

Stainless Steel  
Cylinders



# PNEUMATICS

CATALOGUE 1.13.1





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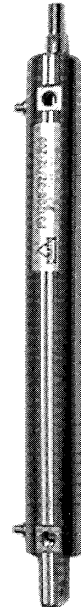
- |  |                                      |                              |
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**PHC**  
Ø 32...320



**P3120A**  
Ø 32...80



**P3120B**  
Ø 32...80

## CHOICE CRITERIA:

### 1. Materials

- All outer steel components of AISI 316 or material with equivalent corrosion resistance

### 2. Three alternative constructions - optimal choice to all applications

- P3120A for normal use, P3120B for easy cleaning, PHC for heavy use

### 3. Mounting dimensions conform to ISO standard

- International dimensioning ensures compatibility everywhere

### 4. Variety of mountings

- Easy to assemble in all installations

### 5. Non lube bearings

- Solid construction due to long distance of bearings  
- Wear ring of POM prevents seals from being loaded by lateral force and thus diminishes abrasion.

### 6. Efficient, adjustable pneumatic cushioning

- Long cushioning piston prevents shock action even at big inertia forces and lengthens life of cylinder and machine frame

### 7. P3120B series for conditions of high hygienic level

- Smooth and clean cylinder surface, no hard-to-clean grooves, corners or angles gathering dirt  
- Lubricant accepted by food industry, classification USDA H2

### 8. Seals in PHC series available for various conditions

- Nitrile rubber as standard, viton for high temperatures, special rubber for low temperatures or non-lube seals for dry running



## THRUST TABLE:

Cylinder bore mm	32	40	50	63	80	100	125	160	200	250	320
Piston rod dia. mm	12	16	20	20	25	32	32	40	50	50	63
Connection ports	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G3/4	G3/4	G1	G1
Piston area cm <sup>2</sup> : Out	8,0	12,5	19,6	31	50	78	122	200	314	490	800
In	6,9	10,5	16,5	28	45	70	114	180	294	471	773
Cushioning: Length mm	15	18	19	24	27	32	39	41	44	48	50
Area cm <sup>2</sup>	6	9,4	13,7	26	42	70	109	180	283	459	750
Theoretical thrust N/6 bar <sup>1)</sup>	480	750	1170	1860	3000	4680	7320	12000	18840	29400	48000

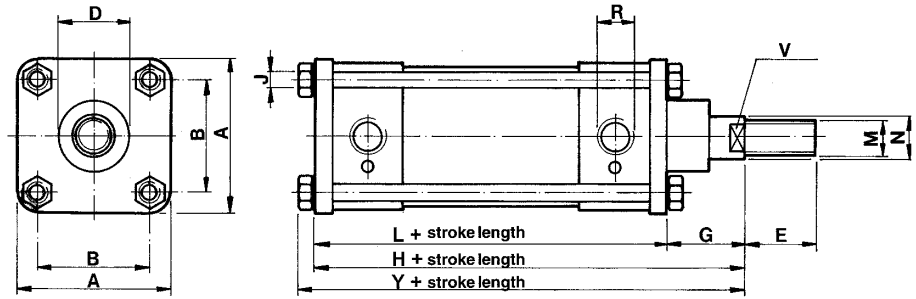
<sup>1)</sup> Theoretical thrust of cylinder at 6 bar pressure. When choosing cylinder, an efficiency of 50...80% should be assumed.

