Mini Slide Cylinder

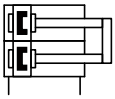
Overview

The diameter of this series ranges from 8 to 25, the slide and yoke are a single component offering great torsional rigidity and unrivalled precision, mainly for pick-and-place units in gripping systems, excellent value for money.

Feature

·Precise and resilient roller bearing guide
·Compact structure and high feed force
·Simple design with symmetrical mounting interface

Graphical Symbol



P: Cushioning

How to order

DPGB	-16	×20	-A	-P	-
Mini slide cylinder	①	②	③	④	⑤
①	- Piston diameter：8、10、12、16、20、25				
②	× Stroke length 10...200mm				
③	- A= For proximity switch				
④	- Chusioning P： Elastic cushioning rings/plates, adjustable at both ends E1: Elastic cushioning at both ends, stroke not adjustable				
⑤	- Standard: L= mirror-imagined				

Data sheet

General technical data						
Size[mm]	8	10	12	16	20	25
Design	Twin piston, piston rod, slide, yoke					
Guide	Recirculating ball bearing guide				Three-part cage guide	
Operating mode	Double-acting					
Type of mounting	With through-hole					
	Via female thread					
Pneumatic connection	M5				G1/8	
Stroke[1] [MM]	10 ... 80	10 ... 100	10 ... 100	10 ... 150	10 ... 200	10 ... 200
Cushioning						
DPGB-...-P	Elastic cushioning rings/plates at both ends					
Max.cushioning length						
DPGB-...-P [MM]	1.5	1.5	1.3	1	1.2	1.2
DPGB-...-E1[2] [MM]	0.5/1.5	0.6/1.6	0.5/1.1	0.6/0.8	0.5/1	0.5/1.2
Position sensing	Via proximity switch					
Mounting position	Any					

Data sheet

Max. speed						
Size [mm]	8	10	12	16	20	25
DPGB-...-P [m/s]	0.8	0.8	0.8	0.8	0.8	0.8
DPGB-...-E1 [m/s]	0.5	0.5	0.5	0.5	-	-
Position sensing	Via proximity switch					
Mounting position	Any					
Repetition accuracy						
DPGB-...-P/-E1 [mm]	⩽ 0.3					

0) For DPGB-…-E1, the actual stroke is slightly longer

2) Advanced end position/retracted end position

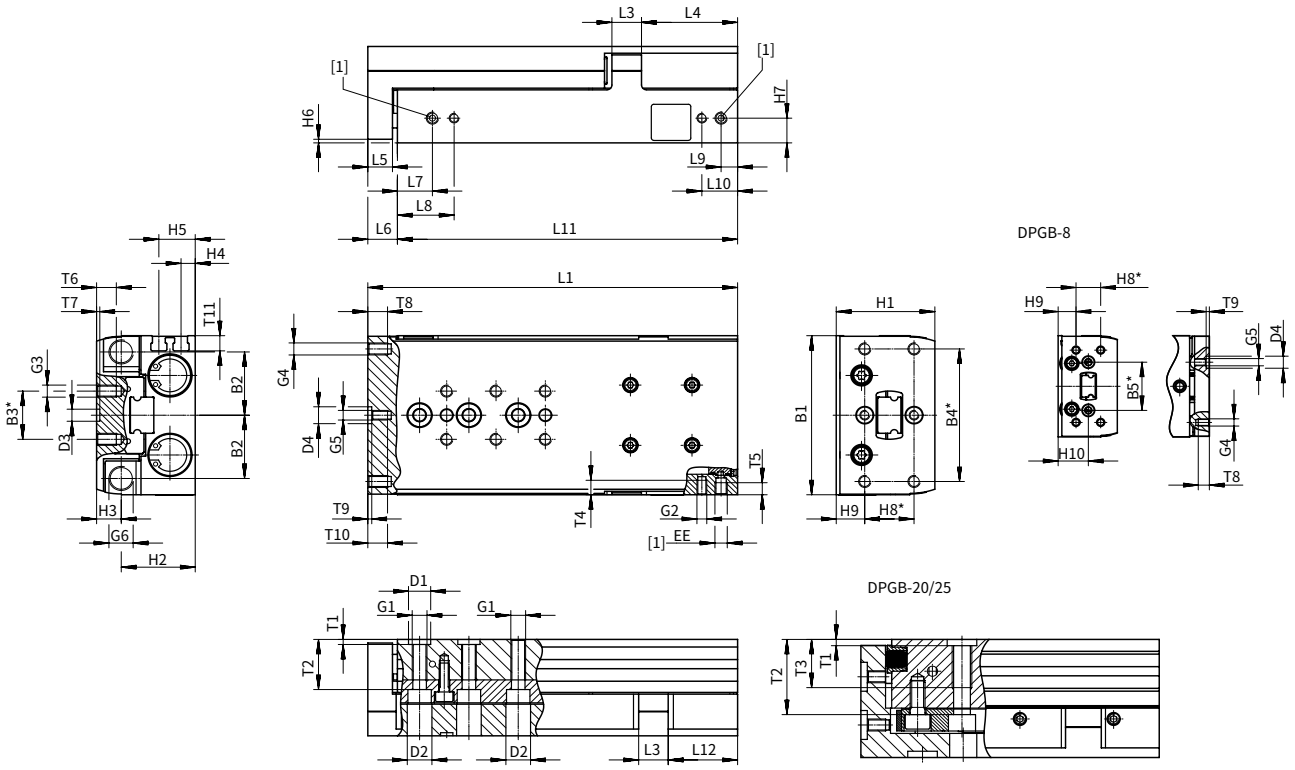
Operating and environmental conditions						
Size [mm]	8	10	12	16	20	25
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]					
Information on the operating medium	Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure [1] [MPa]	0.15 ... 0.8	0.1 ... 0.8				
Ambient temperature °C	–10 ... +60					
Corrosion resistance class [2]	1					

0) For size 8/10/12, the min. operation pressure can increase slightly after a rest period.

2) Low corrosion resistance.

