Twin Cylinder

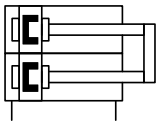
Overview

The diameter of this series ranges from 10 to 63. The drive and guide unit are in a single housing. The stroke can reach 200 mm. It has high force with excellent protection against rotation, widely used for conveyor systems such as clamping, lifting and stopping.

Feature

· Good protection against rotation
· High rigidity
· Maintenance-free
· Wide range of mounting options

Graphical Symbol



P: Cushioning

How to order

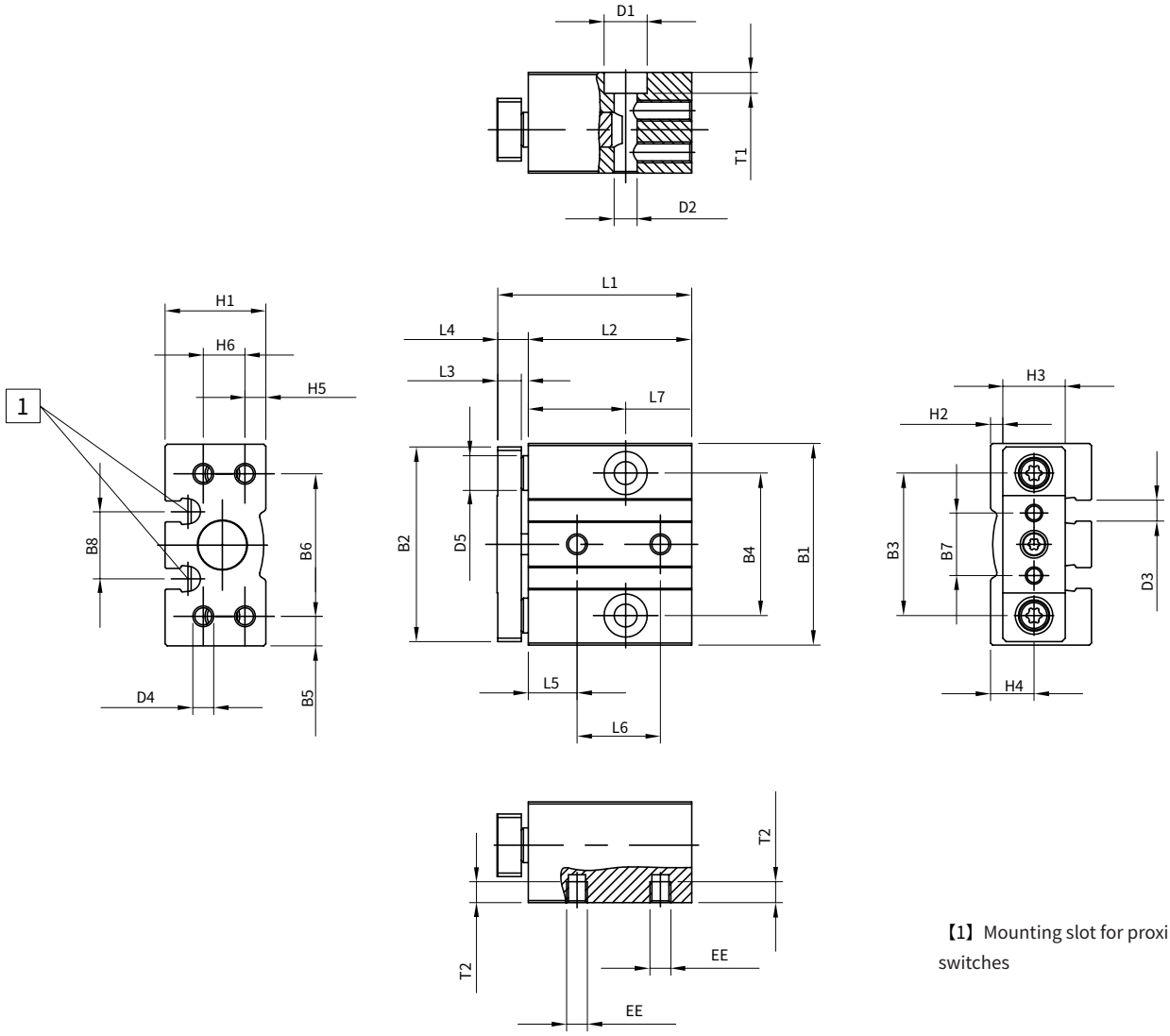
DPGA	-20	×30	-P	-A	-GF
Twin cylinder	①	②	③	④	⑤
①	- Piston diameter :10,12,16,20,25,32,40,50,63				
②	×Stroke length :5~200				
③	- Cushioning： P= Elastic cushioning rings/plates at both ends				
④	- Position sensing： A= for proximity sensor				
⑤	- GF: Plain-bearing guide；KF： Ball bearing guide				

