

PNEUMATIC LINEAR ACTUATORS

SECTION 1



Your complete source for industrial automation and electronics

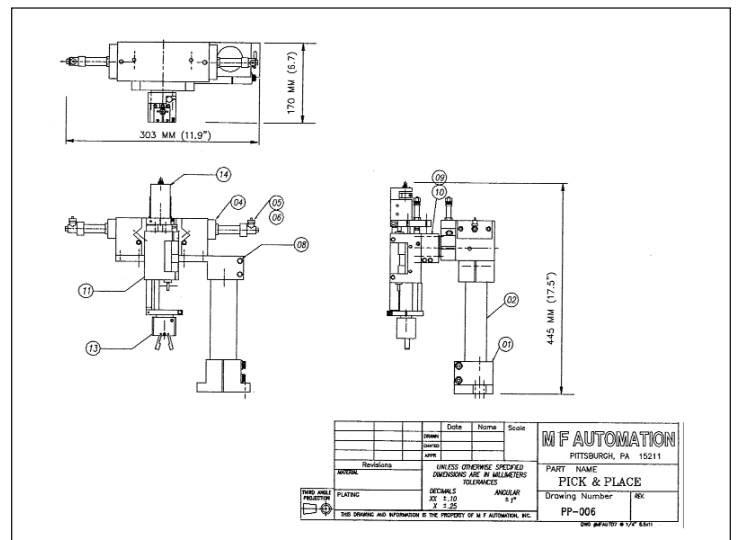
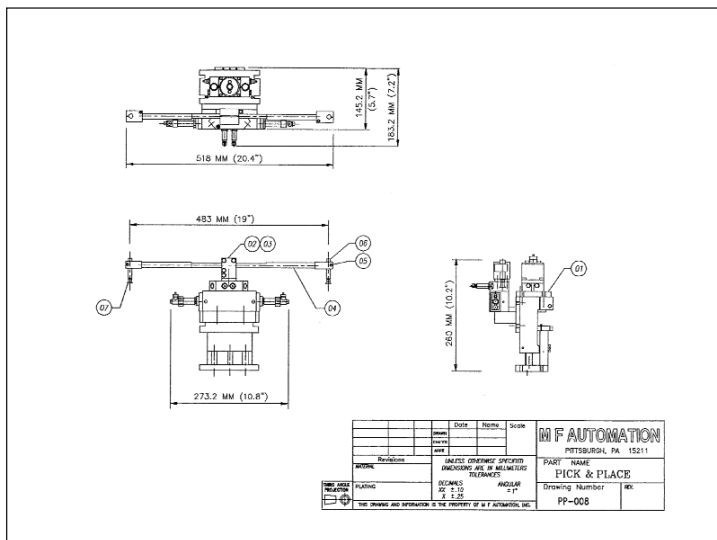
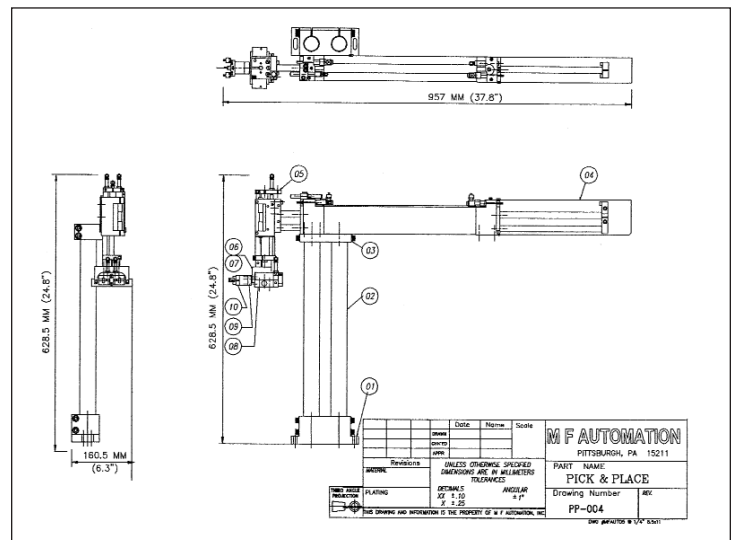
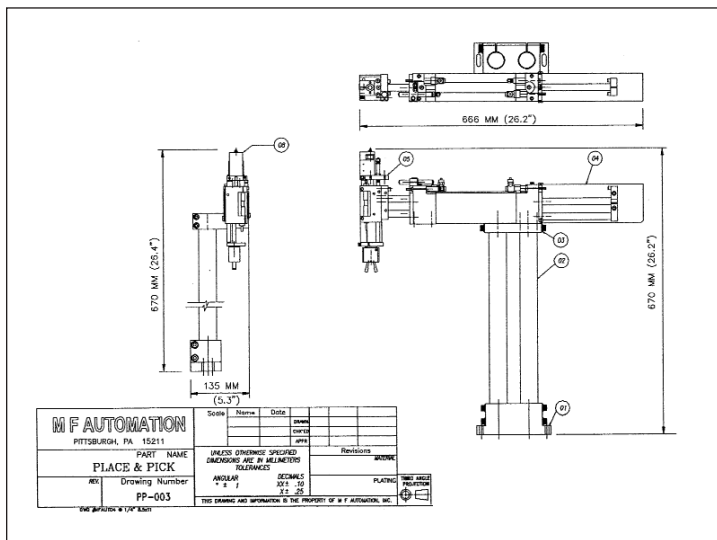
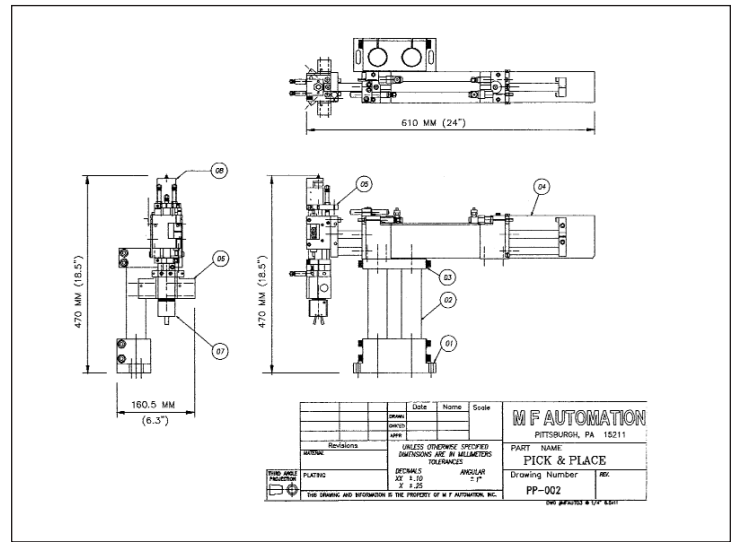
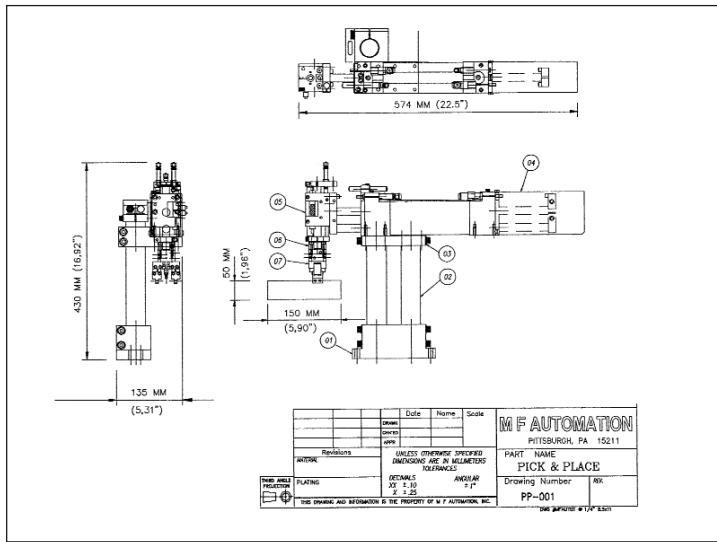
mf automation, inc.

www.meto-fer.com

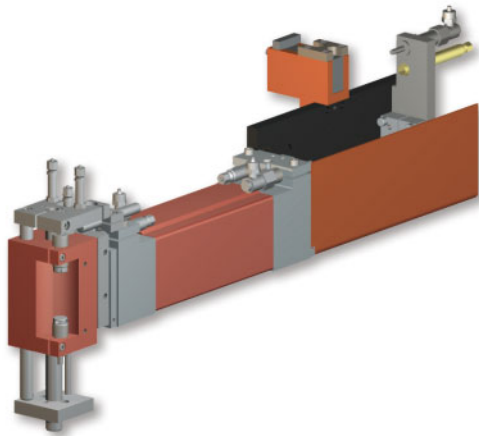
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Typical Applications:

Larger versions of these examples are available on the CD-ROM version of our catalog or on our web site: www.meto-fer.com



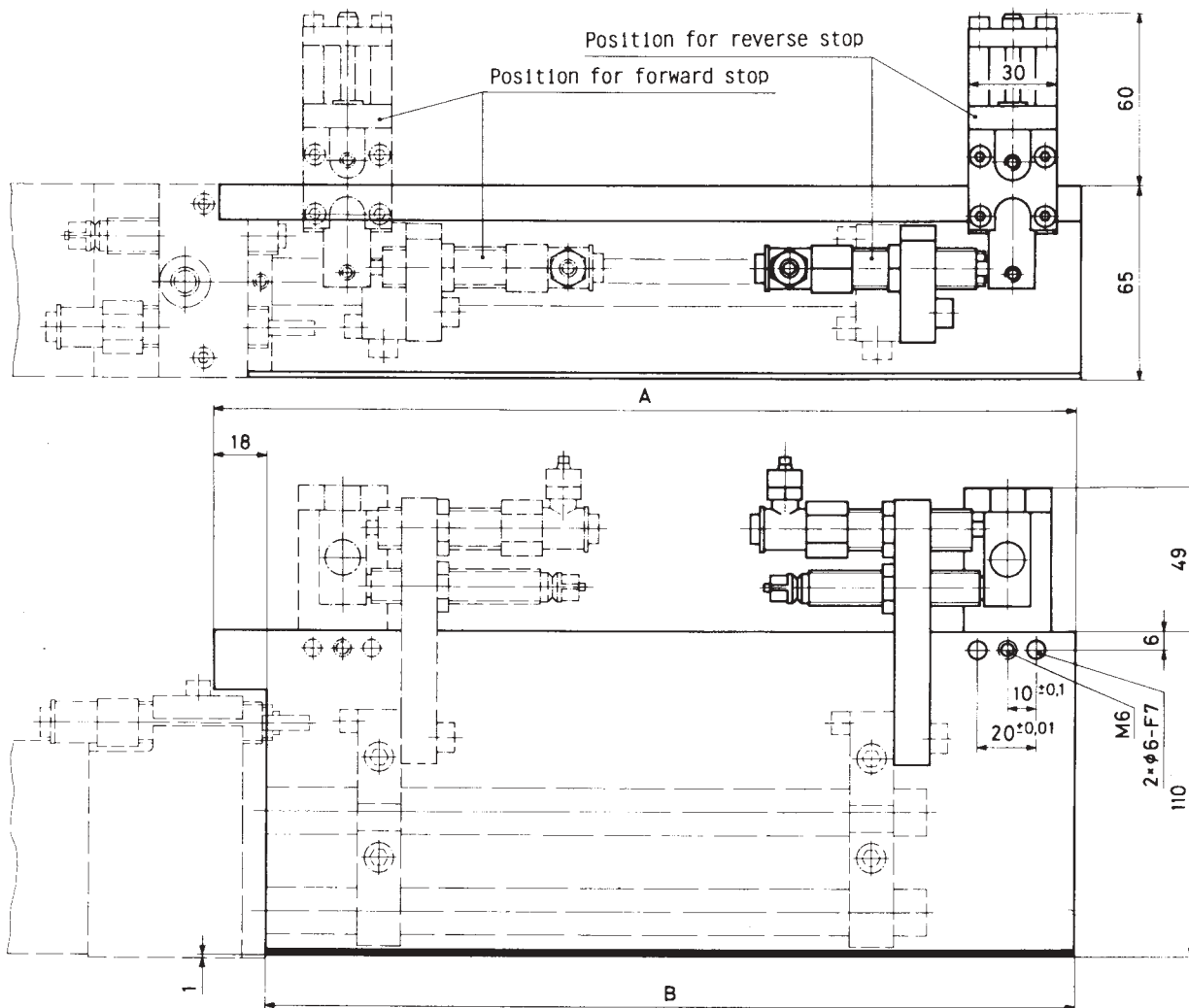
Intermediate position kit for LH



Description:

The intermediate stop operates via a cylinder introducing a robust stop slide into the path of the horizontal units rear adjustable flange bracket to that is attached the stop screw and oil cushions. This stop assembly can be reversed to operate in either the forward or reverse mode. More than one intermediate stop may be fitted, minimum distance between them 30 mm. They must all operate in the same direction.

