

RODLESS CYLINDER WITH BALL RECIRCULATING GUIDE SERIES PU



Series PU rodless cylinders have an internal strip for longitudinal tightness made of polyurethane (PU) with a harmonic steel wire core. This solution gives excellent air tightness values. It is particularly suitable for high-speed and highly cyclical applications, even with long strokes.

The external strip, which merely provides protection against foreign bodies entry, is made of harmonic steel. The anodized aluminium cylinder liner has a T-slot on either side for housing the retracting sensors.

Cylinder control solenoid valves can also be housed in these slots and secured by means of plates and screws (see page A1.54).

A hardened and tempered steel guide is firmly connected to the side of the liner to increase overall performance. This gives the following features:

- very high load capacity with forces acting in any direction and no transmission to the cylinder carriage;
- ball recirculation pads constructed using special technology that makes them very silent during movement of the guide and gives very long maintenance time intervals; lubrication must be performed every 2000 km or once a year, using type 2 grease, preferably with a lithium soap base;
- extra-sturdy carriage support with numerous load fixing holes and centring pin holes;
- stroke range 100-2470 mm with 1 mm intervals.

One version has shock absorbers + adjustable limit switches.

These can also be added at a later stage by purchasing the relevant kit.



TECHNICAL DATA		
Operating pressure	bar	1 to 8
	MPa	0.1 to 0.8
	psi	14.5 to 116
Temperature range	°C	-10 to +80
	°F	14 to 176
Fluid		50 µm unlubricated filtered air lubrication, if used, must be continuous
Bores	mm	Ø 50
Type of construction		Double-acting rodless cylinder with direct transmission system
Strokes	mm	from 100 to 2470 with 1 interval
Threaded ports		G1/4"
Assembly		As required
Recommended speed	m/s	<2
Max. speed with decelerators	m/s	<2
Weight		See cylinder "General technical data" at the beginning of the chapter
Notes		For speeds lower than 0.2 m / s to prevent surging, use the version No stick-slip and non-lubricated air

COMPONENTS

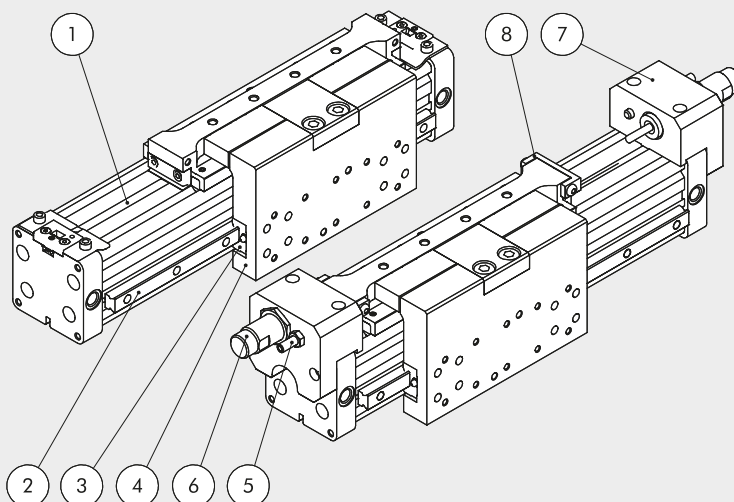
For version 275

- ① CYLINDER: see components of rodless cylinders - series PU
- ② GUIDE: hardened steel
- ③ PAD: steel with hardened ball circulation
- ④ SLIDE SUPPORT: anodized aluminium

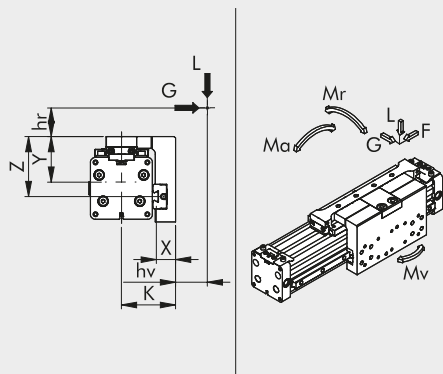
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Besides the details specified above:

