

These guided compact cylinders, characterised by reduced overall dimensions, can be used for the compression, conveyance and manipulation of objects in many industrial sectors; similarly they can also be used in pushing, lifting and stopping applications.

These cylinders are available in sizes 32mm to 63 mm diameter, and comprise a single compact cylinder with integral guide rods, making it a true guide cylinder designed with installation flexibility and space saving in mind.

The rod guide is available in two styles:

Self-lubricating bronze bushes - useful for absorbing lateral loads and forces, especially as a stopper.

Bearing bushes - guaranteeing high precision and uniform movement with low friction characteristics, useful with mis-aligned loads.

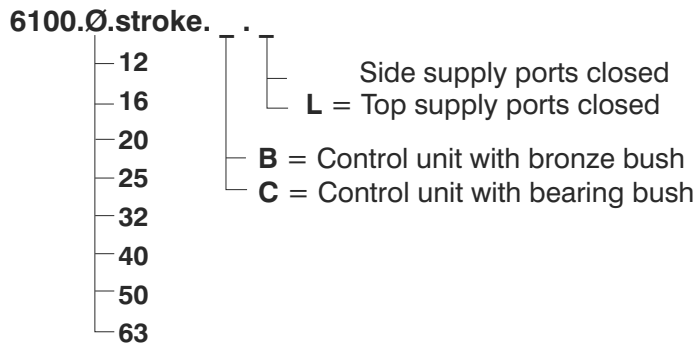
Guided compact cylinders are ideal for use in applications requiring a combination of reduced dimensions and anti-rotation features. Mounting can be achieved on three sides through holes or "T" slots.

Adjustable mounting holes in the front plate ensure safe and accurate assembly. Pneumatic connections can be made to either lateral or top ports (lateral ports plugged on standard units).

When sensors are required, there are special slots in the barrel extrusion where 1580 series miniaturised sensors are easily fitted.



Ordering code



Construction characteristics

Body	oxidated aluminium alloy
Guide rods	C43 chromed steel (control unit with bronze bush) tempered and chromed steel (control unit with bearing bush)
Piston	aluminium
Piston rod	stainless steel (for bores ø20, ø25) C43 chromed steel (for bores ø32, ø40, ø50, ø63)
Rods bushing	bronze or bearing bushing
End plate	oxidated aluminium
Piston seal	oil resistant NBR rubber
Piston rod seal	PUR (NBR 12-16)
Wipers	PUR
Plate	nickel plated steel

Technical characteristics

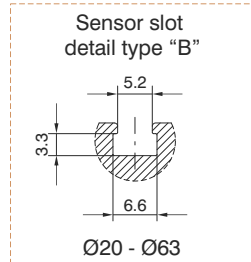
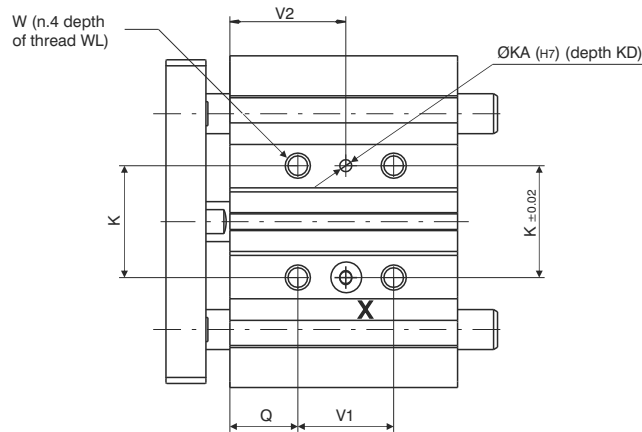
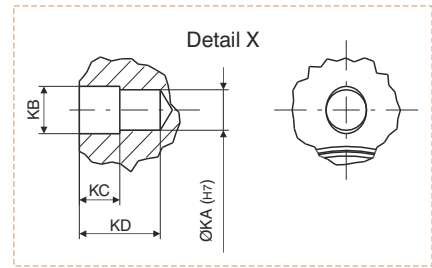
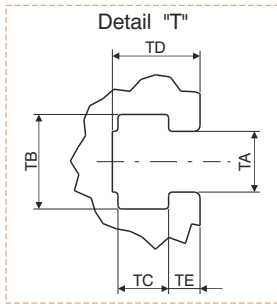
Function	double acting
Fluid	filtered and non lubricated air
Working pressure	max. 10 bar
Working temperature	-5°C - +70°C
Cushioning	elastic bumper on both ends

