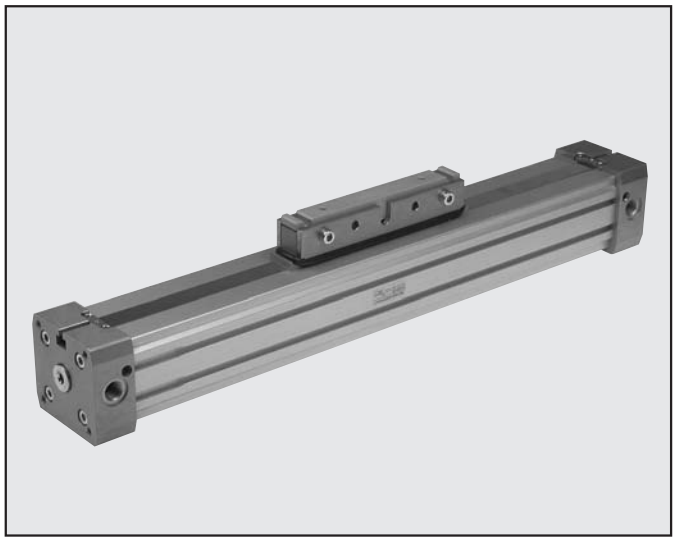
RODLESS CYLINDER
Ø 16, 25, 32, 40, 63

Rodless cylinders come in five different bores - Ø 16, 25, 32, 40 and 63 mm – and the design incorporates numerous innovations.
- Calibrated extruded anodized aluminium alloy jacket.
- Sensor slots and accessory slots in the jacket itself.
- Longitudinal seal by means of specially-shaped indeformable stainless steel strips.
- Strokes 100 to 5700 mm with 1mm intervals.
- Adjustable integrated pneumatic cushioning
- Adjustable limit switches and decelerations can be applied at any time.
- For this type of cylinder (size 32 and upwards), the valves can be fitted directly using the retracting sensors without requiring any intermediate brackets.

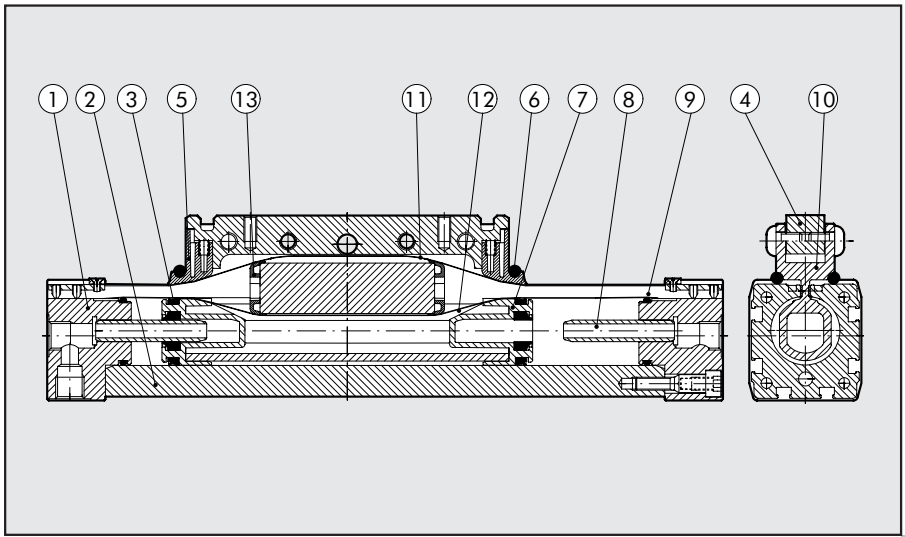
Refer to the table on page 1.1/67.



TECHNICAL DATA		NBR	FKM/FPM
Operating pressure	bar	1 ÷ 8	
	MPa	0.1 ÷ 0.8	
	psi	14.5 ÷ 116	
Temperature range	°C	–15 ÷ 80	
	°F	- 5 ÷ 176	
Fluid		50µm unlubricated filtered air Lubrication, if used, must be continuous.	
Bores	mm	Ø 16, 25, 32, 40 and 63	
Type of construction		Double-acting rodless cylinder with direct transmission system	
Strokes		for Ø 16 :100 to 5000 mm with 1mm interval	
		for Ø 25, 32 and 40 :100 to 5700 mm with 1mm interval	
		for Ø 63 :100 to 5500 mm with 1mm interval	
Recommended speeds		V<1 m/s (NBR)	V>1 m/s (FKM/FPM)
Max. speed with decelerators		< 1 m/s (NBR)	2 m/s (FKM/FPM)
Weight		See GENERAL TECHNICAL DATA PAGE 1.1/07	

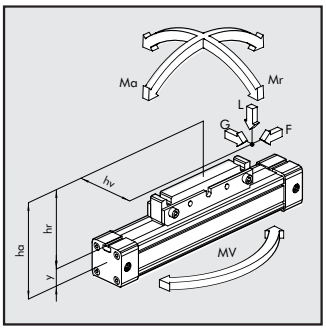
COMPONENTS

① CYLINDER HEAD: aluminium alloy
② JACKET: profiled anodized aluminium alloy
③ PISTON GASKET: NBR or FKM/FPM
④ CENTRAL ELEMENT: aluminium alloy
⑤ SCRAPER: Hostaform®
⑥ O-RING: FKM/FPM
⑦ PISTON: Hostaform®
⑧ CUSHIONING CONE: aluminium alloy
⑨ STATIC O-RINGS: NBR or FKM/FPM
⑩ SLIDE: aluminium alloy
⑪ OUTER STRIP: stainless steel
⑫ INNER STRIP: stainless steel
⑬ BAND SUPPORT: Hostaform®



DIMENSIONNG - FORCE AND TORQUE

Bore Ø	Centre Distance Y	Actual Force F at 6 bar [N]	Cushioning stroke [mm]	Max. load L [N]	Ma max [Nm]	Mr max [Nm]	Mv max [Nm]
16	9	110	15	120	4	0.3	0.5
25	14	250	21	300	15	1	3
32	18	420	26	450	30	2	4
40	22	640	32	750	60	4	8
63	44	1550	40	1650	200	8	24



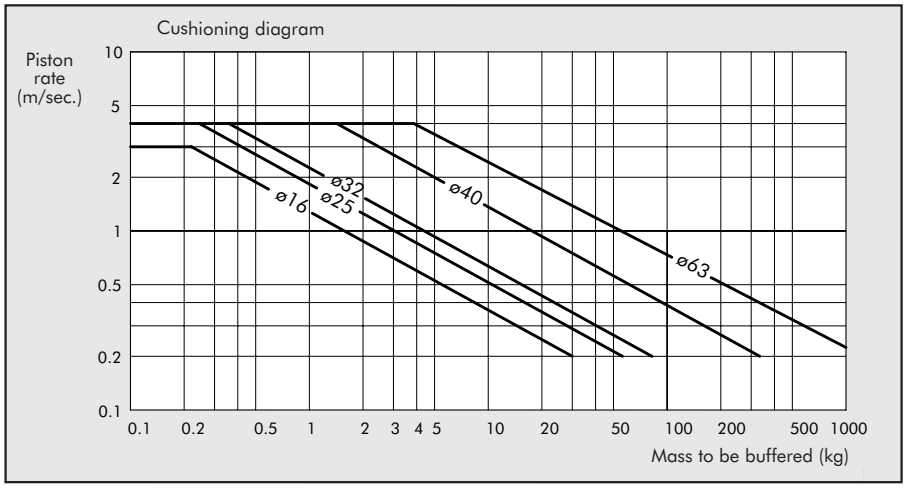
NB: When the cylinder is subjected simultaneously to torque and force, it is advisable to keep to the following equations.

