

Series 54 rodless cylinders



Double-acting, magnetic, cushioned
 Ø 16, 25, 32, 40, 50, 63 mm

- » Two versions, Basic and Slide bearing
- » Possibility of feeding both chambers from one side only



Series 54 rodless cylinders are available in 5 diameters (16, 25, 32, 40, 50 and 63 mm) and comes in three main versions: Basic (M), with Slide bearing (G) and with Roller bearings (R). Furthermore these two main versions are each available with either standard- or short carriage to cover a wider range of applications.

A permanent magnet is assembled on the piston allowing the position to be detected by means of proximity switches positioned in grooves located on 3 sides on the cylinder profile. The cylinder is equipped with an end stroke cushioning which can be regulated by means of a screw located on each end cover of the cylinder. These cylinders are also available in versions with air supply from one side (end cover) only if needed.

GENERAL DATA

Models	Standard, with slide bearings, air supply from one or both sides (only Ø 32 - Ø 63).
Materials	AL (anodized), Stainless steel, Wear-proof synthetic material, seals: NBR
Operating temperature	-10°C ÷ +80°C (version M) -10°C ÷ +55°C (version S)
Operating pressure	1 ÷ 8 bar
Speed	10 ÷ 1000 mm/sec (without load)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted. If speeds exceed 1 m/s lubricated air is recommended.
Bore size	Ø 16, Ø 25, Ø 32, Ø 40, Ø 50, Ø 63
Strokes	Ø16 - min 100mm, max 4400 mm Ø25/63 - min 100mm, max 5700 mm
Stroke tolerance	strokes ≤ 1000 mm = 0 / +0,6 mm strokes > 1000 mm = 0 / +3 mm
Effective cushioning stroke	Ø 16 - 12 mm; Ø 25 - 20 mm; Ø 32 - 23 mm; Ø 40 - 36 mm; Ø 50 - 37 mm; Ø 63 - 39 mm
Connection	M5 (Ø 16) G1/8 (Ø 25) G1/4 (Ø 32 - Ø 50) G3/8 (Ø 63)

CODING EXAMPLE

54	M	2	P	40	A	0500
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54	SERIES
M	VERSION M = standard S = with slide bearing R = with roller bearing (only Ø25 - 32 - 40)
2	OPERATION 2 = double-acting, magnetic, cushioned 8 = double-acting, magnetic, cushioned, with air supply from one side only (Ø32-63 only)
P	MATERIALS P = standard S = stainless steel screws
40	BORE 16 = 16 mm (M version only) 25 = 25 mm (M version only) 32 = 32 mm 40 = 40 mm 50 = 50 mm 63 = 63 mm
A	TYPE OF MOUNTING A = standard F = flexible load connection (only for standard version)
0500	STROKE (see table)
	VARIANTS = standard LS = low speed version
	CERTIFICATIONS = standard EX = Atex (only for standard version)

LOADS AND TORQUE FORCES

OLD ___ COMPLEX LOADS

If more than one force and torque is applied simultaneously, they have to be calculated according to the following formula: $L/L(\max) + L_s/L_s(\max) + M/M(\max) + M_s/M_s(\max) + M_v/M_v(\max) \leq 1$. For models 52M, the load and torque values refer to the center of the tube. For models 52G/52R the load and torque values refer to the center point of the external guide. It is also necessary for these models to guarantee on the fixing surface a max 0.1 flatness's value. The load and torque values refer to a velocity of: Models 52M/52G/52M/52G $\leq 0,2$ m/s, models 52R ≤ 2 m/s. Load adjustment coefficients can be found on the following page.