## WEIGHTS:

Cylinder bore mm	32	40	50	63	80	100	125	160	200	250	320
<b>PHC series:</b>											
Cylinder with 0-stroke	1,0	1,4	2,3	3,7	6,5	8,7	18	25	42	70	126
Additional wt. /100 mm stroke	0,4	0,5	0,7	0,9	1,5	1,9	2,3	2,3	3,2	4,0	6,4
<b>PHC mountings:</b>											
FH	0,2	0,3	0,5	0,6	1,2	2,4	3,9				
SH (pair)	0,2	0,2	0,4	0,6							
TH	0,15	0,3	0,4	0,9	1,1	1,6	2,0	4,1	5,8	13,7	20
RH	0,3	0,3	0,5	0,8	1,2	1,7	3,4	4,3	6,6	13,0	26,8
MH	0,18	0,25	0,46	0,61	1,14	2,0	3,7				
CH	0,14	0,21	0,48	0,48	0,74	0,74	1,3	3,65	3,65		
BH	0,07	0,1	0,21	0,21	0,38	0,38	1	1,65	1,65	2,55	4,5
DH	0,01	0,02	0,03	0,03	0,06	0,06	0,16	0,23	0,23	0,29	0,48
UH	0,08	0,09	0,18	0,27	0,41	1,37	2,2				
VH (pair)	0,2	0,3	0,4	0,8	1,5	2,0	3,3	6,6	8,4	14,6	28,4
XH	0,01	0,01	0,01	0,016	0,025	0,025	0,036				
<b>P3120A series:</b>											
Cylinder with 0-stroke	0,6	1,2	1,68	2,87	4,7						
Additional wt./100 mm stroke	0,26	0,36	0,5	0,65	1,0						
<b>P3120B series:</b>											
Cylinder with 0-stroke	0,71	1,4	2,06	3,68	6,0						
Additional wt./100 mm stroke	0,26	0,36	0,5	0,65	1,0						
<b>P3120 mountings:</b>											
SH 31 (pair)	0,13	0,18	0,34	0,45	0,9						
RH 31	0,98	0,14	0,22	0,34	0,6						
PH 31	0,08	0,1	0,17	0,32	0,58						
DH 31	0,03	0,04	0,08	0,08	0,15						
UH 31	0,08	0,09	0,18	0,27	0,41						
(CH, BH, DH same as in PHC series)											
											weight in kg

## PHC cylinders

Dimensions conform to ISO 6431 and 6430. Sizes 160..320 also to VDMA.

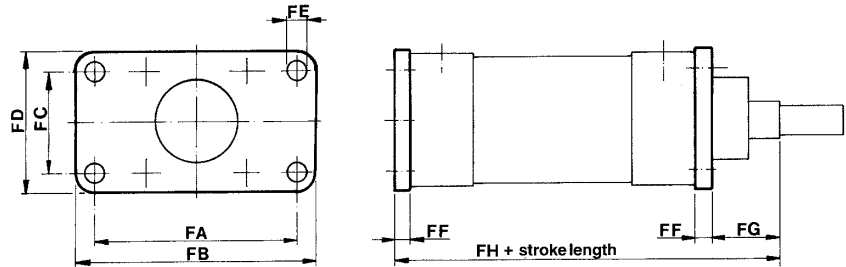


NS	32	40	50	63	80	100	125	160	200	250	320
A	45	51	64	75	95	110	136	180	224	276	352
B	33	37	47	56	70	84	104	140	175	220	270
D	28	36	42	48	60	54	72				
E	22	24	32	32	40	40	54	72	72	84	96
G	22	25	29	30	37	42	49	80	95	105	120
H	126	140	150	165	185	200	241	260	275	305	340
J	M6	M6	M6	M8	M10	M10	M12				
L	104	115	121	135	148	158	190	180	180	200	220
M	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5	M27x2	M36x2	M36x2	M42x2	M48x2
N	12	16	20	20	25	32	32	40	50	50	63
R	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G3/4	G3/4	G1	G1
V	10	14	17	17	22	22	27	35	43	43	55
Y	132	147	157	173	195	210	254				

## PHC mountings

Mounting FH,  
flange front or rear.

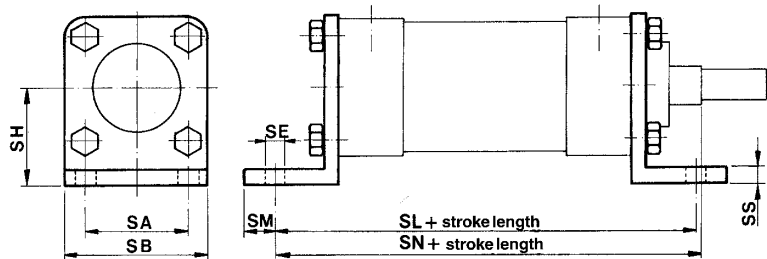
E.g. FH-50  
(FH= type, 50= cylinder bore)



NS	32	40	50	63	80	100	125	160	200	250	320
FA	64	72	90	100	126	150	180				
FB	80	90	108	120	150	184	220				
FC	32	36	45	50	63	75	90				
FD	45	55	64	75	91	109	136				
FE	7	9	9	9	12	14	16				
FF	10	10	12	12	15	18	20				
FG	16	20	25	26	32	36	45				
FH	130	145	154	169	190	206	246				

Mounting SH,  
end angles.