$Ma = F \times ha \qquad Mr = L \times hv + G \times hr \qquad Mv = F \times hv$

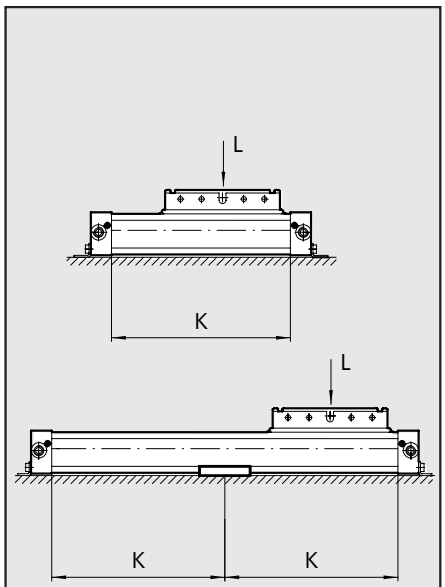
$$\frac{Mv}{Mv_{max}} \leq 1; \qquad \frac{L}{L_{max}} \leq 1; \qquad \frac{Ma}{Ma_{max}} + \frac{Mr}{Mr_{max}} + 0.22 \times \frac{Mv}{Mv_{max}} + 0.4\,\frac{L}{L_{max}} \leq 1$$

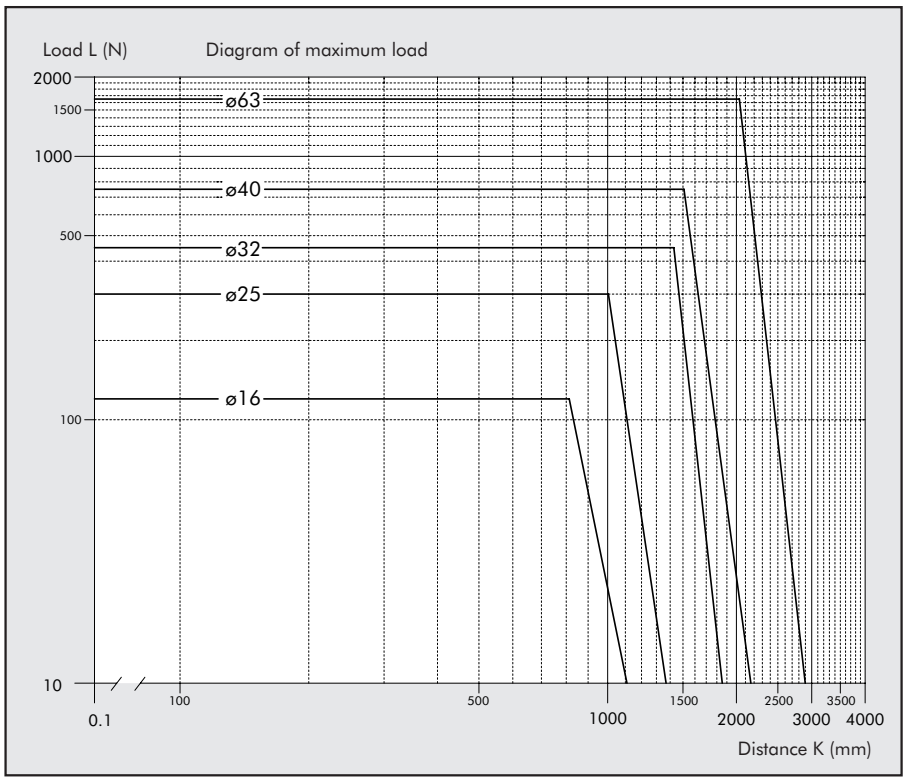
DIAGRAM OF SPEED AND MAXIMUM CUSHIONABLE LOAD

For the cylinder to reach the end-of-stroke position without intense or repeated impact which would damage it, it is necessary to annul the kinetic energy of the moving mass and the work generated. The maximum cushionable load depends on the traversing speed and the absorption of the air buffer supplied standard with the various cylinders. The diagram shows the speeds and cushionable mass for the various diameters at a pressure of 6 bar.