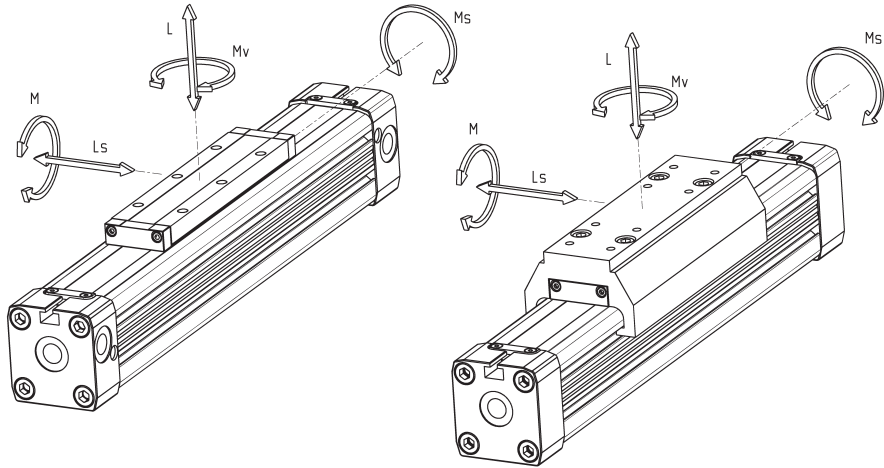


Table showing the maximum permitted loads and torque forces

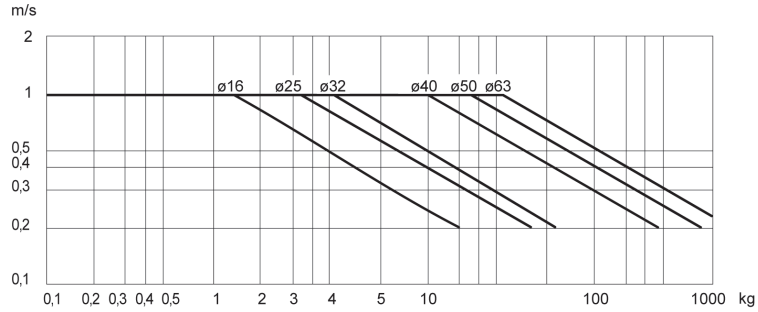
Mod.	L Max (N)	Ls Max (N)	M Max (Nm)	Ms Max (Nm)	Mv Max (Nm)
54M2P16	96	-	3.2	0.24	0.4
54M2P25	240	-	12	0.8	2.4
54M2P32	360	-	24	1.6	3.6
54S2P32	400	400	31.2	12	31.2
54M2P40	600	-	48	3.2	6.4
54S2P40	660	660	80	28	80
54M2P50	960	-	92	5.6	12
54S2P50	1060	1060	136	46.5	136
54M2P63	1320	-	160	6.4	19.2
54S2P63	1460	1460	252	84	317

Mod. 54M						
	Ø16	Ø25	Ø32	Ø40	Ø50	Ø63
Massa corsa 0 (kg)	0,23	0,71	1,15	2,7	4,0	8,7
Massa addizionale x100 mm (kg)	0,092	0,294	0,379	0,594	0,684	1,1

Mod. 54S				
	Ø32	Ø40	Ø50	Ø63
Massa corsa 0 (kg)	1,663	3,6742	5,5522	11,006
Massa addizionale x100 mm (kg)	0,379	0,594	0,684	1,1