E.g. SH-50  
(SH= type, 50= cylinder bore)



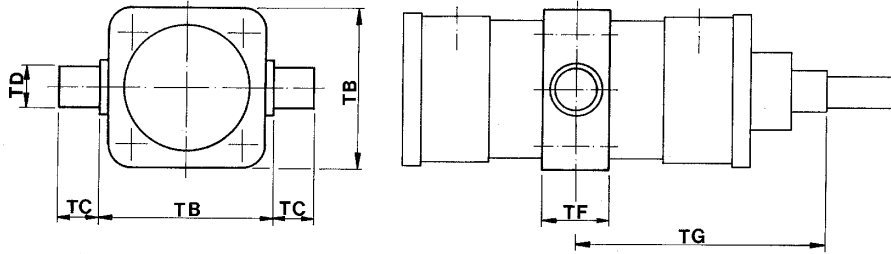
NS	32	40	50	63	80	100	125	160	200	250	320
SA	32	36	45	50							
SB	45	51	65	75							
SE	7	9	9	9							
SH	32	36	45	50							
SL	142	161	170	185							
SM	8	8	8	12							
SN	144	163	175	190							
SS	5	5	8	8							

**PHC mountings**

**Mounting TH,**  
middle trunnion.

E.g. TH-80  
(TH= type, 80= cyl. bore)

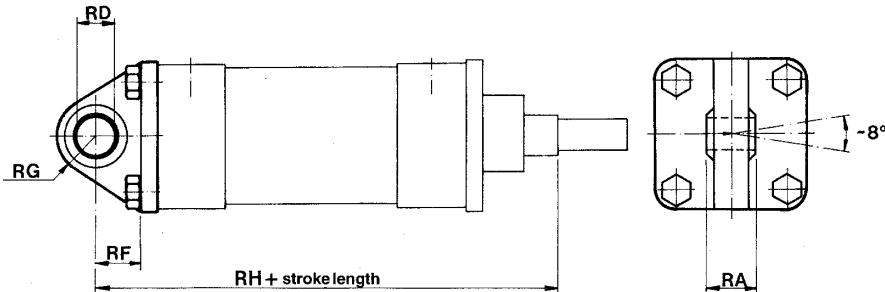
N.B ! Dimension TG to be stated.



NS	32	40	50	63	80	100	125	160	200	250	320
<b>TAh14</b>	50	63	75	90	110	132	160	200	250	320	400
<b>TB</b>	46	58	68	86	110	124	150	206	242	302	390
<b>TCh14</b>	12	16	16	20	20	25	25	32	32	40	50
<b>TD e9</b>	12	16	16	20	20	25	25	32	32	40	50
<b>TF</b>	15	20	20	28	28	30	35	50	50	60	60
<b>TG min.</b>	60	70	77	86	92	106	126	148	166	192	220

**Mounting RH,**  
spherical bearing

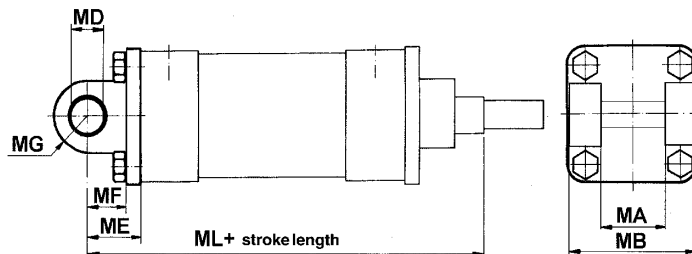
E.g. RH-80  
(RH= type, 80= cylinder bore)



NS	32	40	50	63	80	100	125	160	200	250	320
<b>RAh12</b>	14	16	16	21	21	25	31	37	37	40	43
<b>RDH9</b>	10	12	12	16	16	20	25	30	30	40	45
<b>RF</b>	16	19	20	25	25	30	34	40	45	70	80
<b>RG</b>	15	18	22	22	27	28	33	40	45	52	55
<b>RH</b>	142	160	170	190	210	230	275	315	335	375	420