Data sheet

General technical data									
Piston diameter ϕ	10	12	16	20	25	32	40	50	63
Pneumatic connection	M3	M5	M5	M5	G1/8	G1/8	G1/8	G1/4	G1/4
Design	Piston; Piston rod; Guide rods with yoke								
Cushioning	P：Elastic cushioning rings/plates at both ends								
Position sensing	Via proximity switch								
Mounting position	With through-hole; With female thread								
Mounting position	Any								
Protection against torsion/ guide	Guide/ with plain-bearing guide or ball bearing guide								
Operating and environmental conditions									
Operating medium	Compressed air (filtered through 40 um or more)								
Operating pressure MPa	0.15~0.8	0.2~1				0.15~1		0.1~1	
Ambient and fluid temperature ° C									
GF	-10 ～ +60	-20 ～ +80							
KF	-	-5 ～ +60							
Corrosion resistance class	1								
Speed [mm/s]									
Maximum speed, advancing	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6
Maximum speed, retracting	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6
Force [N] and impact energy [J]									
Theoretical force at 6 bar, advancing	47	68	121	188	295	482	754	1178	1870
Theoretical force at 6 bar, retracting	40	51	90	141	247	415	683	1057	1750
Max.impact energy in the end positions 1)	0.035	0.07	0.15	0.20	0.30	0.40	0.70	1.00	1.30