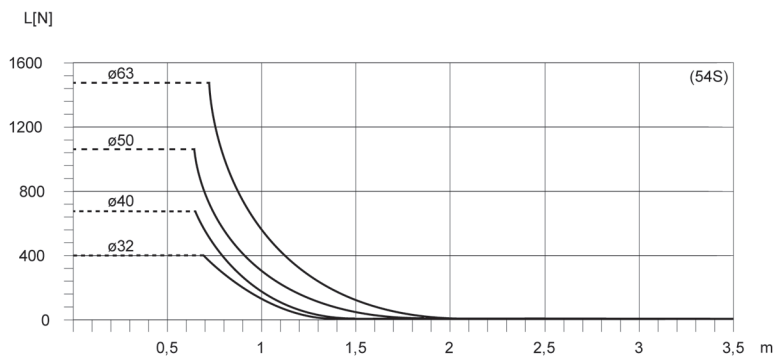
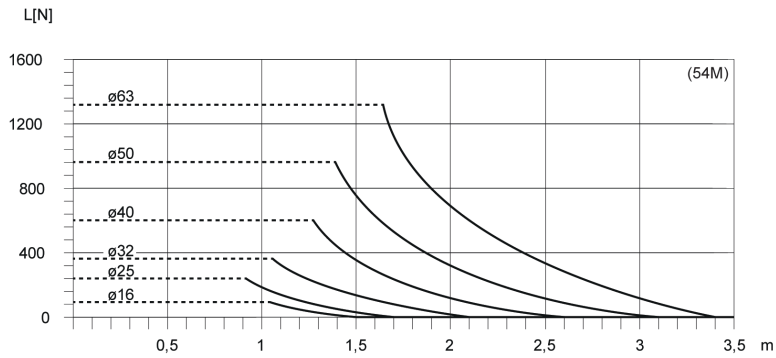
END CUSHION DIAGRAM

The end cushion regulating screw has to be regulated to obtain a smooth movement at the end of stroke. In those applications which have different values than the ones stated in the diagram, external shock-absorbers have to be used. The shock-absorber should be centrally located with respect to the center of the mass. The diagram applies for horizontal operations.



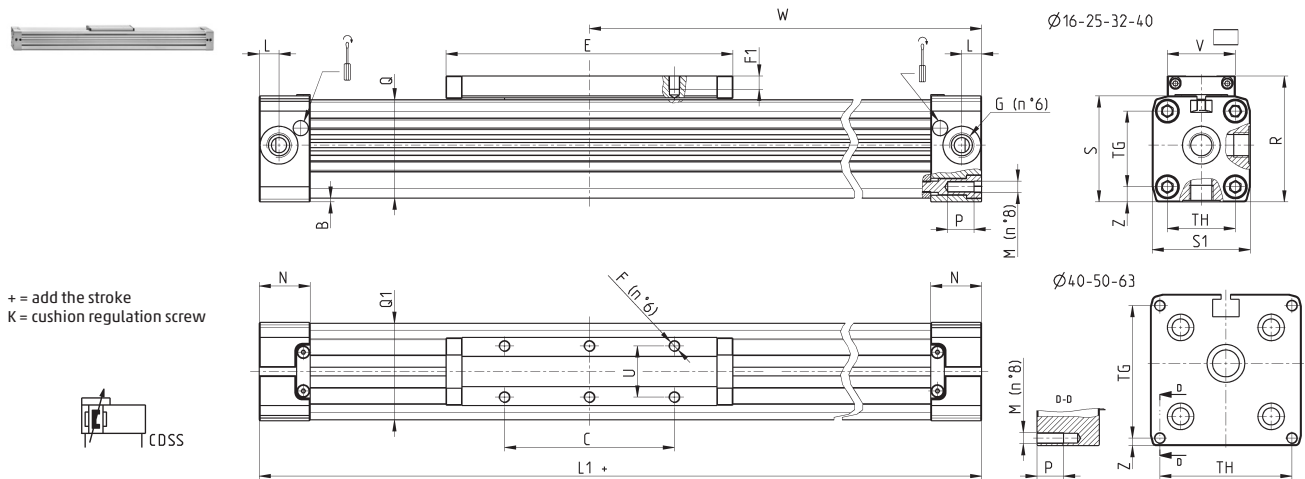
LOADS ACCORDING TO SUPPORTS DISTANCE

DEFLECTION 1 mm
The charts have been made according to a max. deflection of 1 mm and 1 mm when a load (N) is applied. The charts give the max distance between two supports in order to stay within the deflection range given.



Cylinders with standard carriage Mod. 54M2

The cylinder has two supply ports "I" for both endcovers. The operator needs to choose which one of the two ports to use on each endcover. The remaining port has to be closed with the supplied tap.

