1.10 Twin-piston drives DPTA

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Summary

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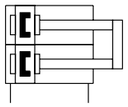
Product features

· Good torsion resistance
· Thrust increase twice, no rotation accuracy ± 0.1°
· Maintenance-free
· Workpiece can be installed from three sides

Diagram



Model selection

DPTA	-20	×30	P	A	-GF
Twin-piston drives	①	②	③	④	⑤
①	-Diameter:6 10 16 20 25 32				
②	×Cylinder travel: See Technical Parameters-travel				
③	Buffer: P= with elastic cushion at both ends				
④	Position sensing: A= with magnetic sensing no = with no magnetic sensing				
⑤	-GF: Slide bearing				

Technical parameter

General technical data						
Diameter ϕ[mm]	6	10	16	20	25	32
Pneumatic connection	M5	M5	M5	M5	G1/8	G1/8
Stroke [mm]	10 ... 60	10 ... 150	10 ... 200			
Adjustable end-position range/ length [mm]	10					
Design	Guide					
Mode of operation	Double-acting					
Cushioning	Elastic cushioning rings/pads at both ends					
Position sensing	Via magnetic switch					
Type of mounting	Through the hole / Through the female thread					
Mounting position	Any					
Guide	Plain-bearing guide					

- Technical parameter

Operating and environmental conditions						
Diameter ϕ	6	10	16	20	25	32
Operating medium	Compressed air to ISO 8573-1:2010					
Operating pressure MPa	0.2 ～ 0.8	0.15 ～ 0.8	0.1 ～ 0.8			
Ambient temperature ° C	-10 ～ +80					
Corrosion resistance class	1					

Speeds [mm/s]	Diameter ϕ					
Stroke [mm]	6	10	16	20	25	32
Advancing vmin/vmax[1)]						
50	0.06/1	-				
150		0.04/1	-			
200	-		0.04/1	0.02/1		0.02/0.7
Retracting vmin/vmax[1)]						
50	0.07/1	-				
150	-	0.05/1	-			
200	-		0.03/1	0.02/1	0.02/0.8	0.02/0.6

Note 1) To avoid damage to the cylinder, the speed must be throttled. This also applies during operation without additional load. The maximum speed must not be exceeded.

- Technical parameter

Forces [N] and impact energy [J]						
Diameter ϕ	6	10	16	20	25	32
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	34	94	242	376	590	966
Theoretical force at 0.6 MPa (6 bar, 87 psi), retracting	18.6	60	181	283	454	724
Impact energy at the end positions	0.035	0.07	0.15	0.20	0.30	0.40

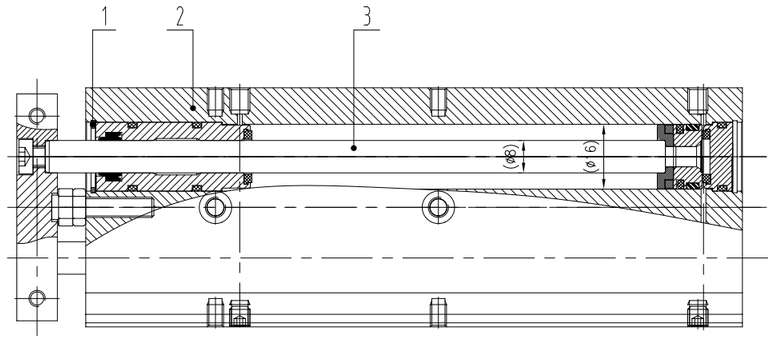
Attention:
V Permissible impact velocity
E Max. impact energy
m_1 Moving mass (drive)
m_2 Moving payload

Permissible impact velocity: $V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$

Maximum permissible mass: $m_2 = \frac{2 \times E}{V^2} - m_1$

These specifications represent the maximum values that can be achieved. Observe the maximum permissible impact energy.