Force [N] and impact energy [J]							
Size [mm]		8	10	12	16	20	25
Th e theoretical force at 6 bar, adv a n c i n g [N]		60	94	136	241	377	589
The theoretical force at 6 bar, retracting [N]		45	79	102	207	317	495
Impact ener gy in the e nd positions							
DPGB-...-P	[Nm]	0.05	0.08	0.12	0.25	0.35	0.45
DPGB-...-E1	[Nm]	0.03	0.05	0.07	0.15	0.2	0.3

Dimensions



[1]= Supply ports

* = ±0.02mm to the centring

= ±0.1mm to the thread

Dimensions

Size	B1	B2	B3±0.1	B4±0.1	B5	D1φH7	D2φ	D3φH7	D4φ	EE	G1	G2	G3	G4
8	42	17	10	30	20	5	6	5	5H7	M5	M4	M3	M3	M3
10	50	20.8	20	40	–	7	8	5	5H7	M5	M5	M4	M4	M4
12	60	24.5	20	40	–	7	8	5	7H7	M5	M5	M4	M4	M4
16	66	26.3	20	55	–	9	10	5	7H7	M5	M6	M4	M5	M5
20	85	34.5	40	70	–	12	11	12	12H7	G1/8	M8	M5	M5	M5
25	104	42	40	80	–	12	11	12	12H7	G1/8	M8	M6	M6	M6

Size	G5	G6	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	L3	L4
8	M3	M5x0.5	24	17.7	6.3	3.1	8.1	1.5	5.6	10	7.3	12.3	6	30.5
10	M3	M6x0.5	29	21	8	4	10	1.5	7	20	5	–	8	31
12	M4	M8x1	36	26.5	9.5	5.9	11.9	1.5	8.9	20	9.5	–	10	36
16	M4	M10x1	40	30	10	5.8	14.8	1.5	10.3	20	11.6	–	12	39
20	M5	M12x1	49	36.5	12.5	8.7	17.7	2.5	13.2	20	15.5	–	14.5	51
25	M6	M14x1	60	44.5	15.5	11	21	2.5	16	40	10	–	17.5	65

Size	L5	L6[1)]	L7	L8[2)]	L9	L10[2)]	T1	T2	T3[3)] max.	T4[3)] max.	T5[3)] max.
8	6	8	8.5	16.5	5.5	13.5	1.3+0.1	11.5	–	5	4.5
10	8	10	8.9	17.9	6.6	15.6	1.6+0.1	14.5	–	6.2	5
12	8	10	10.7	19.5	7	15.8	1.6+0.1	19.8	–	7	5.5
16	10	12	14.2	23	6.7	15.5	2.1+0.1	20.8	–	6	5
20	10	12.5	16.5	30.5	8	22	2.6+0.3	31.2	20	8	8.5
25	12	14.5	16.5	31.5	10.5	25.5	2.6+0.3	37.2	20	9.5	8

Size	T7	T8[3)] max.	T9	T10[3)] max.	T11	Additional stroke without cushioning with variant DPGB-...-E1		Max. cushioning length in the end positions with variant DPGB-...-E1	
						min.	max.	Advanced	Rear
8	1.3+0.1	4.5	1.3+0.1	–	5	0	0.7	0.5	1.6
10	1.3+0.1	6.5	1.3+0.1	6.5	5.9	0	0.7	0.6	1.6
12	1.3+0.1	6.5	1.6+0.1	8	7	0.4	1.1	0.5	1.1
16	1.3+0.1	8	1.6+0.1	8	6.3	0.65	1.4	0.6	0.65
20	2.6+0.3	8	2.6+0.3	10	9.1	0.4	1.1	0.5	1
25	2.6+0.3	10	2.6+0.3	13	8.8	0.5	1.2	0.5	1.2