Dimensions

-Diameter ϕ10mm



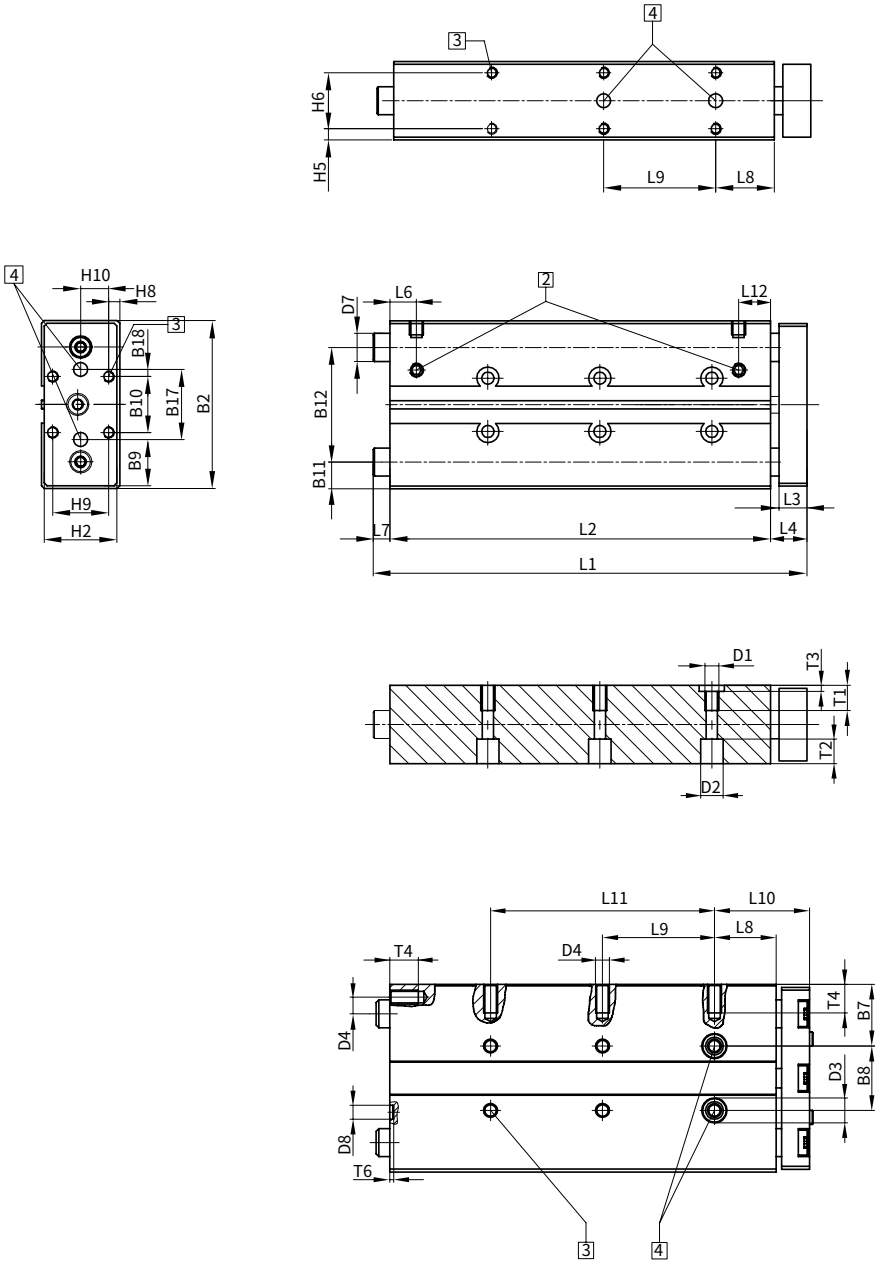
【1】Mounting slot for proximity switches

ϕmm	B1	B2	B3	B4	B5	B6	B7	B8	D1ϕ	D2ϕ	D3	D4	D5ϕh8	EE	H1	H2	H3	H4	H5	H6
10	33	32	23	23	5	23	11	10	8	4.3	M3	M4	6	M3	17	2	10	7	3.5	8

ϕmm	Stroke mm	L1	L2	L3	L4	L5	L6	L7	T1	T2
10	5	30	24	5	6	8.5	11.1	15.5	2.5	3
	10	35	29				16.1	20.5		
	15	40	34				21.1	25.5		
	20	45	39				26.1	30.5		

Dimensions

-Diameter ϕ12~16mm



[1]Mounting slot for proximity switches
[2]Compressed air supply port optionally at the side or on top
[3]Mounting thread
[4]Tolerance between the centring holes ±0.02mm

ϕmm	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	D1	D2ϕ
12	60	58	42.4	30	4.5	51	20.5	19	20	20	9.5	41	19.5	21	8.5	41	25	2.5	M5	8
16	67	65	45.9	33.5	4.5	58	22	23	23.5	20	10.5	46	21.3	24.4	–	–	28	4	M5	7.5