**Mounting MH,**  
rear clevis.

E.g. MH-80



NS	32	40	50	63	80	100	125	160	200	250	320
<b>MA</b>	26	28	32	40	50	60	70				
<b>MB</b>	45	52	60	70	90	110	130				
<b>MD (H9)</b>	10	12	12	16	16	20	25				
<b>MG</b>	10	11	11	16	16	20	26				
<b>ME</b>	21	25	28	33	35	42	49				
<b>MF</b>	15	19	20	25	25	31	35				
<b>ML</b>	142	160	170	190	210	230	275				

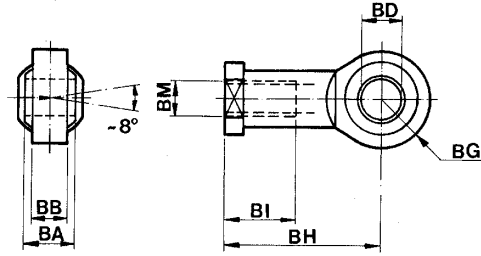
## Mountings

### Mounting BH,

spherical eye bearing  
for PHC and P3120 series

E.g. BH-40 or BH-80/100

(BH=type,  
40 or 80/100= cyl. bores)

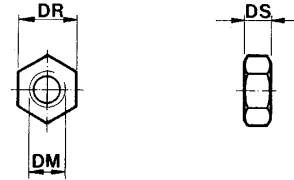


### Mounting DH,

piston rod nut  
for PHC and P3120 series

E.g. DH-32

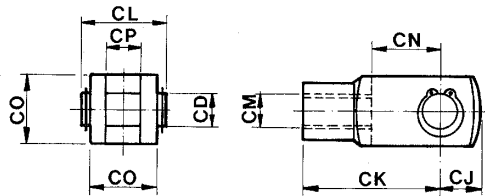
(DH= type, 32= cyl. bore)



### Mounting CH,

piston rod clevis  
for PHC and P3120 series

E.g. CH-32 or CH-50/63

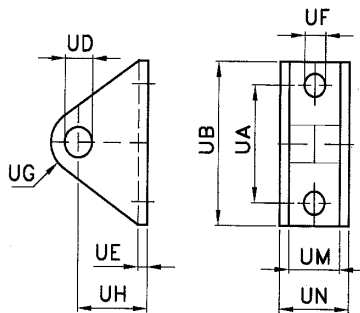


NS	32	40	50	63	80	100	125	160	200	250	320
<b>BAh12</b>	14	16	21	21	25	25	37	43	43	49	
<b>BB</b>	10,5	12	15	15	18	18	25				
<b>BD, CD H9</b>	10	12	16	16	20	20	30	35	35	40	
<b>BG</b>	13	15	20	20	25	25	27				
<b>BH</b>	43	50	64	64	77	77	110	125	125	142	
<b>BI</b>	20	23	34	34	40	40	54				
<b>BM, CM, DM</b>	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5	M27x2	M36x2	M36x2	M42x2	
<b>CJ</b>	12	14	19	19	25	25	35	50	50		
<b>CK</b>	40	48	64	64	80	80	110	140	140		
<b>CL</b>	26	31	39	39	48	48	64	80	80		
<b>CO</b>	20	24	32	32	40	40	55	70	70		
<b>CN</b>	20	24	32	32	40	40	54	70	70		
<b>CP</b>	10	12	16	16	20	20	30	35	35		
<b>DR</b>	17	19	24	24	30	30	41	55	55	65	
<b>DS</b>	5	6	8	8	10	10	12	18	18	21	

### Mounting UH,

clevis foot for  
PHC and P3120 series

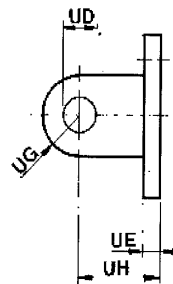
(counter mounting  
for BH and RH)



#### NS 32-80

Types:  
UH 032 31  
UH 040 31  
UH 050 31  
UH 063 31  
UH 080 31

(UH= type,  
032= cyl. bore,  
31= series P31..)