Standard strokes

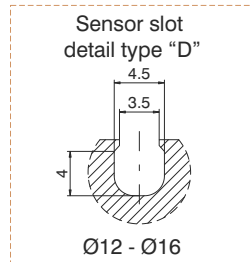
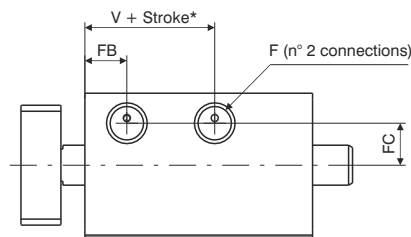
Bore	Strokes											
	10	20	25	30	40	50	75	100	125	150	175	200
Ø12	●	●		●	●	●	●	●				
Ø16	●	●		●	●	●	●	●				
Ø20		●		●	●	●	●	●	●	●	●	●
Ø25		●		●	●	●	●	●	●	●	●	●
Ø32			●			●	●	●	●	●	●	●
Ø40			●			●	●	●	●	●	●	●
Ø50			●			●	●	●	●	●	●	●
Ø63			●			●	●	●	●	●	●	●

Intermediate strokes can be obtained using spacers with defined length (5, 10, 15, 20 mm).

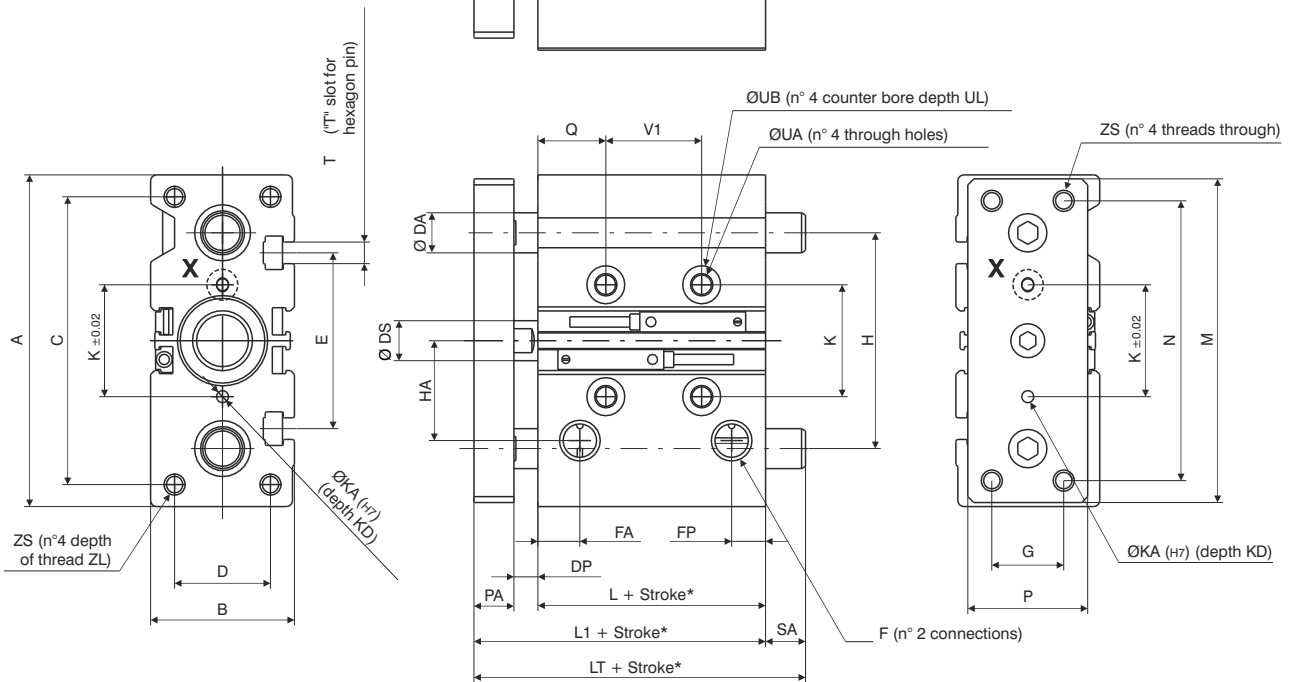
Example: It is possible to obtain a 6100.32.55B cylinder from a 6100.32.50B cylinder by inserting a spacer with length of 5 mm. The intermediate strokes manufactured without the use of spacers are considered special executions.



