

ZAR Series



63 bar standard cylinder

Dimensions acc. to ISO 6432

Piston Ø 10-25 mm

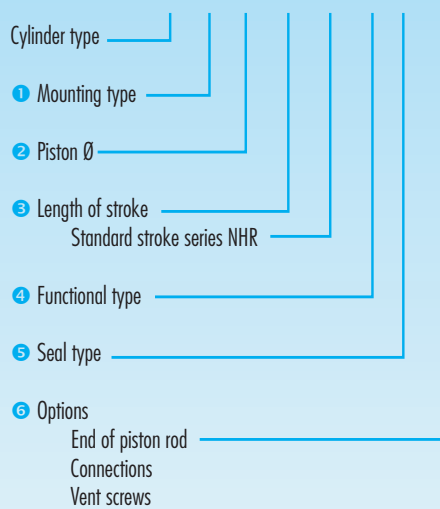
Lengths of stroke at your option (take account of the buckling strength, see page 35)

Standard lengths of stroke

- Robust - stainless - antimagnetic
- Nylon impact absorption
- Turnable connections

Determine your 63 bar standard cylinder

Ordering example: **ZAR-FBv 25/125 NHR15 D-U01 E31**



Special versions upon request

General information

Design:

Guide head and cover: brass

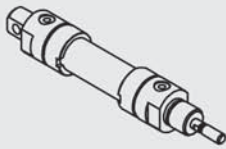
Piston rod: stainless steel (1.4305), ground

Piston: light alloy

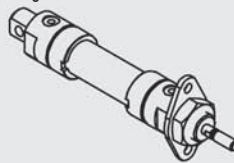
Cylinder tube: stainless steel liner (1.4301), bore finely honed

1 Mounting types

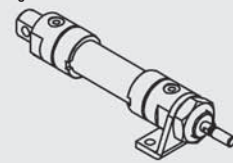
A Basic design



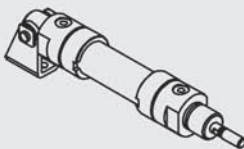
FBv Front flange



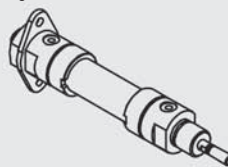
HB Front angle foot (for short strokes)



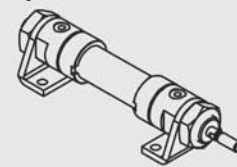
LB Bearing block



FBh End flange



HB2 Two angle feet



2 Piston Ø

Piston Ø (mm)	10	12	16	20	25
Piston surface pushing (cm ²)	0.78	1.13	2.00	3.14	4.90
Piston surface pulling (cm ²)	0.66	0.85	1.72	2.64	4.12

3 Length of stroke

Lengths of stroke at your option: We manufacture any length of stroke you desire.

Standard stroke versions NHR: A choice of 8 standard lengths of stroke for every piston Ø is available for short-time delivery.

● **Ordering example:** ZAR-FBv 20/100 NHR14 D-U00

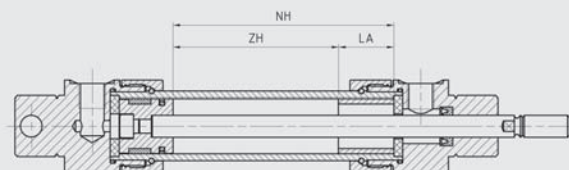
Piston Ø		10	12	16	20	25						
Function	Stroke	NHR length measurements										
	NHR	L1	L1c	L1	L1c	L1	L1c	L1	L1c	L1	L1c	
D	25	11	67	89	69	100	76	107	84	120	89	129
	50	12	92	114	94	125	101	132	109	145	114	154
	80	13	122	144	124	155	131	162	139	175	144	184
	100	14	142	164	144	175	151	182	159	195	164	204
	125	15	167	189	169	200	176	207	184	220	189	229
	160	16	202	224	204	235	211	242	219	255	224	264
	200	17	242	264	244	275	251	282	259	295	264	304
	250	18	292	314	294	325	301	332	309	345	314	354

Intermediate strokes aNHR:

By inserting a stroke-limiting bushing (LA) any intermediate stroke (ZH) can be realized from a longer standard stroke (NH).

The length measurements L1 and L1c always correspond with the normal stroke.