The intermediate position can be utilized both in forward or reverse modes.

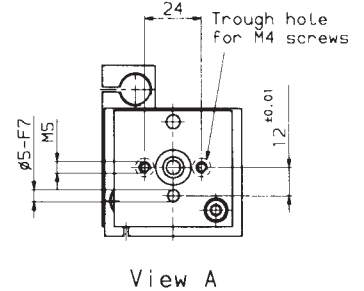
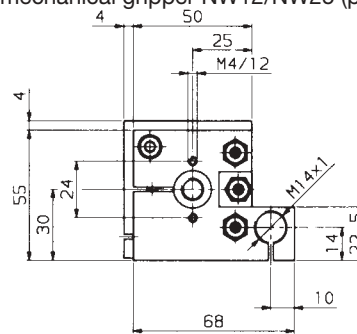
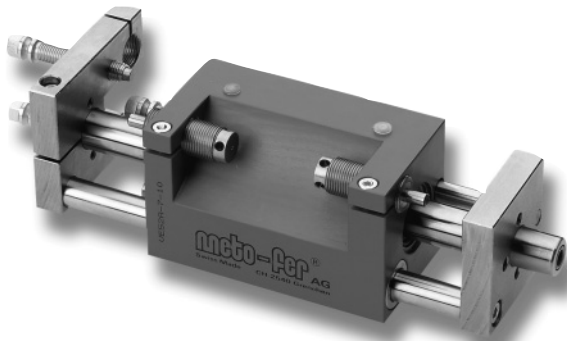


Intermediate kit complete for:	A (mm)	B (mm)	Intermediate kit with *SA 01 Order No.	Intermediate kit with *SA 01 A Order No.
LH 100	193	175	ZB 03.040	ZB 03.040 A
LH 150	243	225	ZB 03.035	ZB 03.035 A
LH 200	293	275	ZB 03.045	ZB 03.045 A
LH 300	393	375	ZB 03.050	ZB 03.050 A
LH 400	493	475	ZB 03.055	ZB 03.055 A

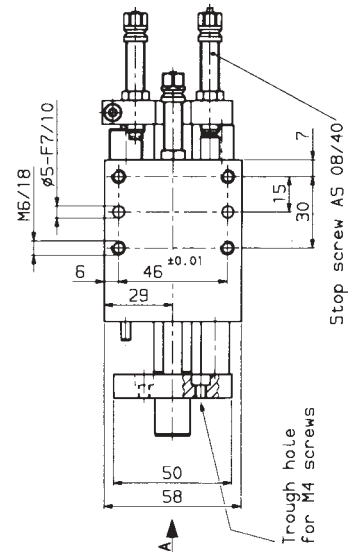
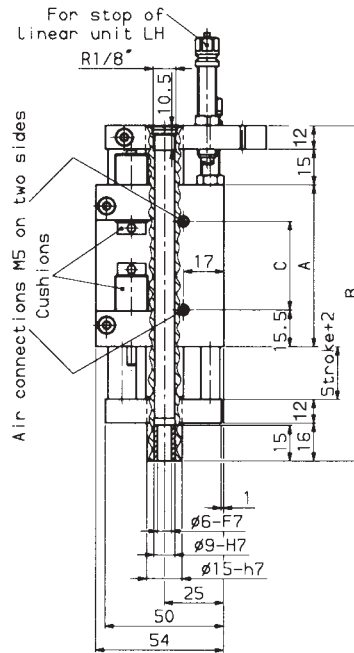
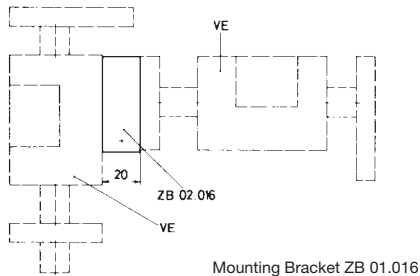
* SA... = Stop slide see page 1.071

Vertical Unit VE

Use as stand alone unit or in combination with LH units and/or mechanical gripper NW12/NW25 (pg. 4.001)



Mounting of two vertical units



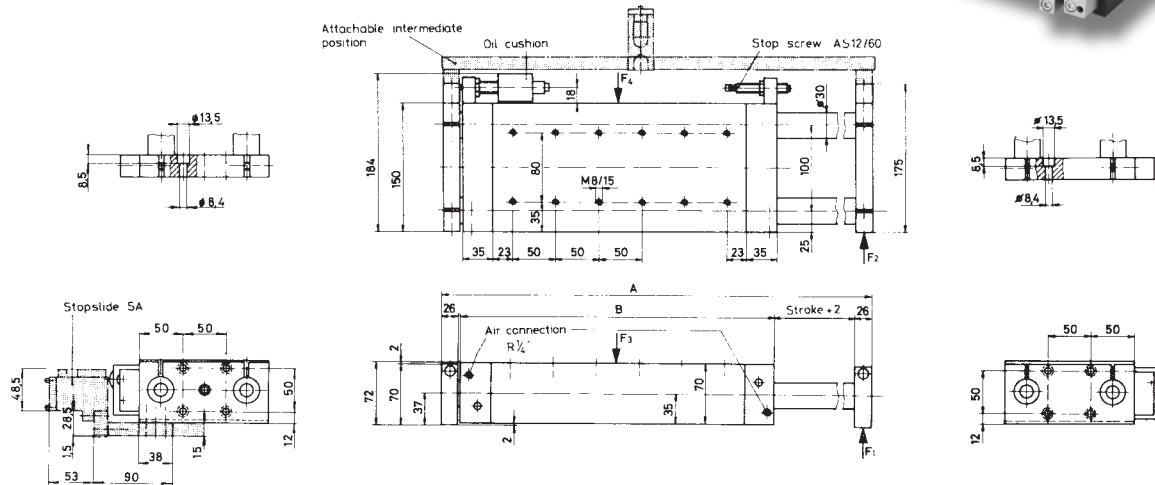
Type	Stroke (mm)	Adjusting range	A	B	C	Piston force at 72.5 psi (5 bar)	Air consumption for each double stroke at 72.5 psi (5bar)	Weight lb (kg)
VE-22	0-20	0-20	68	144	32	24lb (107N)	0.003scf (0.07NL)	2.4 (1.1)
VE-52	0-50	12-50	98	204	62	24lb (107N)	0.006scf (0.17NL)	3.1 (1.4)
VE-82	0-80	42-80	128	264	92	24lb (107N)	0.010scf (0.28NL)	3.7 (1.7)

Order No. VE-... ..
 A = Elastomer cushions (Standard type)
 O = Without cushions
 Type

Technical data:

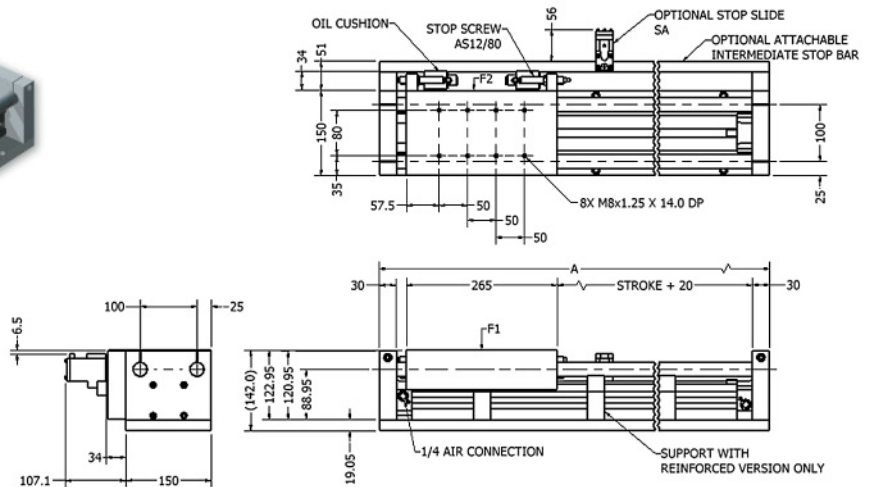
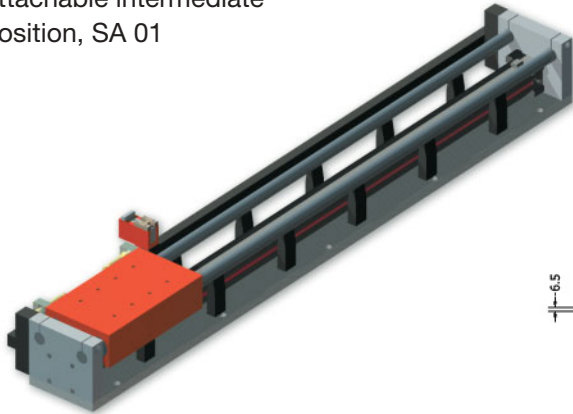
- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8. "Stop system with plug-in sensing elements").
- End position damped with elastomer or oil cushions.
- Bearing: Linear ball bearings
- Positioning holes facilitate the assembly to the linear unit.
- Provision to add
 - Mechanical gripper
 - Vacuum head

-Operating medium	Compressed air oiled/ not oiled
-Operating pressure	43.5 - 116 psi (3 - 8bar)
-Piston diameter	25mm (1")
-Repeatability	+/- 0.01mm (0.0004")
-Air connection	M5



Linear Unit LO 40 w/ Rodless Cylinder

Attachable intermediate
Position, SA 01



Type	Stroke mm	Adjusting Range mm	A	Piston force @ 72.5 psi (5 bar)	Max. load F1		Max load F2		Air Consumption each double stroke @ 72.5 psi (5 bar)	Weight
					Standard	Reinforced	Standard	Reinforced		
LO 40/04	0-400	350-400	762	106 lb (470N)	112 lb (500 N)	337 lb (1500 N)	157 lb (700 N)	337 lb (1500 N)	.213 scf (6.03 NL)	57 lb
LO 40/05	0-500	450-500	862	106 lb (470N)	94 lb (420 N)	337 lb (1500 N)	132 lb (588 N)	337 lb (1500 N)	.266 scf (7.53 NL)	61 lb
LO 40/06	0-600	550-600	962	106 lb (470N)	83 lb (370 N)	337 lb (1500 N)	116 lb (518 N)	337 lb (1500 N)	.319 scf (9.04 NL)	65 lb
LO 40/08	0-800	750-800	1162	106 lb (470N)	67 lb (296 N)	337 lb (1500 N)	93 lb (415 N)	337 lb (1500 N)	.426 scf (12.06 NL)	73 lb
LO 40/10	0-1000	950-1000	1362	106 lb (470N)	55 lb (246 N)	337 lb (1500 N)	78 lb (345 N)	337 lb (1500 N)	.532 scf (15.08 NL)	80 lb
LO 40/12	0-1200	1150-1200	1562	106 lb (470N)	47 lb (210 N)	337 lb (1500 N)	66 lb (294 N)	337 lb (1500 N)	.639 scf (18.10 NL)	88 lb
LO 40/14	0-1400	1350-1400	1762	106 lb (470N)	41 lb (184 N)	337 lb (1500 N)	58 lb (258 N)	337 lb (1500 N)	.745 scf (21.10 NL)	96 lb
LO 40/16	0-1600	1550-1600	1962	106 lb (470N)	37 lb (163 N)	337 lb (1500 N)	51 lb (228 N)	337 lb (1500 N)	.851 scf (24.10 NL)	105 lb
LO 40/18	0-1800	1750-1800	2162	106 lb (470N)	---	337 lb (1500 N)	---	337 lb (1500 N)	.95 scf (26.94 NL)	112 lb
LO 40/20	0-2000	1950-2000	2362	106 lb (470N)	---	337 lb (1500 N)	---	337 lb (1500 N)	1.10 scf (31.19 NL)	120 lb
LO 40/25	0-2500	2450-2500	2862	106 lb (470N)	---	337 lb (1500 N)	---	337 lb (1500 N)	1.45 scf (41.12 NL)	145 lb

Order No. LO 40/ ... - ... - ... - ...