Ø20 - Ø63



Ø12 - Ø16



*Dimensions only refer to the "standard stroke"



Control unit with bronze bushes
Control unit with bearing bushes

Control unit with bronze bushes		stroke	≤50
	50<	stroke	≤200
Control unit with bearing bushes		stroke	≤30
	30<	stroke	≤100
	100<	stroke	≤200
		stroke	<50
	50≤	stroke	≤100
	100<	stroke	≤200

Control unit with bronze bushes		stroke	≤50
	50<	stroke	≤200
Control unit with bearing bushes		stroke	≤30
	30<	stroke	≤100
	100<	stroke	≤200
		stroke	<50
	50≤	stroke	≤100
	100<	stroke	≤200

	stroke	≤30
30<	stroke	≤100
100<	stroke	≤200
	stroke	≤25
25<	stroke	≤100
100<	stroke	≤200
	stroke	≤30
30<	stroke	≤100
100<	stroke	≤200
	stroke	≤25
25<	stroke	≤100
100<	stroke	≤200

Bore	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63					
Table of dimensions													
A	58	64	83	93	112	120	148	162					
B	26	30	36	42	48	54	64	78					
C	40	42	72	82	98	106	130	142					
D	18	22	24	30	34	40	46	58					
DA	8	10	12	16	20	20	25	25					
	6	8	10	14	16	16	20	20					
DP	2	2	5.5	5.5	9.5	10	13	13					
DS	6	8	10	12	16	16	20	20					
E	/	/	44	50	63	72	92	110					
F	M5	M5	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4					
FA	11	11	11	12	13	13	13	14					
FB	11	11	11	12	13	13	13	14					
FC	8.5	10	10.5	13.5	15	18	21.5	28					
FP	15	17	9	10.5	9.5	11	11	12.5					
G	14	16	18	26	30	30	40	50					
H	41.5	46	54	64	78	86	110	124					
HA	19.5	23	25	28.5	34	38	47	55					
K	23	24	28	34	42	50	66	80					
KA	/	/	3	4	4	4	5	5					
KB	/	/	3.5	4.5	4.5	4.5	6	6					
KC	/	/	3	3	3	3	4	4					
KD	/	/	6	6	6	6	8	8					
L	29	31	38	38.5	38.5	44	44	49					
L1	39	43	53.5	54	60	66	72	77					
Control unit with bronze bushes		stroke	≤50	LT	39	43	53.5	54	97	97	106.5	106.5	
	50<	stroke	≤200		57	64	84.5	85	102	102	118	118	
		stroke	≤30		39	43	47	49					
	30<	stroke	≤100		53	64	72	77					
	100<	stroke	≤200		/	/	102	102					
		stroke	<50						57	62			
	50≤	stroke	≤100					87	92				
	100<	stroke	≤200					117	127				
M	56	62	81	91	110	118	146	158					
N	48	52	70	78	96	104	130	130					
PA	8	10	10	10	12	12	15	15					
P	22	25	30	38	44	44	60	70					
Q	5	5	17.5	17.5	21.5	22	24	24					
Control unit with bronze bushes		stroke	≤50	SA	/	/	/	/	37	31	34.5	29.5	
	50<	stroke	≤200		18	21	31	31	42	36	46	41	
		stroke	≤30		/	/	/	/					
	30<	stroke	≤100		14	21	18.5	23					
	100<	stroke	≤200		/	/	49	48					
		stroke	<50						/	/	/	/	
	50≤	stroke	≤100					27	21	20	15		
	100<	stroke	≤200					57	51	55	50		
T	/	/	M5	M5	M6	M6	M8	M10					
TA	/	/	5.4	5.4	6.5	6.5	8.5	11					
TB	/	/	8.4	8.4	10.5	10.5	13.5	17.8					
TC	/	/	4.5	4.5	5.5	5.5	7.5	10					
TD	/	/	7.8	8.2	9.5	11	13.5	18.5					
TE	/	/	2.8	3	3.5	4	4.5	7					
UA	4.3	4.3	5.6	5.6	6.6	6.6	8.6	8.6					
UB	8	8	9.5	9.5	11	11	14	14					
UL	4.5	4.5	5.5	5.5	7.5	7.5	9	9					
V	14	14	13	13	7.5	13	9	14					
Control unit with bronze bushes		stroke	≤30	V1	4+stroke	24	24						
	30<	stroke	≤100			44	44						
	100<	stroke	≤200			120	120						
		stroke	≤25			/	/	24	24	24	28		
	25<	stroke	≤100			/	/	48	48	48	52		
	100<	stroke	≤200			/	/	124	124	124	128		
Control unit with bearing bushes		stroke	≤30	V2	/	/	29.5	29.5					
	30<	stroke	≤100		/	/	39.5	39.5					
	100<	stroke	≤200		/	/	77.5	77.5					
		stroke	≤25						33.5	34	36	38	
	25<	stroke	≤100						45.5	46	48	50	
	100<	stroke	≤200						83.5	84	86	88	
W	M5	M5	M6x1	M6x1	M8x1.25	M8x1.25	M10x1.5	M10x1.5					
WL	10	10	12	12	16	16	20	20					
Z	M4	M5	M5x0.8	M6x1	M8x1.25	M8x1.25	M10x1.5	M10x1.5					
ZL	9	11	13	15	20	20	22	22					
ZS	M4	M5	M5x0.8	M6x1	M8x1.25	M8x1.25	M10x1.5	M10x1.5					