- ⑤ END-OF-STROKE STUD PIN: zinc-plated steel, complete with 2 zinc-plated nuts for fixing
- ⑥ SHOCK ABSORBER: burnished steel, complete with 2 zinc-plated or burnished nuts for fixing
- ⑦ DECELERATOR SUPPORT: anodized aluminium
- ⑧ BRACKET: hardened-and-tempered and zinc-plated steel



DIMENSIONING - FORCES AND MOMENTS



Bore	Actual force F at 6 bar [N]	Cushioning stroke [mm]	K [mm]	X [mm]	Y [mm]	Z [mm]	Max load L [N]	Max load G [N]	Ma max [Nm]	Mr max [Nm]	Mv max [Nm]
50	1000	39	75.1	26.6	63.3	83.3	4500	4500	260	140	260

N.B.: When the cylinder is subjected simultaneously to torque and force, keep to the following equations, where the lengths have to be given in metres.

$$Ma = F \times (hr + Y) \quad Mr = G \times (hr + z) + Lx (hv + X) \quad Mv = F \times (K + hv)$$

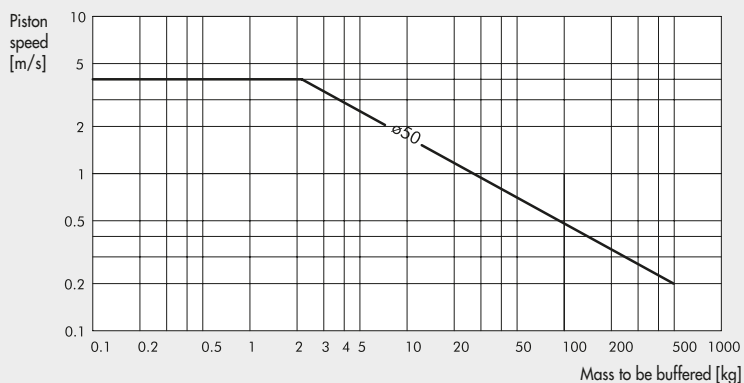
$$\frac{Ma}{Ma_{max}} + \frac{Mr}{Mr_{max}} + \frac{Mv}{Mv_{max}} + \frac{L}{L_{max}} + \frac{G}{G_{max}} \leq 1$$

DIAGRAM OF SPEED AND MAXIMUM CUSHIONABLE LOAD

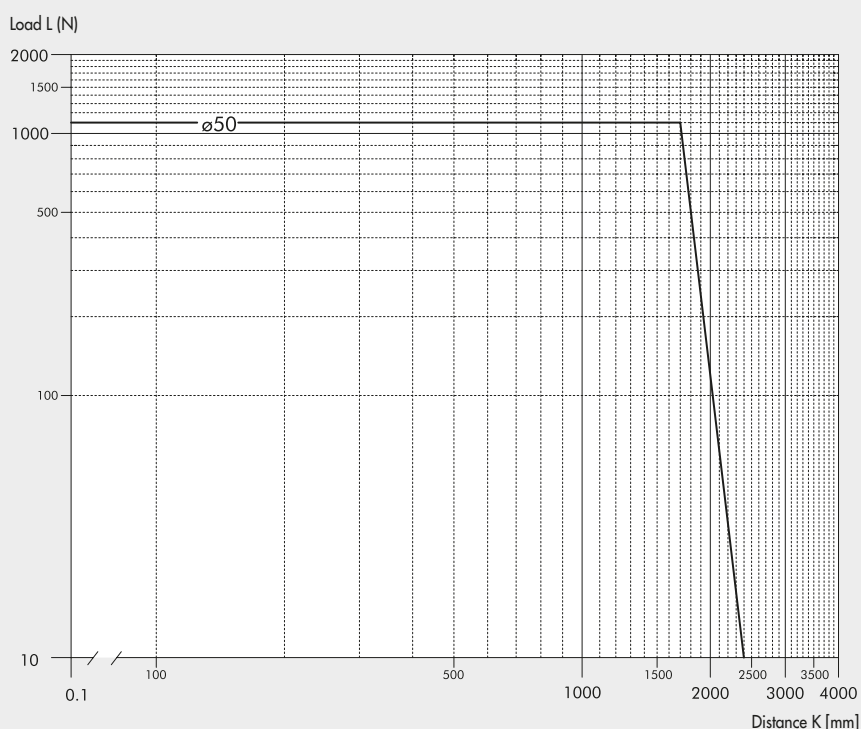
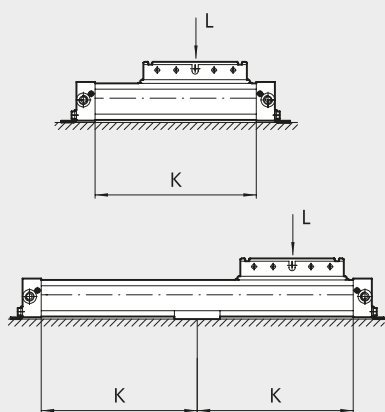
For the cylinder to reach the end-of-stroke position without intense or repeated impact which would damage it, it is necessary to annul the kinetic energy of the moving mass and the work generated.