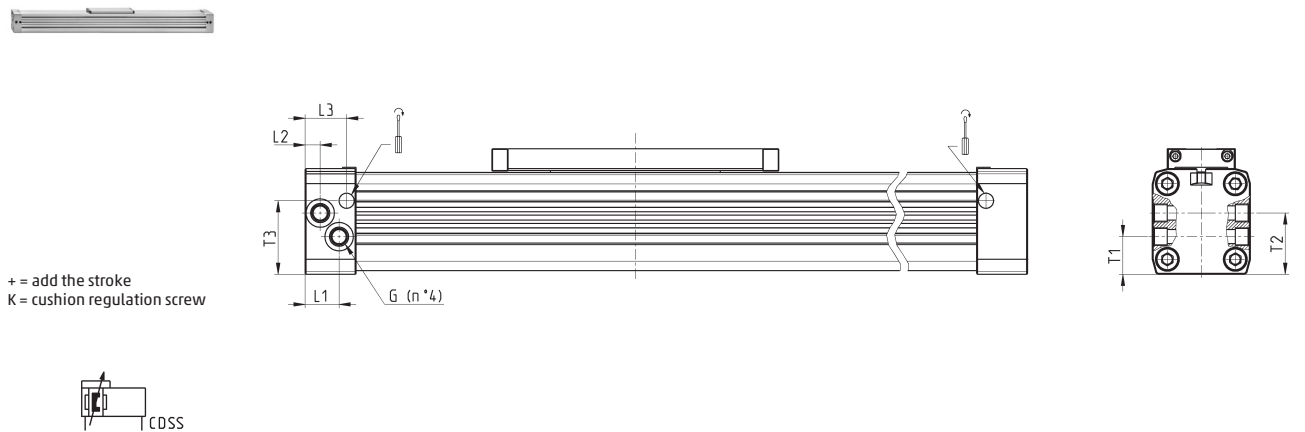


+ = add the stroke
K = cushion regulation screw

DIMENSIONS																							
Mod.	Ø	W	B	C	E	L1+	F	F1	L	G	M	N	P	Q	Q1	R	S	S1	TH	TG	U	V	Z
54M2P016A	16	65	1	36	69	130	M4	7	5.5	M5	M3	15	7	24	25	36.5	27	27	18	18	16.5	22	4.5
54M2P025A	25	100	2	65	111	200	M5	10	8.5	G1/8	M5	23	12	36	36	52.2	40	40	27	27	25	33	6.5
54M2P032A	32	125	2	90	152	250	M6	7	10.5	G1/4	M6	27	14	52	51	66.5	56	52	36	40	27	36	8
54M2P040A	40	150	6.75	90	152	300	M6	10	15	G1/4	M6	30	17	58.5	59	80	69	72	54	54	27	36.4	9
54M2P050A	50	175	0.5	110	200	350	M6	6	11.7	G1/4	M6	33	18	77	78	88	80	80	70	70	27	56	4
54M2P063A	63	215	1.5	155	235	430	M8	15	25	G3/8	M8	50	18	102	102	123	106	106	78	78	36	50	14.5

Cylinders with standard carriage and inlet from one side only Mod. 54M8

The cylinder has two supply ports "I" for both endcovers. The operator needs to choose which one of the two ports to use on each endcover. The remaining port has to be closed with the supplied tap.