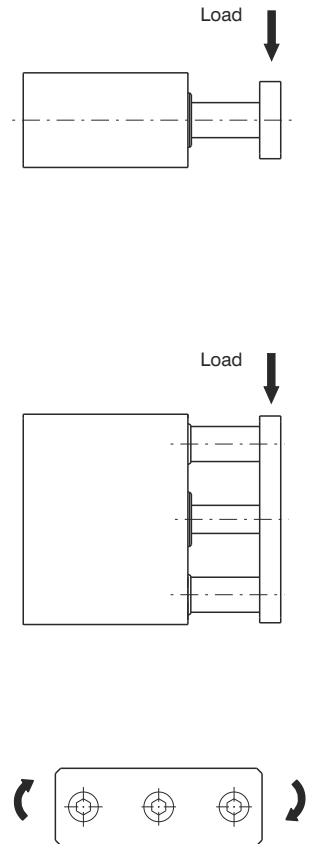


	Stroke															
	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63								
Stroke	Control unit with bronze bushes								Weight (gr)							
10	240	330														
20	280	380	670	950												
25					1690	1950	3360	4180								
30	310	430	750	1050												
40	350	480	830	1160												
50	390	530	910	1270	2070	2370	4000	4940								
75	500	680	1170	1650	2470	2830	4730	5780								
100	590	800	1370	1920	2850	3250	5370	6540								
125			1570	2190	3240	3680	6010	7290								
150			1760	2470	3620	4100	6650	8050								
175			1960	2740	4000	4530	7290	8800								
200			2160	3010	4380	4950	7930	9560								
Stroke	Moving parts															
10	100	155														
20	108	170	330	520												
25					1070	1140	2150	2500								
30	116	185	350	560												
40	124	200	380	600												
50	132	215	400	640	1230	1300	2400	2750								
75	152	250	520	840	1420	1490	2750	3090								
100	172	285	580	950	1580	1650	3000	3350								
125			640	1050	1740	1810	3260	3600								
150			700	1150	1910	1980	3510	3860								
175			760	1250	2070	2140	3760	4110								
200			820	1350	2230	2300	4020	4360								
Stroke	Control unit with bearing bushes															
10	240	340														
20	270	390	700	980												
25					1540	1790	3110	3930								
30	300	430	770	1070												
40	350	510	890	1250												
50	390	560	970	1340	1850	2150	3660	4590								
75	470	670	1140	1570	2300	2640	4410	5460								
100	560	790	1310	1810	2620	3000	4960	6120								
125			1520	2080	2990	3420	5600	6880								
150			1690	2310	3310	3780	6150	7540								
175			1870	2540	3620	4140	6700	8210								
200			2040	2770	3940	4500	7250	8870								
Stroke	Moving parts															
10	95	145														
20	100	153	310	490												
25					820	890	1770	2110								
30	105	161	330	520												
40	110	169	370	580												
50	120	177	390	610	940	1010	1950	2300								
75	145	197	440	690	1110	1180	2240	2590								
100	170	217	480	760	1230	1300	2430	2770								
125			560	880	1410	1480	2710	3050								
150			600	950	1530	1600	2890	3240								
175			650	1020	1650	1720	3080	3420								
200			700	1100	1770	1830	3270	3610								
Working pressure	Cylinder theoretic force (N)															
2 bar	23	17	40	30	63	47	98	76	161	121	251	211	393	330	623	561
3 bar	34	26	60	45	94	71	147	113	241	181	377	317	589	495	935	841
4 bar	45	34	80	60	126	94	196	151	322	241	503	422	785	660	1247	1121
5 bar	57	43	101	76	157	118	246	189	402	302	629	528	982	825	1559	1402
6 bar	68	51	121	91	188	142	295	227	482	362	754	634	1178	989	1870	1682
7 bar	79	60	141	106	220	165	344	265	563	422	880	739	1374	1154	2182	1962
8 bar	90	68	161	121	251	189	393	302	643	482	1006	845	1570	1319	2494	2242
9 bar	102	77	181	136	283	212	442	340	724	543	1131	950	1767	1484	2805	2523
10 bar	113	85	201	151	314	236	491	378	804	603	1257	1056	1963	1649	3117	2803
Piston area (mm ²)	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in
	113	85	201	151	314	236	491	378	804	603	1257	1056	1963	1649	3117	2803
	Maximum permissible Momentum															
J	0.08		0.09		0.11		0.18		0.29		0.52		0.91		1.54	
How to calculate the Momentum: $E_c = \frac{1}{2} m V$ (J)																
m = Total moving mass: weight of driven object added to weight of cylinder moving parts (kg)																
V = max. speed: equal to average speed + 40% (m/sec)																