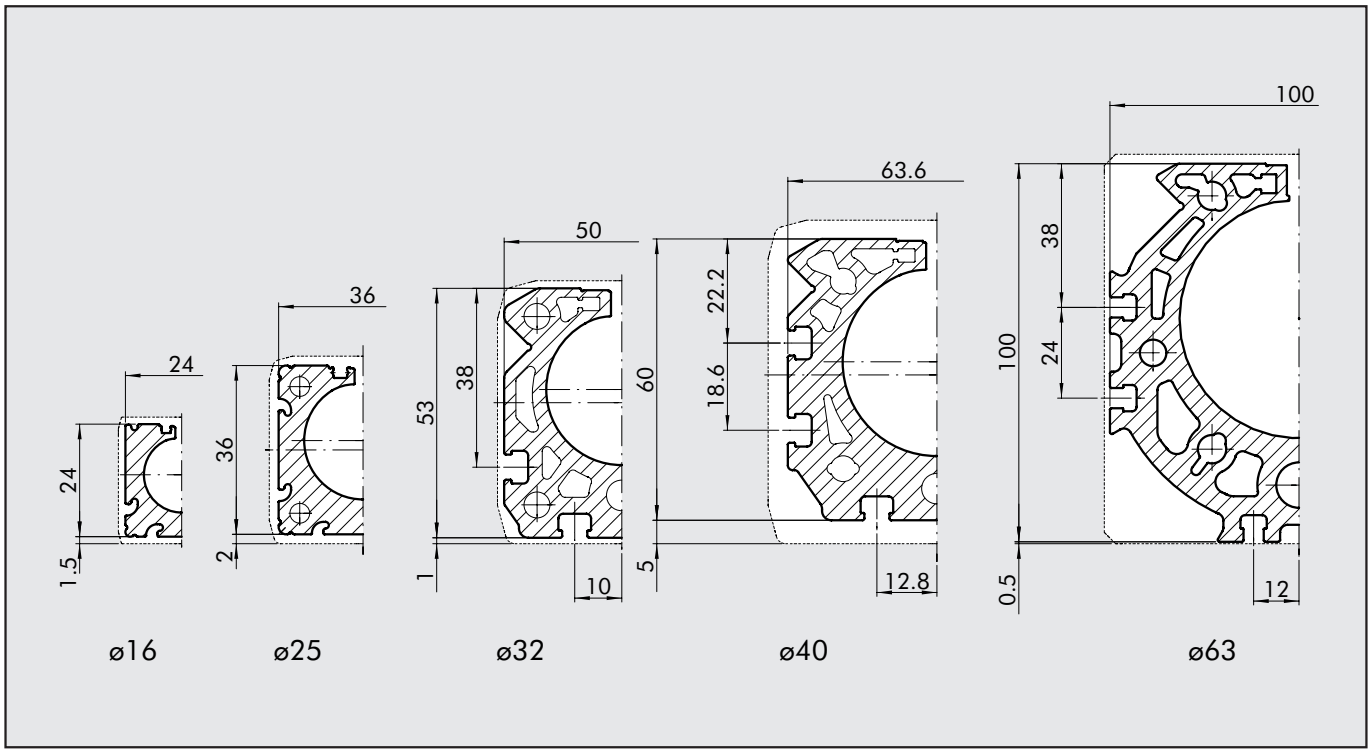


MAXIMUM LOAD ACCORDING TO THE DISTANCE BETWEEN SUPPORTS

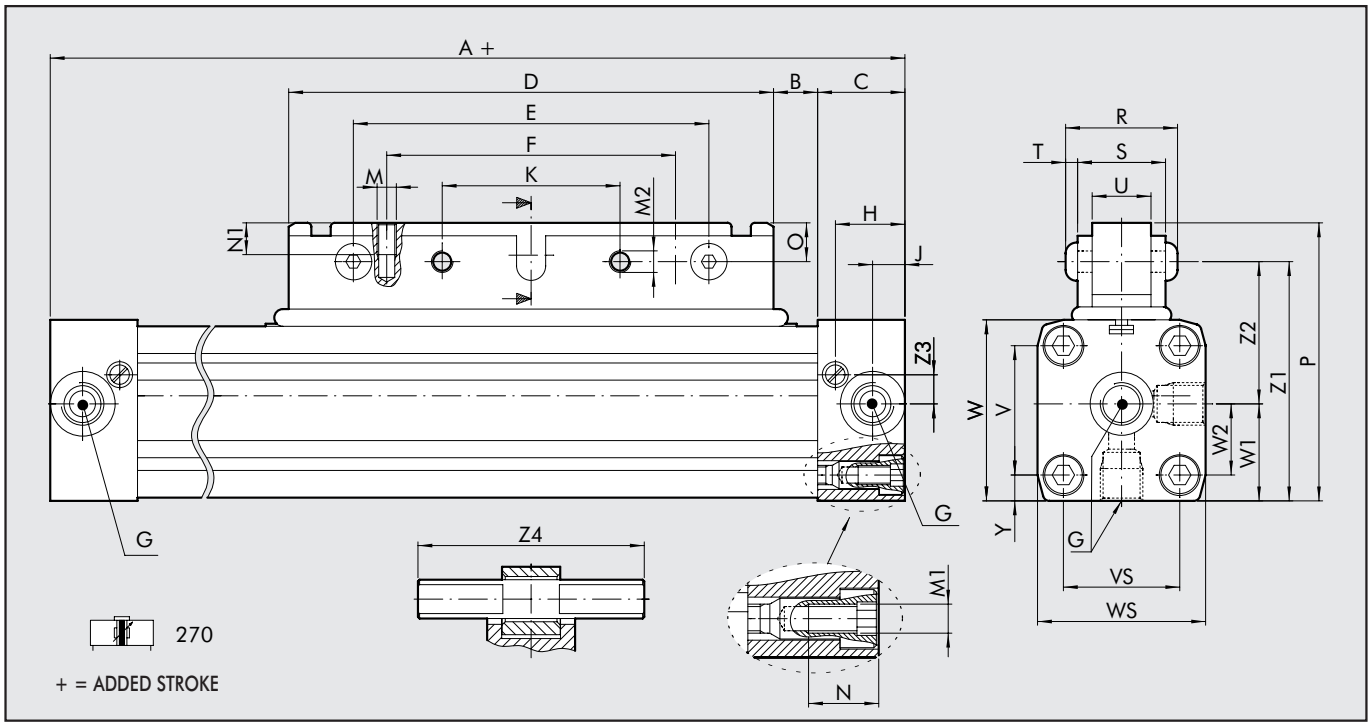




JACKET CROSS SECTION

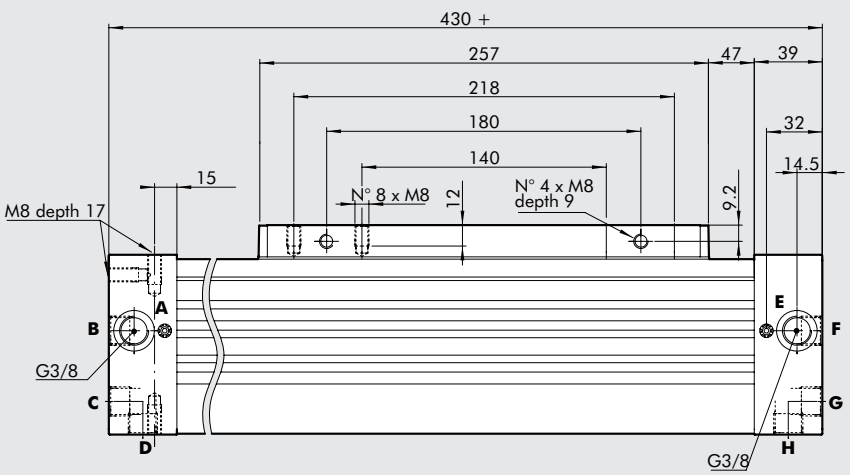


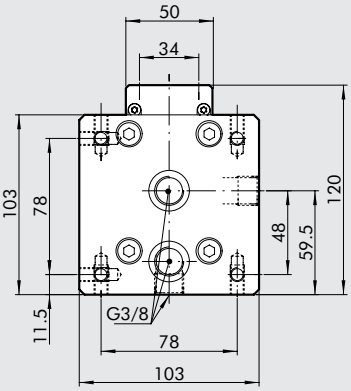
DIMENSIONS OF RODLESS CYLINDER Ø 16÷40

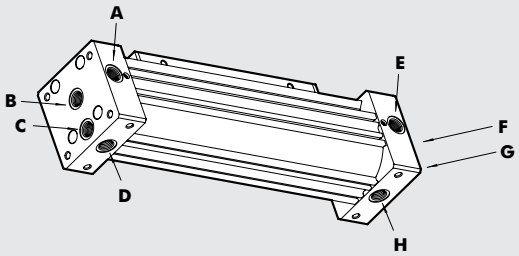


Ø	A	B	C	D	E	F	G	H	J	K	M	M1	M2	N	N1	O	P	R	S	T	U	V	VS	W	WS	W1	W2	Y	Z1	Z2	Z3	Z4
16	130	12	15	76	64	48	M5	12	6.4	32	M4	M3	M5	7	8	6	43.5	23.5	18	2.75	10	18	18	27	27	13.5	9	4.5	37.5	24	4.5	28
25	200	17	23	120	100	80	1/8	18.5	8.5	50	M5	M5	M6	12	11	13	66	29.6	23	3.3	15	27	27	40	40	20	13.5	6.5	53	33	6.5	42
32	250	23	27	150	110	90	1/4	22	10.5	55	M6	M6	M8	14	12	12	86	36	27	4.4	18	40	36	56	52	30	22	8	74	44	8	70
40	300	45	30	150	110	90	1/4	24	15	55	M6	M6	M8	17.5	12	12	97	36.8	28	4.4	18	54	54	69	72	36	27	9	85	49	11.8	70

DIMENSIONS OF RODLESS CYLINDER Ø 63







Basic supply
A, B, C, D to feed to left chambers
E, F, G, H to feed the right chambers
Note: B, C, D, F, G and H are supplied closed with threaded plugs.

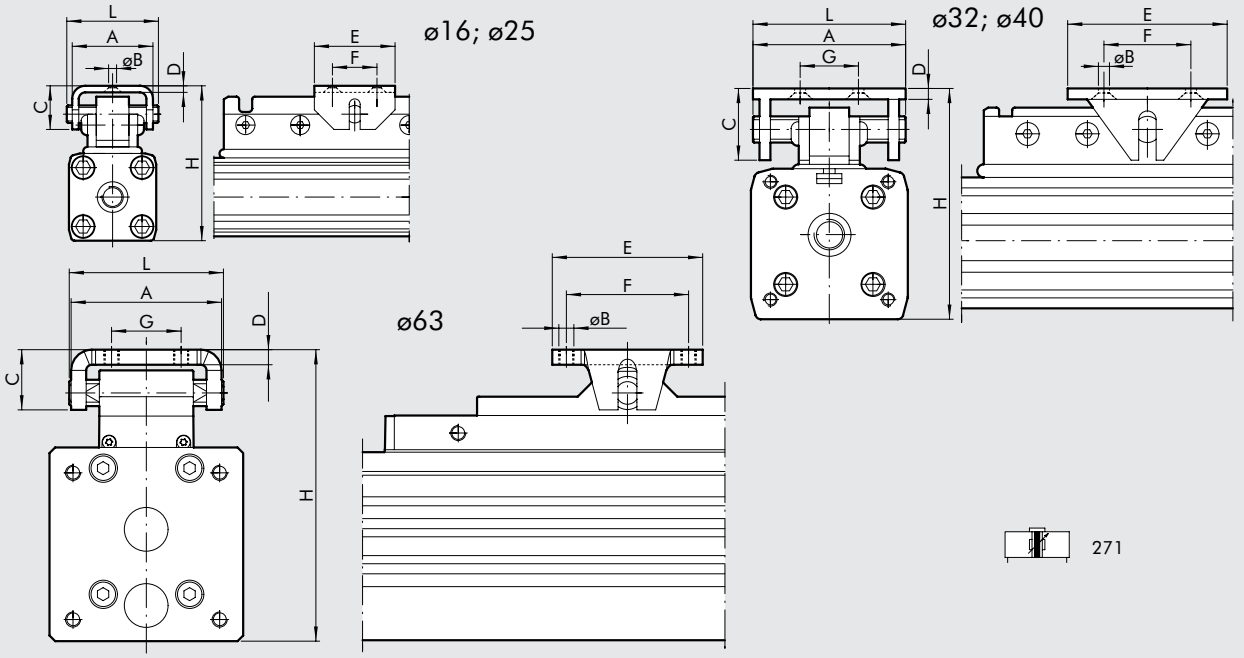
If you modify the position of an inner plug following the instructions provided with the cylinder, you can arrange:

all feeds from the left
A, B feed the left chambers
C, D feed the right chambers

all feeds from the right
E, F feed the right chambers
G, H feed the left chambers