#### NS 100-125

Types:  
UH-100  
UH-125

(UH= type,  
100= bore)

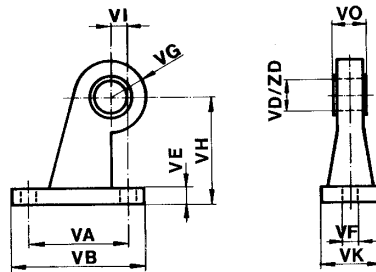
NS	32	40	50	63	80	100	125	160	200	250	320
<b>UA</b>	30	38	46	58	70	88	108				
<b>UB</b>	45	55	64	79	94	118	145				
<b>UD</b>	10	12	12	16	16	20	25				
<b>UE</b>	3	3	4	4	5	12	13				
<b>UF</b>	7	9	9	12	14	18	22				
<b>UG</b>	11	15	15	19	19	23	30				
<b>UH</b>	24	27	30	36	40	45	55				
<b>UM</b>	15	17	22	22	26	26	38				
<b>UN</b>	21	23	30	30	36	60	70				

**PHC mountings**

**Mounting VH,**

brackets (pair),  
counter mounting for TH

E.g. VH-63  
(VH= type, 63= cyl. bore)

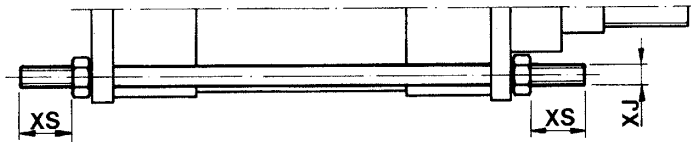


NS	32	40	50	63	80	100	125	160	200	250	320
<b>VA</b>	30	38	46	58	70	88	108	138	170	212	275
<b>VB</b>	45	55	64	79	94	118	145	182	215	265	340
<b>VDH9</b>	12	16	16	20	20	25	25	32	32	40	50
<b>VE</b>	7	9	9	10	11	13	13	18	18	18	23
<b>VF</b>	7	9	9	12	14	18	22	26	26	32	38
<b>VG</b>	11	14	14	21	21	25	28	33	33	40	45
<b>VH</b>	32	36	45	50	63	71	90	115	135	165	200
<b>VI</b>	7	9	10	12	14	17	21	25	25	30	35
<b>VK</b>	12	15	15	20	30	40	45	60	60	60	70
<b>VO</b>	12	15	15	20	20	25	25	30	30	40	50

**Mounting XH,**

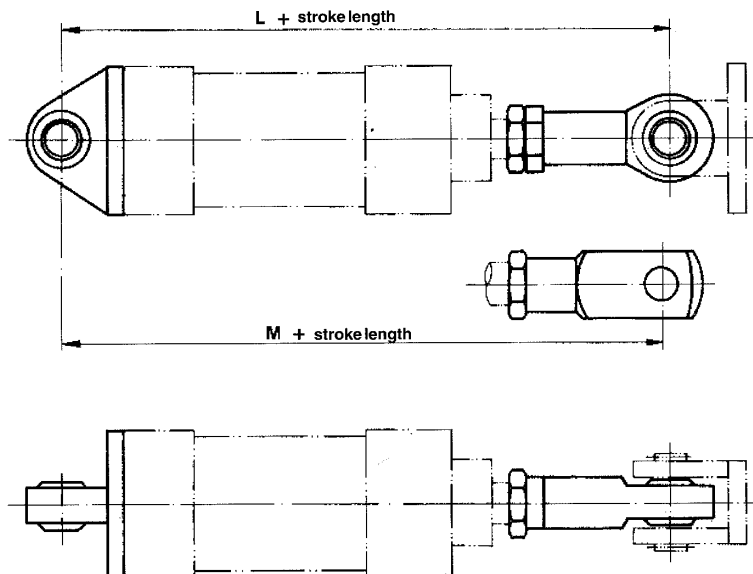
extended tie rods, front or rear,  
or at both ends

E.g. XH-63



NS	32	40	50	63	80	100	125	160	200	250	320
<b>XJ</b>	M6	M6	M6	M8	M10	M10	M12	M16	M16	M20	M24
<b>XS</b>	Length as requested										