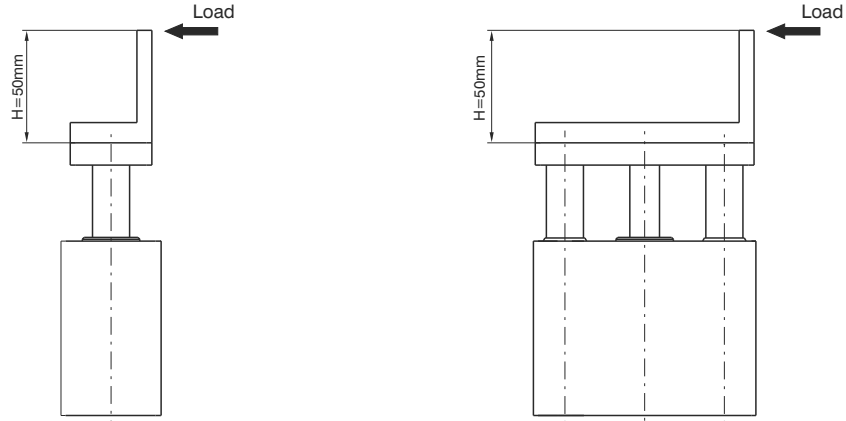
Permissible lateral load (applied on overall plate)

Version	Stroke	Bore							
		Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
Permissible lateral load (N)*									
Control unit with bronze bushes	10	30	48						
	20	23	37	49	69				
	25					203	203	296	296
	30	19	30	43	60				
	40	16	25	38	54				
	50	14	20	35	49	164	164	245	245
	75	12	18	87	116	182	182	273	273
	100	10	15	75	100	159	159	241	241
	125			66	88	142	142	216	216
	150			59	79	127	127	195	195
	175			54	71	116	116	179	179
200			49	65	106	106	164	164	
Control unit with bearing bushes	10	20	35			191	190	208	206
	20	15	28	58	69				
	25					191	190	208	206
	30	13	22	48	68				
	40	11	18	101	132				
	50	10	16	90	118	157	157	173	171
	75	8	14	70	93	164	163	223	221
	100	6	11	58	77	144	144	199	196
	125			62	80	203	203	264	262
	150			54	70	186	185	242	240
	175			48	62	171	171	224	221
200			43	55	158	158	207	205	
Recommended torque moments (Nm)									
Control unit with bronze bushes	10	0.40	0.70						
	20	0.35	0.65	1.1	1.8				
	25					6.4	7.0	13.0	14.7
	30	0.28	0.48	0.9	1.6				
	40	0.25	0.45	0.8	1.4				
	50	0.21	0.39	0.8	1.3	5.1	5.7	10.8	12.1
	75	0.42	0.68	1.9	3.0	5.7	6.3	12.0	13.5
	100	0.40	0.60	1.6	2.6	5.0	5.5	10.6	11.9
	125			1.4	2.3	4.4	4.9	9.5	10.7
	150			1.3	2.0	4.0	4.4	8.6	9.7
	175			1.2	1.8	3.6	4.0	7.9	8.9
200			1.1	1.7	3.3	3.7	7.2	8.2	
Control unit with bearing bushes	10	0.62	0.70						
	20	0.41	0.65	1.3	2.1				
	25					6.0	6.6	9.2	10.2
	30	0.33	0.48	1.0	1.8				
	40	0.30	0.45	2.2	3.4				
	50	0.48	0.39	1.9	3.0	4.9	5.4	7.6	8.5
	75	0.38	0.68	1.5	2.4	5.1	5.6	9.8	11.0
	100	0.32	0.60	1.3	2.0	4.5	5.0	8.7	9.7
	125			1.3	2.1	6.3	7.0	11.6	13.0
	150			1.2	1.8	5.8	6.4	10.7	11.9
	175			1.0	1.6	5.3	5.9	9.8	11.0
200			0.9	1.4	4.9	5.4	9.1	10.2	

