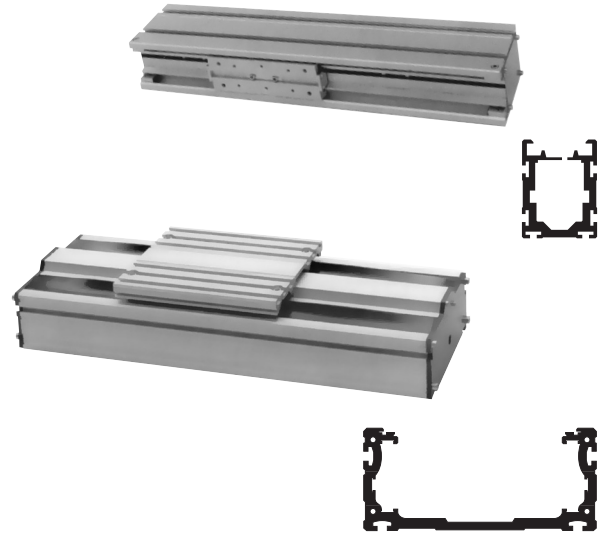


**Torsional and bending resistant profiles**

**T-slots in the outer profile enable individual mounting options**

**Adjustable guiding system (LAP4)**

**Precise linear roller guiding (LAP8)**



### Technical data

Medium

Filtered, lubricated or non-lubricated compressed air

Operation:

Double acting with cushioning

Operating pressure:

10 bar max.

Variants:

LAP4-50-K-A-... – 2 position cylinder, direct acting

LAP4-50-K-C-... – 2 position cylinder, double stroke

LAP8-63-K-A-... – 2 position cylinder, direct acting

LAP8-63-K-C-... – 2 position cylinder, double stroke

Operating temperature:

-15°C to +60°C

(please contact our technical service for use below +2°C)

Strokes:

2000 mm (direct acting, LAP4)

1500 mm (direct acting, LAP8)

3000 mm (double stroke, LAP4/LAP8)

Strokes longer as on request

### Materials:

Guiding profile: anodised aluminium

End plate: steel, powder coated

Covering: polyamid

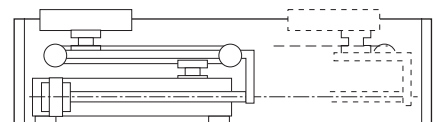
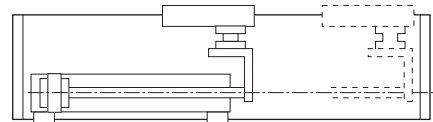
Seals: perbunan

### Ordering information

See page 2

### Mountings and switches

See page 2



### Options selector

LAP★-★-★-★-★-★/★-★-★

Size	Substitute
Profile 100 x 135	4
Profile 250 x 110	8

Cylinder diameter (mm)	Substitute
50 (LAP4)	050
63 (LAP8)	063

Carriage variants	Substitute
Carriage length 200 mm (LAP4/LAP8)	K
Carriage length 300 (LAP4), 540 mm (LAP8)	L
Carriage length 180 mm, cross bar (only LAP8)	M

Strokes	(mm)
LAP4 (direct acting)	max. 2000
LAP4 (double stroke)	max. 3000
LAP8 (direct acting)	max. 1500
LAP8 (double stroke)	max. 3000


  

Variants	Substitute
Direct acting	A
Double stroke	C

### Ordering information


Pneumatic linear drive with internal roller guide, cylinder diameter 63 mm, carriage length 200 mm, double stroke and stroke 1500 mm  
quote: **LAP8-063-K-C/1500**

### Switch



Model	
Inductive	43 148 17
	43 148 28




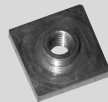
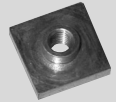
### Cable



Connecting cable with socket M12 x 1	
Type	
4542800	PVC, 3 x 0,25, 5 m long
4542801	PUR, 3 x 0,25, 5 m long

Type	Voltage	Current max.	Temperature	LED	Switching position	Plug	See data sheet
43 148 17	10 – 30 V DC	0,2 A	-25 to +70°C	•	PNP NO	M12 x 1	N/UK 4.3.079
43 148 28	10 – 30 V DC	0,2 A	-25 to +70°C	•	PNP NC	M12 x 1	N/UK 4.3.079

### Accessories

	Sensor activator LAP4	Sensor activator LAP8	Mounting for proximity switch	Mounting nut M6	Mounting nut M8
					
Model	see page 7	see page 7	see page 7	see page 7	see page 7
LAP4	11 195 73	–	11 195 72	11 112 00	11 112 01
LAP8	–	11 195 74	11 195 72	11 112 00	11 112 01

### Warning

These products are intended for use in industrial systems only. Do not use these products where values can exceed those listed under 'Technical Data'.

