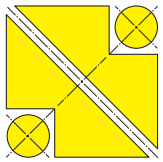
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>
Housing length A	[mm]	56	61	64	75	79	90	102	117	130
<b>Order no.</b>	<b>BZY-</b>	<b>016-008-xy003</b>	<b>020-008-xy003</b>	<b>025-010-xy003</b>	<b>032-010-xy003</b>	<b>040-010-xy003</b>	<b>050-012-xy003</b>	<b>063-012-xy003</b>	<b>080-012-xy003</b>	<b>100-012-xy003</b>
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>32</b>
Housing length A	[mm]	91	95	94	100	104	115	135	165	190
<b>Order no.</b>	<b>BZY-</b>	<b>016-020-xy003</b>	<b>020-020-xy003</b>	<b>025-020-xy003</b>	<b>032-020-xy003</b>	<b>040-020-xy003</b>	<b>050-020-xy003</b>	<b>063-025-xy003</b>	<b>080-032-xy003</b>	<b>100-032-xy003</b>

#### SINGLE-ACTING WITHOUT RETURN SPRING

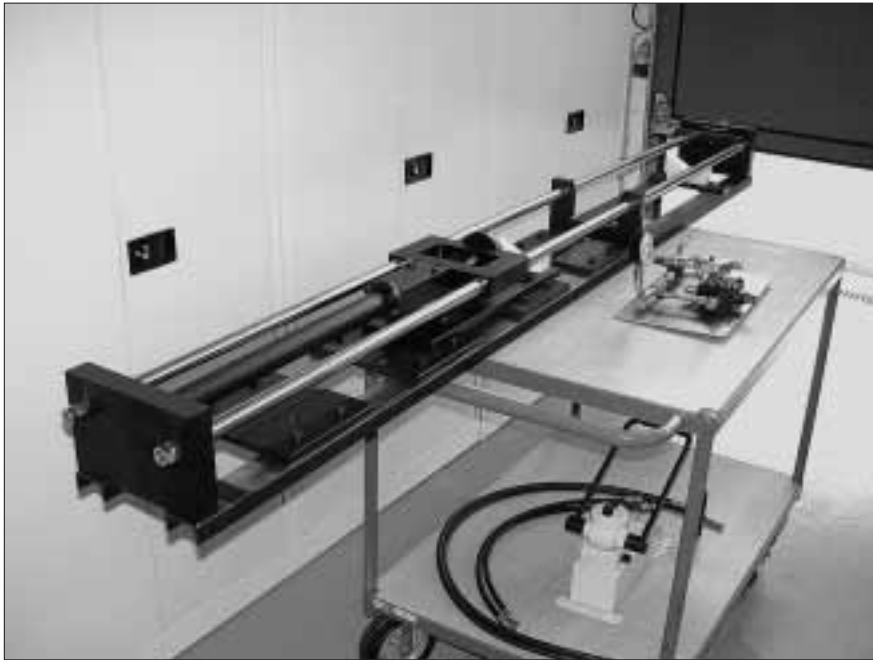
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>16</b>	<b>16</b>	<b>20</b>						
Housing length A	[mm]	56	61	64						
<b>Order no.</b>	<b>BZY-</b>	<b>016-016-xy002</b>	<b>020-016-xy002</b>	<b>025-020-xy002</b>						
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>32</b>	<b>32</b>		<b>25</b>	<b>25</b>	<b>25</b>	<b>30</b>	<b>32</b>	<b>40</b>
Housing length A	[mm]	73	77		75	79	90	102	117	130
<b>Order no.</b>	<b>BZY-</b>	<b>016-032-xy002</b>	<b>020-032-xy002</b>		<b>032-025-xy002</b>	<b>040-025-xy002</b>	<b>050-025-xy002</b>	<b>063-030-xy002</b>	<b>080-032-xy002</b>	<b>100-040-xy002</b>
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>63</b>	<b>80</b>	
Housing length A	[mm]	91	95	94	100	104	115	135	165	
<b>Order no.</b>	<b>BZY-</b>	<b>016-050-xy002</b>	<b>020-050-xy002</b>	<b>025-050-xy002</b>	<b>032-050-xy002</b>	<b>040-050-xy002</b>	<b>050-050-xy002</b>	<b>063-063-xy002</b>	<b>080-080-xy002</b>	
<b>Stroke ± 1</b>	<b>[mm]</b>			<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Housing length A	[mm]			144	150	154	165	172	185	190
<b>Order no.</b>	<b>BZY-</b>			<b>025-100-xy002</b>	<b>032-100-xy002</b>	<b>040-100-xy002</b>	<b>050-100-xy002</b>	<b>063-100-xy002</b>	<b>080-100-xy002</b>	<b>100-100-xy002</b>
<b>Stroke ± 1</b>	<b>[mm]</b>				<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>
Housing length A	[mm]				213	217	228	236	249	254
<b>Order no.</b>	<b>BZY-</b>				<b>032-160-xy002</b>	<b>040-160-xy002</b>	<b>050-160-xy002</b>	<b>063-160-xy002</b>	<b>080-160-xy002</b>	<b>100-160-xy002</b>
<b>Stroke ± 1</b>	<b>[mm]</b>							<b>200</b>	<b>200</b>	<b>200</b>
Housing length A	[mm]							276	289	294
<b>Order no.</b>	<b>BZY-</b>							<b>063-200-xy002</b>	<b>080-200-xy002</b>	<b>100-200-xy002</b>