● **Ordering example:** ZAR-FBv 20/90 aNHR14 D-U00



4 Functional types

Standard functional types:

D Double-effect



pushing and pulling

E Single-effect



pushing

Ez Single-effect



pulling

Special functional types (upon request):

Dd Double-effect



with through piston rod

F Single-effect



pushing with spring return mechanism

Fz Single-effect



pulling with spring return mechanism

5 Seal types

Standard version: U00 for hydraulic fluid (mineral oil). Seal types for other pressure media upon request.

Seal types	U00	U01*	U06	U07	U11	U12
Piston seal, PTFE gliding ring (min. piston Ø 20 mm with driving band)	●	●	●	●	●	●
Rod seal, grooved ring	●	●				
Rod seal, PTFE gliding ring (min. piston Ø 20 mm)			●	●	●	●
Dust seal		●		●		●
O-rings Nitril	●	●	●	●		
O-rings Viton					●	●
	piston speed					
max. 0.5 m/s	●	●				
max. 10 m/s			●	●	●	●
	temperature range					
-20/+100 °C	●	●	●	●		
-20/+200 °C					●	●

* Seal type U01 is available for piston diameters of at least 12 mm .

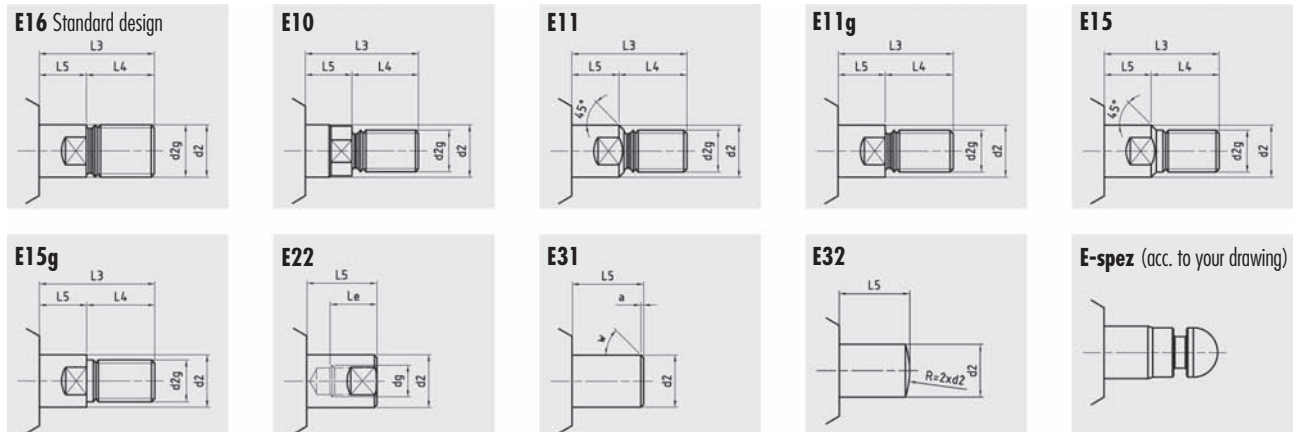
6 Options

End of piston rod:

Standard version: E16

Additional versions as shown in the illustrations are manufactured based on the catalog if not otherwise specified by the customer.

Tailor-made versions are available upon request.



Connections:

are manufactured based on the catalog if not otherwise specified by the customer.

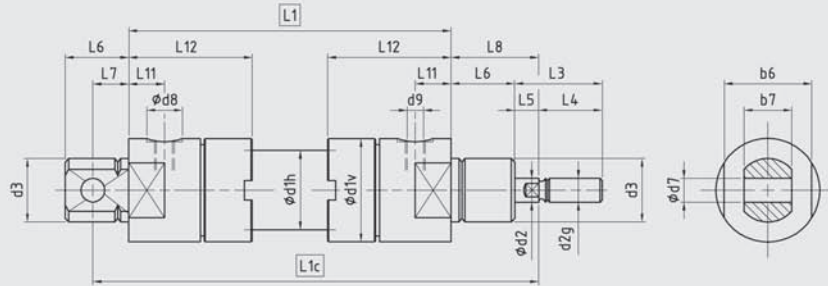
Larger and other (metric) connections are available upon request.