*(Applied on overall plate)

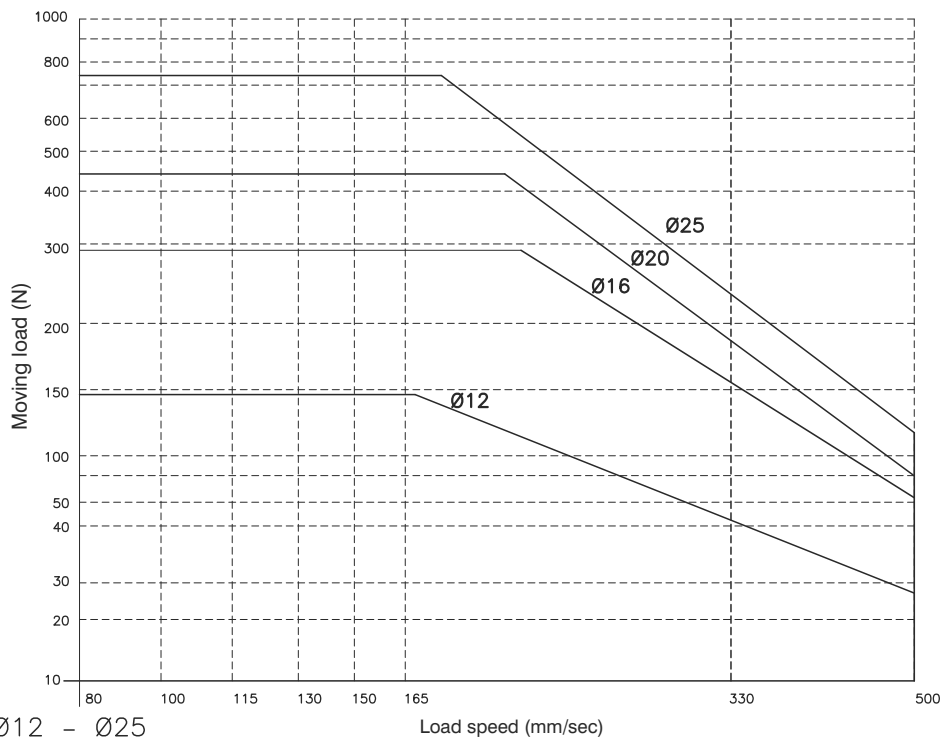


Stopper device applications

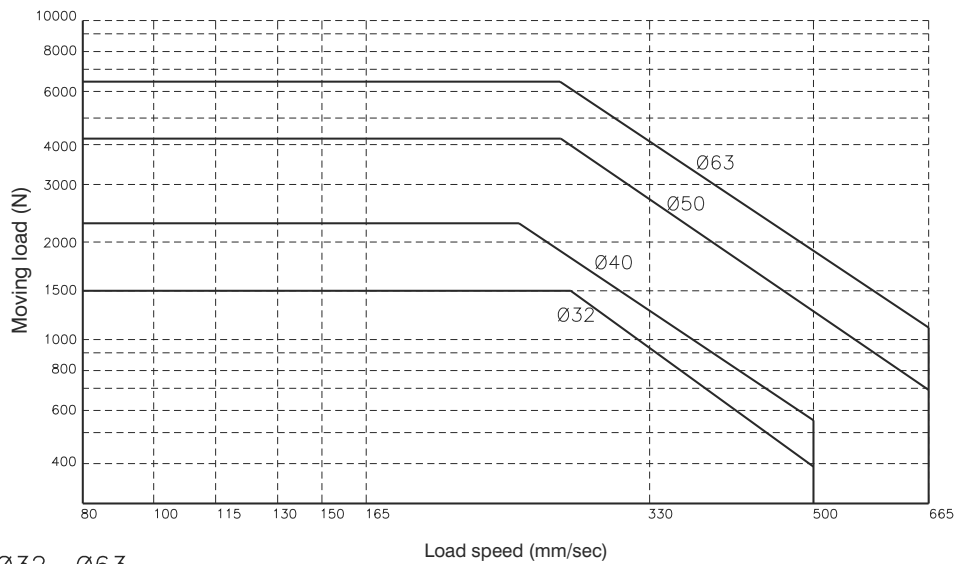


ATTENTION: if $H > 50$ mm use larger bore

Control unit with
bronze bushes

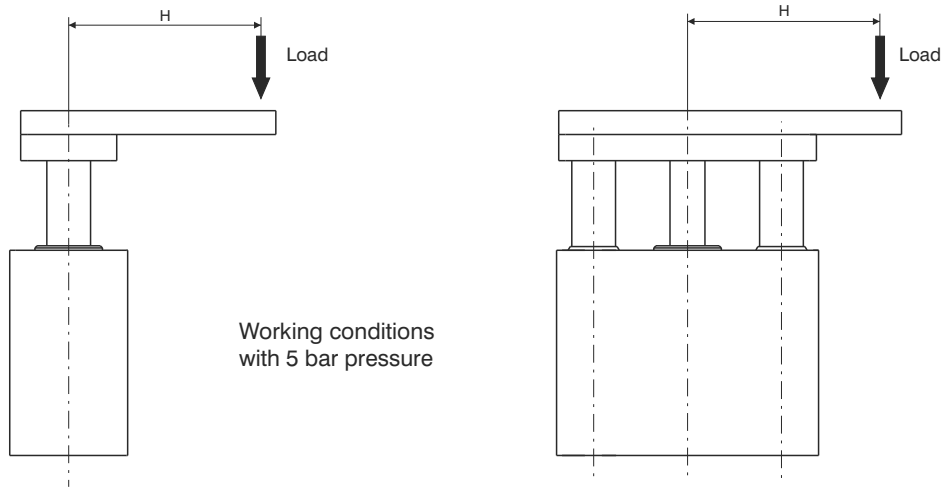


Ø12 - Ø25
ATTENTION: use with stroke ≤ 30 mm