**Mounting combinations**

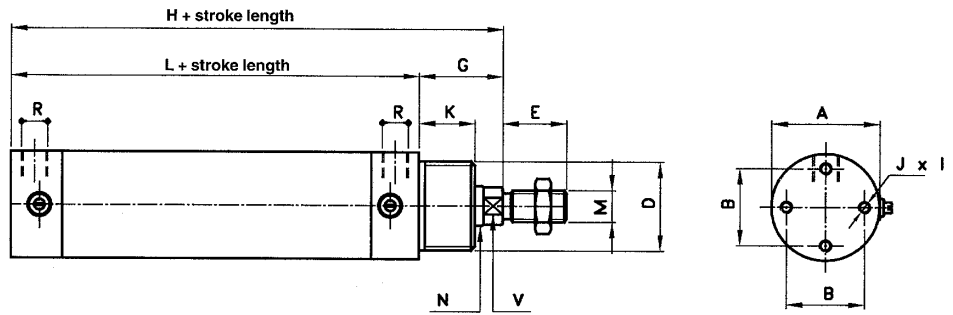


NS	32	40	50	63	80	100	125	160	200	250	320
<b>H</b>	63	80	92	112	132	159	187				
<b>Lmin</b>	190	216	242	262	297	317	397	458	478	538	604
<b>Mmin</b>	187	214	242	262	300	320	397	477	497	564	636



**P3120A cylinders**

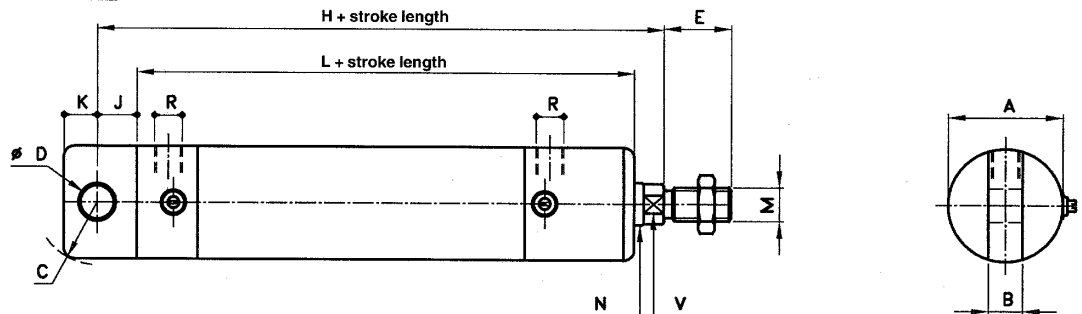
Dimensions conform to ISO 6431.



Type - NS/rod-	A	B	D	E	G	H	J x I	K	L	M	N	R	V
P3120A-32/12-	36	25	M30x1.5	22	31	123.5	M5x7	22	92.5	M10x1.25	12	G1/8	10
P3120A-40/16-	44	30	M35x1.5	24	34	141	M6x8	25	107	M12x1.25	16	G1/4	13
P3120A-50/20-	54	39	M42x1.5	32	41	148	M6x8	28	107	M16x1.5	20	G1/4	17
P3120A-63/20-	68	49	M42x1.5	32	41	164	M8x8	28	123	M16x1.5	20	G3/8	17
P3120A-80/25-	86	64	M50x2	40	43.5	179.5	M10 x8.5	28	136	M20x1.5	25	G3/8	21

**P3120B cylinders**

Dimensions conform to ISO 6431.



Type - NS/rod-	A	B	C	D	E	G	H	J	K	L	M	N	R	V
P3120B-32/12-	36	10	20	10	22	31	142	24	10	109	M10x1.25	12	G1/8	10
P3120B-40/16-	44	12	25	12	24	33	160	24	12	127	M12x1.25	16	G1/4	13
P3120B-50/20-	54	16	30	16	32	45	172	27	16	132	M16x1.5	20	G1/4	17
P3120B-63/20-	68	16	35	16	32	45	190	27	16	150	M16x1.5	20	G3/8	17
P3120B-80/25-	86	20	45	20	40	56	210	36	20	158.5	M20x1.5	25	G3/8	21

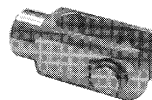
**Piston rod mountings for P3120 cylinders**