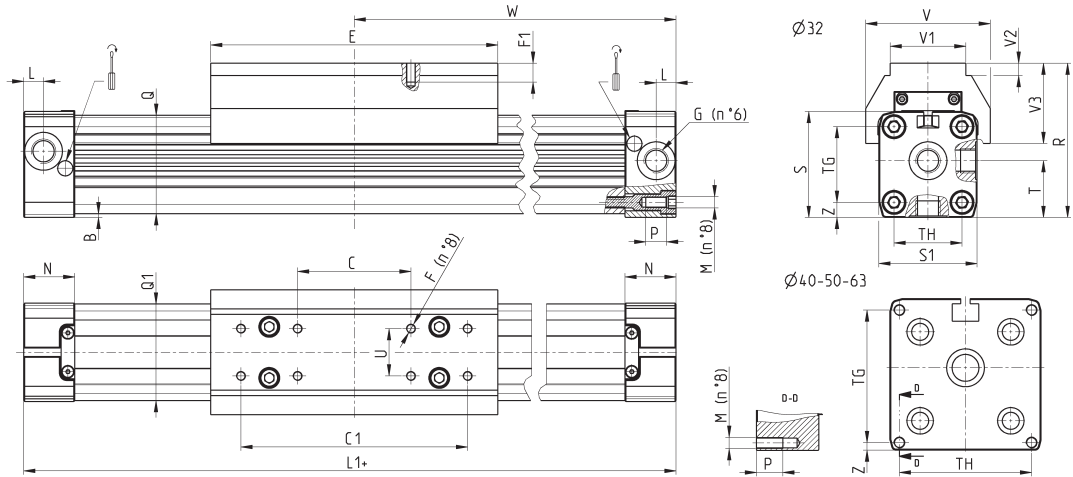


+ = add the stroke
K = cushion regulation screw

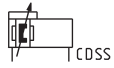
DIMENSIONS								
Mod.	Ø	G	L1	L2	L3	T1	T2	T3
54M8P32..	32	G1/8	19	8.30	22	21.2	36.4	39
54M8P40..	40	G1/4	19.7	10.20	24	25	42.5	48.8
54M8P50..	50	G1/4	21.2	11.80	27	32.3	51.3	43.5
54M8P63..	63	G3/8	13	26	42.5	39.8	67.3	67.2

Cylinders with slide bearing Mod. 54S2

The cylinder has six supply ports (l), three for one direction (x-h-w), and the other three (y-z-k) for the opposite direction. With supporting feet (Mod. B-52 / BA-52), ports "h" and "z" have to be closed.



Where no dimensions are presented, refer to dimensions of cylinder model 52M2P.

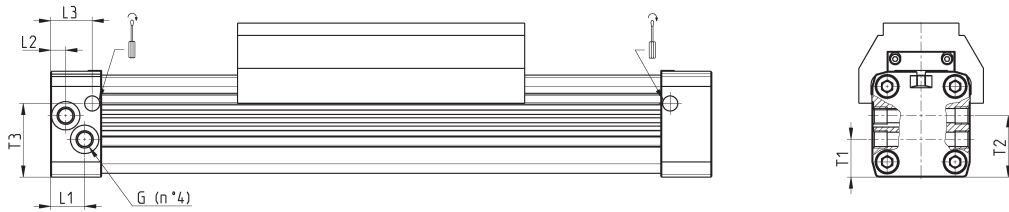


DIMENSIONS

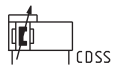
Mod.	∅	W	B	C	C1	E	L1+	F	F1	L	G	M	N	P	Q	Q1	R	S	S1	TH	TG	U	V	V1	V2	V3	Z
54S2P032A	32	125	2	60	120	152	250	M5	10	10.5	G1/4	M6	27	14	52	51	81.5	56	52	36	40	25	66	40	6.5	42.5	8
54S2P040A	40	150	7	68	160	215	300	M8	10	15	G1/4	M6	30	17	58.5	59	97.5	69	72	54	54	25	79	45	6.5	44	9
54S2P050A	50	175	0.5	84	190	250	350	M8	10	11.7	G1/4	M6	33	18	77	78	110	80	80	70	70	25	92	50	6.5	48.5	4
54S2P063A	63	215	1.5	120	240	320	430	M8	14	25	G3/8	M8	55	18	102	102	137	106	106	78	78	25	116	50	5	56	14.5

Cylinders with slide bearing and inlet from one side only Mod. 54S8

The cylinder has two supply ports "l" for both endcovers. The operator needs to choose which one of the two ports to use on each endcover. The remaining port has to be closed with the supplied tap.