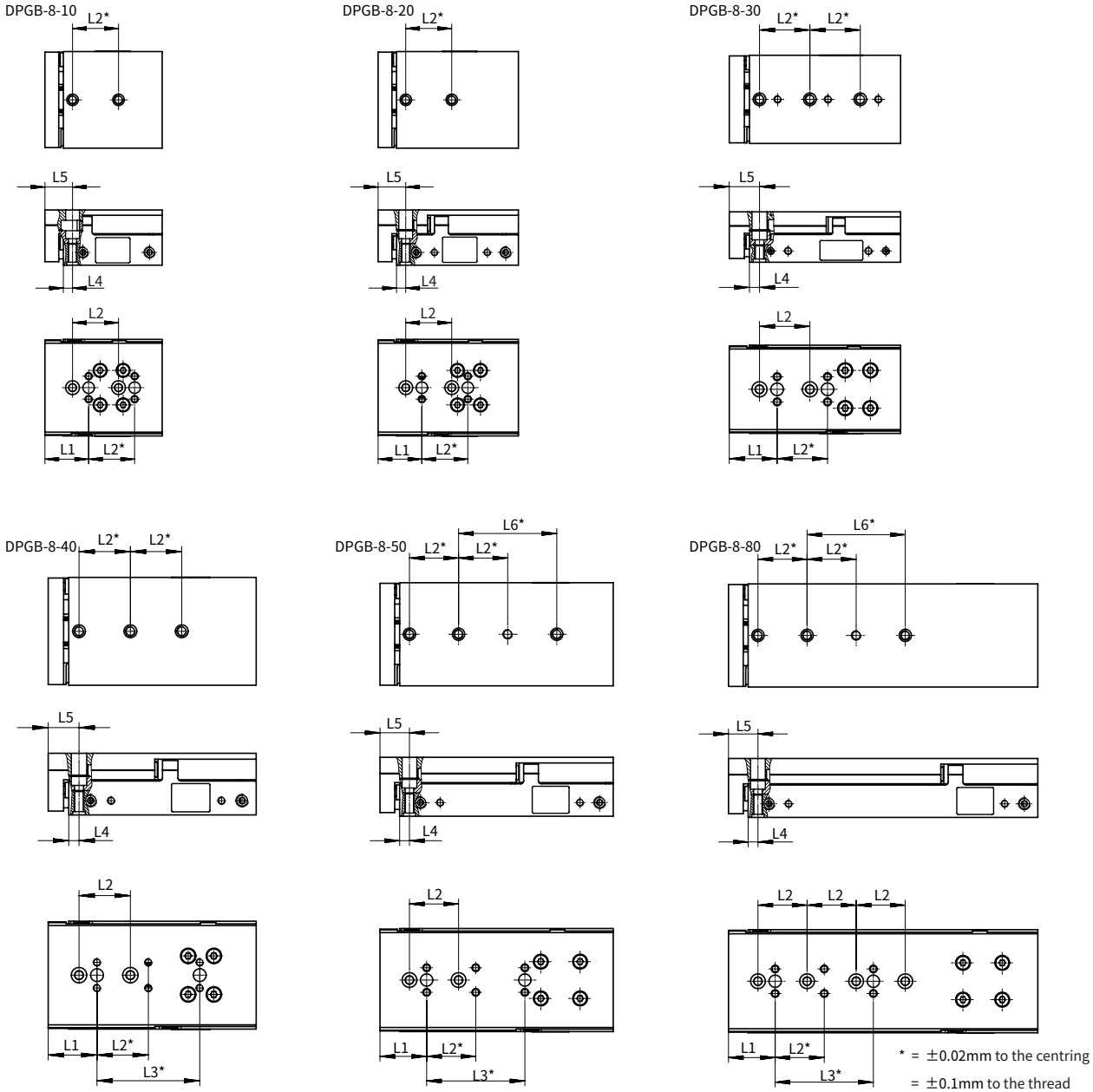
Dimensions

Stroke [mm]	10	20	30	40	50	80	100	125	150	200
Size	L1[1)]									
8	51	61	71	81	95	126	–	–	–	–
10	66	68	78	88	98	136	156	–	–	–
12	66	76	86	96	106	136	169.5	–	–	–
16	73	80	87	97	112	150	170	210	235	–
20	97	97	97	107	121	166	204.5	244	279	343
25	102	102	108	118	128	168	207	246	281	345
Size	L11									
8	43	53	63	73	87	118	–	–	–	–
10	56	58	68	78	88	126	146	–	–	–
12	56	66	76	86	96	126	159.5	–	–	–
16	61	68	75	85	100	138	158	198	223	–
20	84.5	84.5	84.5	94.5	108.5	153.5	192	231.5	266.5	330.5
25	87.5	87.5	93.5	103.5	113.5	153.5	192.5	231.5	266.5	330.5
Size	L12									
8	15.7	15.7	15.7	15.7	19.7	20.7	–	–	–	–
10	24.6	16.6	16.6	16.6	16.6	24.6	24.6	–	–	–
12	20.6	20.6	20.6	20.6	20.6	20.6	34.1	–	–	–
16	21.2	18.2	15.2	15.2	20.2	28.2	28.2	39	39	–
20	39.5	29.5	19.5	19.5	23.5	38.5	51	51	51	51
25	36.5	26.5	22.5	22.5	22.5	32.5	51.5	65	65	65
Size	T6 (max.)[3)]									
8	5.5	5.5	5.5	5.5	5.5	5.5	–	–	–	–
10	4.5	4.5	4.5	4.5	4.5	7.5	7.5	–	–	–
12	5.2	5.2	5.2	5.2	5.2	8	8	–	–	–
16	7.2	7.2	7.2	7.2	7.2	8	8	8	8	–
20	8	8	8	8	8	8	8	8	8	8
25	11	11	11	11	11	11	11	11	11	11

1) At an operating pressure of 6 bar.
2) Not available in sizes 6 and 8 with stroke 10 mm. For size 16 with stroke 80... 150 mm, the diameter is 14.5 mm.
3) Max. screw-in depth

Dimensions

Hole pattern for mounting threads and centring holes DPGB-8-00~80

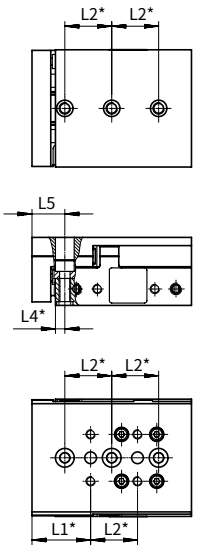


Size	Stroke[mm]	L1	L2	L3	L4	L5	L6
8	10	19	20	–	4	12	–
	20			–			–
	30			–			–
	40			40			–
	50			40			40
	80			40			40