C = without support for stop slide
D = with support for stop slide

2 = Oil cushions OB 15 / 10 L
4 = Oil cushions OB 12 / 20

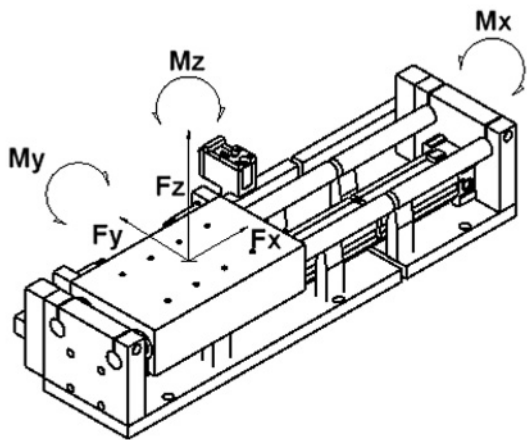
A = without compensation reservoir
B = with compensation reservoir

S = Standard version
V = Reinforced

Technical data:

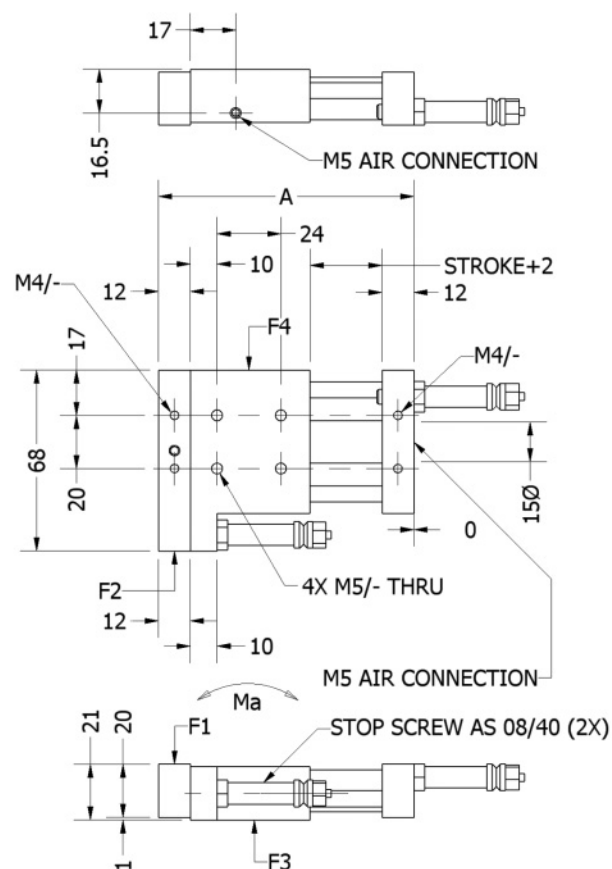
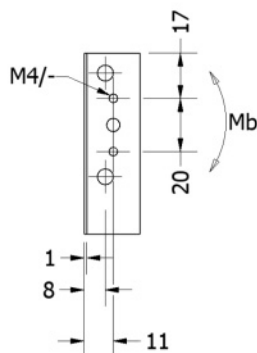
- Built in stop screws with fine threads provide adjustable, stepless stroke.
- The stop screws can be fitted with patented sensing elements (Page 21, sensor).
- End position with oil cushions / elastomer cushions.
- Designed for high operating rates and long life.
- Attachable intermediate position (SA page 1.071).
- Bearing: Linear ball bushing
- Operating medium Compressed air oiled / not oiled
- Operating pressure 43.5 – 116 PSI (3 – 8 bar)
- Repeatability +/- 0.01mm (0.0004")
- Air connection G1/4"

LO 40/ . . .



Part No.	Stroke	Mx [Nm]		My [Nm]		Mz [Nm]	
		Standard	Reinforced	Standard	Reinforced	Standard	Reinforced
LO 40/04	400 mm	25.0 Nm	75.0 Nm	57.0 Nm	171.0 Nm	79.8 Nm	171.0 Nm
LO 40/05	500 mm	21.0 Nm	75.0 Nm	47.9 Nm	171.0 Nm	67.0 Nm	171.0 Nm
LO 40/06	600 mm	18.5 Nm	75.0 Nm	42.2 Nm	171.0 Nm	59.1 Nm	171.0 Nm
LO 40/08	800 mm	14.8 Nm	75.0 Nm	33.7 Nm	171.0 Nm	47.3 Nm	171.0 Nm
LO 40/10	1,000 mm	12.3 Nm	75.0 Nm	28.0 Nm	171.0 Nm	39.3 Nm	171.0 Nm
LO 40/12	1,200 mm	10.5 Nm	75.0 Nm	23.9 Nm	171.0 Nm	33.6 Nm	171.0 Nm
LO 40/14	1,400 mm	9.2 Nm	75.0 Nm	21.0 Nm	171.0 Nm	29.4 Nm	171.0 Nm
LO 40/16	1,600 mm	8.2 Nm	75.0 Nm	18.6 Nm	171.0 Nm	26.0 Nm	171.0 Nm
LO 40/18	1,800 mm	---	75.0 Nm	---	171.0 Nm	---	171.0 Nm
LO 40/20	2,000 mm	---	75.0 Nm	---	171.0 Nm	---	171.0 Nm
LO 40/25	2,500 mm	---	75.0 Nm	---	171.0 Nm	---	171.0 Nm

A 3D CAD model of a mechanical assembly. It consists of a central rectangular plate with four mounting holes. Four L-shaped corner blocks are positioned around the plate, each with a hole for a rod. Four rods pass through the blocks and the plate, secured with nuts on the outer ends. The assembly is shown in a perspective view.

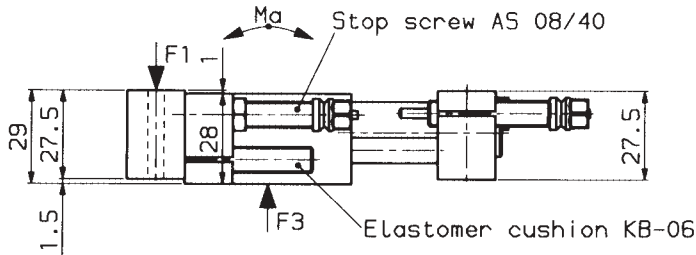
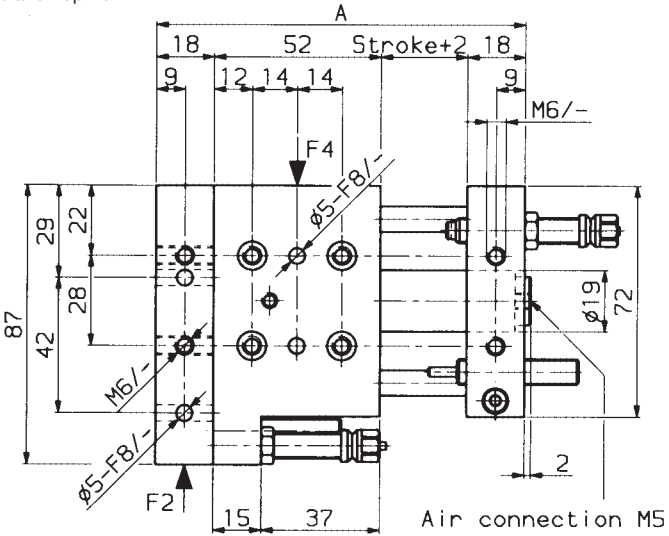
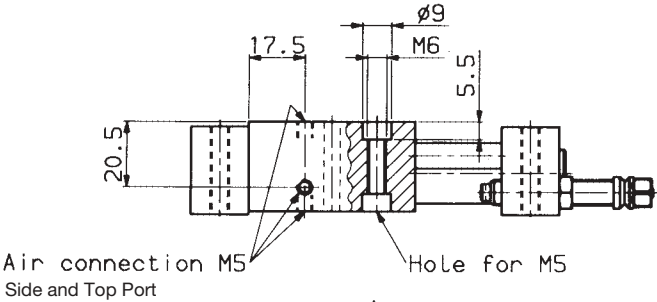
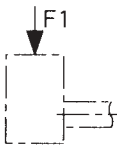
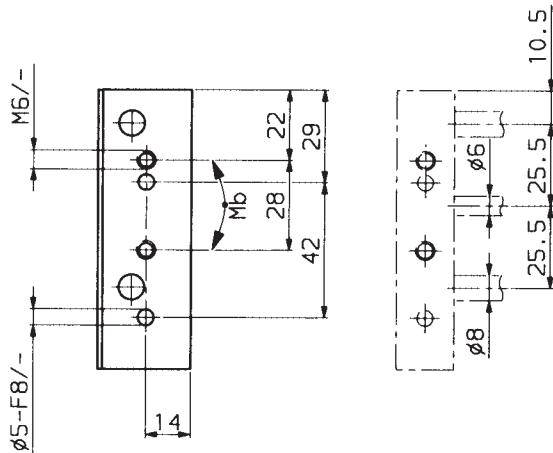
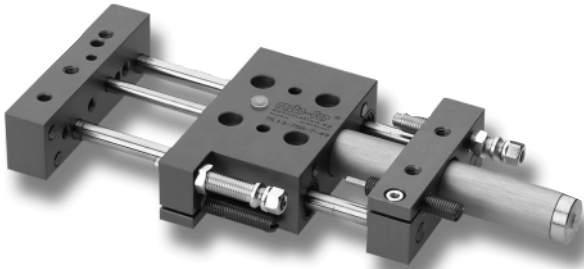


Type	Stroke mm	Adjusting Range (mm)	A	Piston force @ 72.5 psi (5 bar)	Max load stat./dyn. lb (N)				Ma lb.in (Nm)	Mb lb.in (Nm)	Weight lb.
					F1	F2	F3	F4			
MLS 10-25	0-25	0-25	96	4 lb (17 N)	22 (97)	24 (106)	31 (137)	37 (164)	30 (3.4)	72 (8)	1
MLS 10-50	0-50	13-50	121	4 lb (17 N)	12 (53)	13 (57)	36 (160)	37 (164)	30 (3.4)	72 (8)	1.2