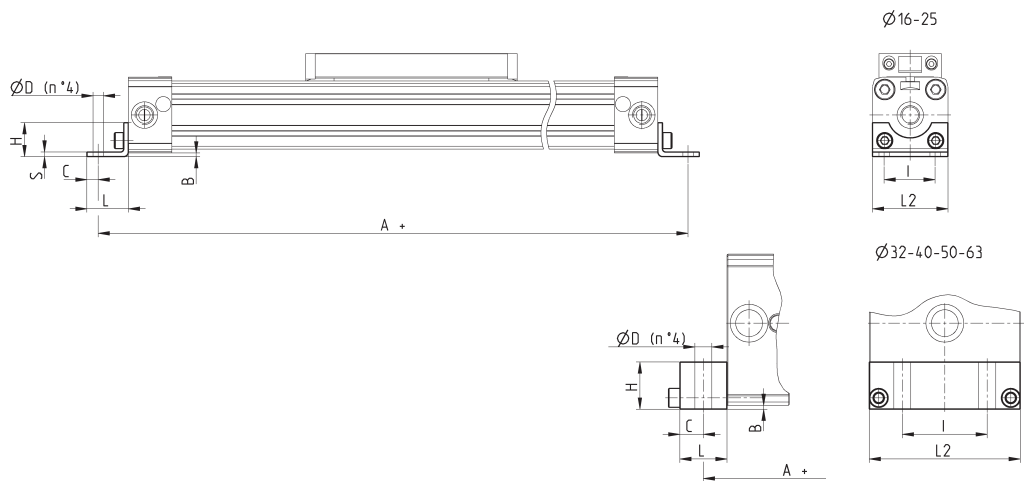
+ = add the stroke
K = cushion regulation screw



DIMENSIONS

Mod.	∅	G	L1	L2	L3	T1	T2	T3
54M8P32..	32	G1/8	19	8.30	22	21.2	36.4	39
54M8P40..	40	G1/4	19.7	10.20	24	25	42.5	48.8
54M8P50..	50	G1/4	21.2	11.80	27	32.3	51.3	43.5
54M8P63..	63	G3/8	13	26	42.5	39.8	67.3	67.2

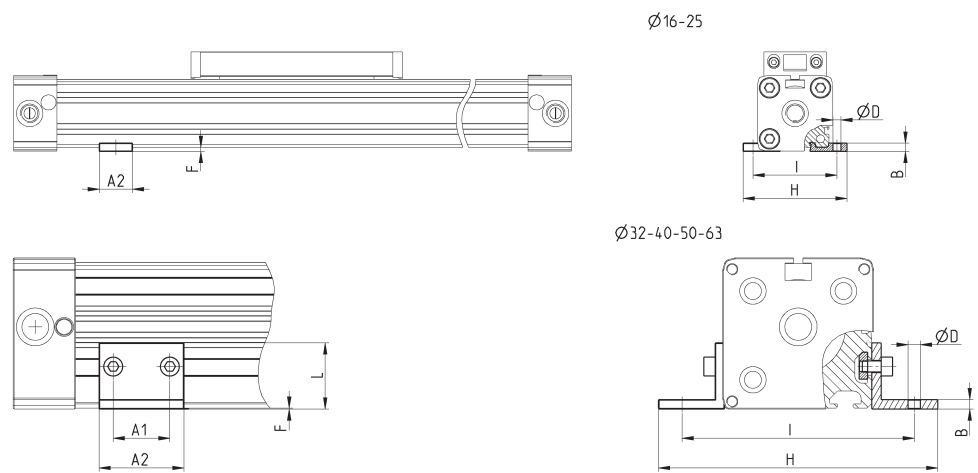
Foot mount Mod. B-54



The following is supplied:
 2x feet
 4x screws
 + = add the stroke

DIMENSIONS										
Mod.	Ø	A+	L	L2	H	I	B	C	D	S
B-54-16	16	150	14	26	12.5	18	1.5	4	3.6	1.5
B-54-25	25	232	22	40	18	27	2	6	5.5	2.5
B-54-32	32	282	24	51	20	36	4	8	6.5	--
B-54-40	40	325	24	71	20	54	2	11.5	9	-
B-54-50	50	375	25	80	25	70	1	12.5	9	-
B-54-63	63	460	30	105	40	78	2	15	11	-