+ = ADDED STROKE

RODLESS CYLINDER WITH SWING CARRIAGE

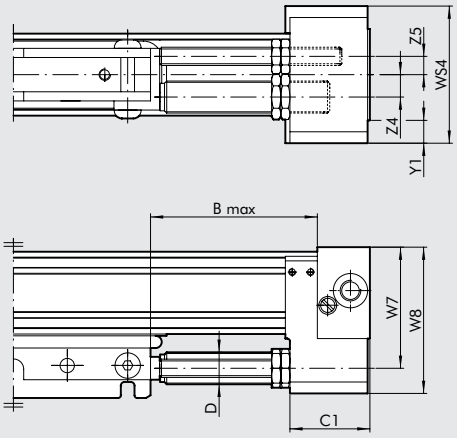


NOTE: For other dimensions see code 270

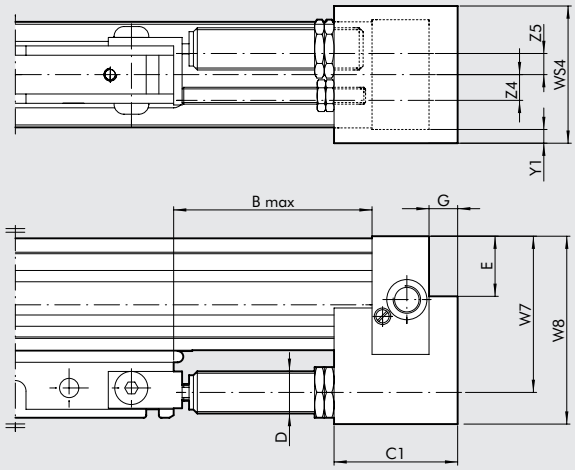
Ø	A	ØB	C	D	E	F	G	H	L
16	25	4.5	13	2	20	10	–	47-50	28
25	37	5.5	20	3	30	16	–	72-75	42
32	70	6.5	38	5	90	75	55	91-100	70
40	70	6.5	38	5	90	75	55	111-120	70
63	80	M8	32	8	80	65	37	155-162	82

DIMENSIONS OF RODLESS CYLINDER + ADJUSTABLE LIMIT SWITCH AND SHOCK ABSORBERS

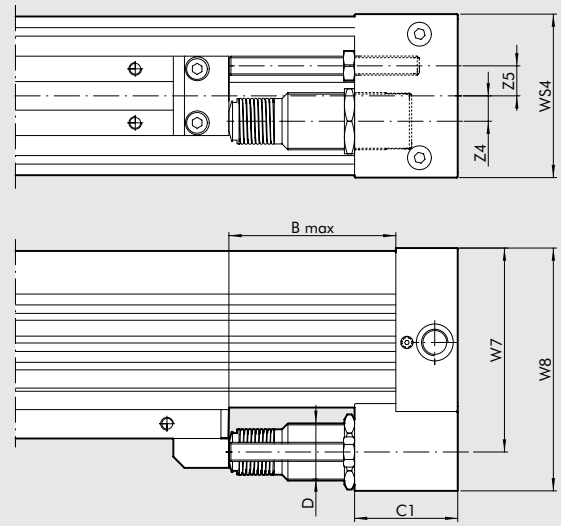
ø16



ø25÷ø40



ø63



273

Ø	B Max	C1	D	E	G	W7	W8	WS4	Y1	Z4	Z5	Stroke	Max. cushioned force for stroke [J]	Max. cushioned force for hour [J]	Max. impact force [N]	Max. thrust force [N]
16	42	22	M12x1	–	–	38	46	42	7.5	7	7.5	10	4.5	14125	1000	220
25	72	44	M14x1.5	17	9	53	67	50	5	8	9.8	16	18	34000	2800	530
32	90	56	M20x1.5	29	11	74	89	60	4	10	12.2	22	40	53700	3750	890
40	105	74	M25x1.5	32.8	14	89	108	75	1.5	12.5	12.7	25	65	70000	5500	1550
63	105	65	M36x1.5	–	–	128.5	153	103	–	16	19	25	125	91000	11120	2220

For graphs to help choose shock absorbers see page 1.1/100

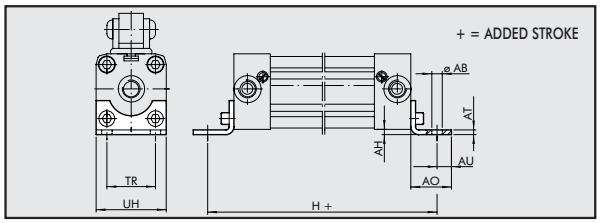
KEY TO CODES

CYL	2	7	0	0	2 5	0 0 5 0	C	N
	TYPE				BORE	STROKE	CONFIGURATION	
	27	Rodless cylinder	0 Standard 1 With swing drive ✚2 Twin cushioned series "Double" 3 Double-acting cushioned Magnetic + adjustable limit switches and shock absorbers	0 magnetic S non-magnetic ■G No stick slip	16 25 32 40 63	Ø 16: from 100 to 5000mm Ø 25÷40: from 100 to 5700 mm Ø63 from 100 to 5500 mm	C	N NBR ●V FKM/FPM

■ For speed ≤ 0.2 m/s ● For speed ≥ 1m/s ✚ Available up to Ø 32

ACCESSORIES

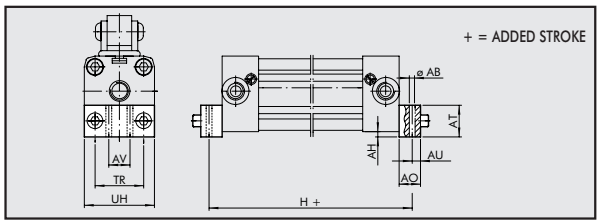
FOOT Ø 16; 25



Code	Ø	ØAB	AH	AO	AT	AU	TR	UH	H	Weight [g]
W0950167001	16	3.6	1.5	14	1.6	4	18	26	150	10
W0950257001	25	5.5	2	22	2.5	6	27	40	232	32

Note: Individually packed with 2 screws.

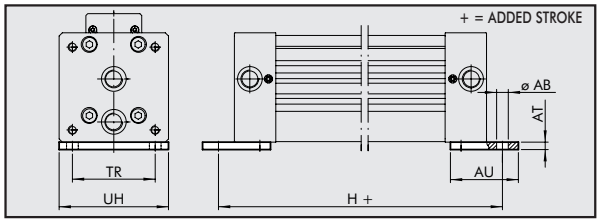
FOOT Ø 32; 40



Code	Ø	ØAB	AH	AO	AT	AU	AV	TR	UH	H	Weight [g]
W0950327001	32	6.6	4	25	20	8	20	36	51	284	88
W0950407001	40	9	2	25	20	11.5	30	54	71	327	112

Note: Individually packed with 2 screws.

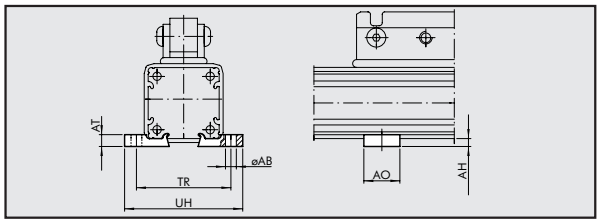
FOOT Ø 63



Code	Ø	ØAB	AT	AU	TR	UH	H	Weight [g]
W0950637001	63	11	7	64	78	103	460	360

Note: Individually packed with 2 screws.