Stroke

- Built in stop screw with fine threads provides adjustable, stepless stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8)
- Bearing: Preprecision linear ball bearings; option Simplicity Linear Bearing
- Precision guide sharts
- Operating medium Compressed air oiled / not oiled
- Operating pressure 43.5 – 116 psi (3 – 8bar)
- Piston diameter 10mm
- Repeatability +/- 0.01mm (0.0004")
- Air connection M5

Mini linear unit ML13



Type	Stroke (mm)	Adjusting range (mm)	A	Piston force at 72.5 psi (5 bar)	Max. load stat./dyn. lb (N)				Ma lb.in (Nm)	Mb lb.in (Nm)	Air consumption for each double stroke at 72.5 psi (5bar)	Weight lb (kg)
					F1	F2	F3	F4				
ML13-25	0-25	0-25	115	7lb (32N)	29 (131)	31 (137)	38 (167)	44 (196)	40 (4.5)	84 (9.5)	0.001scf (0.03NL)	1.5 (0.70)
ML13-50	0-50	13-50	140	7lb (32N)	19 (84)	20 (88)	43 (190)	44 (196)	40 (4.5)	84 (9.5)	0.002scf (0.06NL)	1.7 (0.76)
ML13-75	0-75	38-75	165	7lb (32N)	14 (62)	15 (65)	43 (190)	44 (196)	40 (4.5)	84 (9.5)	0.003scf (0.09NL)	1.8 (0.82)
ML13-100	0-100	63-100	190	7lb (32N)	9 (41)	10 (43)	43 (190)	44 (196)	40 (4.5)	84 (9.5)	0.004scf (0.12NL)	1.9 (0.88)

Order No. ML13 -

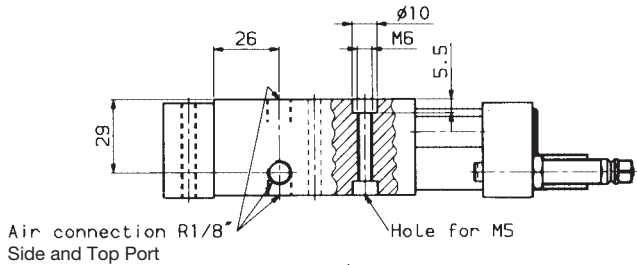
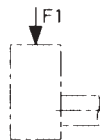
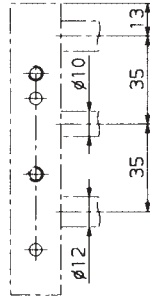
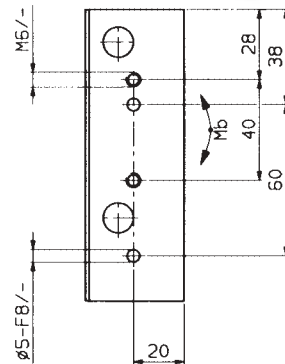
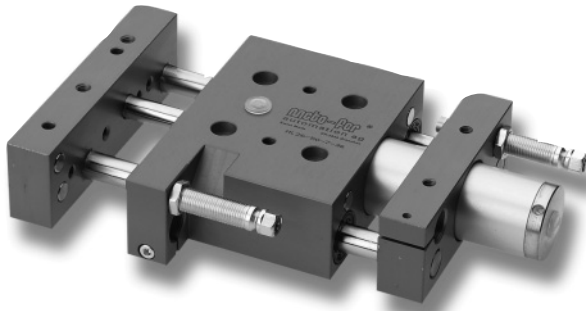
○ = Without cushions
A = Elastomer cushions (Standard MB01 / KB 06)

Stroke

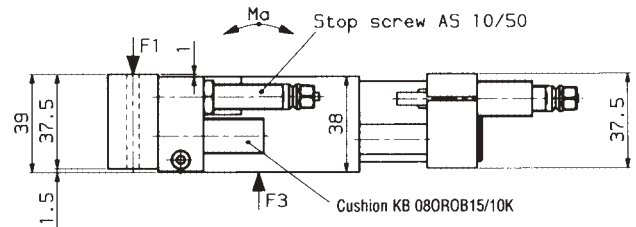
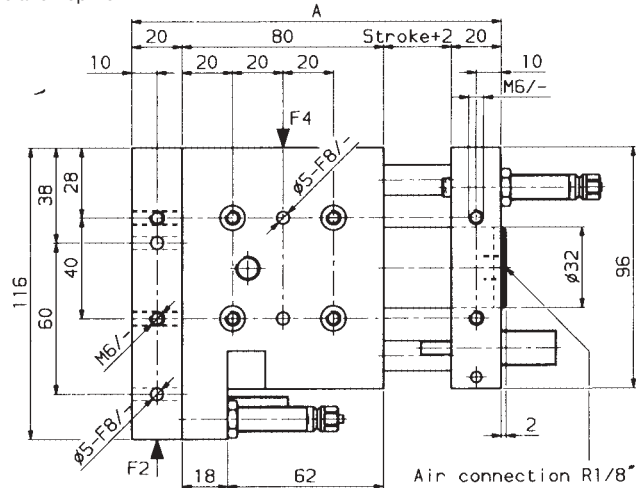
Technical data:

- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8 "Stop system with plug-in sensing elements").
- End position damped with elasotmer cushions KB 06.
- Bearing: Precision linear ball bearings
- Operating medium Compressed air oiled/ not oiled
- Operating pressure 43.5 - 116 psi (3 - 8 bar)
- Piston diameter 12mm
- Repeatability +/- 0.01mm (0.0004")
- Air connection M5

Mini linear unit ML26

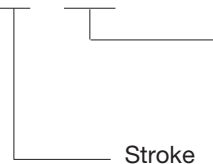


Air connection R1/8"
Side and Top Port



Type	Stroke	Adjusting range (mm)	A	Piston force at 72.5 psi (5 bar)	Max. load stat./dyn. lb (N)				Ma lb.in (Nm)	Mb lb.in (Nm)	Air consumption for each double stroke at 72.5 psi (5bar)	Weight lb (kg)
					F1	F2	F3	F4				
ML26-25	0-25	0-25	147	35lb (154N)	162 (721)	170 (754)	175 (778)	179 (796)	248 (28.0)	359 (40.5)	0.005scf (0.14NL)	3.7 (1.7)
ML26-50	0-50	0-50	172	35lb (154N)	91 (404)	95 (422)	168 (747)	173 (769)	199 (22.5)	297 (33.5)	0.009scf (0.27NL)	4.0 (1.8)
ML26-75	0-75	24-75	197	35lb (154N)	67 (297)	70 (311)	160 (712)	165 (734)	177 (20.0)	261 (29.5)	0.014scf (0.41NL)	4.2 (1.9)
ML26-100	0-100	49-100	222	35lb (154N)	49 (216)	51 (226)	139 (617)	143 (636)	159 (18.0)	230 (26.0)	0.019scf (0.54NL)	4.4 (2.0)
ML26-125	0-125	74-125	247	35lb (154N)	36 (162)	38 (169)	123 (546)	127 (563)	142 (16.0)	208 (23.5)	0.024scf (0.68NL)	4.6 (2.1)
ML26-150	0-150	99-150	272	35lb (154N)	31 (136)	32 (143)	117 (518)	123 (548)	137 (15.5)	199 (22.5)	0.028scf (0.81NL)	4.9 (2.2)
ML26-200	0-200	149-200	322	35lb (154N)	22 (99)	23 (104)	111 (494)	115 (509)	128 (14.5)	190 (21.5)	0.038scf (1.08NL)	5.5 (2.5)

Order No. ML 26 - ... - ...



Stroke

O=Without cushions

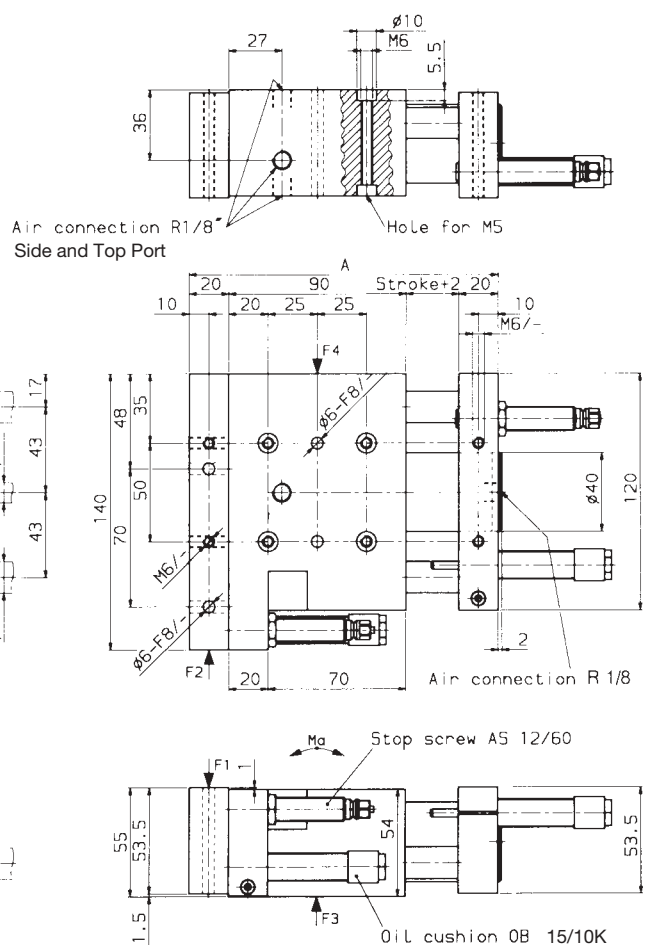
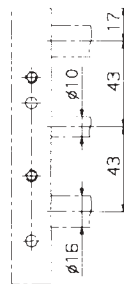
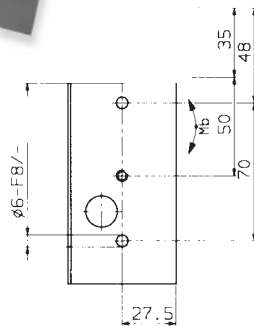
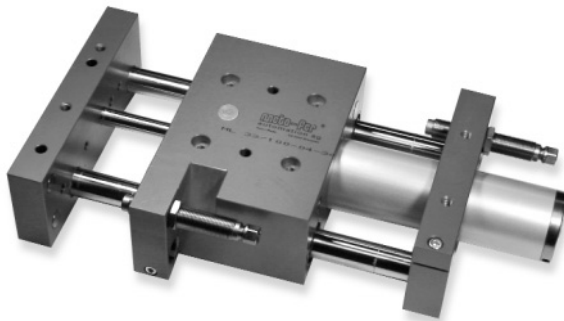
A=Elastomer cushions (Standard type), KB08

B=Oil cushions without compensation reservoir, OB 15/10K

C=Oil cushions with compensation reservoir (KOB50)

Technical data:

- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8. "Stop system with plug-in sensing elements").
- End position damped with elastomer or oil cushion.
- Bearing: Precision linear ball bearing
- Operating medium Compressed air oiled / not oiled
- Operating pressure 43.5 - 116 psi (3 - 8 bar)
- Piston diameter 25mm
- Repeatability +/- 0.01mm (0.0004")
- Air connection R1/8"