dimensions on page 7

**Mounting BH**, spherical eye bearing



**Mounting CH**, rod clevis



**Mounting DH**, locking nut

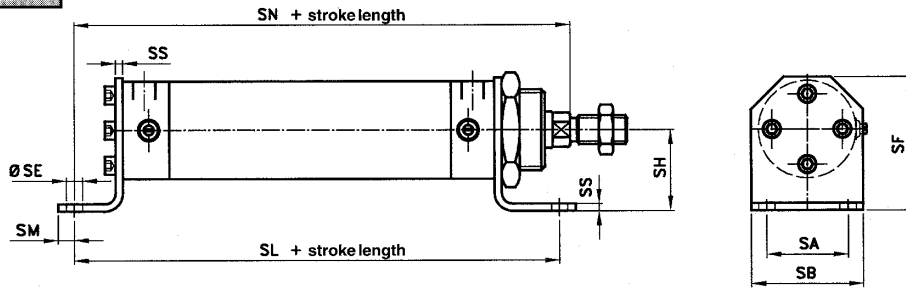


**P3120A mountings**

**Mounting SH 31,**  
end angles.

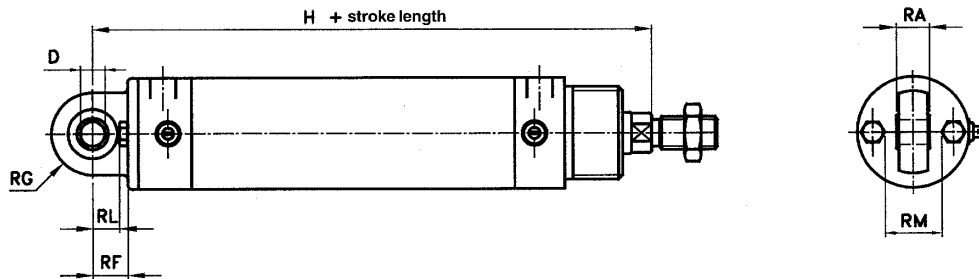
E.g. SH 032 31

(SH= type,  
032= cylinder bore,  
31= series P31..)



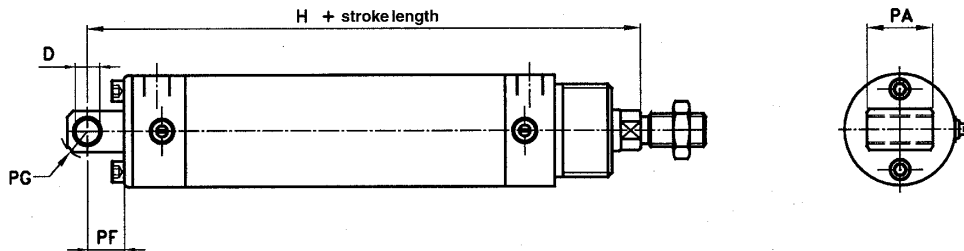
**Mounting RH 31,**  
spherical bearing.

E.g. RH 040 31



**Mounting PH 31,**  
rear eye.

E.g. PH 050 31



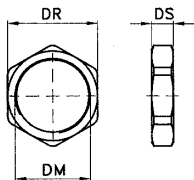
NS	DH9	H	PA	PF	PG	RAh12	RF	RG	RL	RM	SA	SB	SE	SF	SH	SL	SM	SN	SS
32	10	142	26	14,5	11	14	15	15	11,5	16	32	45	7	51	32	142	9	144	3
40	12	160	28	15	13	16	15,5	18	11,5	19	36	52	9	59	36	161	9	163	3
50	12	170	32	18	13	16	17	20	13	28	45	62	9	74	45	170	9	175	4
63	16	190	40	20	17	21	21	22	15,5	34	50	72	9	86	50	185	9	190	4
80	16	210	50	23	17	21	23	25	16,5	45	63	90	12	108	63	210	15	215	5

**Mounting DH 31,**

neck nut,  
types:

- DH 3031
- DH 3531
- DH 4231
- DH 5031

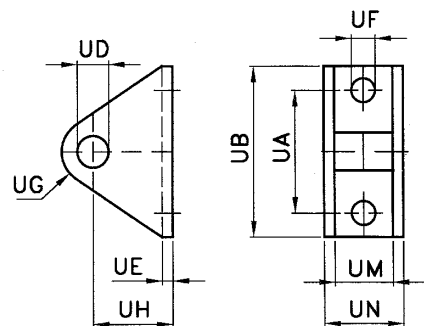
(DH= type,  
30= thread  
31= series P31..)



**Mounting UH 31,**

clevis foot,  
counter mounting for BH, RH

E.g. UH 050 31  
(UH= type,  
050= cylinder bore,  
31= series P31..)