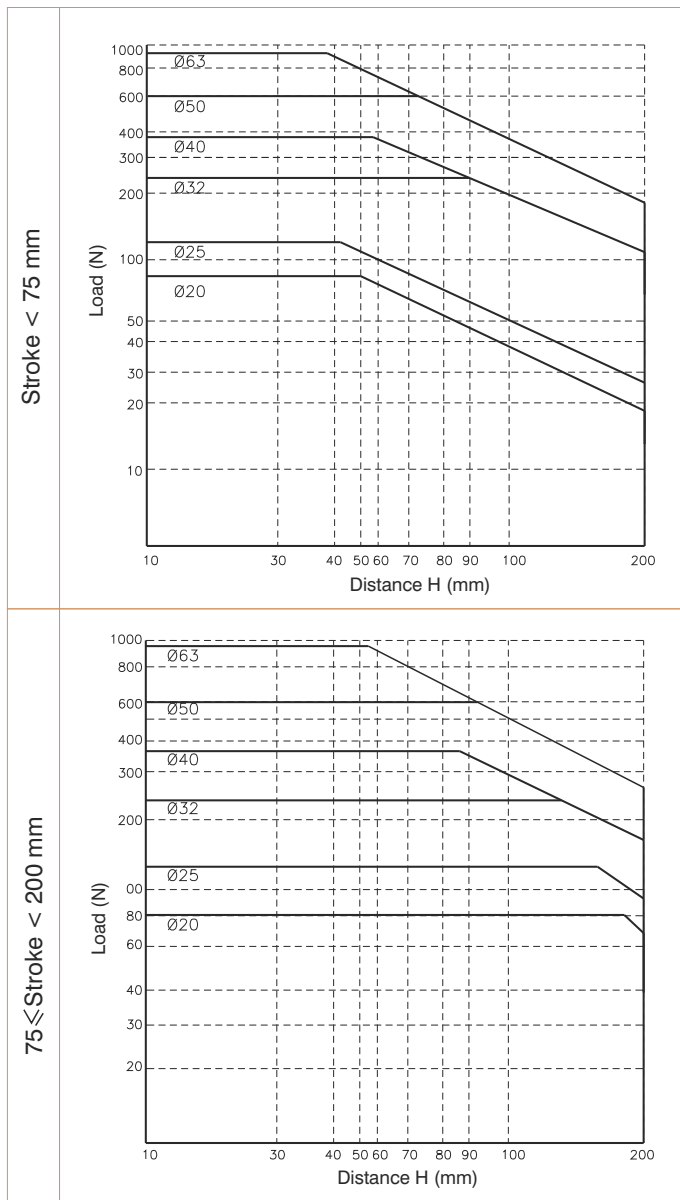


Ø32 - Ø63
ATTENTION: use with stroke ≤ 50 mm

Handling applications



Control unit with bronze bushes

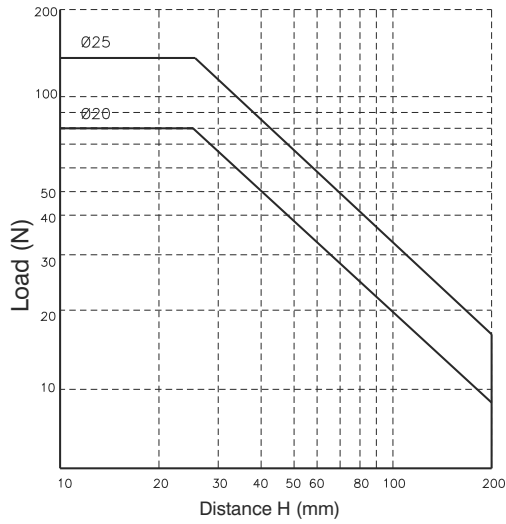


Handling applications

Control unit with bearing bushes

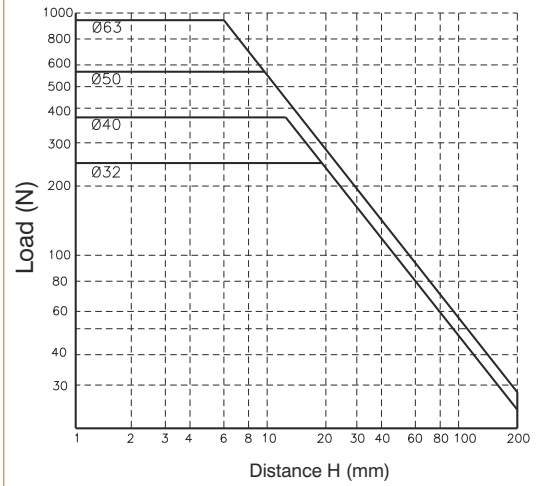