The maximum cushionable load depends on the traversing speed and the absorption of the air buffer supplied standard with the various cylinders.

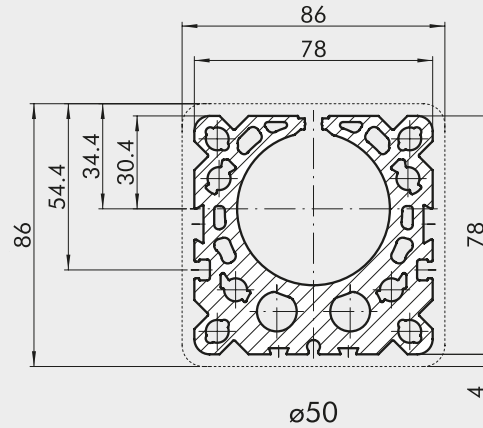
The diagram shows the speeds and cushionable mass for the various diameters at a pressure of 6 bar.



MAXIMUM LOAD ACCORDING TO THE DISTANCE BETWEEN SUPPORTS

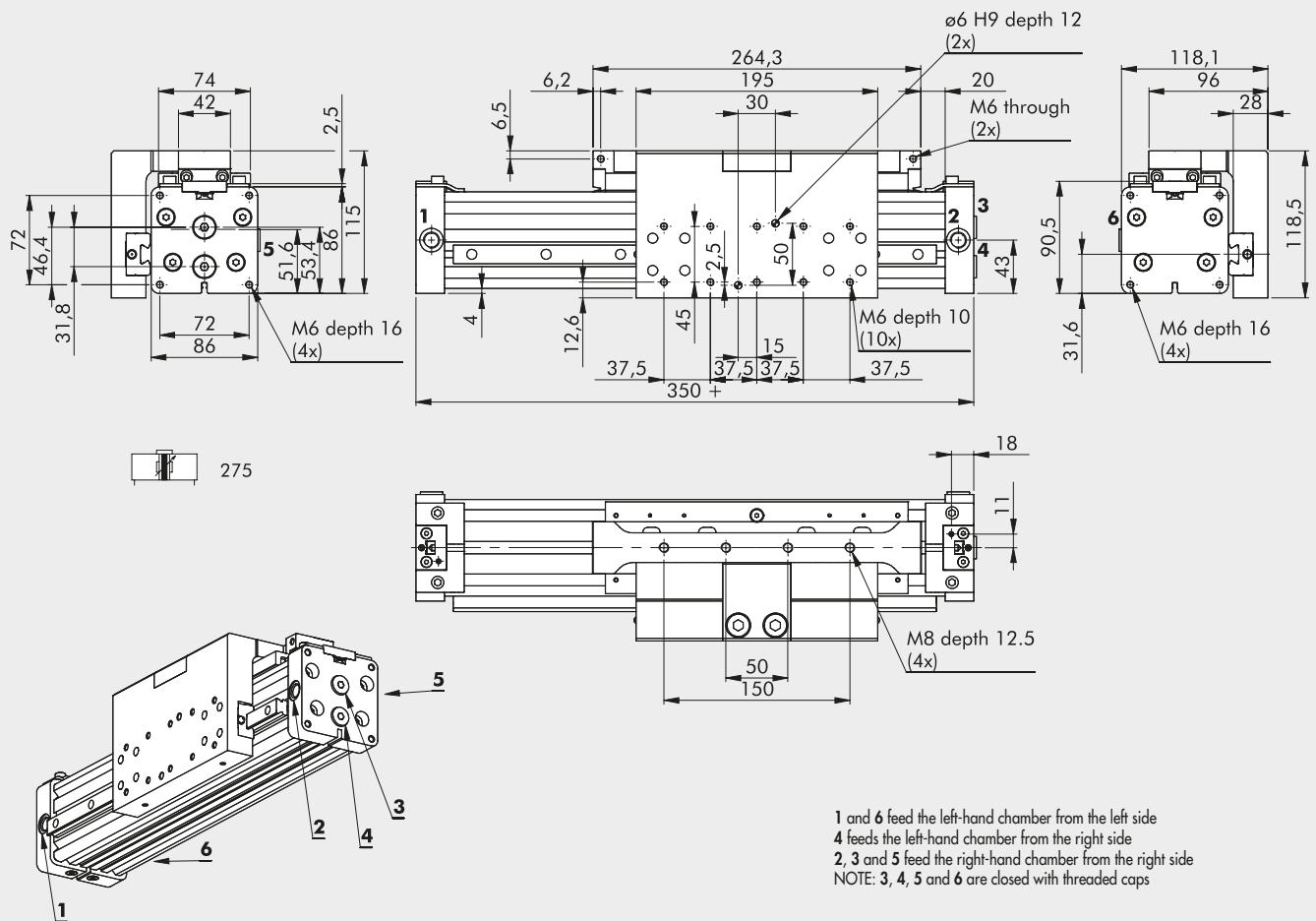


BARREL CROSS SECTION



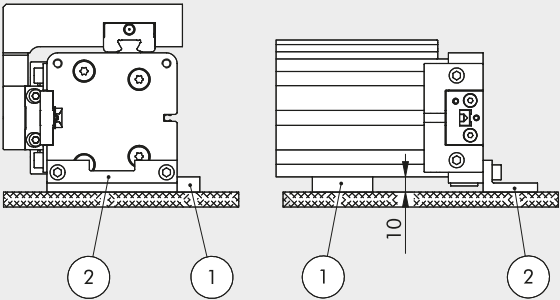
DIMENSIONS

+ = ADD THE STROKE

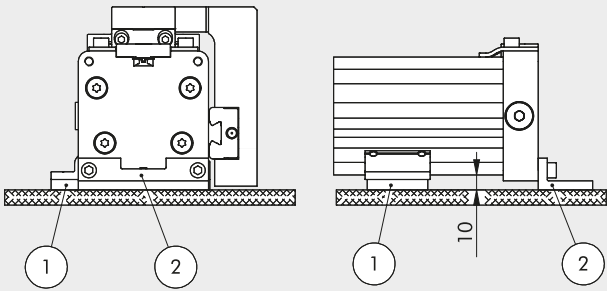


ASSEMBLY DIAGRAMS

275 (horizontal)



275/276 (vertical)



HORIZONTAL LAYOUT

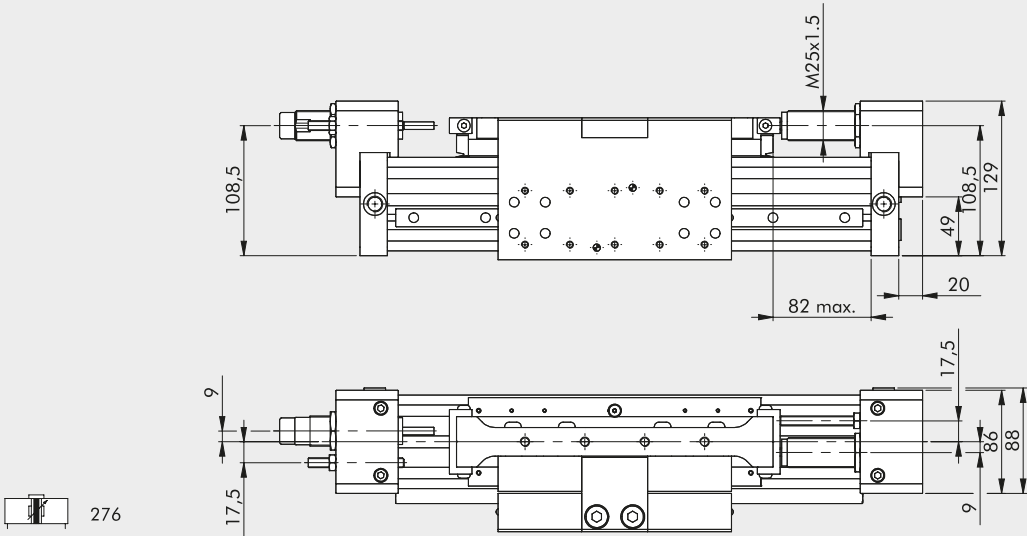
0950504051 Intermediate support code (1)
0950504041 Leg code (2)