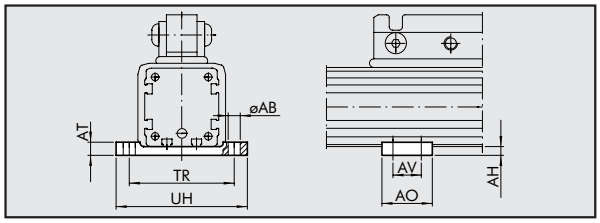
INTERMEDIATE SUPPORT Ø 16; 25



Code	Ø	ØAB	AH	AO	AT	TR	UH	Weight [g]
W0950167031	16	5.5	3	20	5	41	53	4
W0950257031	25	5.5	4	20	6	48	60	6

Note: Individually packed.

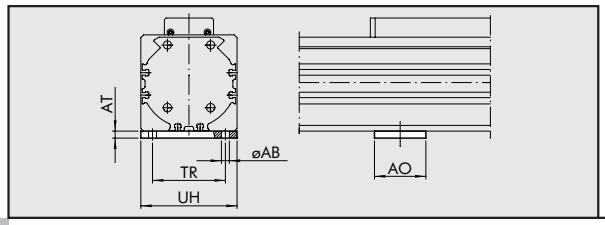
INTERMEDIATE SUPPORT Ø 32; 40



Code	Ø	ØAB	AH	AO	AT	AV	TR	UH	Weight [g]
W0950327032	32	6.5	5	55	8	40	61.5	73	72
W0950407032	40	6.5	7	60	8	45	70÷75	85	104

Note: plate supplied complete with 4 screws, 4 fixing plates

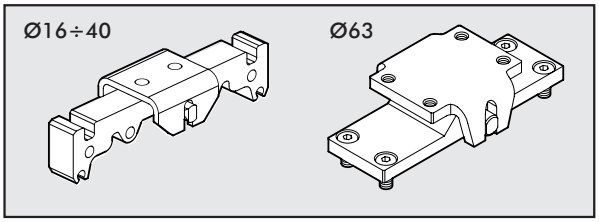
INTERMEDIATE SUPPORT Ø 63



Code	Ø	ØAB	AH	AO	AT	TR	UH	Weight [g]
W0950637032	63	8.5	7.5	55	7.5	78	103	330

Note: plate supplied complete with 4 screws, 4 fixing plates

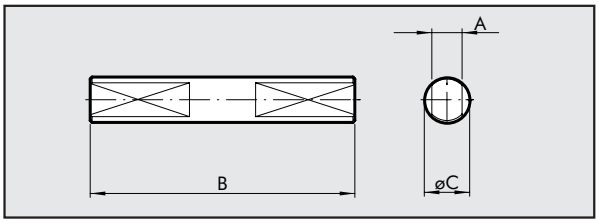
KIT TO TRANSFORM INTO SWING VERSION



Code	Ø	Weight [g]
W0950167035	16	34
W0950257035	25	118
W0950327035	32	450
W0950327035	40	450
W0950637035	63	810

Note: ø16÷40: Supplied complete with 1 adaptor, 1 support, 1 pin, 1 bushing
ø63: Supplied complete with 1 plate, 1 support, 1 pin, 2 bushings, 4 screws

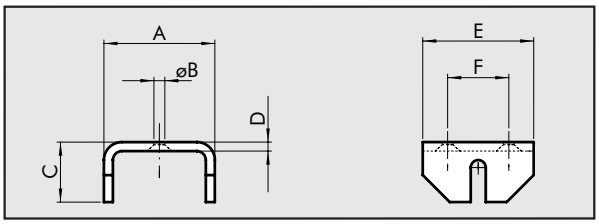
DRIVE PIN



Code	Ø	A	B	ØC	Weight [g]
W0950167034	16	2.9	28	5	6
W0950257034	25	5	42	8	16
W0950327034	32	8	70	12	52
W0950327034	40	8	70	12	52
W0950637034	63	10	82	14	100

Note: Individually packed.

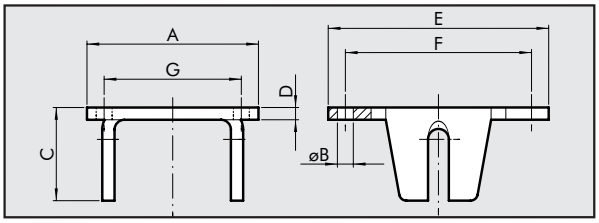
SWING SUPPORT Ø 16; 25



Code	Ø	A	ØB	C	D	E	F	Weight [g]
W0950167033	16	25	4.5	13	2	20	10	14
W0950257033	25	37	5.5	20	3	30	16	40

Note: Individually packed.

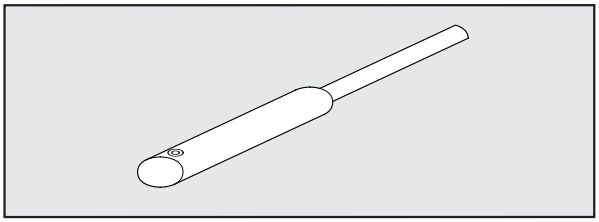
SWING SUPPORT Ø 32; 40; 63



Code	Ø	A	ØB	C	D	E	F	G	Weight [g]
W0950327033	32	70	6.5	38	5	90	75	55	274
W0950327033	40	70	6.5	38	5	90	75	55	274
W0950637033	63	80	M8	32	8	80	65	37	400

Note: Individually packed.

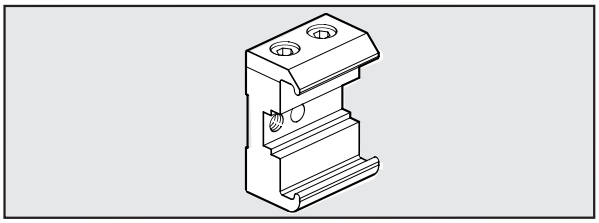
SLIM SENSOR



Code	Description
W0952025390	HALL N.O. SENSOR, VERTICAL INSERTION 2.5m
W0952029394	HALL N.O. SENSOR, VERTICAL INSERTION 300 mm M8
W0952022180	REED N.O. SENSOR, VERTICAL INSERTION 2.5m
W0952028184	REED N.O. SENSOR, VERTICAL INSERTION 300 mm M8

For technical data, refer to page 1.1/68

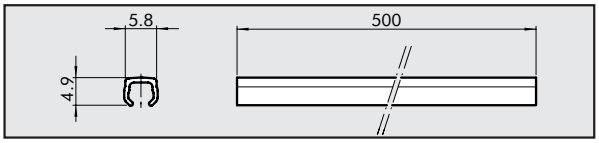
SENSOR SUPPORT Ø 16; 25



Code	Description
0950164001	SENSOR SUPPORT STD

Note: Supplied with 1 stud pin, 2 screws

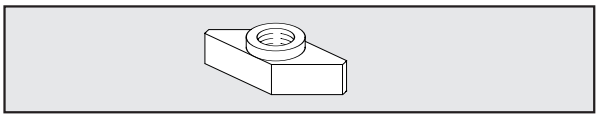
SLOT STRIP



Code	Description
W0950000160	SLOT STRIP 500 mm

Note: the code corresponds to 1 piece

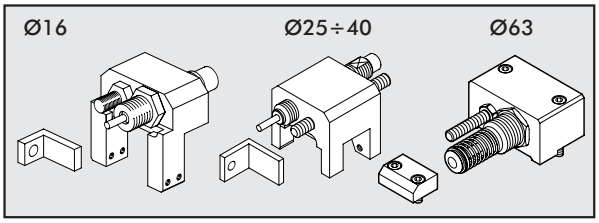
KIT FOR CYLINDER ASSEMBLY WITH SENSOR SLOTS



Code	Description	Weight [g]
0950003001	ACC. M3 T-SLOTTED FIXING PLATE	1
0950003002	ACC. M4 T-SLOTTED FIXING PLATE	1