Before using these products specified for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

**System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.**

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

**Technical data**

Type	Repeatability	Max. speed *1)	Max. operating pressure/force (bar/N)
LAP4	± 1,0 mm	1 m/s (direct acting), 2 m/s (double stroke)	6/840 (direct acting), 10/700 (double stroke)
LAP8	± 1,0 mm	1 m/s (direct acting), 2 m/s (double stroke)	6/1440 (direct acting), 10/1200 (double stroke)

\*1) dependent on stroke and load

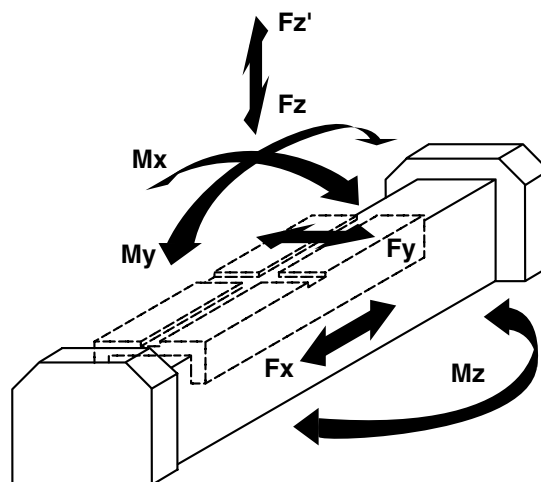
**Loading values for pneumatische Antriebe LAP4 and LAP8**

The values stated in the tables show the single forces in the directions  $F_y$  and  $F_z$  as well as the maximum moments  $M_x$ ,  $M_y$  and  $M_z$  for a speed of  $\leq 0,2$  m/s respectively. A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder. The reference point from which the moments for all cylinders should be calculated is the centerline of the carriage.

**Total loads**

When a LINTRA® toothed belt actuator has to take several loads and moments, an additional calculation is necessary using this formula:

$$\frac{M_x}{M_x \text{ max}} + \frac{M_y}{M_y \text{ max}} + \frac{M_z}{M_z \text{ max}} + \frac{F_y}{F_y \text{ max}} + \frac{F_z}{F_z \text{ max}} \leq 1$$

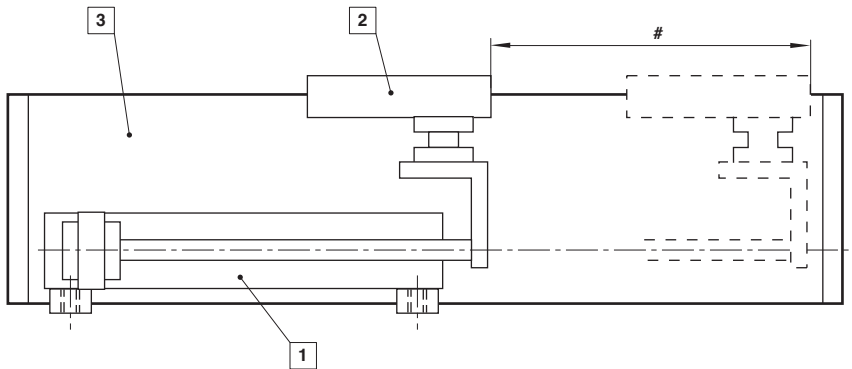


	LAP4 Carriage 200 mm	LAP4 Carriage 300 mm	LAP8 Carriage 200 mm	LAP8 Carriage 300 mm	LAP8 Carriage 540 mm (cross bar)
$F_x$ (N)	870	870	1440	1440	1440
$F_y$ (N)	500	500	1600	2400	1600
$F_z$ (N)	500	500	3200	4800	3200
$M_x$ (Nm)	20	20	450	640	320
$M_y$ (Nm)	40	65	210	1150	210
$M_z$ (Nm)	40	65	160	720	160

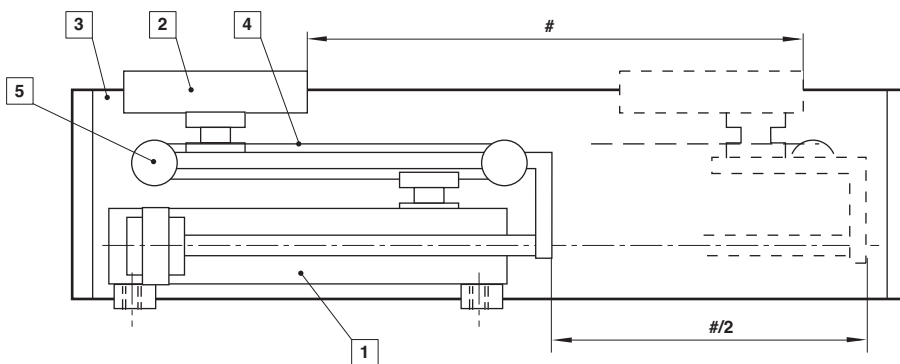
The forces and moments indicated are max. individual loads in the elastic area. They decrease by forces superposition of forces and moments or by changing the safety factor.