Foot mount Mod. BH-54



The following is supplied:
 2x feet
 4x screws
 + = add the stroke

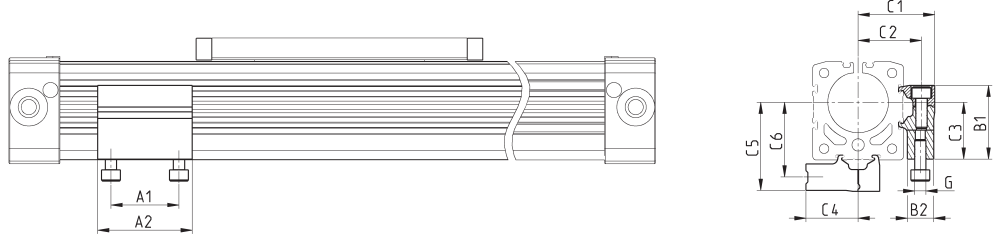
DIMENSIONS									
Mod.	Ø	A1	A2	B	D	F	H	I	L
BH-54-16	16	-	20	5	5.5	3	53.5	41.5	-
BH-54-25	25	-	20	6	5.5	4	60	48.5	-
BH-54-32	32	30	45	5	4.5	6	91	82	30
BH-54-40	40	30	45	5	4.5	8.5	99	90	25
BH-54-50	50	30	45	5	6.5	1	148	123	35
BH-54-63	63	30	45	5	6.5	3.5	172	147	35

Intermediate brackets Mod. G-54

Assembling by using two intermediate brackets without using the feet bracket.



The following is supplied:
1x intermediate bracket
4x screws



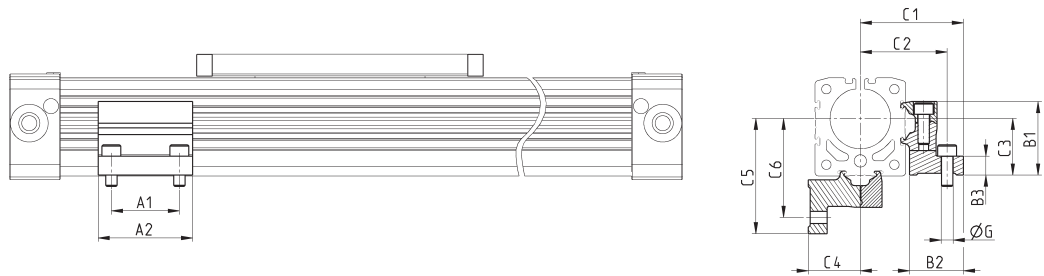
DIMENSIONS												
Mod.	∅	A1	A2	B1	B2	C1	C2	C3	C4	C5	C6	G
G-54-16	16	18	30	21	11.5	27.5	18.4	15	13.9	29	19.7	M4
G-54-25	25	36	50	31.3	14	34.5	27	22	20	36.5	29	M5
G-54-32	32	36	50	39	14	41.8	34.2	30	27.6	47	39.5	M6

Intermediate brackets Mod. W-54

Assembling by using two intermediate brackets without using the feet bracket.