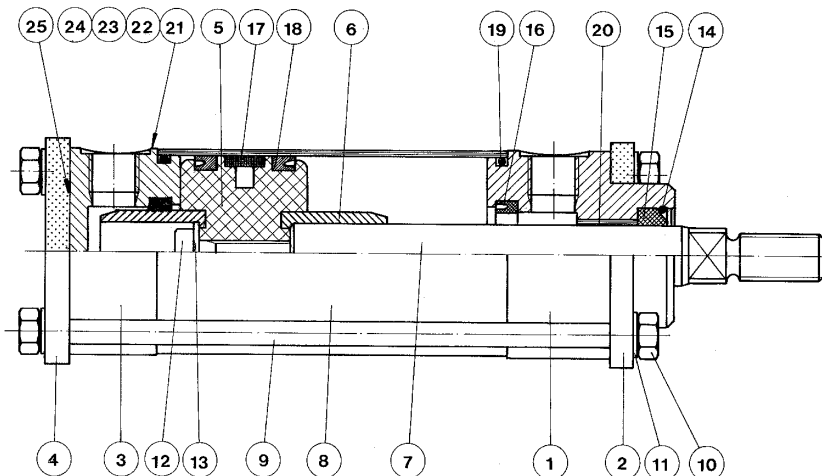


NS	DM	DR	DS	UA	UB	UD	UE	UF	UG	UH	UM	UN
32	M30x1.5	36	10	30	45	10	3	7	11	24	15	21
40	M35x1.5	41	10	38	55	12	3	9	15	27	17	23
50	M42x1.5	50	12	46	64	12	4	9	15	30	22	30
63	M42x1.5	50	12	58	79	16	4	12	19	36	22	30
80	M50x2	65	12	70	94	16	5	14	19	40	26	36

## Spare parts, PHC

Seal kits for PHC cylinders consist of parts 15-19. When ordering, please give cylinder series and cylinder bore, e.g. seal kit PHCV-100.

For other spare parts, please contact our sales department or our distributors.

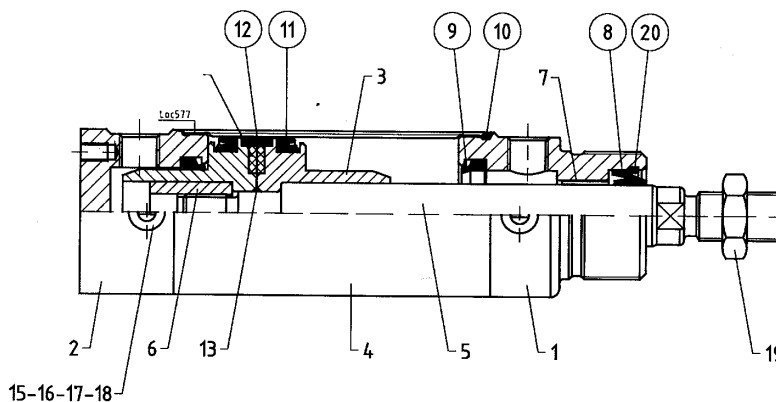


Item	Pcs	Description	Item	Pcs	Description
1	1	Front end cap	14	1	Circlip
2	1	Front flange	15	1	Seal for piston rod
3	1	Rear end cap	16	2	Seal for cushioning
4	1	Rear end flange	17	1	Wear ring
5	1	Piston	18	2	Seal for piston
6	2	Cushioning piston	19	2	Seal for cylinder tube
7	1	Piston rod	20	1	Bearing for piston rod
8	1	Cylinder tube	21	2	Adjusting screw
9	4	Tie rod	22	2	Seal for adjusting screw
10	8	Tie rod nut	23	2	Nut for adjusting screw
11	4	Washer	24	2	Washer
12	1	Mounting screw for piston rod	25	2	Chock
13	1	Washer			

## Spare parts, P3120

Seal kits for P3120 cylinders consist of parts 8-12, 20. When ordering, please give cylinder series and cylinder bore, e.g. seal kit P3120A-32/12.

For other spare parts, please contact our sales department or our distributors.



Item	Pcs	Description	Item	Pcs	Description
1	1	Front end cap	11	2	Seal for piston
2	1	Rear end cap	12	1	Wear ring
3	1	Piston	13	1	O-ring
4	1	Cylinder tube	14	2	Magnetic ring
5	1	Piston rod	15	2	Adjusting screw
6	1	Nut for piston	16	2	Collar for adjusting screw
7	1	Bearing for piston rod	17	2	O-ring for screw
8	1	Seal for piston rod	18	2	O-ring for collar
9	2	Seal for cushioning	19	1	Piston rod nut
10	1	Seal for cylinder tube	20	1	Circlip





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