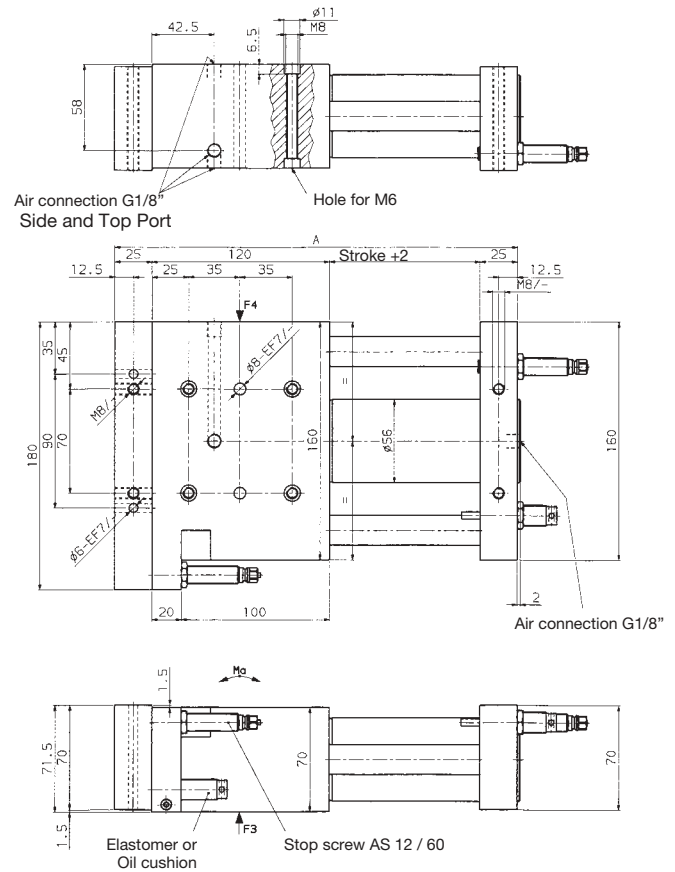
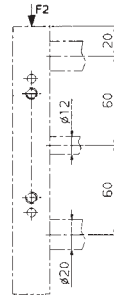
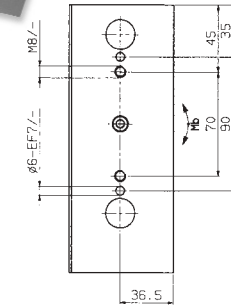
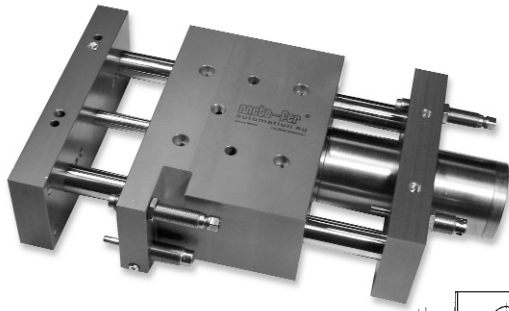


Order No. ML 33 - . . . - . . .

Stroke

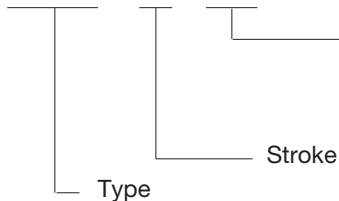
- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8 "Stop system with plug-in sensing elements").
- End position damped with elastomer or oil cushion.
- Bearing: Precision linear ball bearings
- Operating medium Compressed air oiled/ not oiled
- Operating pressure 43.5 - 116 psi (3 - 8 bar)
- Piston diameter 32mm
- Repeatability +/- 0.01mm (0.0004")
- Air connection R1/8"

Linear Unit ML 50



Type	Stroke (mm)	Adjustable Range (mm)	A (mm)	Piston Force @ 72.5 PSI (5 bar)	F1 lb. (N)	F2 lb. (N)	F3 lb. (N)	F4 lb. (N)	Ma lb. in (Nm)	Mb lb. in (Nm)	Air Consumption for each double stroke @ 72.5 PSI (5 bar)	Weight lb (kg)
ML 50-50	0-50	0-50	222	162 LB (722N)	168 (750)	168 (750)	247 (1100)	241 (1075)	371 (42)	531 (60)	0.040 scf (1.14 NL)	14.3 (6.5)
ML 50-75	0-75	25-75	247	162 LB (722N)	123 (550)	101 (450)	236 (1050)	229 (1020)	336 (38)	513 (58)	0.060 scf (1.71 NL)	14.9 (6.8)
ML 50-100	0-100	50-100	272	162 LB (722N)	89 (400)	78 (350)	220 (980)	218 (970)	318 (36)	487 (55)	0.080 scf (2.28 NL)	15.4 (7.0)
ML 50-150	0-150	100-150	322	162 LB (722N)	56 (250)	56 (250)	197 (880)	195 (870)	300 (34)	442 (50)	0.117 scf (3.43 NL)	16.5 (7.5)
ML 50-200	0-200	150-200	372	162 LB (722N)	42 (190)	42 (190)	170 (760)	173 (770)	274 (31)	416 (47)	0.161 scf (4.57 NL)	17.6 (8.0)
ML 50-250	0-250	200-250	422	162 LB (722N)	35 (160)	35 (160)	160 (710)	160 (710)	256 (29)	389 (44)	0.201 scf (5.72 NL)	17.4 (8.5)
ML 50-300	0-300	250-300	472	162 LB (722N)	29 (130)	31 (140)	146 (650)	148 (660)	239 (27)	354 (40)	0.242 scf (6.86 NL)	19.8 (9.0)
ML 50-400	0-400	350-400	572	162 LB (722N)	20 (90)	22 (100)	128 (570)	134 (600)	221 (25)	336 (38)	0.322 scf (9.15 NL)	22.0 (10.0)
ML 50-500	0-500	450-500	672	162 LB (722N)	16 (75)	16 (75)	121 (540)	126 (560)	186 (21)	327 (37)	0.403 scf (11.44 NL)	24.2 (11.0)

Order No. **ML 50** - ... - ...

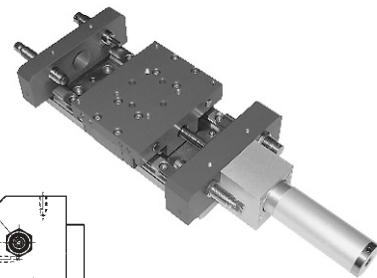


O=Without cushions
A=Elastomer cushions, KB08
B=Oil cushions without compensation reservoir, OB 15/10K
C=Oil cushions with compensation reservoir (KOB50)

Technical data:

- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8. "stop system with plug-in sensing elements")
- End position damped with elastomer or oil cushion.
- Bearing: Precision linear ball bearings
- Operating medium Compressed air oiled / not oiled
- Operating pressure 43.5 – 116 psi (3 – 8bar)
- Piston diameter 50mm
- Repeatability +/- 0.01mm (0.0004")
- Air connection G1/8

Twin Rail



Stroke mm	Adjusting Range mm	A mm	B mm	C mm	D mm	E mm	F mm	X mm	Piston force @ 72.5 PSI (5 bar) lb (N)	F1 lb (N)	F2 lb (N)	Ma lb. in (Nm)	Mb lb. in (Nm)	Air Consumption for each double stroke @ 72.5 PSI (5 bar)	Weight lb (kg)
0-50	0-50	197	39.5	120	36.5	70	310	2	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.009 scf (0.27 NL)	8.3 (3.8)
0-75	24-75	222	52.0	120	49.0	95	360	2	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.014 scf (0.40 NL)	9.0 (4.1)
0-100	49-100	247	64.5	120	61.5	120	410	2	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.019 scf (0.54 NL)	9.7 (4.4)
0-150	99-150	297	89.5	120	86.5	170	510	2	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.065 scf (0.81 NL)	11.0 (5.0)
0-200	149-200	347	74.5	200	71.5	220	610	4	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.038 scf (1.08 NL)	12.3 (5.6)
0-250	199-250	397	99.5	200	96.5	270	710	4	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.047 scf (1.35 NL)	13.6 (6.2)
0-300	249-300	447	124.5	200	121.5	320	810	4	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.057 scf (1.62 NL)	15.2 (6.9)
0-400	349-400	547	174.5	200	171.5	420	1010	4	34 lb (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.76 scf (2.16 NL)	17.8 (8.1)

Order No. LMP 60 - . . . - . . .

O=Without cushions
A=Elastomer cushions
B=Oil cushions without compensation reservoir
C=Oil cushions with compensation reservoir (KOB50)

02=Stroke 50 06=Stroke 150 12=Stroke 300
03=Stroke 75 08=Stroke 200 16=Stroke 400
04=Stroke 100 10=Stroke 250 Custom strokes available

The units can also be used as x-y tables

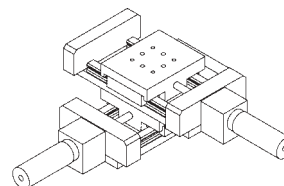
Technical data:

- Built in stop screw with fine threads provide adjustable, stepless stroke.
 - The stop screws can be fitted with patented sensing elements.
(see section 8 “stop system with plug-in sensing elements”)
 - End position damped with elastomer or oil cushion.
 - Linear twin rails with carriage.
- | | |
|---------------------|----------------------------------|
| -Operating medium | Compressed air oiled / not oiled |
| -Operating pressure | 43.5 – 116 PSI (3 – 8 bar) |
| -Piston diameter | 25 mm |
| -Repeatability | +/- 0.01mm (0.0004") |
| -Air connection | G1/8" |

Compressed air oiled / not oiled
43.5 – 116 PSI (3 – 8 bar)
25 mm
+/- 0.01mm (0.0004")
G1/8"

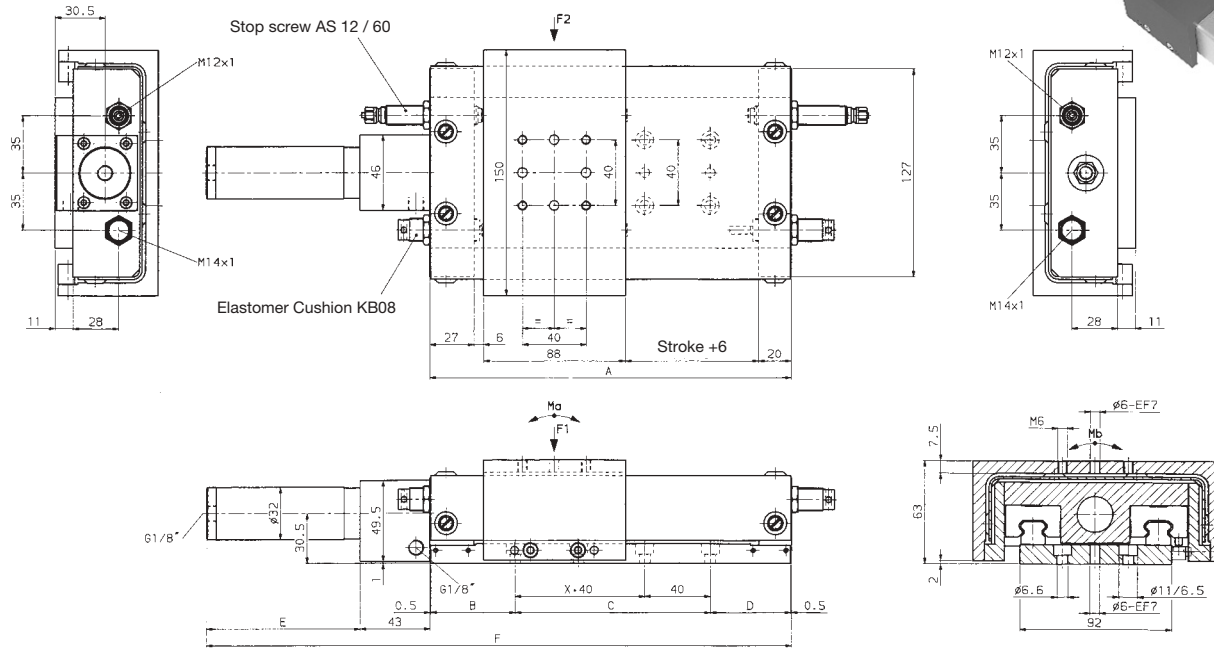
Easy mounting with the following units:

- LMP-60
- LMP-60-A
- LM-60-RW
- LM-60-RWA



Linear Unit LMP-60-A

Twin Rail with cover



Stroke mm	Adjusting Range mm	A mm	B mm	C mm	D mm	E mm	F mm	X mm	Piston force @72.5 PSI (5 bar) lb (N)	F1 lb (N)	F2 lb (N)	Ma lb. in (Nm)	Mb lb. in (Nm)	Air Consumption for each double stroke @ 72.5 PSI (5 bar)	Weight lb (kg)
0-50	0-50	197	39.5	120	36.5	70	310	2	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.009 scf (0.27 NL)	11.0 (5.0)
0-75	24-75	222	52.0	120	49.0	95	360	2	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.014scf (0.40 NL)	11.6 (5.3)
0-100	49-100	247	64.5	120	61.5	120	410	2	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.019 scf (0.54 NL)	12.3 (5.6)
0-150	99-150	297	89.5	120	86.5	170	510	2	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.065 scf (0.81 NL)	13.8 (6.3)
0-200	149-200	347	74.5	200	71.5	220	610	4	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.038 scf (1.08 NL)	15.2 (6.9)
0-250	199-250	397	99.5	200	96.5	270	710	4	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.047 scf (1.35 NL)	16.5 (7.5)
0-300	249-300	447	124.5	200	121.5	320	810	4	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.057 scf (1.62 NL)	18.3 (8.3)
0-400	349-400	547	174.5	200	171.5	420	1010	4	34 lb. (154 N)	168 (750)	112 (500)	265 (30)	265 (30)	0.76 scf (2.16 NL)	21.1 (9.6)

Order No. **LMP 60A** - . . . - . . .

O=Without cushions
A=Elastomer cushions
B=Oil cushions without compensation reservoir
C=Oil cushions with compensation reservoir (KOB50)

02=Stroke 50 06=Stroke 150 12=Stroke 300
03=Stroke 75 08=Stroke 200 16=Stroke 400
04=Stroke 100 10=Stroke 250 Custom strokes available

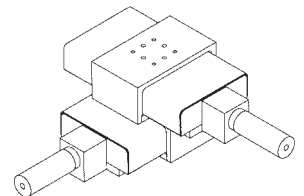
Type

Technical data:

- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8. "stop system with plug-in sensing elements")
- End position damped with elastomer or oil cushion.
- Linear twin rails with carriage.
- Operating medium
- Operating pressure
- Piston diameter
- Repeatability
- Air connection

Compressed air oiled / not oiled
43.5 – 116 PSI (3 – 8 bar)
25 mm
+/- 0.01mm (0.0004")
G1/8"

The units can also be used as x-y tables

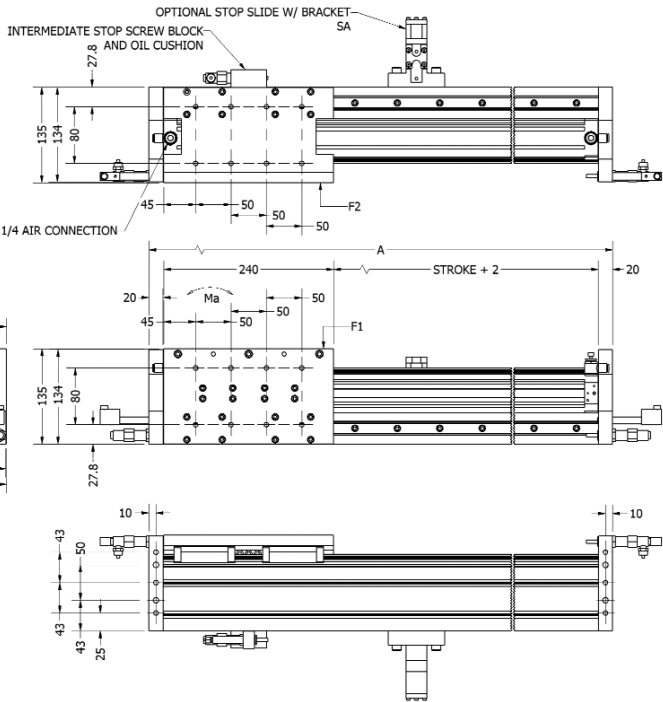
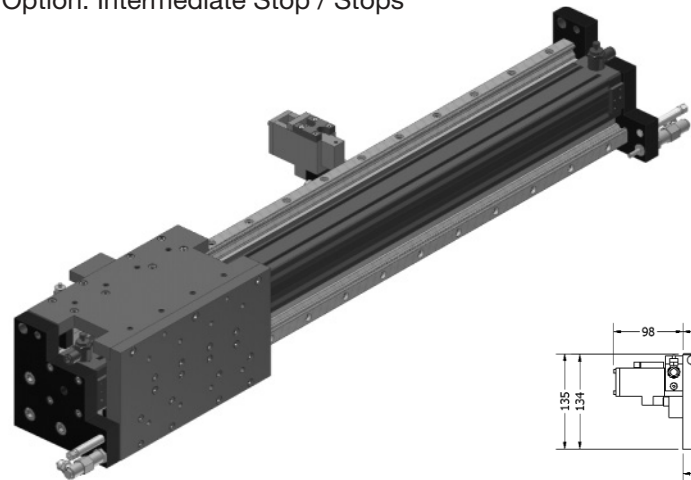


Easy mounting with the following units:

- LMP-60
- LMP-60-A
- LM-60-RW
- LM-60-RWA

Linear Unit LU-32

With Rodless Cylinder, 4 piece Carriage/ Ball Linear Guides
Option: Intermediate Stop / Stops



- Standard
- End position with adjustable stop screws
- Option
- Intermediate Position with SA

Type	Stroke mm	Adjusting Range mm	A mm	Piston force @ 72.5 PSI	F1 lb (N)	F2 lb (N)	Ma lb. in (Nm)	Mb lb. in (Nm)	Weight lb
LU-32-0400	400	350-400	682	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	42
LU-32-0600	600	550-600	882	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	44
LU-32-0800	800	750-800	1082	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	47
LU-32-1000	1000	950-1000	1282	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	50
LU-32-1200	1200	1150-1200	1482	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	52
LU-32-1400	1400	1350-1400	1682	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	55
LU-32-1600	1600	1550-1600	1882	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	57
LU-32-1800	1800	1750-1800	2082	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	60
LU-32-2000	2000	1950-2000	2282	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	63
LU-32-2200	2200	2150-2200	2482	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	66
LU-32-2400	2400	2350-2400	2682	90 lb	270 (1,200)	230 (1,025)	575 (65)	531 (60)	68

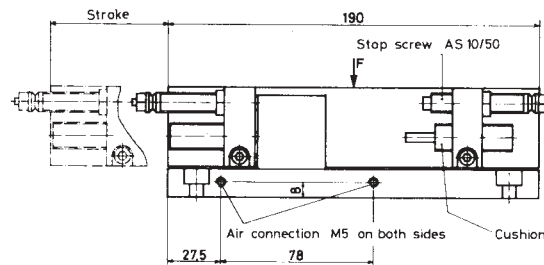
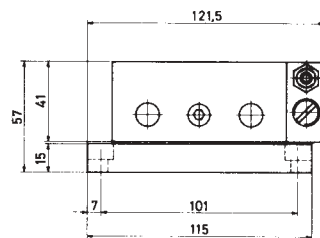
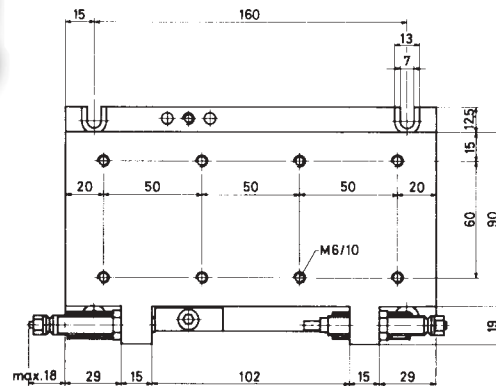
Order No. LU 32 - ... - ...

Type

Stroke

- Additional Options:
- 0- No cushions or Intermediate Stop
 - A- Unit with Elastomer Cushions
 - B- Unit with Oil Cushions-2 pc. OB15/10K, 1 pc. KOB 50, 1 pc. KOB Oil, and 2 pc. hose
 - C- Unit with Intermediate Stop-1 pc. SA-01(Stopslide page 1.071), 1 pc. AS 12/60 Block for LU main body and back plate

Standard roller slide NT 61



Type	Stroke (mm)	Piston force at 72.5 psi (5 bar)	Max. load F stat.	Max. load F dyn.	Air consumption for each double stroke at 72.5 psi (5 bar)	Weight
NT 61	0–60	35 lb (154 N)	337 lb (1500 N)	214 lb (950 N)	.013 scf (0,36 NL)	5.5 lb (2,5 kg)

Order No.

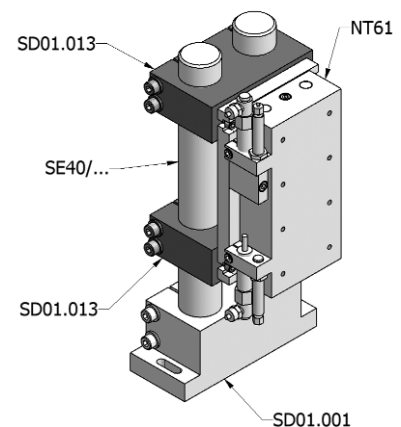
NT 61 – ...

- O = without cushions
- A = with elastomer cushions (standard type)
- B = with oil cushions, without compensation reservoir
- C = with oil cushions, with compensation reservoir (KOB50)

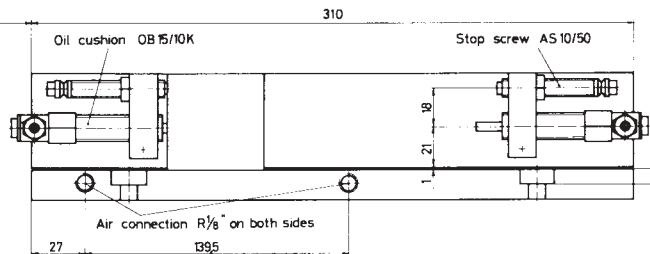
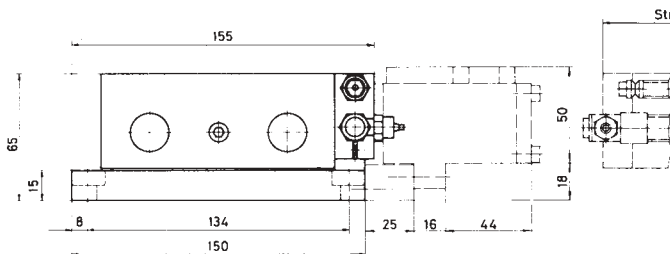
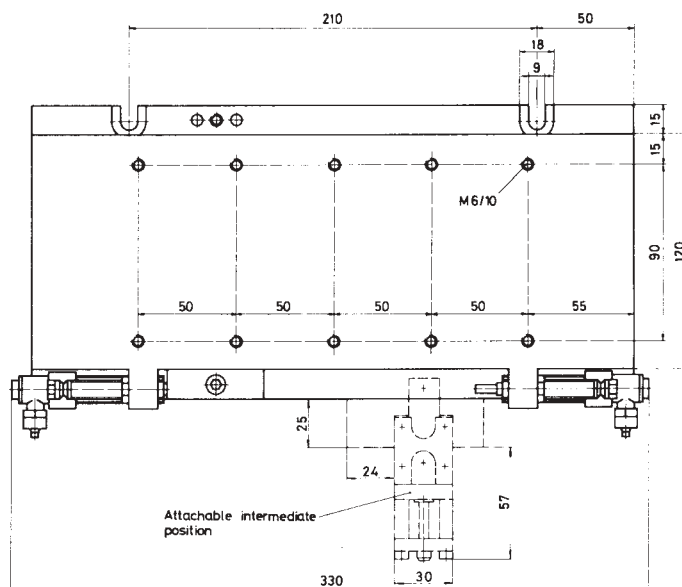
Standard roller slide NT 61

Technical data:

- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8"Stop system with plug-in sensing elements").
- End position damped with adjustable elastomer or oil cushion.
- Designed for high operating rates and long life
- Bearing: Precision linear ball bearings
- Operating medium Compressed air or hydraulic oil
- Operating pressure 43.5 - 116 psi (3 - 8 bar)
- Piston diameter 25mm
- Repeatability +/- 0.01mm (0.0004")
- Air connection M5



Standard roller slide NT 120



Type	Stroke (mm)	Piston force at 72.5 psi (5 bar)	Max. load F stat.	Max. load F dyn.	Air consumption for each double stroke at 72.5 psi (5 bar)	Weight
NT 120	0–120	53 lb (235 N)	540 lb (2400 N)	360 lb (1600 N)	.032 scf (0,91 NL)	14.3 lb (6,5 kg)

Order No.