VERTICAL LAYOUT

0950504053 Intermediate support code (1)
0950504041 Leg code (2)

DIMENSION VERSION WITH ADJUSTABLE LIMIT SWITCH AND SHOCK ABSORBERS

NOTE: For other dimensions see code 275



Ø	Cushioning stroke [mm]	Max. cushioned force		Max. impact force [N]	Max. thrust force [N]
		Per stroke [J]	Per hour [J]		
50	25	65	70000	5550	1500

For graphs to help choose shock absorbers see page A1.173.

KEY TO CODES

CYL	2 7 TYPE	5	3	5 0 BORE	0 1 0 0 STROKE	C	P GASKETS
	27 Rodless cylinder	5 Double-acting cushioned magnetic with ball circulation guides 6 Double-acting cushioned magnetic with ball circulation guides + adjustable limit switch and shock absorbers	3 Magnetic ■ 4 No stick-slip 5 Non-magnetic	50	from 100 to 2470 mm		P Polyurethane gaskets

■ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only.

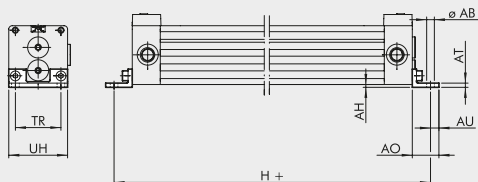
ACCESSORIES AND SPARE PARTS FOR RODLESS CYLINDER SERIES PU



FIXINGS

FOOT

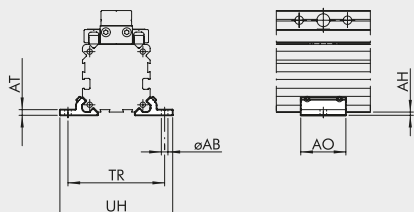
+ = ADD THE STROKE



Code	Ø	ØAB	AH	AO	AT	AU	TR	UH	H	Weight [g]
0950254041	25	5.5	2	19	3	6	32.5	42	226	30
0950324041	32	6.6	3	24	4	7	40	52	284	60
0950404041	40	6.6	3	26	5	8.5	49	63	335	90
0950504041	50	9	6 - 10	36	6	11	72	86	400	203

Note: Individually packed with 2 screws

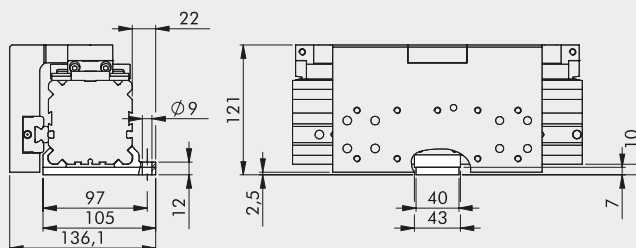
INTERMEDIATE SUPPORT FOR VERSION STD, "V" GUIDE



Code	Ø	ØAB	AH	AO	AT	TR	UH	Weight [g]
W0950257038	25	5.5	2	28	3.5	60	70	16
W0950327038	32	6.6	3	33	4	73	85	30
W0950407038	40	9	3	38	4.5	90	105	42
W0950507038	50	9	10	43	12	106	122	121

Note: 2 support and 4 grub screws for pack (Ø 25-32-40);
2 support, 4 grub screws and 2 plates for pack (Ø 50)

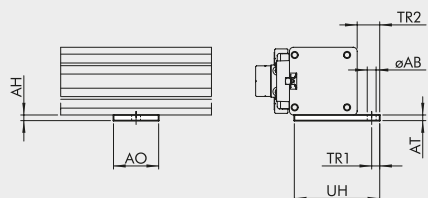
INTERMEDIATE SUPPORT FOR BALL RECIRCULATING", CODE 0950504053



Weight = 132 g

Note: Individually packed with 4 grub screws, 3 screws, 1 plate, 2 intermediate supports