Note: Individually packed

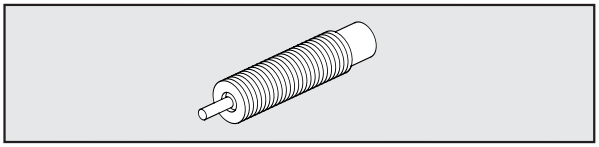
ADJUSTABLE LIMIT SWITCH AND SHOCK ABSORBERS KIT



Code	Description	Weight [g]
0950164002	ACC. RODLESS CYLINDER LIMIT SWITCH AND SHOCK ABSORBERS Ø 16	125
0950254002	ACC. RODLESS CYLINDER LIMIT SWITCH AND SHOCK ABSORBERS Ø 25	260
0950324002	ACC. RODLESS CYLINDER LIMIT SWITCH AND SHOCK ABSORBERS Ø 32	460
0950404002	ACC. RODLESS CYLINDER LIMIT SWITCH AND SHOCK ABSORBERS Ø 40	730
0950634002	ACC. RODLESS CYLINDER LIMIT SWITCH AND SHOCK ABSORBERS Ø 63	1620

Note: Supplied complete with 1 shock absorber support, 1 standard shock absorber , 1 shock absorber nut, 1 limit switch grub screw, 1 grub screw nut (2 for ø63) , 1 bracket, 1 bracket screw, 4 locking grub screws (for Ø 16 and Ø 25), 4 locking plates and 4 screws (for Ø 32 and Ø 40).

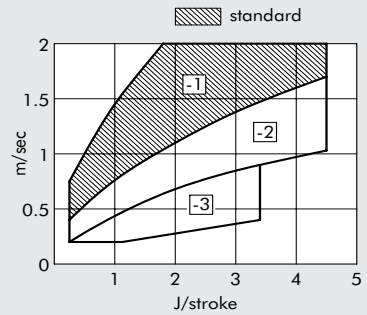
SHOCK ABSORBERS



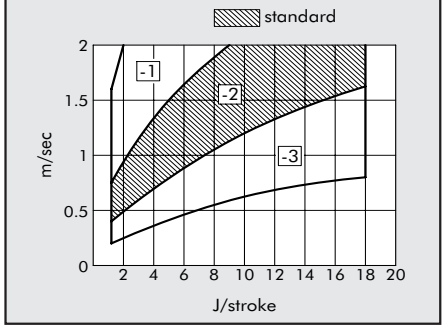
Code	Bore	Description
0950004003	ø16	Shock absorbers PR015 MF1 + nut M12x1.5
0950004004	ø25	Shock absorbers PR025 MC2 + nut M14x1.5
0950004005	ø32	Shock absorbers PR050 MC2 + nut M20x1.5
0950004006	ø40	Shock absorbers PR0100 MF2 + nut M25x1.5
0950004007	ø63	Shock absorbers PR0125 MF3 + nut M36x1.5

GRAPHS TO HELP CHOOSE THE RIGHT SHOCK ABSORBERS

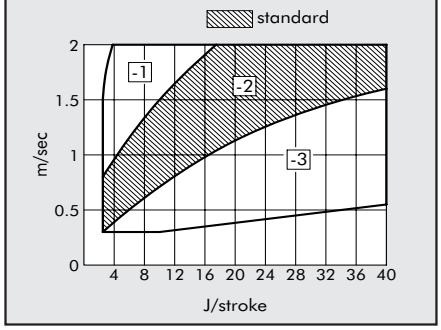
ø16



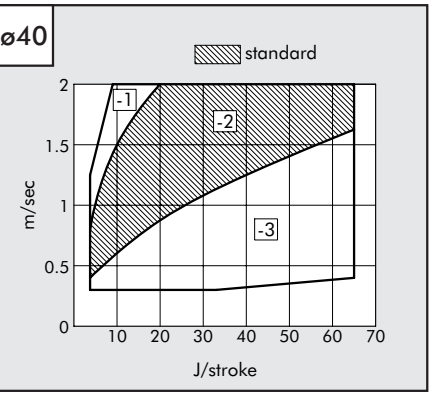
ø25



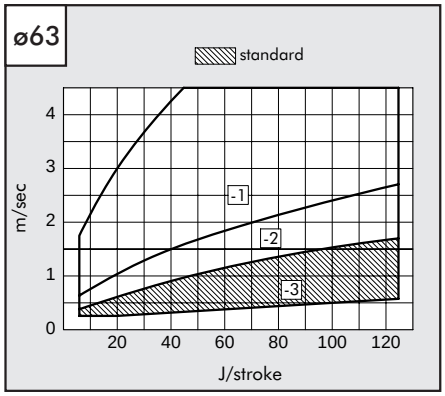
ø32



ø40



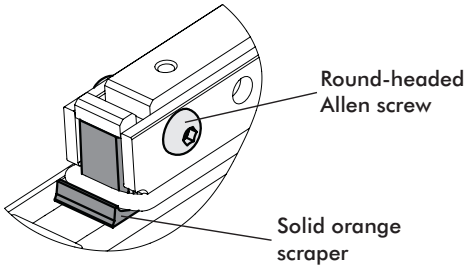
ø63

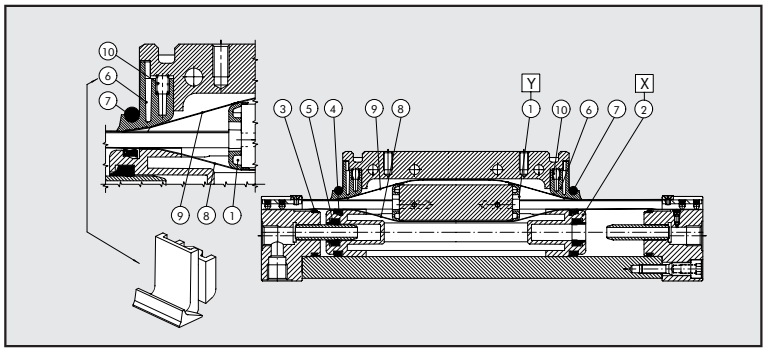


The dotted areas indicate that the SHOCK ABSORBERS is supplied standard. Other options can be selected depending on the speed [m/sec] and the maximum work force [J/stroke] to dissipate at each stroke
Refer to the diagrams above to select the correct option.

SPARE PARTS

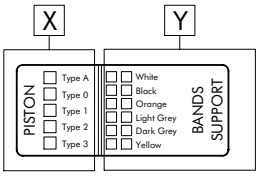
"LAST RELEASE" CYLINDER





① Bands support Kit
② Piston kit
③ ④ ⑤ ⑥ ⑦ ⑩ NBR gaskets Kit (FKM/FPM for ⑦)
③ ④ ⑤ ⑥ ⑦ ⑩ FKM/FPM gaskets Kit
⑧ ⑨ Bands Kit (inner/outer)

Spare parts label
on one cylinder side



BANDS SUPPORT KIT POS 1 (Y)

Ø	Code White	Code Black	Code Orange	Code Light grey	Code Dark grey	Code Yellow
16	0090165080	0090165081	0090165082	0090165083	0090165084	0090165085
25	0090255080	0090255081	0090255082	0090255083	0090255084	0090255085
32	0090325080	0090325081	0090325082	0090325083	0090325084	0090325085
40	0090405080	0090405081	0090405082	0090405083	0090405084	0090405085
63	*0090635080	*0090635081	*0090635082	*0090635083	*0090635084	*0090635085

* For ø63, the kit includes a strip support and a shim in the colour ordered.
Therefore, two kits must be ordered for each cylinder.