Vent screws (ES):

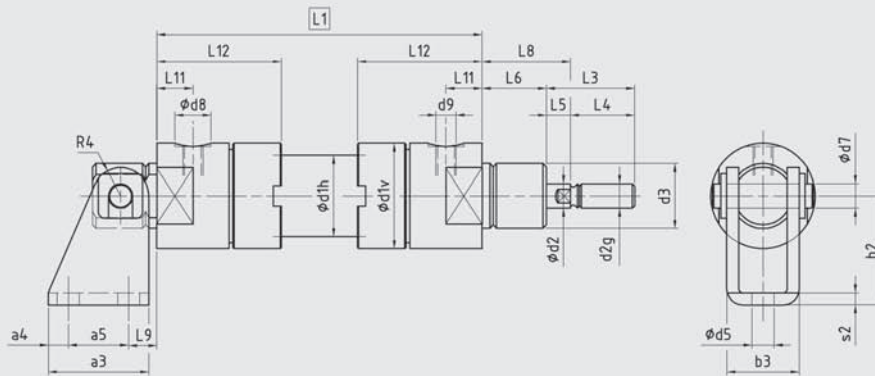
are attached to order and in accordance with the position specified by the customer.

Dimension drawings/Dimensions

A Basic design



LB Bearing block

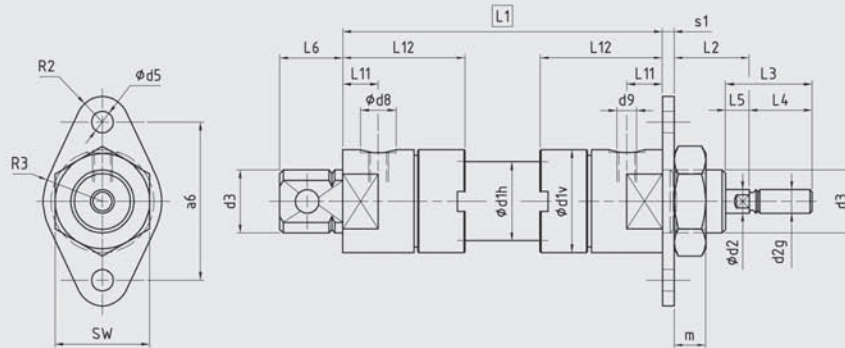


Piston Ø	10	12	16	20	25	
d1v	20	22	26	33	38	
d1h	14	16	20	25	30	
d2-f7	4	6	6	8	10	
d2g	M4	M6	M6	M8	M10x1,25	
d3	M12x1,25	M16x1,5	M16x1,5	M22x1,5	M22x1,5	
d5	4,5	5,5	5,5	6,6	6,6	
d7	4	6	6	8	8	
d8	9	9	9	16	16	
d9	M5	M5	M5	G 1/8"	G 1/8"	
a3	20	25	25	32	32	
a4	4	5	5	6	6	
a5	12,5	15	15	20	20	
b3	13	18	18	24	24	
b6	17	19	22	27	32	
Functional type	Length measurements L1 and length measurements L1c					
D/E/Ez	L1 = stroke + L1c = Stroke +	42 64	44 75	51 82	59 95	64 104

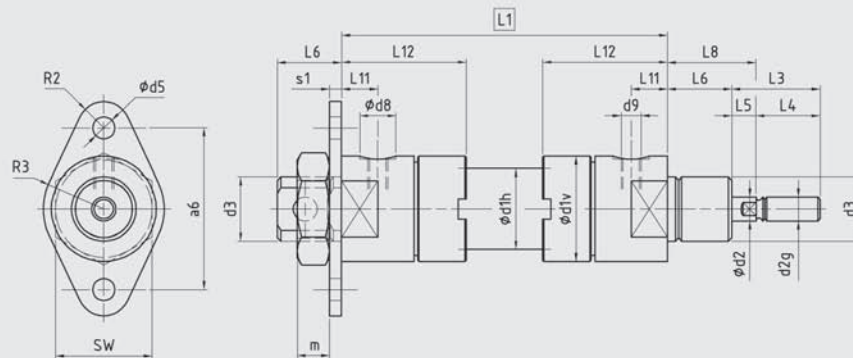
Piston Ø	10	12	16	20	25
b7	8	12	12	16	16
h2	24	27	27	30	30
R4	5	7	7	10	10
s2	2,5	3	3	4	4
L3	16	22	22	26	30
L4	12	16	16	20	22
L5	4	6	6	6	8
L6	12	16	16	18	20
L7	6	9	9	12	12
L8	16	22	22	24	28
L9	7	7	7	8	8
L11	7	8	9	10	11
L12	26	29	31	36	38
	Minimum length measurements L1 and L1c				
L1 =	62	66	73	84	89
L1c =	84	97	104	120	129