Basic variants

2 position cylinder, direct acting

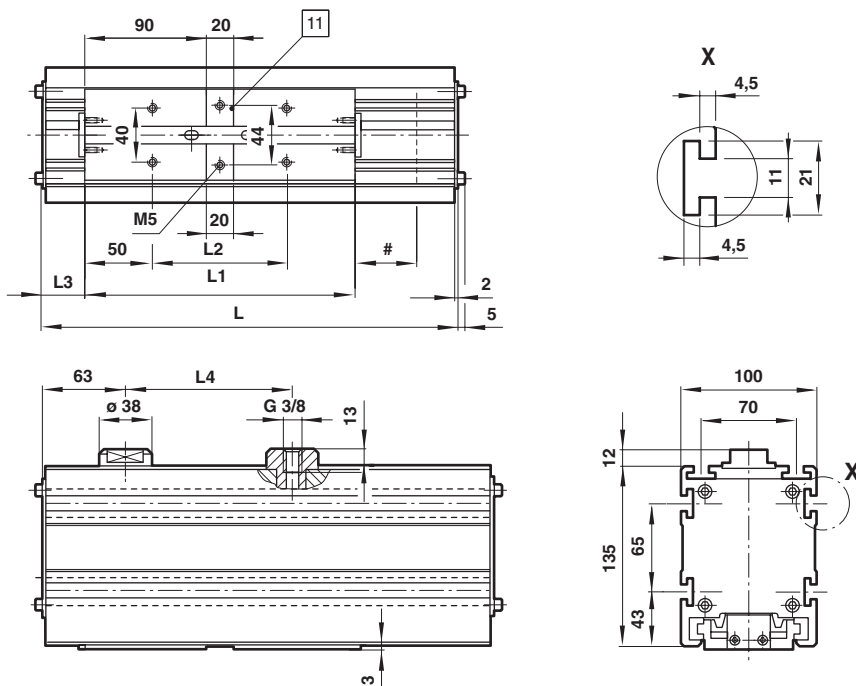


2 position cylinder, double stroke



- # Stroke
- 1 Cylinder
- 2 Carriage
- 3 Body
- 4 Belt
- 5 Pulley

LAP4



- # Stroke
- 11 Groove for sensor activator (1,7 mm deep)

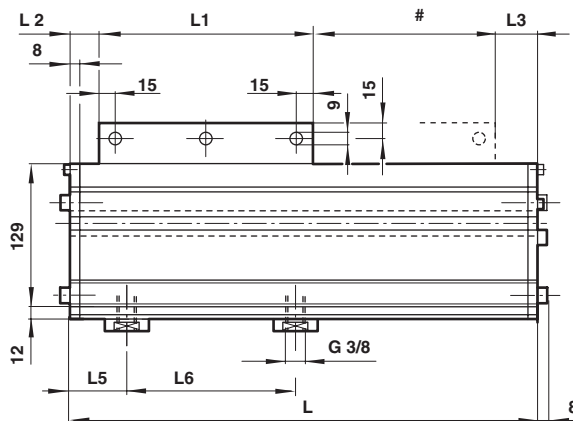
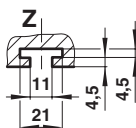
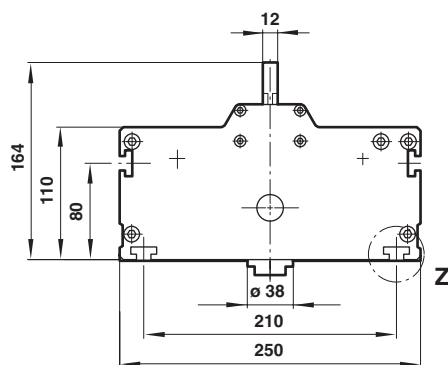
Pneumatic linear drive LAP4, direct acting

Typ	L	L1	L2	L3	L4	Weight at 0 mm	Weight per 100 mm	Weight of carriage
LAP4-50-K-A	260+(2 x stroke)	200	100	30+stroke	87+stroke	6,4 kg	2,75 kg	1,65 kg
LAP4-50-L-A	360+(2 x stroke)	300	200	30+stroke	87+stroke	7,6 kg	2,75 kg	1,95 kg

