Pneumatic cylinder

TOSS®

Type B, flat

double-acting

Linear Ball Slide
∅ 8 mm
(flat cylinder)

This type of cylinder stands out by its small construction height. To detect the piston position one or more limit switches can be clamped in the provided sensor grooves.

Technical data:

Type	**8 - B, flat**
Design type	Pneumatic cylinder with linear ball guide
Stroke length [mm]	10, 20, 30, 40, 50
Fitting position	any (provided that extended position can always be attained)
Adm. temperature range [°C]	-10 to +70
Medium	Filtered, oiled or non-oiled compressed-air (min. fineness 40 µm)
Compressed-air supply	min. 2 ... max. 6
Compressed-air [bar]	Front
Materials	Base body, upper part, mounting plate, cover, piston plate: Al Guides: 100 Cr 6, piston rod: Ck 45 SL f7 Piston: Ms 58 Seals: NBR, cylinder barrel: Ms 63

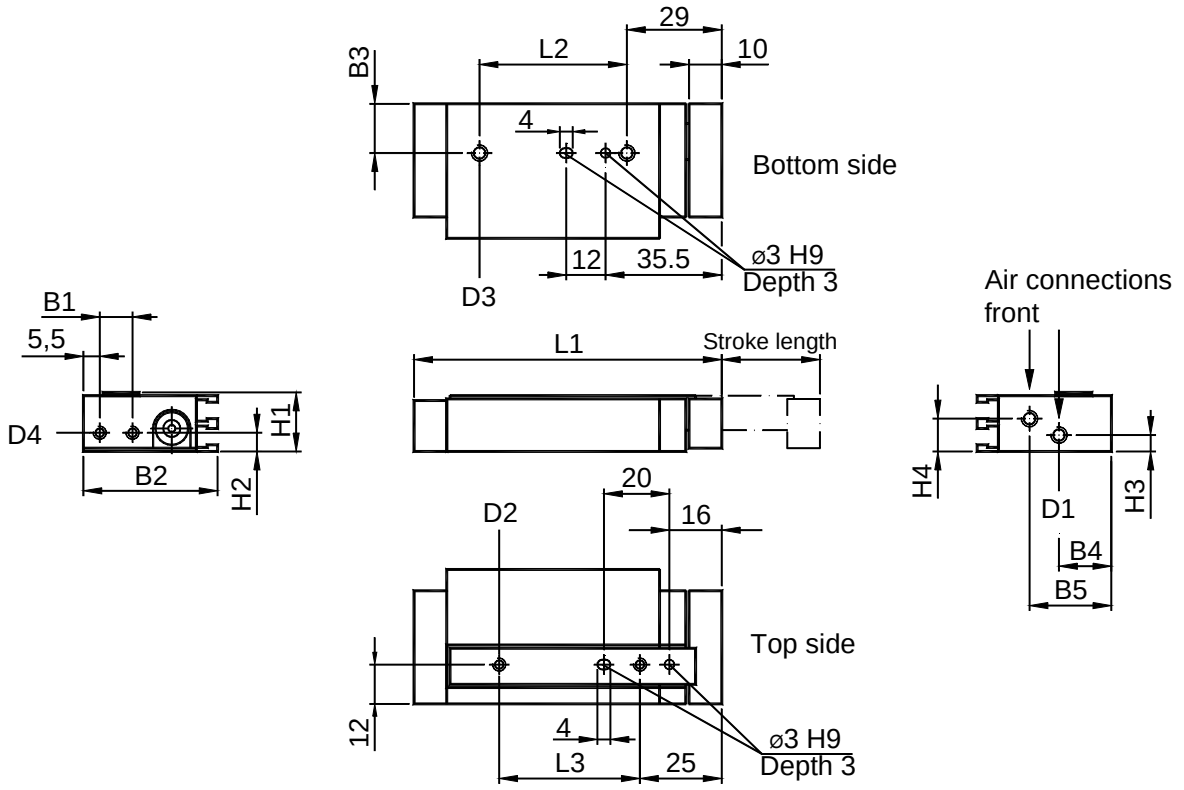
Weights: (gramme)

Piston - ∅ [mm]	**Piston stroke [mm]**				
	10	**20**	**30**	**40**	**50**
8	125	140	160	195	220

Delivery time on request

Pneumatic cylinder

Type B, flat



Dimensions:

Piston ø [mm]	Piston rod ø [mm]	B1 [mm]	B2 [mm]	B3 [mm]	B4 [mm]	B5 [mm]	D1	D2/depth [mm]	D3/depth [mm]	D4/depth [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
8	4	10	41	15	15,5	27	M5	M4/6,0	M4/5,5	M4/9,5	17	5,7	5,3	7