Dimensions

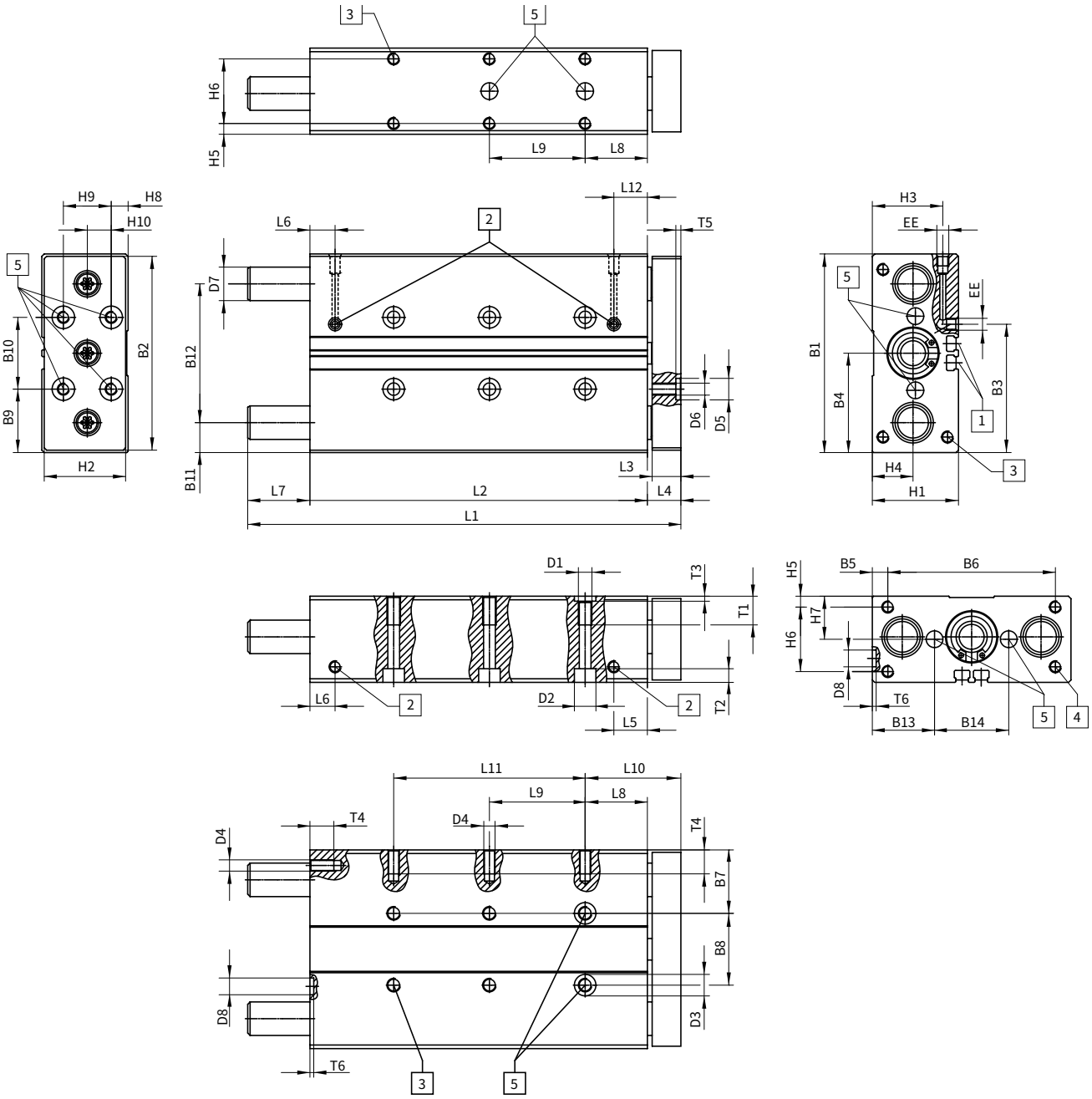
-Diameter ϕ12~16mm

ϕmm	D3 ϕH8	D4	D5 ϕH8	D6	D7ϕ GFh8	D7ϕ KFh7	D8 ϕH8	D9	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
12	9	M4	5	M4	10	8	5	M4	M5	28	26	24	14	4	20	14	4	20	10
16	9	M5	5	M5	12	10	5	–	M5	32	30	26.5	16	4	24	16	7.4	20	10

ϕmm	Stroke mm	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	T1	T2	T3	T4	T5	T6	T7
12	10	59	46	10	13	11.4	9.5	–	21	–	34	–	11.4	5	9	9.4	2.1	8	1.2	1	8
	20	69	56					–		–		–									
	25	74	61					–		20		–									
	30	79	66					–		20		–									
	40	95	76					6		20		–									
	50	105	86					6		40		–									
	80	135	116					6		40		–									
	100	155	136					6		40		80									
16	10	60	48	10	12	11.9	10.6	–	22	–	34	–	11.9	–	9	4.6	2.1	10	1.2	1	–
	20	70	58					–		–		–									
	25	75	63					–		20		–									
	30	80	68					–		20		–									
	40	107	78					17		20		–									
	50	117	88					17		40		–									
	80	147	118					17		40		–									
	100	167	138					17		40		80									

Dimensions

-Diameter ϕ20~25mm



[1] Mounting slot for proximity switchesCDX-13

[2] Compressed air supply port optionally at the side or on top

[3] Mounting thread

[4] Mounting thread (not available for diameter 20)

[5] Tolerance between the centring holes ±0.02mm

Note:

If the guide rods project beyond the contour of the housing in the retracted end position (for dimension L7), an appropriate recess must be provided in the mounting surface when the unit is mounted on its end face so that the guide rods can move freely

Dimensions

ϕmm	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	D1	D2ϕ	D3ϕH8	D4
20	83	81	53.6	41.5	6.5	70	26.5	30	26.5	30	12.5	58	26	31	M6	9	9	M5
25	95	93	70	47.5	15.5	64	30	35	27.5	40	13.5	68	29	37	M6	9	9	M6

ϕmm	D5ϕH8	D6	D7ϕ		D8ϕH8	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
			GF	KF												
20	9	M5	14_{h8}	12_{h7}	7	M5	36	34	29.5	17	4.5	27	18	7	20	10
25	9	M6	16_{h8}	14_{h7}	7	G1/8	44	42	34.8	19	4.5	35	22	12	20	10

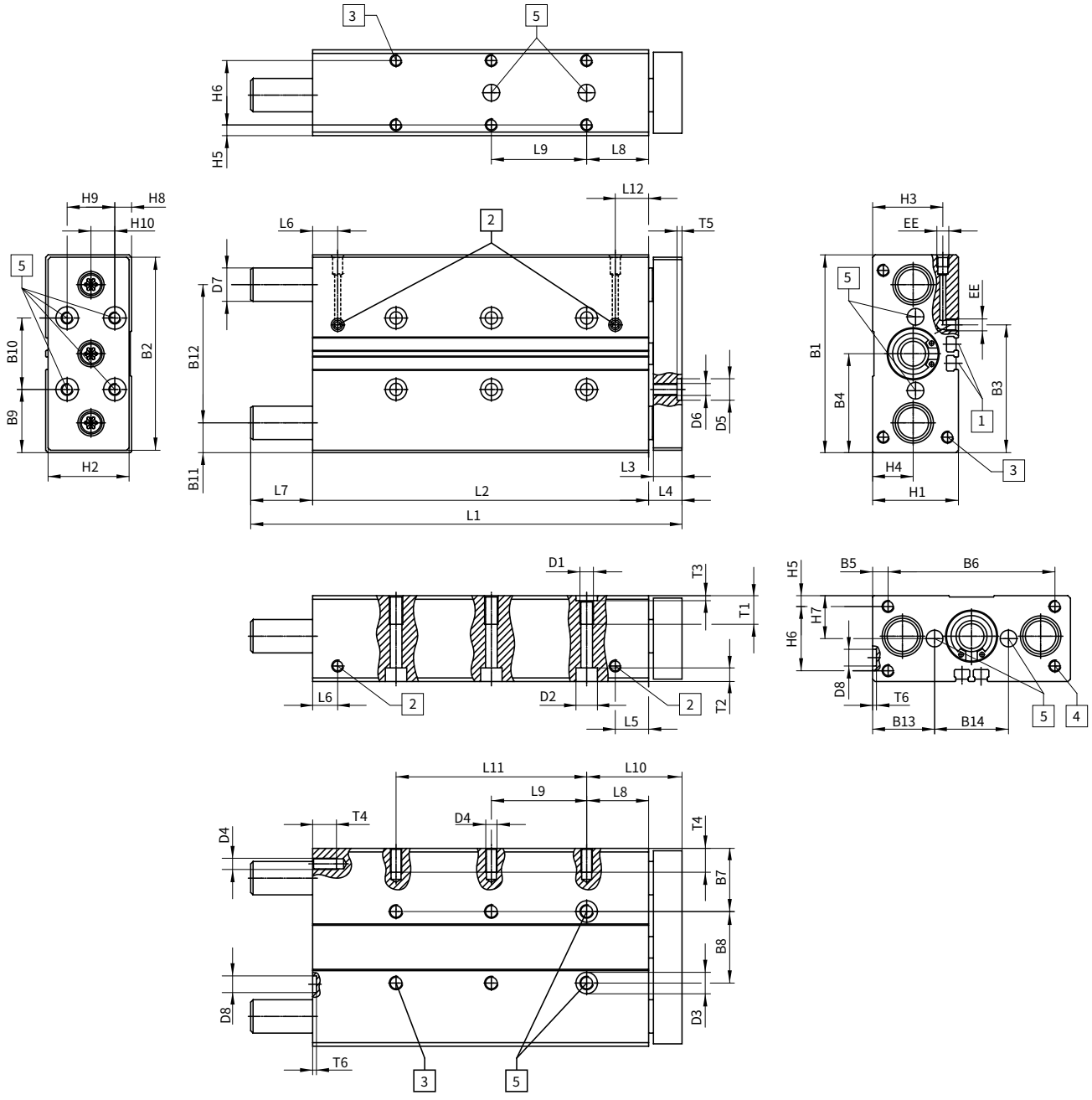
ϕmm	Stroke mm	L1	L2	L3	L4	L5	L6	L7	L8	L9
20	20	75	61	12	14	14	10.5	–	26	–
	25	80	66					–		20
	30	85	71					–		20
	40	121	81					26		20
	50	131	91					26		40
	80	161	121					26		40
	100	181	141					26		40
25	20	93	65.6	12	14	17.5	9.5	13.4	26	–
	25	98	70.6					13.4		20
	30	103	75.6					13.4		20
	40	123	85.6					23.4		20
	50	133	95.6					23.4		40
	80	163	125.6					23.4		40
	100	183	145.6					23.4		40