#### DOUBLE-ACTING

<b>Stroke ± 1</b>	<b>[mm]</b>	<b>16</b>	<b>16</b>	<b>20</b>						
Housing length A	[mm]	56	61	64						
<b>Order no.</b>	<b>BZY-</b>	<b>016-016-xy001</b>	<b>020-016-xy001</b>	<b>025-020-xy001</b>						
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>32</b>	<b>32</b>		<b>25</b>	<b>25</b>	<b>25</b>	<b>30</b>	<b>32</b>	<b>40</b>
Housing length A	[mm]	73	77		75	79	90	102	117	130
<b>Order no.</b>	<b>BZY-</b>	<b>016-032-xy001</b>	<b>020-032-xy001</b>		<b>032-025-xy001</b>	<b>040-025-xy001</b>	<b>050-025-xy001</b>	<b>063-030-xy001</b>	<b>080-032-xy001</b>	<b>100-040-xy001</b>
<b>Stroke ± 1</b>	<b>[mm]</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>63</b>	<b>80</b>	
Housing length A	[mm]	91	95	94	100	104	115	135	165	
<b>Order no.</b>	<b>BZY-</b>	<b>016-050-xy001</b>	<b>020-050-xy001</b>	<b>025-050-xy001</b>	<b>032-050-xy001</b>	<b>040-050-xy001</b>	<b>050-050-xy001</b>	<b>063-063-xy001</b>	<b>080-080-xy001</b>	
<b>Stroke ± 1</b>	<b>[mm]</b>			<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Housing length A	[mm]			144	150	154	165	172	185	190
<b>Order no.</b>	<b>BZY-</b>			<b>025-100-xy001</b>	<b>032-100-xy001</b>	<b>040-100-xy001</b>	<b>050-100-xy001</b>	<b>063-100-xy001</b>	<b>080-100-xy001</b>	<b>100-100-xy001</b>
<b>Stroke ± 1</b>	<b>[mm]</b>				<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>
Housing length A	[mm]				213	217	228	236	249	254
<b>Order no.</b>	<b>BZY-</b>				<b>032-160-xy001</b>	<b>040-160-xy001</b>	<b>050-160-xy001</b>	<b>063-160-xy001</b>	<b>080-160-xy001</b>	<b>100-160-xy001</b>
<b>Stroke ± 1</b>	<b>[mm]</b>							<b>200</b>	<b>200</b>	<b>200</b>
Housing length A	[mm]							276	289	294
<b>Order no.</b>	<b>BZY-</b>							<b>063-200-xy001</b>	<b>080-200-xy001</b>	<b>100-200-xy001</b>