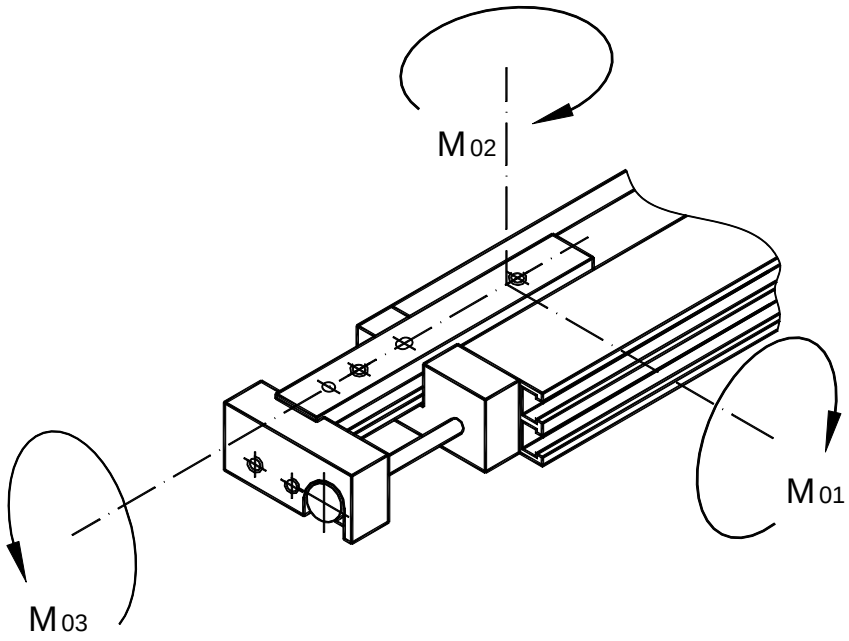
Piston - ∅ [mm]		**Stroke length [mm]**				
		10	**20**	**30**	**40**	**50**
8	L1	74	84	94	114	129
	L2	25	25	25	2 x 25	2 x 25
	L3	25	25	25	2 x 25	2 x 25

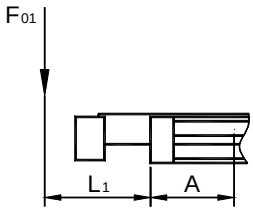
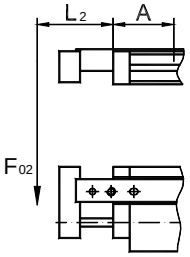
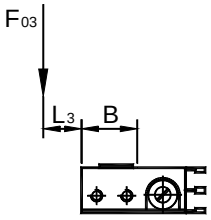
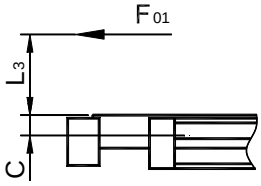
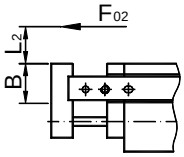
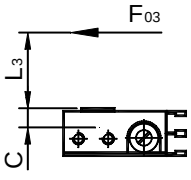
© 2007 **Toss Pneumatics** | 539 South Main Street | Nazareth, PA 18064 USA
Phone: 610-759-8883 | Fax: 610-759-1766
Email us at: info@pneumaticballslide.com Website: www.pneumaticballslide.com

Pneumatic cylinder

Admissible stress

Type B, flat



Longitudinal torque	Lateral torque	Transverse torque
		
$F_{01} \leq \frac{M_{01\ zul.}}{L_1 + A}$	$F_{02} \leq \frac{M_{02\ zul.}}{L_2 + A}$	$F_{03} \leq \frac{M_{03\ zul.}}{L_3 + B}$
		
$F_{01} \leq \frac{M_{01\ zul.}}{L_1 + C}$	$F_{02} \leq \frac{M_{02\ zul.}}{L_2 + B}$	$F_{03} \leq \frac{M_{03\ zul.}}{L_3 + C}$

© 2007 **Toss Pneumatics** | 539 South Main Street | Nazareth, PA 18064 USA
Phone: 610-759-8883 | Fax: 610-759-1766
Email us at: info@pneumaticballslide.com Website: www.pneumaticballslide.com

Pneumatic cylinder

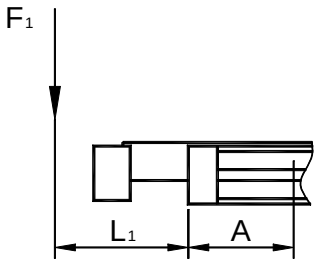
Admissible stress

Stroke length [mm]	10		20		30		40		50	
∅ / Type	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm
8 - B, Flach	0,89	0,46	1,53	0,51	1,57	0,51	2,05	0,7	2,08	0,7

Correction factors:

∅ / Type	Stroke length	A	B	C
	[mm]	[mm]	[mm]	[mm]
8 - B, flat	10	34,5	5,5	6,3
	20	41,6		
	30	46,6		
	40	55,8		
	50	60,8		

Example of calculation:



Stress - longitudinal torque M_1

Given qty: 8 - B, Flach with a stroke length of 30 mm
Lever arm L_1 = 20 mm = 0,02 m
Longitudinal torque M_1 = 1,57 Nm
Correction factor A = 46,6 mm = 0,046 m

Required qty: $F_1 \leq \frac{M_1}{L_1 + A} = \frac{1{,}57\ \text{Nm}}{0{,}02\ \text{m} + 0{,}0466\ \text{m}} = 23{,}6\ \text{N}$

© 2007 **Toss Pneumatics** | 539 South Main Street | Nazareth, PA 18064 USA
Phone: 610-759-8883 | Fax: 610-759-1766
Email us at: info@pneumaticballslide.com Website: www.pneumaticballslide.com