BANDS KIT (inner and outer) pos 8-9

Ø	Code	
16	0090166...	
25	0090256...	
32	0090326...	
40	0090406...	
63	0090636...	...= STROKE

NBR GASKET KIT posn. 3,4,5,6,7,10

Ø	Code
16	0090165022
25	0090255022
32	0090325022
40	0090405022
63	0090635022

FKM/FPM GASKET KIT posn. 3-4-5-6-7-10

Ø	Code
16	0090165023
25	0090255023
32	0090325023
40	0090405023
63	0090635023

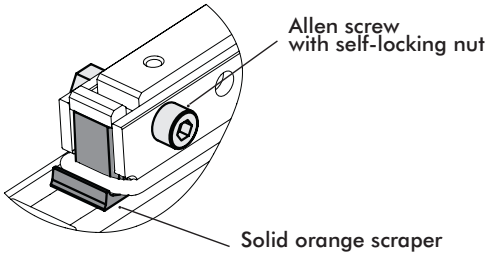
PISTON KIT POS 2 (X)

Ø	Code Type 0 (0 rings)	Code Type 1 (1 rings)	Code Type 2 (2 rings)	Code Type 3 (3 rings)	Code Type A (4 rings)
16	0090165010	0090165011	0090165012	0090165013	–
25	0090255010	0090255011	0090255012	0090255013	–
32	0090325010	0090325011	0090325012	0090325013	0090325014
40	0090405010	0090405011	0090405012	0090405013	–
63	0090635010	0090635011	0090635012	0090635013	–

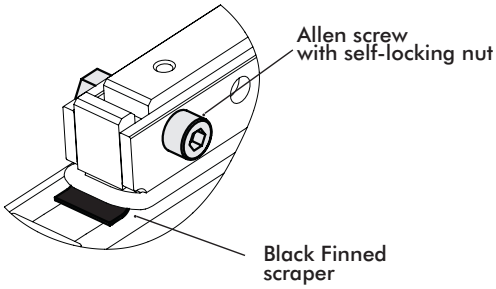
NOTES

IF THE ENDS OF THE CARRIAGE APPEAR AS BELOW INDICATED, PLEASE CONTACT OUR COMMERCIAL DEPARTMENT FOR THE SPARE PARTS

"INTERMEDIATE RELEASE"



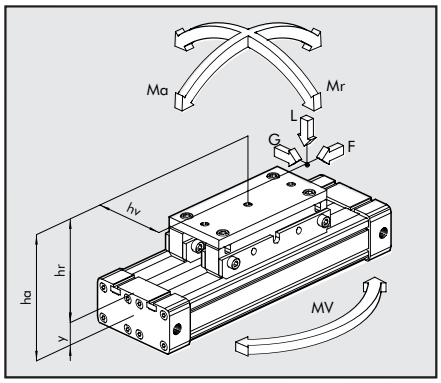
"OLD RELEASE"



RODLESS CYLINDER
DOUBLE SERIES Ø 16, 25, 32

DIMENSIONS – FORCES AND MOMENTS

Bore Ø	Actual force F at 6 bar [N]	Cushioning stroke [mm]	Max load L [N]	Ma max. [Nm]	Mr max. [Nm]	Mv max [Nm]
2x16	200	15	240	8	2.4	1
2x25	480	21	600	30	8	6
2x32	820	26	900	60	16.5	10

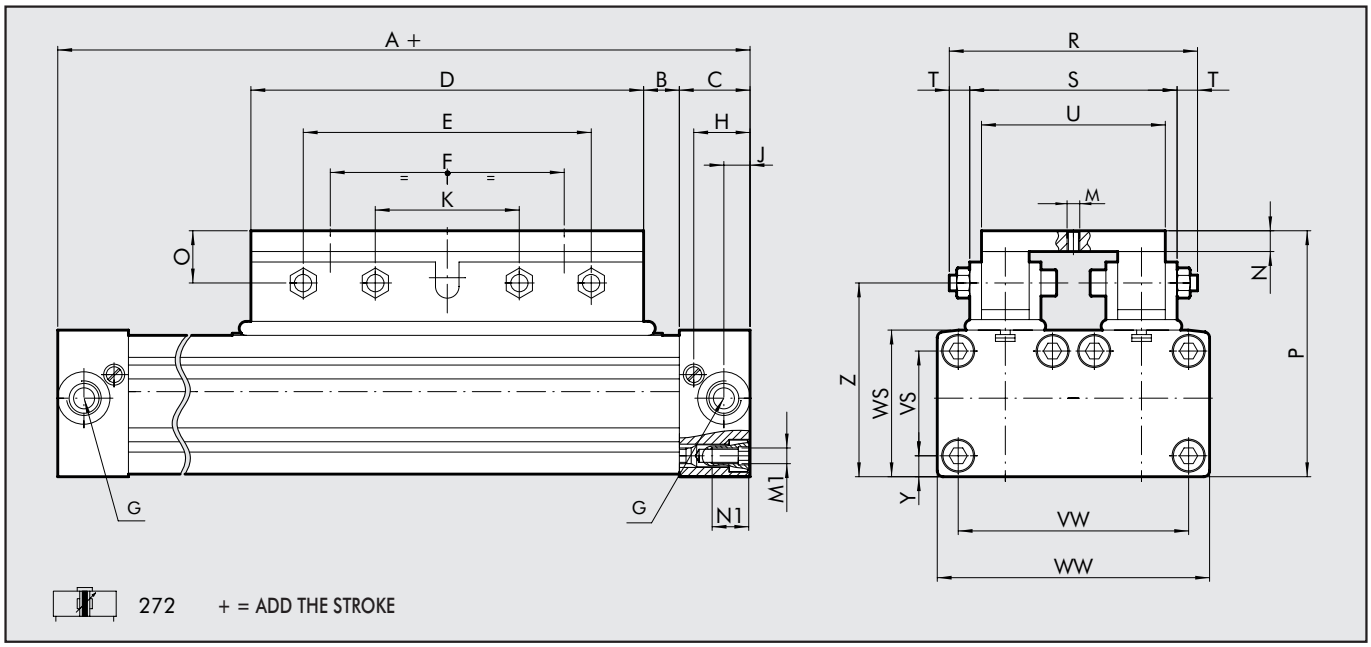


Ma = F x ha Mr = L x hv + G x hr MV = F x hv

$$\frac{Mv}{Mv_{max}} \leq 1; \quad \frac{L}{L_{max}} \leq 1; \quad \frac{Ma}{Ma_{max}} + \frac{Mr}{Mr_{max}} + 0.22 \times \frac{Mv}{Mv_{max}} + 0.4 \frac{L}{L_{max}} \leq 1$$

(For the weights see GENERAL TECHNICAL DATA PAGE 1.1/07)

DIMENSIONS OF RODLESS CYLINDER, DOUBLE SERIES

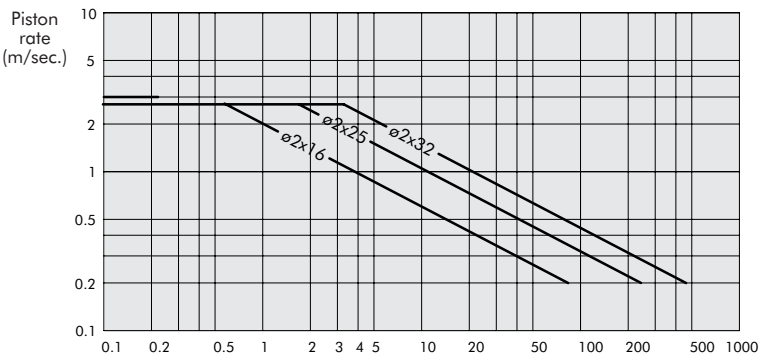


Ø	A	B	C	D	E	F	G	H	J	K	M	N	M1	N1	O	P	R	S	T	U	VW	VS	WW	WS	Y	Z
2x16	130	12	15	76	64	48	M5	12	6.4	32	M5	10	M3	7	16	53.5	52	42	5	34	42	18	51	27	4.5	37.5
2x25	200	17	23	120	100	80	1/8	18.5	8.5	50	M6	15	M5	12	20	74	74	59	7.5	50	63	27	72	41	7	53.5
2x32	250	23	27	150	110	90	1/4	22.5	10.5	55	M6	12	M6	14	20	95	92	78	7.5	70	86	40	100	56	8	74

DIAGRAM OF SPEED AND MAXIMUM CUSHIONABLE LOAD

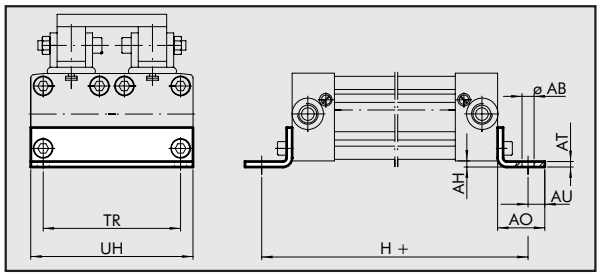
For the cylinder to reach the end-of-stroke position without intense or repeated impact which would damage it, it is necessary to annul the kinetic energy of the moving mass and the work generated. The maximum cushionable load depends on the traversing speed and the absorption of the air buffer supplied standard with the various cylinders. The diagram shows the speeds and cushionable mass for the various diameters at a pressure of 6 bar.