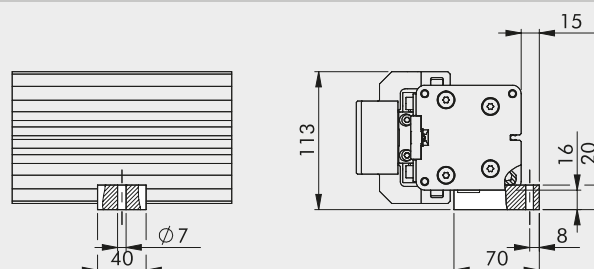
INTERMEDIATE SIDE SUPPORT FOR STD AND BALL RECIRCULATING VERSIONS



Code	Ø	ØAB	AH	AO	AT	TR1	TR2	UH	Weight [g]
0950254051	25	5.5	3.5	28	3.5	5	14	57.5	20
0950324051	32	5.5	4	40	4	5	12	61	32
0950404051	40	7	4	40	4	8	16	75	36
0950504051	50	7	10	40	10	8	19	90	101

Note: Individually packed with 2 screws, 2 plates

INTERMEDIATE SIDE SUPPORT FOR "V" GUIDE VERSION CODE 0950504052



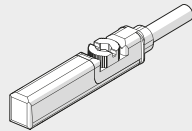
Weight = 162 g

Note: Individually packed with 2 screws, 2 plates

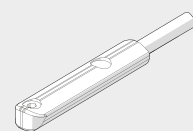
SENSOR

RETRACTABLE SENSOR

SENSOR, SQUARE TYPE
Latest generation,
secure fixing



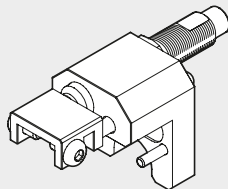
SENSOR, OVAL TYPE
Traditional



For codes and technical data, see **chapter A6**.

SHOCK ABSORBERS

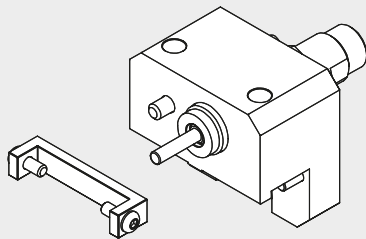
ADJUSTABLE LIMIT SWITCH AND SHOCK ABSORBERS KIT



Code	Ø	Description	Weight [g]
0950254013	25	Rodless cylinder limit switch and shock absorbers Ø 25 series PU	220
0950324013	32	Rodless cylinder limit switch and shock absorbers Ø 32 series PU	420
0950404013	40	Rodless cylinder limit switch and shock absorbers Ø 40 series PU	675
0950504013	50	Rodless cylinder limit switch and shock absorbers Ø 50 series PU	967

Note: supplied complete with 1 decelerator bracket, 1 standard decelerator, 1 decelerator nut, 1 limit switch grub screw, 1 limit switch grub screw nut, 1 limit switch block, 2 block screws and 2 decelerator bracket screws (nr 4 decelerator bracket screw for Ø 40 and Ø 50)

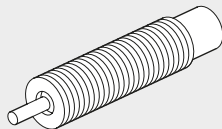
ADJUSTABLE LIMIT SWITCH AND SHOCK ABSORBERS KIT FOR VERSION "V" GUIDE



Code	Ø	Description	Weight [g]
0950504014	50	Rodless cylinder limit switch and shock absorbers Ø 50	967

Note: supplied complete with 1 decelerator bracket, 1 standard decelerator, 1 decelerator nut, 1 limit switch grub screw, 1 limit switch grub screw nut, 1 limit switch block, 2 block screws and 4 decelerator bracket screws

SHOCK ABSORBERS



Code	Ø	Description
0950004004	25	Shock absorbers ECO 25 MC2 + nut M14x1.5
0950004005	32	Shock absorbers ECO 50 MC2 + nut M20x1.5
0950004006	40-50	Shock absorbers ECO 100 MF2 + nut M25x1.5

NOTES