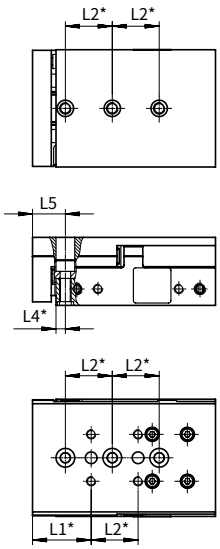
Dimensions

Hole pattern for mounting threads and centring holes DPGB-00-00~000

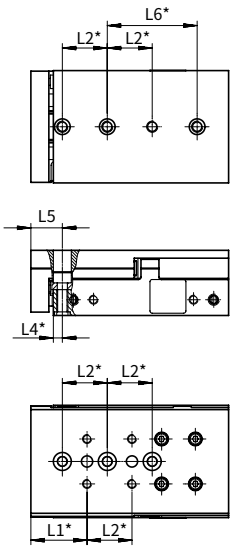
DPGB-10-10/20



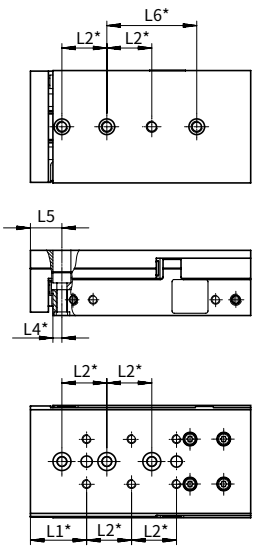
DPGB-10-30



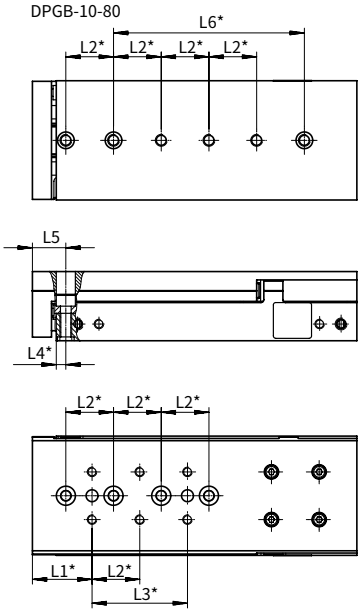
DPGB-10-40



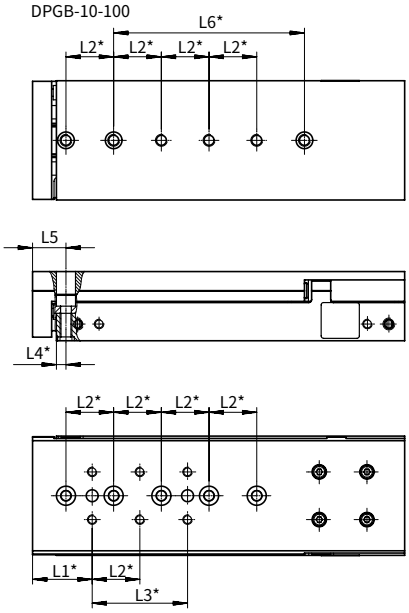
DPGB-10-50



DPGB-10-80



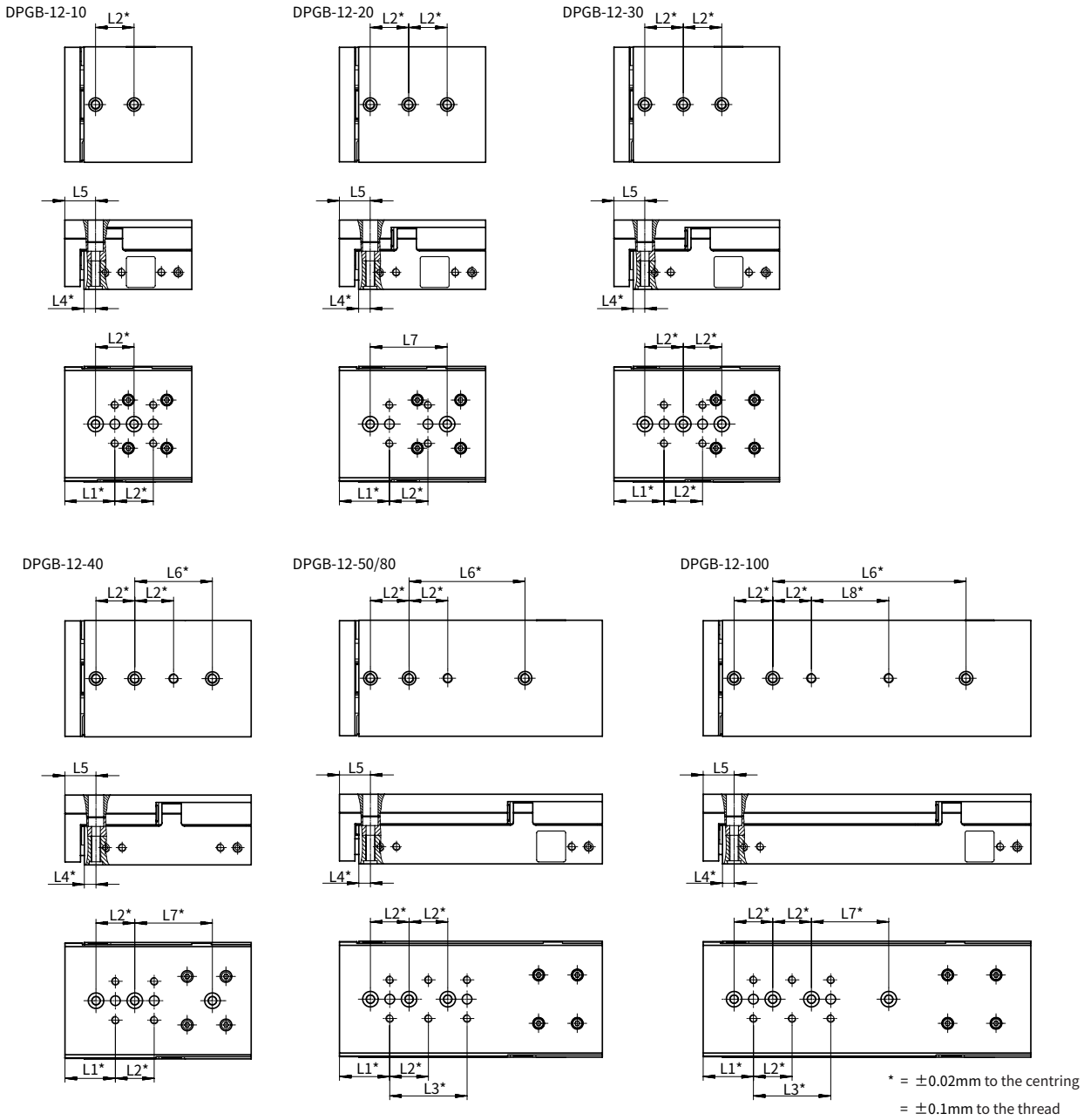
DPGB-10-100



Size	Stroke[mm]	L1	L2	L3	L4	L5	L6
10	10, 20	25	20	–	4	14	–
	30			–			–
	40, 50			–			40
	80			40			80
	100			40			80

Dimensions

Hole pattern for mounting threads and centring holes DPGB-02-00~000

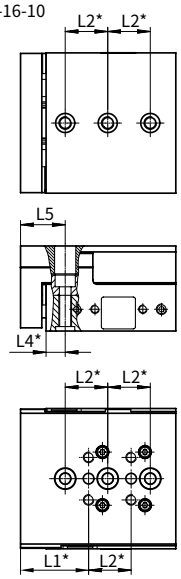


Size	Stroke[mm]	L1	L2	L3	L4	L5	L6	L7	L8
12	10	26	20	–	6	16	–	–	–
	20			–			–	40	–
	30			–			–	-	-
	40			-			40	40	-
	50, 80			40			40, 60	-	-
	100			40			100	40	40

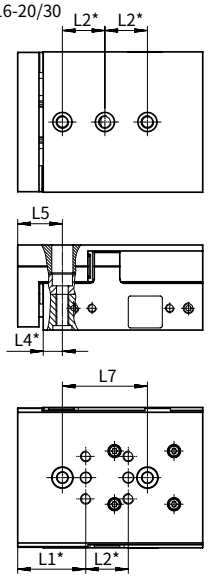
Dimensions

Hole pattern for mounting threads and centring holes DPGB-06-00~40

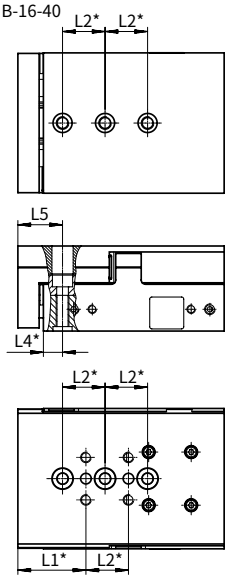
DPGB-16-10



DPGB-16-20/30



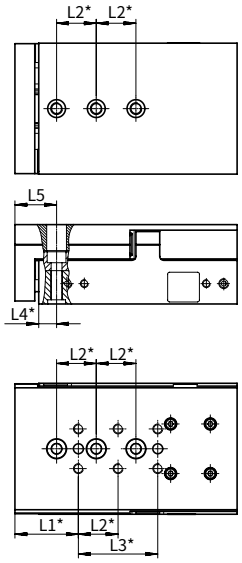
DPGB-16-40



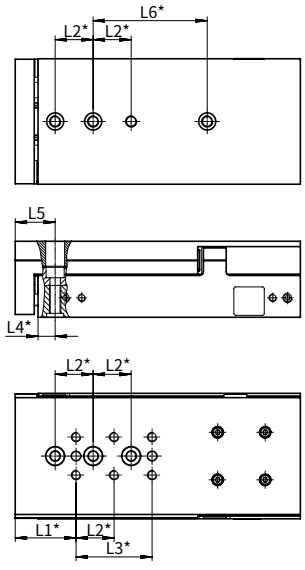
Size	Stroke[mm]	L1	L2	L4	L5	L7
16	10	32	20	9	21	–
	20					40
	30					40
	40					–