Cushioning diagram



DOUBLE ACCESSORIES

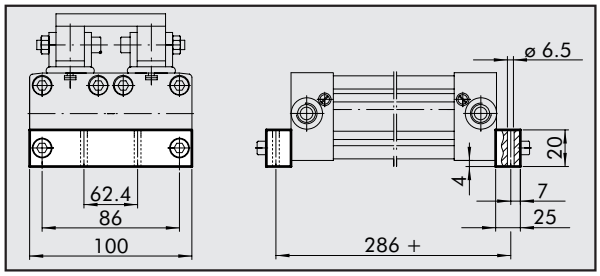
DOUBLE FOOT Ø 16; 25



Code	Ø	ØAB	AH	AO	AT	AU	TR	UH	H	Weight [g]
W0950168001	2x16	3.6	1.5	14	1.6	4	42	51	150	18
W0950258001	2x25	5.5	2	22	2.5	6	63	72	232	54

Note: Individually packed complete with 2 screws

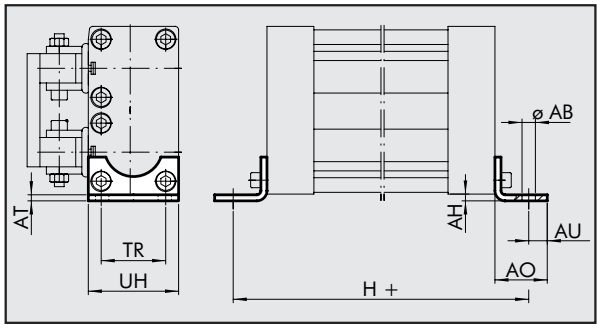
DOUBLE FOOT Ø 32



Code	Description	Weight [g]
W0950328036	PIEDINO DOUBLE Ø 32	156

Note: Individually packed complete with 2 screws

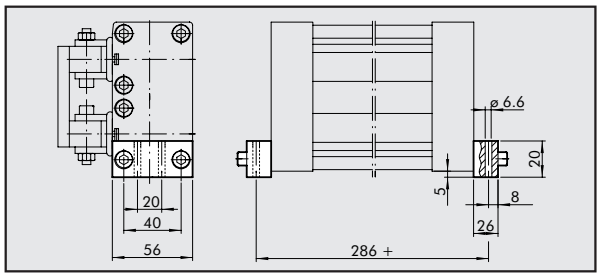
FOOT Ø 16; 25



Code	Ø	ØAB	AH	AO	AT	AU	TR	UH	H	Weight [g]
W0950167001	2x16	3.6	1.5	14	1.6	4	18	26	150	10
W0950257001	2x25	5.5	4	22	2.5	6	27	40	232	32

Note: Individually packed complete with 2 screws

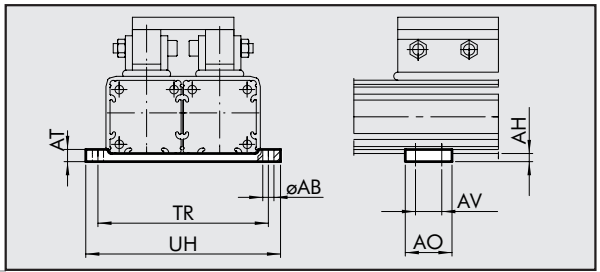
VERTICAL FOOT Ø 32



Code	Description	Weight [g]
W0950328035	VERTICAL FOOT Ø 32	92

Note: Individually packed complete with 2 screws

DOUBLE INTERMEDIATE SUPPORT Ø 16÷32

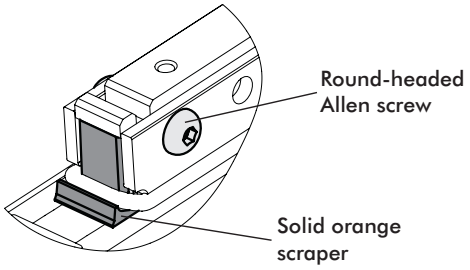


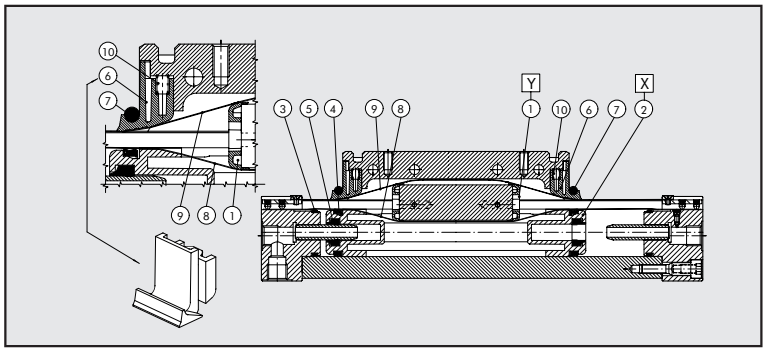
Code	Ø	ØAB	AH	AO	AT	AV	TR	UH	Weight [g]
W0950168037	2x16	3.5	3	12	6	6	60.5	64	16
W0950258037	2x25	5.5	4	20	6	10.5	84.5	96	34
W0950328037	2x32	6.5	5	55	8	40	111.5	123	96

Note: Supplied complete with 8 screws, 8 fixing plates (plates for Ø 32 only)

SPARE PARTS

"LAST RELEASE" CYLINDER





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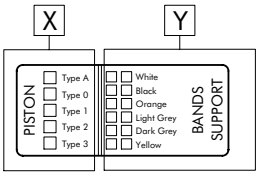
③ ④ ⑤ ⑥ ⑦ ⑩ FKM/FPM gaskets Kit
⑧ ⑨ Bands Kit (inner/outer)

Spare parts label
on one cylinder side



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63	*0090635080	*0090635081	*0090635082	*0090635083	*0090635084	*0090635085

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Therefore, two kits must be ordered for each cylinder.

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NBR GASKET KIT posn. 3,4,5,6,7,10

Ø	Code
16	0090165022
25	0090255022
32	0090325022
40	0090405022
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FKM/FPM GASKET KIT posn. 3-4-5-6-7-10

Ø	Code
16	0090165023
25	0090255023
32	0090325023
40	0090405023
63	0090635023

PISTON KIT POS 2 (X)

Ø	Code Type 0 (0 rings)	Code Type 1 (1 rings)	Code Type 2 (2 rings)	Code Type 3 (3 rings)	Code Type A (4 rings)
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25	0090255010	0090255011	0090255012	0090255013	–
32	0090325010	0090325011	0090325012	0090325013	0090325014
40	0090405010	0090405011	0090405012	0090405013	–
63	0090635010	0090635011	0090635012	0090635013	–

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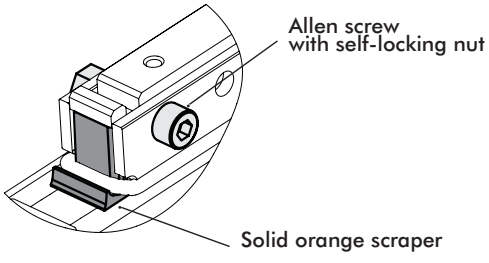

"OLD RELEASE"