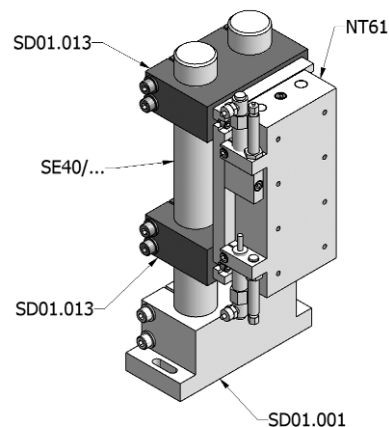
NT120-0 O = without cushions
 NT120-A A = with oil cushions, without compensation reservoir
 NT120-B B = with oil cushions, with compensation reservoir

Intermediate position to NT 120: Stop screw assembly for NT and stop slide SA

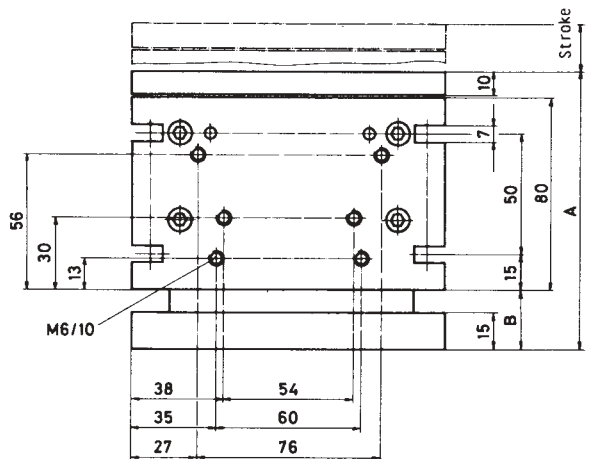
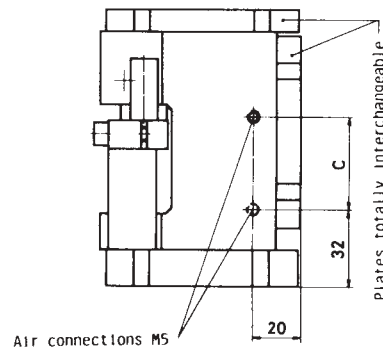
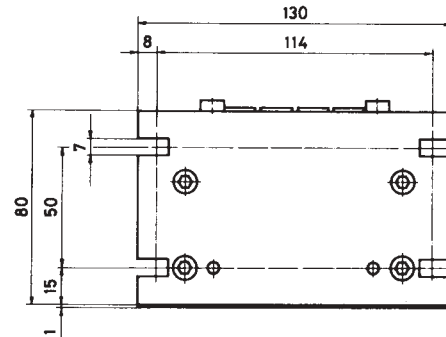
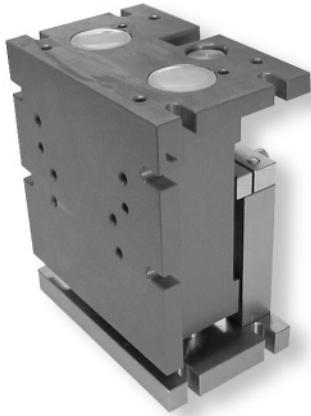
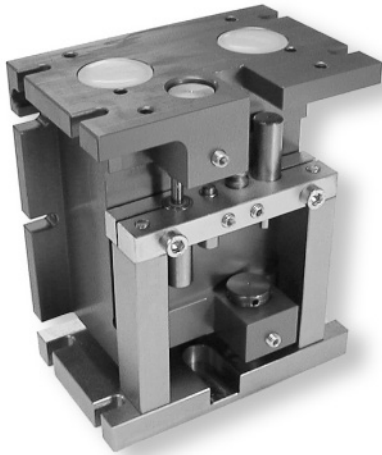
Order No. see sheet 1.071

Technical data:

- Built in stop screw with fine threads provide adjustable stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8"Stop system with plug-in sensing elements").
- End position damped with adjustable oil cushions.
- Designed for high operating rates and long life
- Intermediate position can be added
- Bearing: Precision linear ball bearings
- Operating medium Compressed air or hydraulic oil
- Operating pressure 43.5 - 116 psi (3 - 8 bar)
- Repeatability +/- 0.01mm (0.0004")
- Air connections R 1/8"



Elevating table HT



Type	Stroke (mm)	A	B	C	Piston force at 72.5 psi (5 bar)	Air consumption for each double stroke at 72.5 psi (5 bar)	Weight
HT 20	0–20	115	24	38	61 lb (272 N)	.007 scf (0,19 NL)	10.1 lb (4,6 kg)
HT 50 K	0–50	147	56	68	61 lb (272 N)	.016 scf (0,46 NL)	11.2 lb (5,1 kg)

Order No.

HT 20 A
HT 20 B
HT 20 C

HT 50 KA
HT 50 KB
HT 50 KC

A = with elastomer cushions (standard type)
B = with oil cushions, without compensation reservoir
C = with oil cushions, with compensation reservoir

Technical data:

- Built in stop screw with fine threads provide adjustable, stepless stroke.
- The stop screws can be fitted with patented sensing elements. (see section 8"Stop system with plug-in sensing elements").
- End position damped with adjustable elastomer or oil cushions.
- Designed for high operating rates and long life
- Bearing: Linear ball bushing
- Operating medium
- Operating pressure
- Repeatability
- Air connections

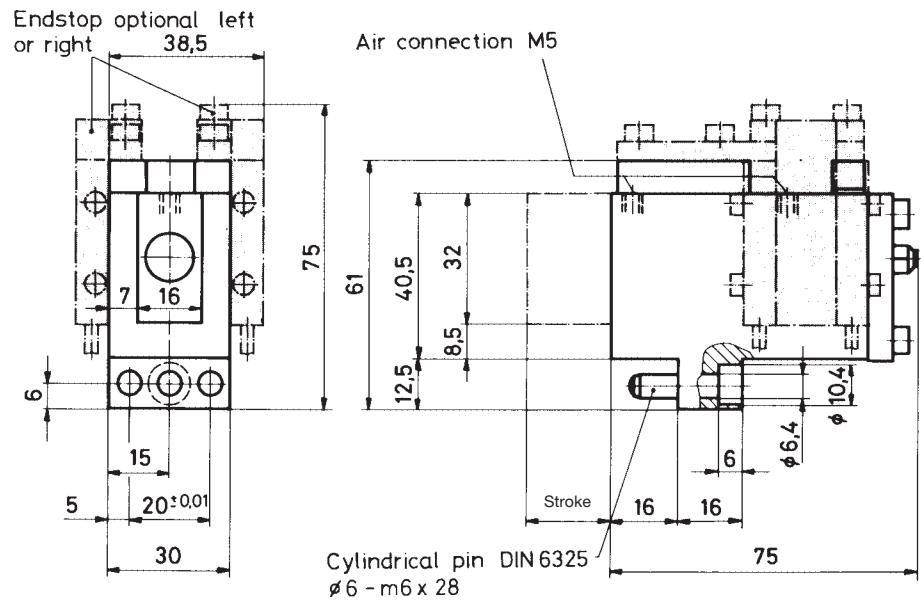
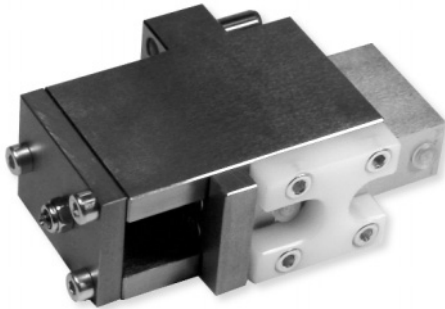
Compressed air or hydraulic oil
43.5 - 116 psi (3 - 8 bar)
+/- 0.01mm (0.0004")
M5



Stopslide SA

The stop slide cylinder is a robust double acting cylinder which may be fitted to most of the linear slide units as an intermediate stop device.

Steel Housing with Hardened Slide (piston)



Type	Stroke (mm)	Piston force at 72.5 psi (5 bar)	Air consumption for each double stroke at 72.5 psi (5 bar)	Weight
SA 01	0–20	8 lb (35 N)	.001 scf (0,03 NL)	1.5 lb (0,7 kg)

Order No.

SA 01 without bracket
SA 01 A A = with bracket for sensors (IM008)

Technical data:

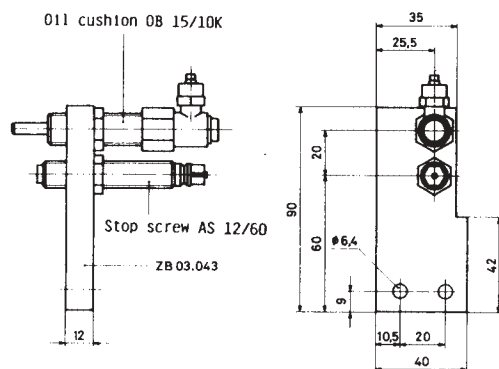
— Operating medium
— Operating pressure
— Air connection

Compressed air or hydraulic oil
43.5–116 psi (3–8 bar)
M5

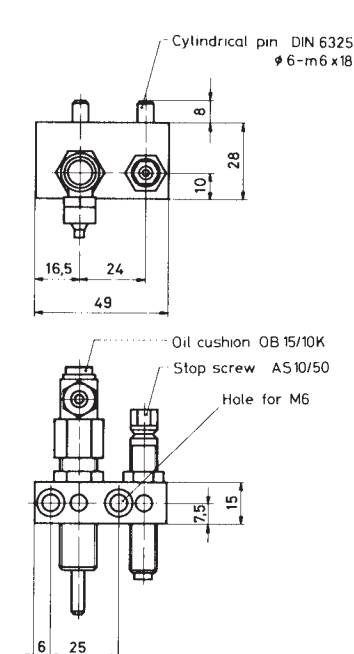
Sensor Order No.: IM-008-NS-U2L (NPN)
IM-008-PS-U2L (PNP)

Stopscrew assembly

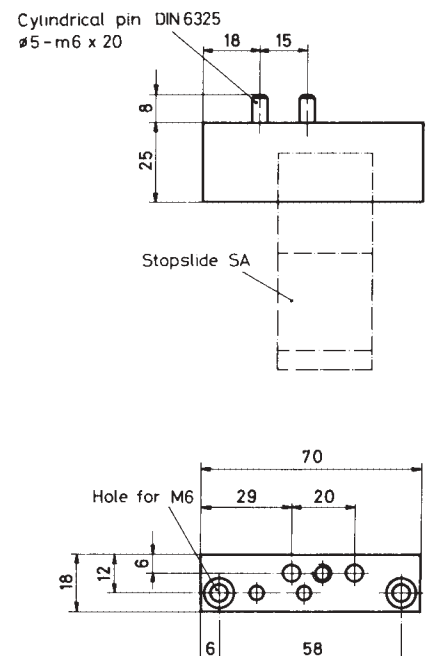
The stopscrew and cushion assembly is available as an accessory.
The oil reservoir is not included.