Hole pattern for mounting threads and centring holes DPGB-06-50~000

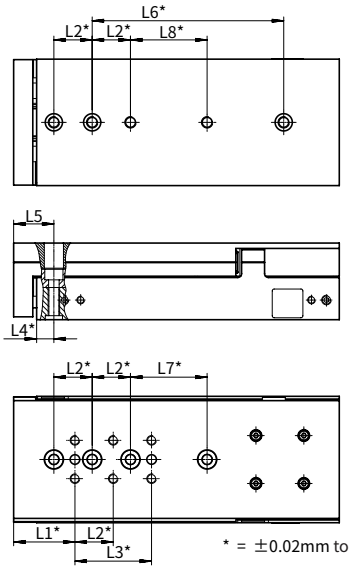
DPGB-16-50



DPGB-16-80



DPGB-16-100



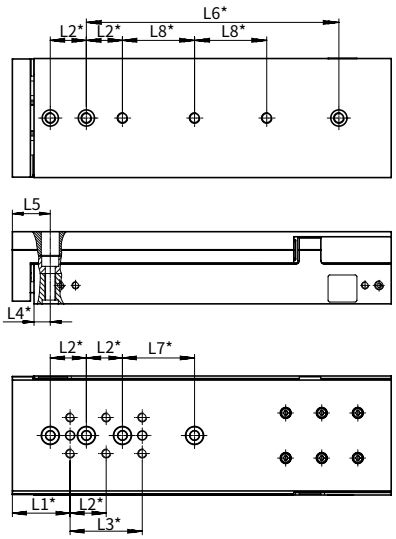
* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke[mm]	L1	L2	L3	L4	L5	L6	L7	L8
16	50	32	20	40	9	21	–	–	–
	80						60	–	–
	100						100	40	40

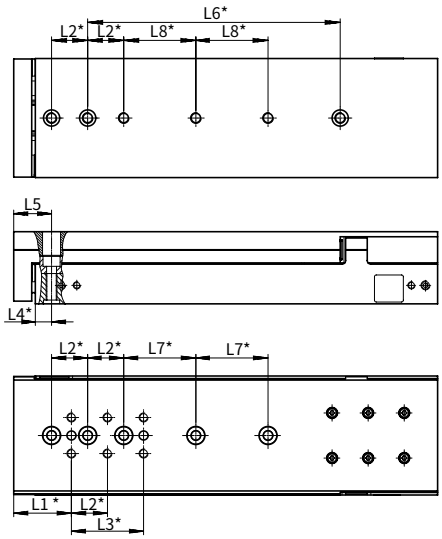
Dimensions

Hole pattern for mounting threads and centring holes DPGB-06-025~050

DPGB-16-125



DPGB-16-150

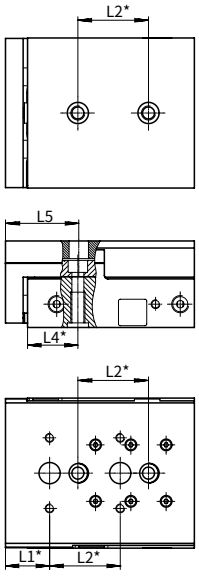


* = ±0.02mm to the centring
= ±0.1mm to the thread

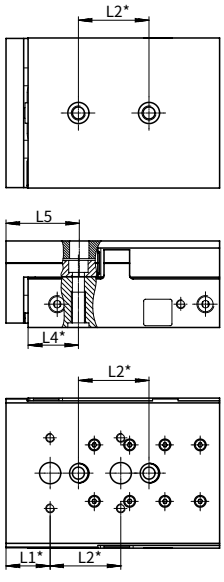
Size	Stroke[mm]	L1	L2	L3	L4	L5	L6	L7	L8
16	125	32	20	40	9	21	140	40	40
	150								

Hole pattern for mounting threads and centring holes DPGB-20-00~80

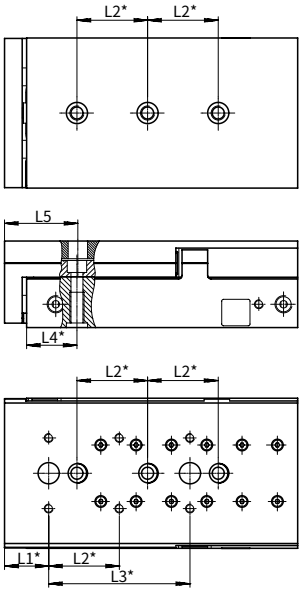
DPGB-20-10/20/30/40



DPGB-20-50



DPGB-20-80



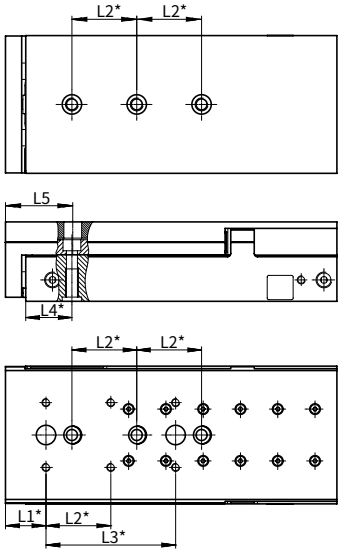
* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke[mm]	L1	L2	L3	L4	L7
20	10	25	40	–	28.5	41.5
	20			–		
	30			–		
	40			–		
	50			–		
	80			80		

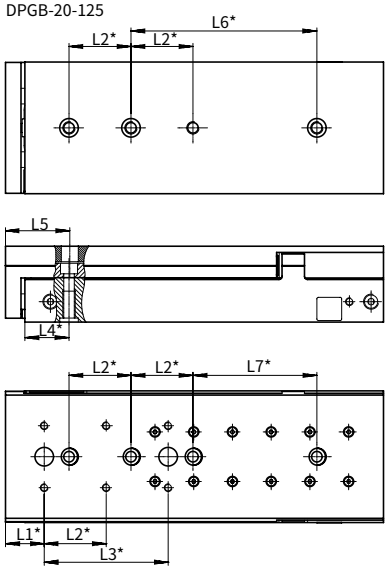
Dimensions

Hole pattern for mounting threads and centring holes DPGB-20-000~025

DPGB-20-100



DPGB-20-125

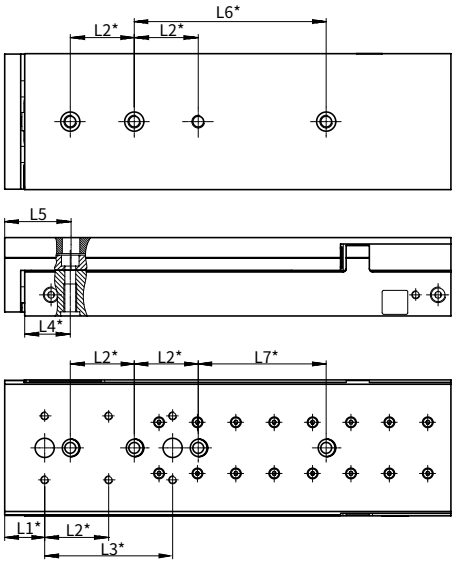


* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7
20	100	25	40	80	28.5	41.5	–	80
	125						120	