ϕmm	Stroke mm	L10	L11	L12	T1	T2	T3	T4	T5	T6
20	20	40	–	14	12	5.7	2.1	10	2.1	1.6
	25		–							
	30		–							
	40		–							
	50		–							
	80		–							
	100		80							
25	20	40	–	15	14	5.7	2.1	12	2.1	1.6
	25		–							
	30		–							
	40		–							
	50		–							
	80		–							
	100		80							

Note: this product is to ISO 1179-1 and ISO 228-1

Data sheet

-Diameter ϕ32~63mm



[1] Mounting slot for proximity switches CDX-13

[2] Compressed air supply port optionally at the side or on top

[3] Mounting thread

[4] Mounting thread

[5] Tolerance between the centring holes ±0.02mm

Note:

If the guide rods project beyond the contour of the housing in the retracted end position (for dimension L7), an appropriate recess must be provided in the mounting surface when the unit is mounted on its end face so that the guide rods can move freely

Data sheet

ϕmm	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	D1	D2ϕ	D3ϕH8
32	110	108	81	55	20	70	33.5	43	35	40	16	78	32.5	45	M8	11	12
40	120	118	94	60	15	90	34.5	51	35	50	16	88	32.5	55	M8	11	12
50	148	146	116.5	74	19	110	42	64	44	60	19	110	40	68	M8	11	12
63	162	160	139	81	9	144	41	80	41	80	18.5	125	39.5	83	M10	15	12

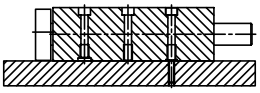
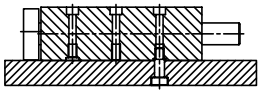
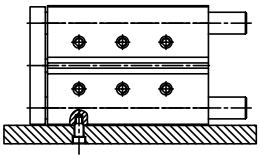
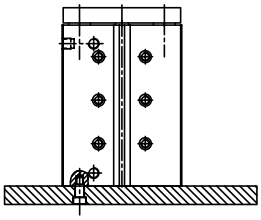
ϕmm	D4	D5ϕH8	D6	D7ϕ		D8ϕH8	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
				GF	KF												
32	M6	9	M6	20_{h8}	16_{h7}	9	G1/8	49	47	38.5	22	6	37	24.5	8.5	30	15
40	M8	9	M6	20_{h8}	16_{h7}	9	G1/8	54	52	40.5	24	6	42	27	10	30	15
50	M8	12	M8	25_{h8}	20_{h7}	12	G1/4	64	62	50.5	29.5	7	50	32	12	40	20
63	M10	12	M8	25_{h8}	20_{h7}	12	G1/4	78	76	55	32	9	60	39	19	40	20