Stopscrew assembly for LH
Order No. ZB 03.005

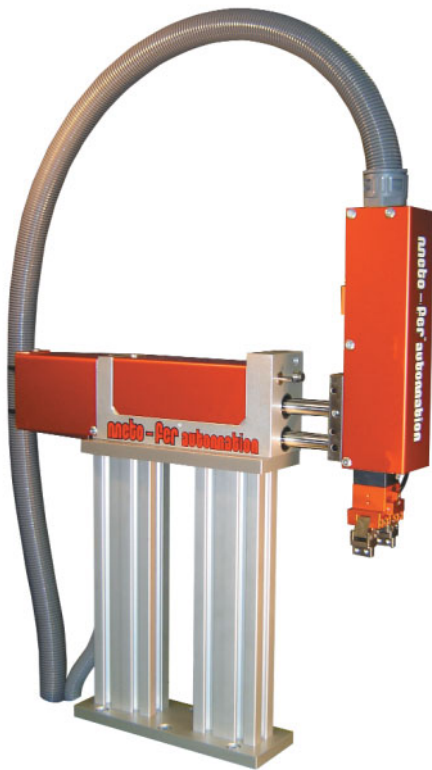


Stopscrew assembly for HT
Order No. ZB 06.015

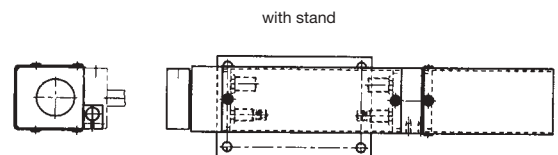
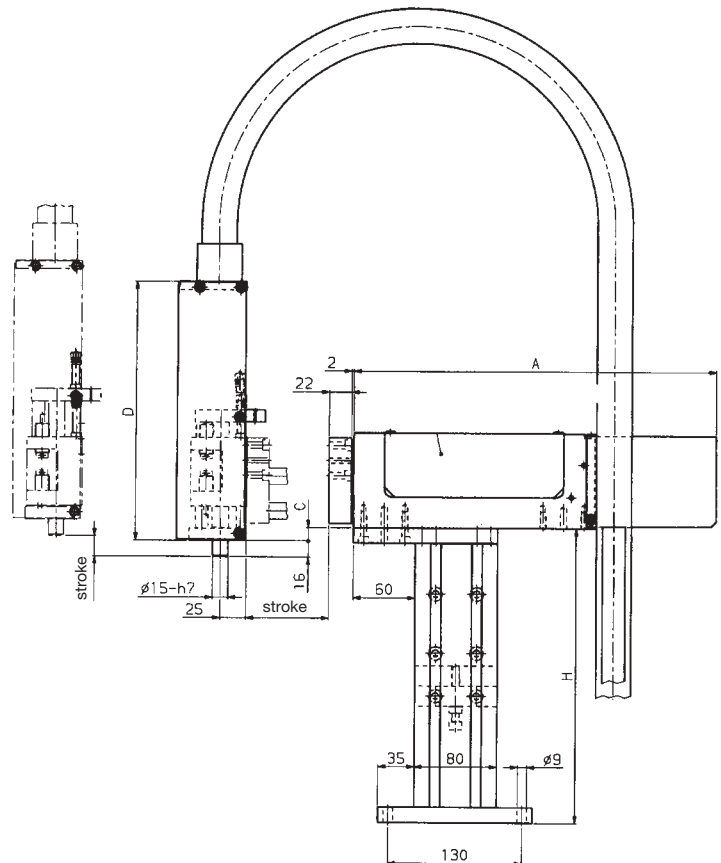
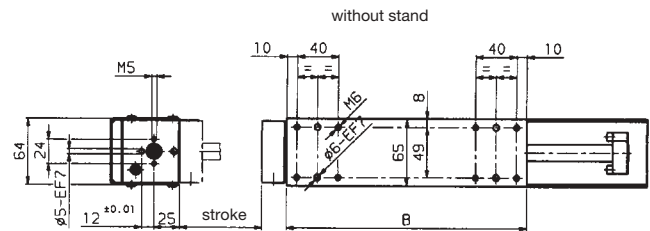
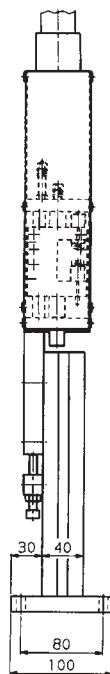


Stopscrew assembly for NT 120
Order No. ZB 16.005

Complete station with linear unit, vertical unit and stand



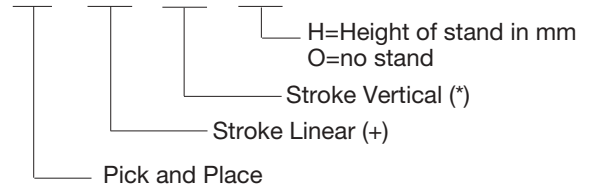
- Linear Unit with integrated flow controls and precision stop system and cushions
- Vertical Unit with cushions and precision stop system (stop screw) third down position on vertical unit in home position of linear unit
- Easy Gripper / Rotary modular assembly- with standard components
- Expected life: 20-25 million cycle times
- Seal / Bearing Kits available



Linear Unit			Vertical Unit		
Stroke	A	B	Stroke	C	D
100+	352	234	20*	13	251.5
150+	452	284	50*	73	311.5
200+	552	334	80*	133	371.5

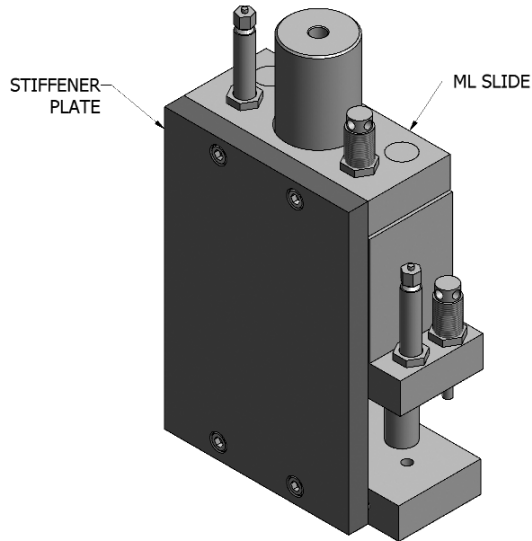
H=Height (adjustable +/- 20 mm)

Order No. PP - . . . - . . . - . . .



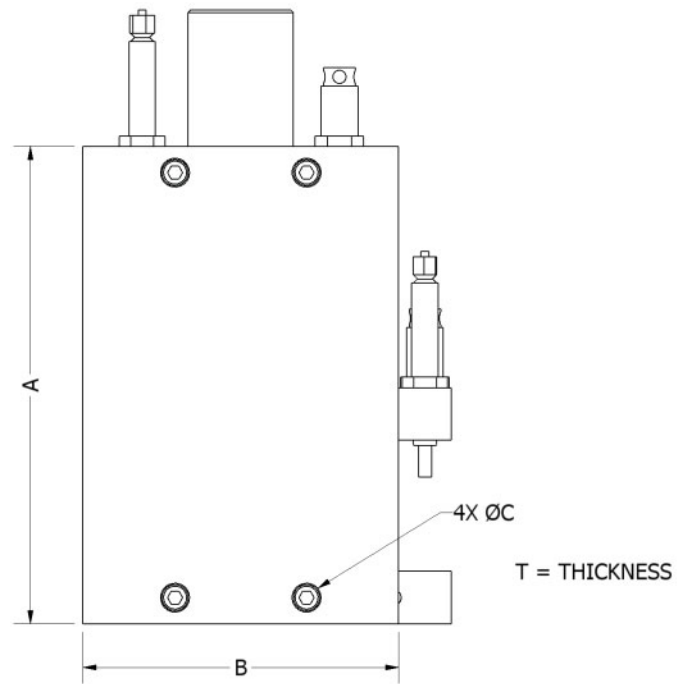
Structure Plates for all Linear Units

(ML 13, ML 26, ML 33, ML 50)



Features of MF Automation Structural Plates:

- Use them to add additional stability to components (box)
- Use them to mount components
- Plates are precision aluminum plate (+/- 0.1 mm)
- Plates are anodized (red)



Unit	Order #	A mm	B mm	T mm	C Ø
ML 13-025	SP -13025	115	72	9.5	Ø 6.5 mm
ML 13-050	SP -13050	140	72	9.5	Ø 6.5 mm
ML 13-075	SP -13075	165	72	9.5	Ø 6.5 mm
ML 13-100	SP -13100	190	72	9.5	Ø 6.5 mm
ML 26-025	SP -26025	147	96	12.7	Ø 6.5 mm
ML 26-050	SP -26050	172	96	12.7	Ø 6.5 mm
ML 26-075	SP -26075	197	96	12.7	Ø 6.5 mm
ML 26-100	SP -26100	222	96	12.7	Ø 6.5 mm
ML 26-125	SP -26125	247	96	12.7	Ø 6.5 mm
ML 26-150	SP -26150	272	96	12.7	Ø 6.5 mm
ML 26-200	SP -26200	322	96	12.7	Ø 6.5 mm
ML 33-025	SP -33025	157	120	12.7	Ø 6.5 mm
ML 33-050	SP -33050	182	120	12.7	Ø 6.5 mm
ML 33-075	SP -33075	307	120	12.7	Ø 6.5 mm
ML 33-100	SP -33100	232	120	12.7	Ø 6.5 mm
ML 33-125	SP -33125	257	120	12.7	Ø 6.5 mm
ML 33-150	SP -33150	282	120	12.7	Ø 6.5 mm
ML 33-175	SP -33175	307	120	12.7	Ø 6.5 mm
ML 33-200	SP -33200	332	120	12.7	Ø 6.5 mm
ML 33-250	SP -33250	382	120	12.7	Ø 6.5 mm
ML 33-300	SP -33300	432	120	12.7	Ø 6.5 mm
ML 33-350	SP -33350	482	120	12.7	Ø 6.5 mm
ML 33-400	SP -33400	532	120	12.7	Ø 6.5 mm
ML 50-050	SP -50050	222	160	15.8	Ø 8.5 mm
ML 50-075	SP -50075	247	160	15.8	Ø 8.5 mm
ML 50-100	SP -50100	272	160	15.8	Ø 8.5 mm
ML 50-150	SP -50150	322	160	15.8	Ø 8.5 mm
ML 50-200	SP -50200	372	160	15.8	Ø 8.5 mm
ML 50-250	SP -50250	422	160	15.8	Ø 8.5 mm
ML 50-300	SP -50300	472	160	15.8	Ø 8.5 mm
ML 50-400	SP -50400	572	160	15.8	Ø 8.5 mm
ML 50-500	SP -50500	672	160	15.8	Ø 8.5 mm