Hole pattern for mounting threads and centring holes DPGB-20-050

DPGB-20-150



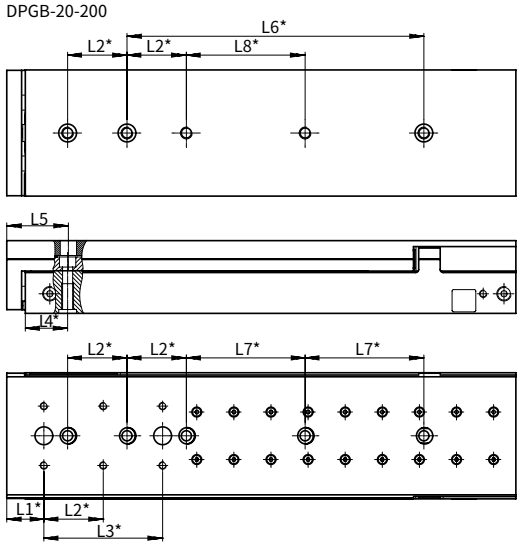
* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7
20	150	25	40	80	28.5	41.5	120	80

Dimensions

Hole pattern for mounting threads and centring holes DPGB-20-200

DPGB-20-200

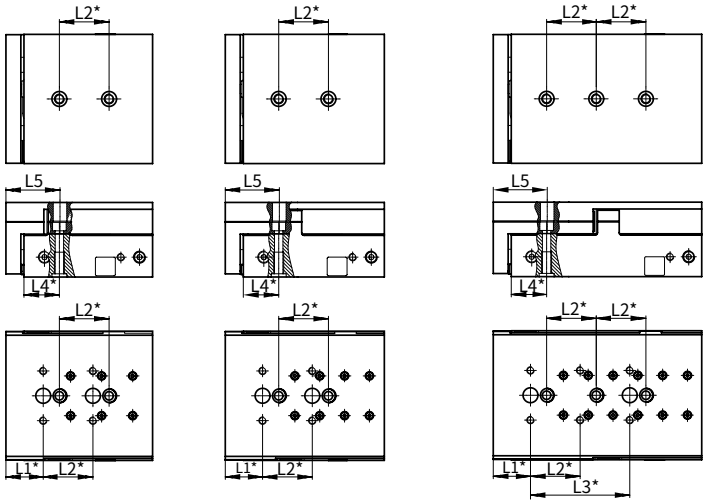


* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7	L8
20	200	25	40	80	28.5	41.5	200	80	80

Hole pattern for mounting threadsandcentring holes DPGB-25-10-80

DPGB-25-10/20/30/40 DPGB-25-50 DPGB-25-80



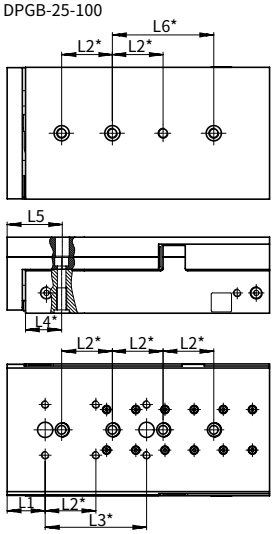
* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5
25	10	30	40	–	28.5	43.5
	20			–		
	30			–		
	40			–		
	50			–		
	80			80		

Dimensions

Hole pattern for mounting threads and centring holes DPGB-25-000

DPGB-25-100

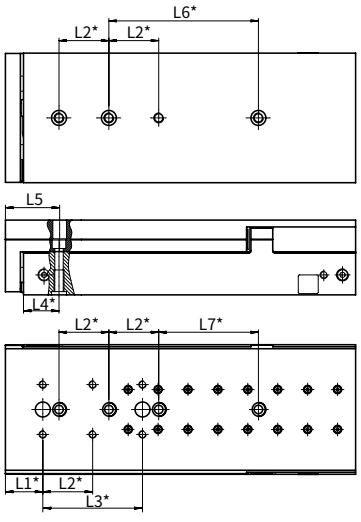


* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7
25	100	30	40	80	28.5	43.5	80	80

Hole pattern for mounting threads and centring holes DPGB-25-025

DPGB-25-125

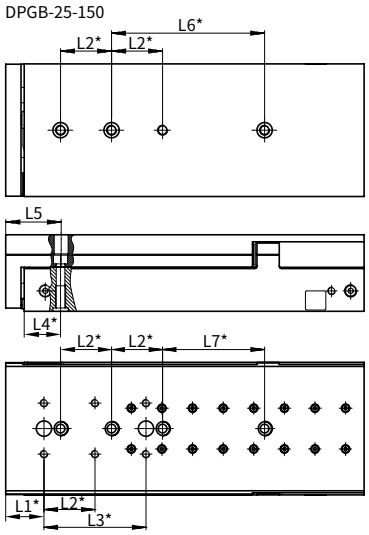


* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7
25	125	30	40	80	28.5	43.5	120	80

Dimensions

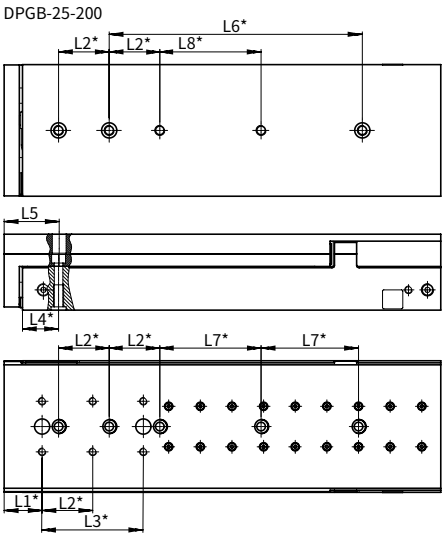
Hole pattern for mounting threads and centring holes DPGB-25-050



* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7
25	150	30	40	80	28.5	43.5	120	80

Hole pattern for mounting threads and centring holes DPGB-25-200



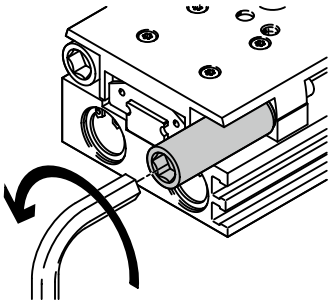
* = ±0.02mm to the centring
= ±0.1mm to the thread

Size	Stroke [mm]	L1	L2	L3	L4	L5	L6	L7	L8
25	200	30	40	80	28.5	43.5	200	80	80

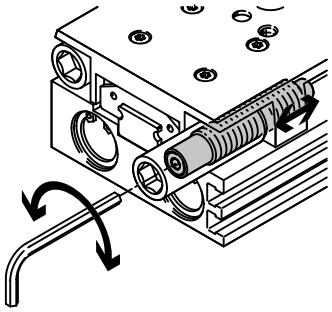
Adjustable end-position range

· Operating mode

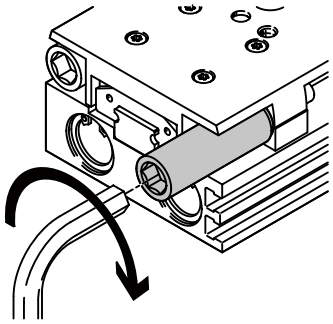
Precise adjustment of the advanced and retracted end positions. The required stroke reduction can be precisely adjusted with the cushioning components.



Step 1:
Screw the cushioning component and sleeve into the holder using a hex wretch until the stop is reached.



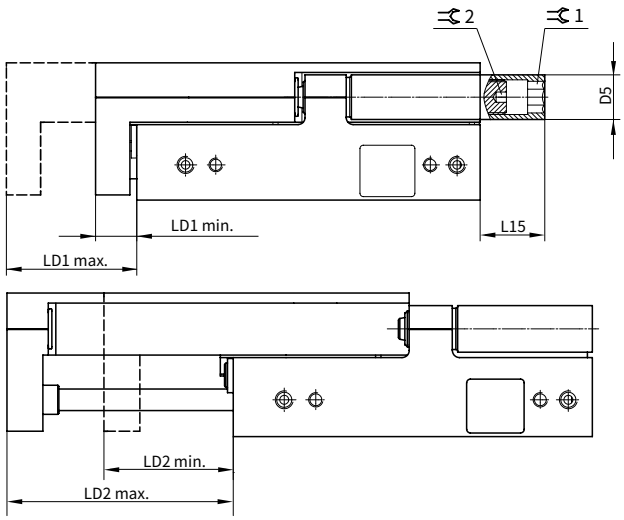
Step 2:
Set the exact end position using a smaller hex wretch



Step 3:
Secure the cushioning component by tightening the sleeve.

· End-position adjustment

DPGB-...-P: Setting dimension and projection in the end positions



Size	Stroke [mm]	D5ϕ	Retracted end position			Advanced end positionLD2			L15	1	2
			Setting range	min.	max.	Setting range	max.	min.			
8	10	7	10	9.1	19.1	10	19.1	9.1	14.8	4	1.5
	20		14.4		23.5	16.3	29.1	12.8			
	30						39.1	22.8			
	40						49.1	32.8			
	50						59.1	42.8	10.8		
	80						89.1	72.8	9.8		

Adjustable end position range

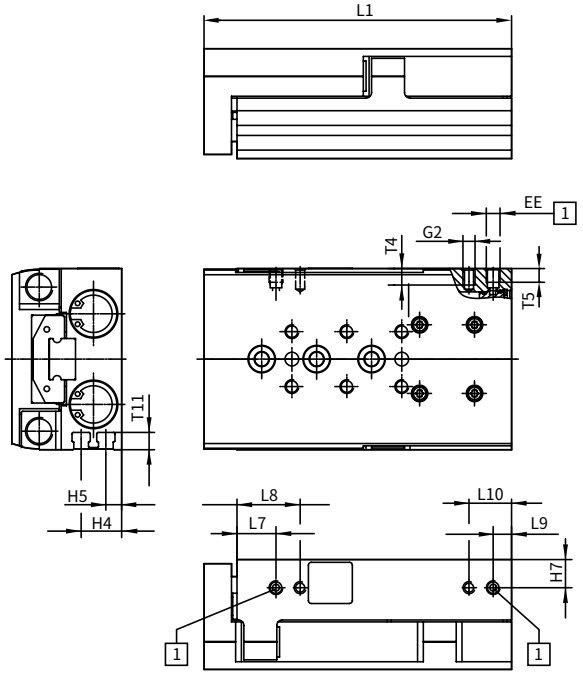
·End-position adjustment

-DPGB-...-P: Setting dimension and projection in the end positions

Size	Stroke [mm]	D5ϕ	Retracted end positionLD1			Advanced end positionLD2			L15	⇄1	⇄2
			Setting range	min.	max.	Setting range	max.	min.			
10	10	8	10	11.1	21.1	10	21.1	11.1	6.4	5	2
	20		15.1		26.2	16.7	31.1	14.4	13.9		
	30						41.1	24.4			
	40						51.1	34.4			
	50						61.1	44.4			
	80						91.1	74.4	5.9		
	100						111.1	94.4			
12	10	10	10.1	10.9	21	10.1	21	10.9	15.4	6	2.5
	20		20.1		31	20.1	31	10.9			
	30		20.8		31.7	22.1	41	18.9			
	40						51	28.9			
	50						61	38.9			
	80						91	68.9			
	100						111	88.9	1.9		
16	10	13	10.3	12.7	23	10.3	23	12.7	17.85	8	3
	20		20.3		33	20.3	33	12.7	20.85		
	30		21.5		34.2	22.8	43	20.2	23.85		
	40						53	30.2			
	50						63	40.2	18.85		
	80						93	70.2	10.85		
	100						113	90.2			
	125						138	115.2	0		
	150						163	140.2			
20	10	15	10.1	13.1	23.2	10.1	23.2	13.1	11.5	10	4
	20		20.1		33.2	20.1	33.2	13.1	21.5		
	30		30.1		43.2	30.1	43.2	13.1	31.5		
	40		31.1		44.2	32.9	53.2	20.3			
	50						63.2	30.3	27.5		
	80						93.2	60.3	12.5		
	100						113.2	80.3			
	125						138.2	105.3	0		
	150						163.2	130.3			
	200						213.2	180.3			
25	10	18	10.2	15.3	25.5	10.2	25.5	15.3	28.5	10	4
	20		20.2		35.5	20.2	35.5	15.3	38.5		
	30		30.2		45.5	30.2	45.5	15.3	42.5		
	40		40.2		55.5	40.2	55.5	15.3			
	50		45.4		60.7	47	65.5	18.5			
	80						95.5	48.5	32.5		
	100						115.5	68.5	13.5		
	125						140.5	93.5			
	150						165.5	118.5	0		
	200						215.5	168.5			

Variant

[L] Mirror-imaged



+=plus stroke length
[1]Supply ports

Note:
In the mirror-inverted version, the supply ports and sensor slots are located on the opposite side when compared with the standard version. This enables the space-saving mounting of the mini-slides next to one another.