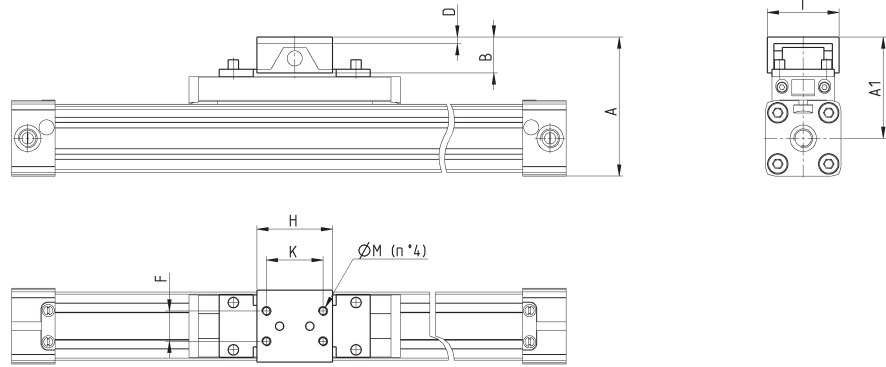
The following is supplied:
1x intermediate bracket
4x screws



DIMENSIONS													
Mod.	∅	A1	A2	B1	B2	B3	C1	C2	C3	C4	C5	C6	∅G
W-54-16	16	18	30	21	22.4	6	37	32.5	15	13.9	38	32.9	4.5
W-54-25	25	36	50	31.3	26	10	47.5	40	22	20	49.5	42	5.5
W-54-32	32	36	50	39	28.5	10	56	47.5	30	27.6	61	52.5	6.5

Self-compensating adaptor Mod. CF-54

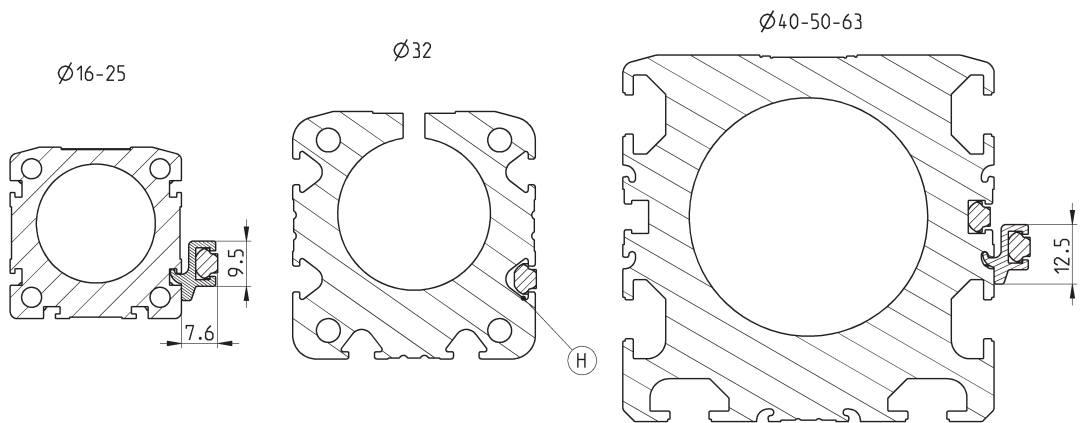
The self-compensating adaptor is used to compensate the difference between the rodless cylinder and the external guide system. Suitable for cylinders mod.



The following is supplied:
 1x adaptor
 1x pin
 2x feet
 2x seeger

DIMENSIONS										
Mod.	Ø	A	A1	H	I	B	D	K	F	M
CF-54-16	16	46.5 - 47.5	33	28	26	10	3	20	10	M4
CF-54-25	25	71.5 - 73.5	51.5	40	38	19	3.5	30	16	M5
CF-54-32	32	94.5 - 96.5	66.5	60	62	28	6	46	25	M6
CF-54-40	40	108 - 110	73.5	60	62	28	6	46	25	M6
CF-54-50	50	135 - 150	95 - 110	120	90	43.7	6.4	100	70	Ø9
CF-54-63	63	155 - 170	102 - 117	120	90	43.7	6.4	100	70	Ø9

Sensor Bracket



Mod.
S-CST-54