ϕmm	Stroke mm	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	T1	T2	T3	T4	T5	T6
32	20	101	68	14	16	17	12	17	29	–	45	–	17	15	6.8	2.6	12	2.1	2.1
	25	106	73					17		20		–							
	30	111	78					17		20		–							
	40	121	88					17		20		–							
	50	131	98					17		40		–							
	80	179	128					35		40		–							
	100	199	148					35		40		80							
	125	244	173					55		40		80							
	160	279	208					55		40		120							
	200	319	248					55		40		160							
40	25	106	76	14	16	17.8	13.1	14	29	20	45	–	17.8	15	6.8	2.6	16	2.1	2.1
	50	131	101					14		40		–							
	80	179	131					32		40		–							
	100	199	151					32		40		80							
	125	244	176					52		40		80							
	160	279	211					52		40		120							
	200	319	251					52		40		160							
50	25	118	77	16	18	17.8	14.2	23	32	20	50	–	17.8	15	6.8	2.6	16	2.6	2.6
	50	143	102					23		40		–							
	80	194	132					44		40		–							
	100	214	152					44		40		80							
	125	259	177					64		40		80							
	160	294	212					64		40		120							
	200	334	252					64		40		160							
63	25	118	83	16	18	18.5	14.8	17	32	20	50	–	18.5	20	9	2.6	20	2.6	2.6
	50	143	108					17		40		–							
	80	194	138					38		40		80							
	100	214	158					38		40		80							
	125	259	183					58		40		120							
	160	294	218					58		40		160							
	200	334	258					58		40		200							

Note: This product is to ISO 1179-1 and ISO 228-1

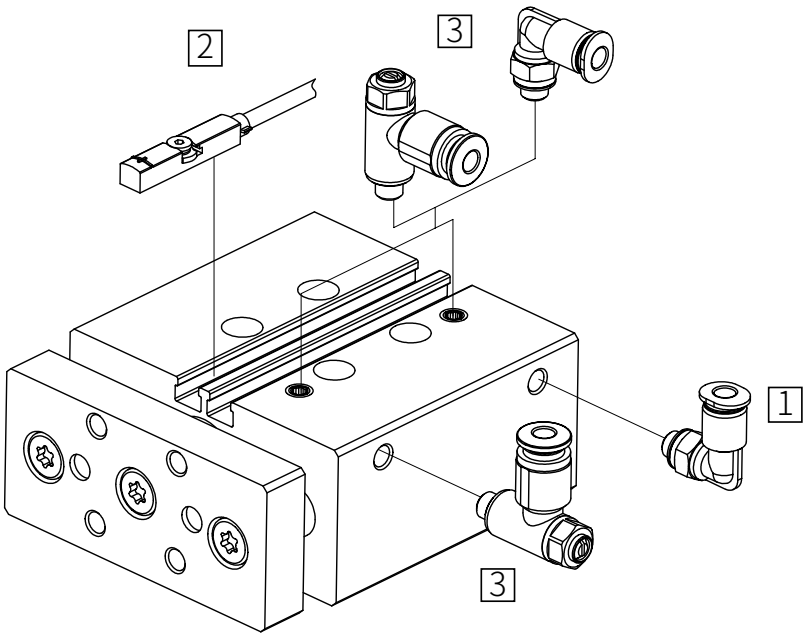
Type of mounting

· Mounting options

Type	Flat from above	Flat from underneath	On the side from underneath	On the end face
Diagram				

Peripherals overview

· DPGA -....



Peripherals overview

·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	CDX	Proximity switch	Can be integrated into the cylinder profile
3	NSE	One-way flow control valve	For speed regulation

·Proximity switch model selection chart

CDX	:	-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，08= for DPST 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
DPGA	Proximity switch	Open end	Magneto-resistive，3-wire PNP	CDX-13P-O-2.5	10,12,16,20,25,32,40,50,63
				CDX-13P-O-5	
			Magneto-resistive，3-wire NPN	CDX-13N-O-2.5	
				CDX-13N-O-5	
			Magnetic reed，2-wire R	CDX-13R-O-2.5	
				CDX-13R-O-5	
		Plug	Magneto-resistive，3-wire PNP	CDX-13P-O-0.3-M8	
				CDX-13P-O-0.3-M12	
			Magneto-resistive，3-wire NPN	CDX-13N-O-0.3-M8	
				CDX-13N-O-0.3-M12	
			Magnetic reed，2-wire R	CDX-13R-O-0.3-M8	
				CDX-13R-O-0.3-M12	