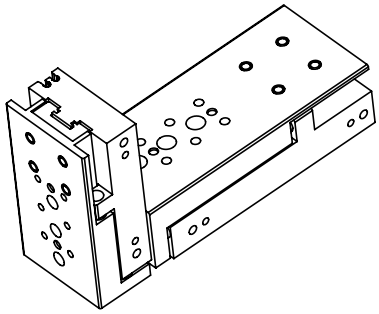
Size	EE	G2	H4	H5	H7	L7	L8[2]	L9	L10[2]	T4[3] max.	T5[3] max.	T11
6	M3	M3	2.5	7	4.5	8.5	15.4	5.8	12.7	4	4	4.6
8	M5	M3	3.1	8.1	5.6	8.5	16.5	5.5	13.5	5	4.5	5
10	M5	M4	4	10	7	8.9	17.9	6.6	15.6	6.2	5	5.9
12	M5	M4	5.9	11.9	8.9	10.7	19.5	7	15.8	7	5.5	7
16	M5	M4	5.8	14.8	10.3	14.2	23	6.7	15.8	6	5	6.3
20	G1/8	M5	8.7	17.7	13.2	16.5	30.5	8	22	8	8.5	9.1
25	G1/8	M6	11	21	16	16.5	31.5	10.5	25.5	9.5	8	8.8

Stroke (mm) / Size	10	20	30	40	50	80	100	125	150	200
	L1[1]									
6	48	58	68	78	95	-	-	-	-	-
8	51	61	71	81	95	126	-	-	-	-
10	66	68	78	88	98	136	156	-	-	-
12	66	76	86	96	106	136	169.5	-	-	-
16	73	80	87	97	112	150	170	210	235	-
20	97	97	97	107	121	166	204.5	244	279	343
25	102	102	108	118	128	168	207	246	281	345

1) At an operating pressure of 6 bar
2) Not available in sizes 6 and 8 with stroke 10 mm. For size 16 with stroke 80..150 mm, the dimension is 14.5 mm.
3) Max. screw-in depth.

Key features

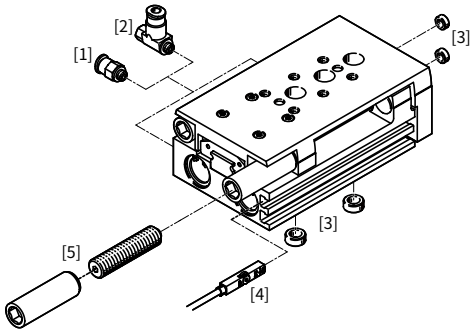
Pick-and-place applications available in combination without connction plate



	[1]Standard cylinder							
[2]Adapter clinder	Size	-	8	10	12	16	20	25
	-	-	-	2×M3×14 2×DWT-5	-	-	-	-
	8	-	-	-	-	-	-	-
	10	-	-	-	2×M4×22 2×DWT-7	2×M4×22 2×DWT-7	-	-
	12	-	-	-	-	2×M4×27 2×DWT-7	-	-
	16	-	-	-	-	-	2×M5×30 2×DWT-12-9	-
	20	-	-	-	-	-	-	2×M6×40 2×DWT-12

Peripherals overview

·DPGB-...



·List of Installed Originals and Accessories

Number	Hengli Code	Name	Brief description
1	PC	Push-in fitting	Straight for connecting compressed air tubing with standard O.D, refer to P463 for model details
2	NSE	One-way flow control valve	For speed regulation
3	DWT	Centring sleeve	Foe centring loads and attachments
4	CDX	Proximity switch	-
5	P	Cushioning	Elastic cushioning at both sides

Peripherals overview

·Proximity switch model selection chart

CDX	-11	-P	-O	-2.5	-M8	-G3	-220V	-L
Proximity switch	①	②	③	④	⑤	⑥	⑦	⑧

①	Slot form： 11=C slot，13=T slot
②	Switch output： P=PNP , NPN=N , R=reed
③	O/C： O=N/O contact ， C=N/C contact
④	Cable length(meter)：: 0.3 , 2.5 , 5 （0.3 only for plug）
⑤	Electrical connection: open end(default not specified) M8 , M12（plug）
⑥	Number of plug pins： G3=3 pins (default not specified)， G5=5 pins
⑦	Rated operating voltage： 24V (default not specified), 220V
⑧	LED： L(default not specified)， W=without LED

·Proximity switch

Cylinder model	Name	Electrical connection	Switching output	Hengli Type	Applicable piston diameter
DPGB	Proximity switch	Open end	magneto-resistive，3-wire PNP	CDX-11P-O-2.5	8,10,12
				CDX-11P-O-5	
				CDX-13P-O-2.5	16,20,25
				CDX-13P-O-5	
			magneto-resistive，3-wire NPN	CDX-11N-O-2.5	8,10,12
				CDX-11N-O-5	
				CDX-13N-O-2.5	16,20,25
				CDX-13N-O-5	
			magnetic reed，2-wire R	CDX-11R-O-2.5G	8,10,12
				CDX-11R-O-5G	
				CDX-13R-O-2.5	16,20,25
				CDX-13R-O-5	
		Plug	magneto-resistive，3-wire PNP	CDX-11P-O-0.3-M8	8,10,12
				CDX-11P-O-0.3-M12	
				CDX-13P-O-0.3-M8	16,20,25
				CDX-13P-O-0.3-M12	
			magneto-resistive，3-wire NPN	CDX-11N-O-0.3-M8	8,10,12
				CDX-11N-O-0.3-M12	
				CDX-13N-O-0.3-M8	16,20,25
				CDX-13N-O-0.3-M12	
			magnetic reed，2-wire R	CDX-11R-O-0.3G-M8	8,10,12
				CDX-11R-O-0.3G-M12	
				CDX-13R-O-0.3-M8	16,20,25
				CDX-13R-O-0.3-M12	