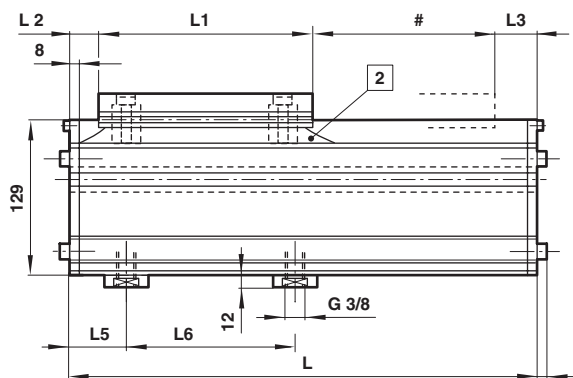
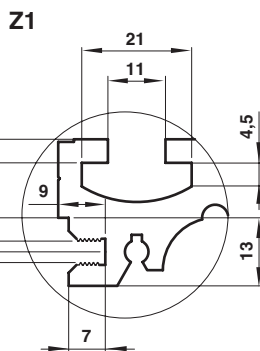
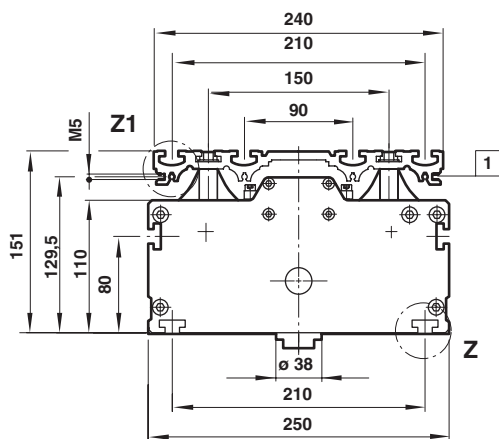
Pneumatic linear drive LAP4, double stroke

Typ	L	L1	L2	L3	L4	Weight at 0 mm	Weight per 100 mm	Weight of carriage
LAP4-50-K-C	260+stroke	200	100	30	87+(1/2 x stroke)	8,2 kg	1,45 kg	1,65 kg
LAP4-50-L-C	360+stroke	300	200	30	87+(1/2 x stroke)	9,7 kg	1,45 kg	1,95 kg

**LAP8 with cross bar**



**LAP8 with table plate**



- # Stroke
- 1 Thread channel M5
- 2 Cover strip

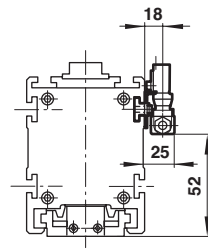
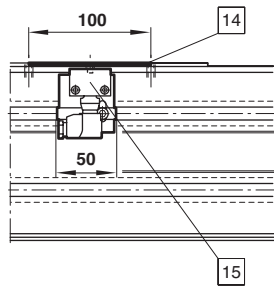
**Pneumatic linear drive LAP8, direct acting**

Typ	L	L1	L2	L3	L5	L6	Weight at 0 mm	Weight per 100 mm	Weight of carriage
LAP8-63-K-A	240+(2 x stroke)	200	15+stroke	25	38	74+stroke	13,8 kg	3,9 kg	5,2 kg
LAP8-63-L-A	600+(2 x stroke)	540	25+stroke	35	38	74+stroke	23,2 kg	3,9 kg	11,8 kg
LAP8-63-M-A	240+(2 x stroke)	180	25+stroke	35	38	74+stroke	13,7 kg	3,9 kg	4,8 kg

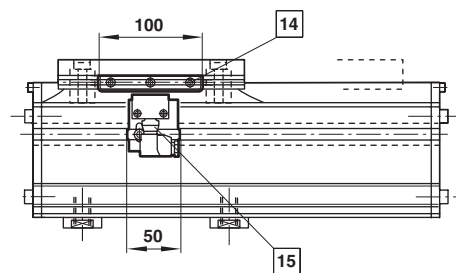
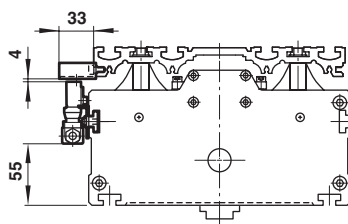
**Pneumatic linear drive LAP8, double stroke**

Typ	L	L1	L2	L3	L5	L6	Weight at 0 mm	Weight per 100 mm	Weight of carriage
LAP8-63-K-C	250+stroke	200	25	25	49	74+(1/2 x stroke)	15,8 kg	1,85 kg	5,2 kg
LAP8-63-L-C	610+stroke	540	35	35	49	74+(1/2 x stroke)	25,2 kg	1,85 kg	11,8 kg
LAP8-63-M-C	250+stroke	180	35	35	49	74+(1/2 x stroke)	15,7 kg	1,85 kg	4,8 kg

**Switch mounting LAP4**



**Switch mounting LAP8**



- 14** Sensor activator
- 15** Proximity switch

**Groove key (zinc coated steel)**

Type	G	Weight
11 112 00	M6	0,006 kg
11 112 01	M8	0,006 kg