Ø20 - Ø25

Stroke < 40 mm

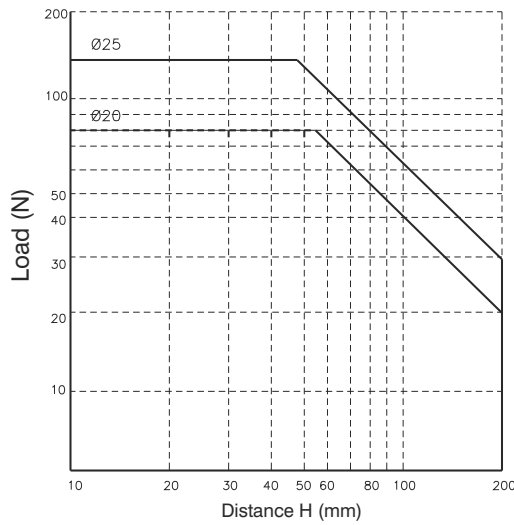


Ø32 - Ø63

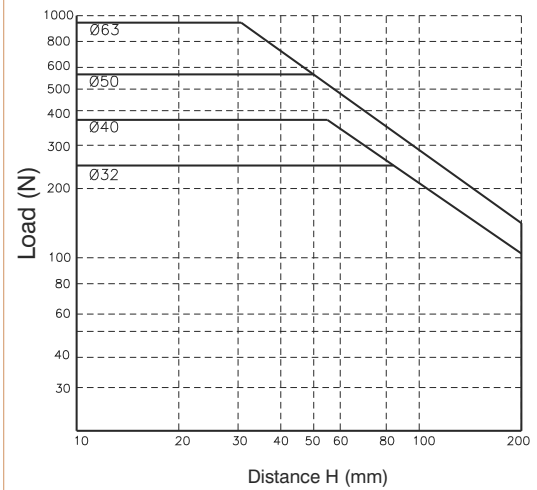
Stroke < 75 mm



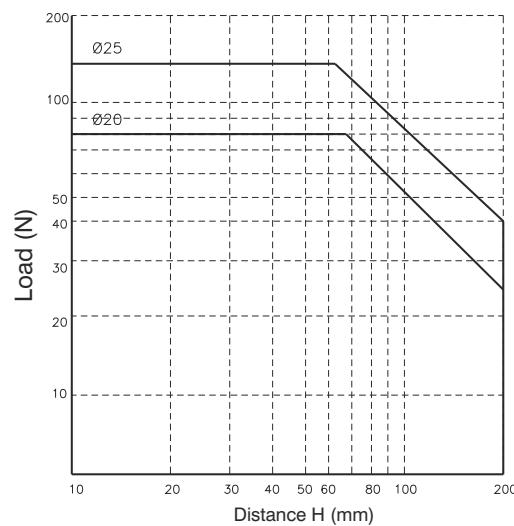
40 < Stroke < 125 mm



75 < Stroke < 125 mm



125 ≤ Stroke < 200 mm



125 ≤ Stroke < 200 mm