Dimension drawings/Dimensions

FBv Front flange



FBh Back flange

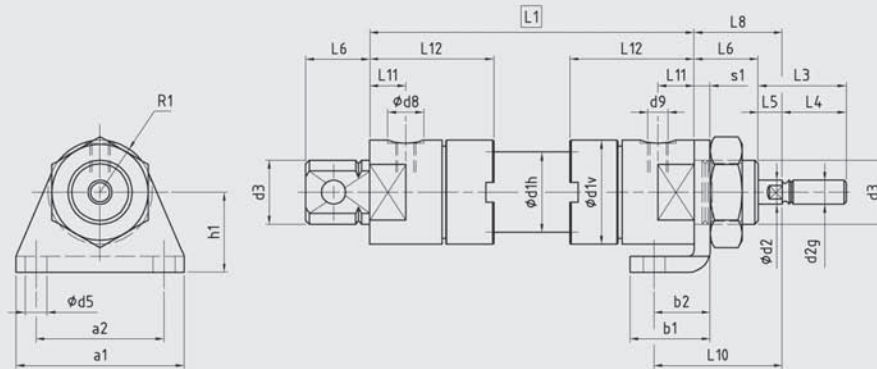


Piston Ø	10	12	16	20	25
d1v	20	22	26	33	38
d1h	14	16	20	25	30
d2f7	4	6	6	8	10
d2g	M4	M6	M6	M8	M10x1,25
d3	M12x1,25	M16x1.5	M16x1.5	M22x1.5	M22x1.5
d5	4.5	5.5	5.5	6,6	6,6
d8	9	9	9	16	16
d9	M5	M5	M5	G 1/8"	G 1/8"
a6	30	40	40	50	50
R2	5	6.5	6.5	8	8
R3	12.5	15	15	20	20
Functional type	Length measurements L1				
D/E/Ez L1 = Stroke +	42	44	51	59	64

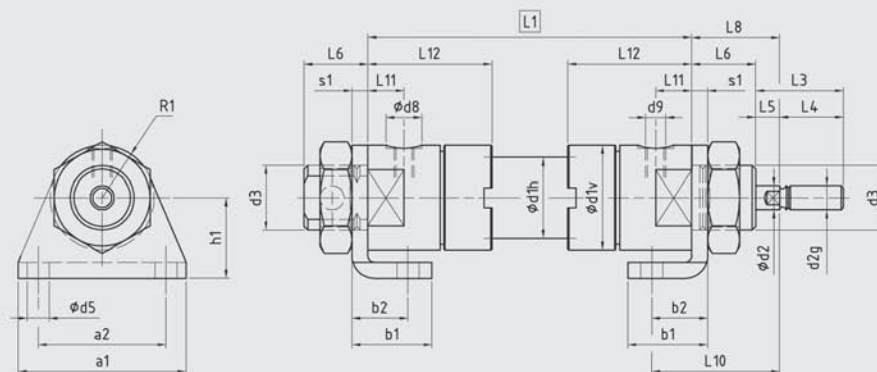
Piston Ø	10	12	16	20	25
s1	3	4	4	5	5
SW	19	24	24	32	32
m	6	8	8	11	11
L2	13	18	18	19	23
L3	16	22	22	26	30
L4	12	16	16	20	22
L5	4	6	6	6	8
L6	12	16	16	18	20
L8	16	22	22	24	28
L11	7	8	9	10	11
L12	26	29	31	36	38
Functional type	Minimum length measurements L1				
L1 =	62	66	73	84	89

Dimension drawings/Dimensions

HB Front angle foot (for short strokes)



HB2 Two angle feet



Piston Ø	10	12	16	20	25
d1v	20	22	26	33	38
d1h	14	16	20	25	30
d2f7	4	6	6	8	10
d2g	M4	M6	M6	M8	M10x1,25
d3	M12x1,25	M16x1.5	M16x1.5	M22x1.5	M22x1.5
d5	4.5	5.5	5.5	6,6	6,6
d8	9	9	9	16	16
d9	M5	M5	M5	G 1/8"	G 1/8"
a1	35	42	42	54	54
a2	25	32	32	40	40
b1	16	20	20	25	25
b2	11	14	14	17	17

Functional type	Length measurements L1				
D/E/Ez L1 = Stroke +	42	44	51	59	64

Piston Ø	10	12	16	20	25
h1	16	20	20	25	25
R1	10	13	13	20	20
s1	3	4	4	5	5
L3	16	22	22	26	30
L4	12	16	16	20	22
L5	4	6	6	6	8
L6	12	16	16	18	20
L8	16	22	22	24	28
L10	24	32	32	36	40
L11	7	8	9	10	11
L12	26	29	31	36	38

	Minimum length measurements L1				
L1 =	62	66	73	84	89