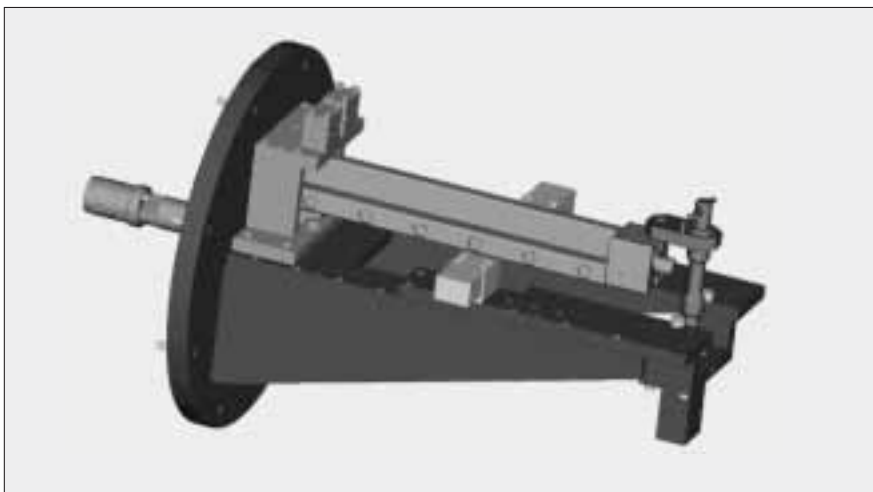
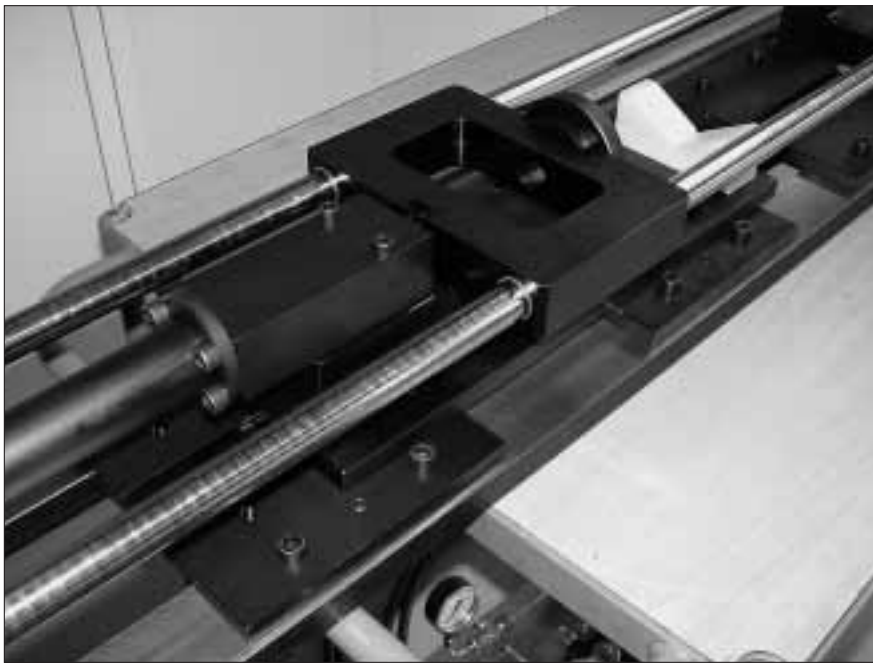
## SAMPLE APPLICATION



Both pictures shows a press-in device that mounts bearings on shafts. The block cylinder used has a stroke of 100 mm, in order to bridge the distances involved. Because of the wide variety of tools, the carriage can be ranged appropriately with the block cylinder. Supports of various lengths are mounted axially behind the block cylinder for this purpose. This results in only minimal bending forces being passed to the overall structure.

One special feature of the device lies in the pressure lowering function of the manual compressor. After the bearings have been preassembled they are secured mechanically under pretension. For this purpose the assembly pressure is released to approx. 60 bar by means of a manual ball valve and a downstream pressure limiting valve.

All the components related to this have been designed by HYDROKOMP and produced and assembled by production partner FVE GmbH, in Erfurt.



The illustration shows a welding jig in which several sheet metal components are welded together to form a sub-assembly.

For this purpose block cylinders are used in one clamping position as compression cylinders and at another as tensile cylinders. A U-shaped sheet metal section is clamped with a clamping bar in which screw-in cylinders are located on both sides. All the cylinders are equipped with Viton seals because of the temperature influence.

The clamping jig is mounted on an N/C turntable and a welding robot is used. The hydraulic fluid (a highly flammable liquid) is fed via a four-core rotary transmission leadthrough according to the clamping sequence.