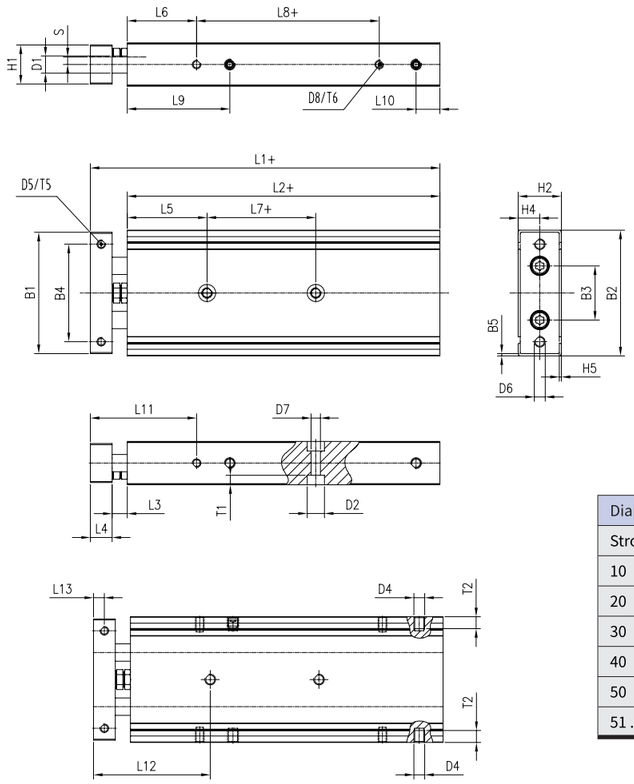
Structure diagram



Linear drives		
[1]	Cover	Wrought aluminium alloy
[2]	Housing	Anodized wrought aluminium alloy
[3]	Piston rod	High-alloy stainless steel
–	Seals	NBR
		HNBR
		TPE-U

Dimensions

Diameter ϕ6mm



Diameter ϕ 6		
Stroke [mm]	L7	L8
10	15	23
20	20	33
30	25	43
40	30	53
50	35	63
51 ... 60	35	63

ϕ[mm]	Stroke [mm]	B1	B2	B3	B4	B5	D1ϕ	D2ϕ	D4	D5	D6	D7ϕ
6	10 ... 60	35	37	16	28	1	4	6.5	M5	M3	M3	3.2

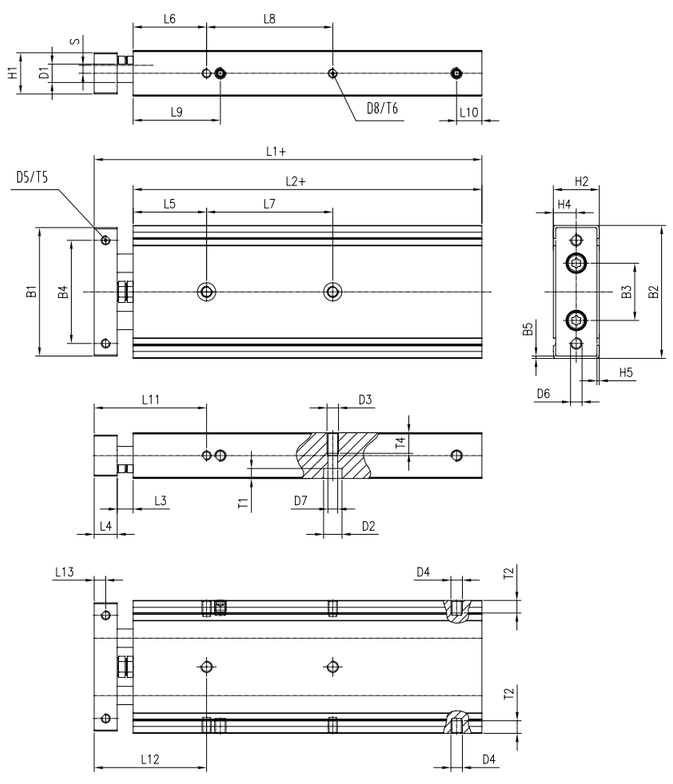
ϕ[mm]	Stroke [mm]	D8	H1	H2	H4	H5	L1	L2	L3	L4	L5	L6
6	10 ... 50	M3	14	16	8	1	48.5[1)]	39[1)]	4	5.5	17	14
	51 ... 60						108.5	99				

1) Plus stroke length

ϕ[mm]	Stroke [mm]	L9	L10	L11	L12	L13	S	T1	T2	T5	T6
6	10 ... 60	28	5	23.5	26.5	2.8	2.5	3.3	5.5	6	4.5

-Dimensions

Diameter Φ10~16mm



ϕ[mm]	Stroke [mm]	B1	B2	B3	B4	B5	D1ϕ	D2ϕ	D3	D4	D5	D6	D7ϕ
10	10 ... 150	44	46	20	35	1	6	6.5	M4	M5	M3	M4	3.4
16	10 ... 200	56	58	25	45	1	8	8	M5	M5	M4	M5	4.3

ϕ[mm]	Stroke [mm]	D8	H1	H2	H4	H5	L1	L2	L3	L4	L5	L6	L9
10	10 ... 80	M3	15	17	8.5	1	60[1)]	46[1)]	6	8	23	23	34
	81 ... 100						164	150					
	101 ... 125						189	175					
	126 ... 150						214	200					
16	10 ... 100	M4	18	20	10	1	79[1)]	62[1)]	7	10	32	32	38
	101 ... 125						204	187					
	126 ... 150						229	212					
	151 ... 175						254	237					
	176 ... 200						279	262					

1) Plus stroke length

-Dimensions

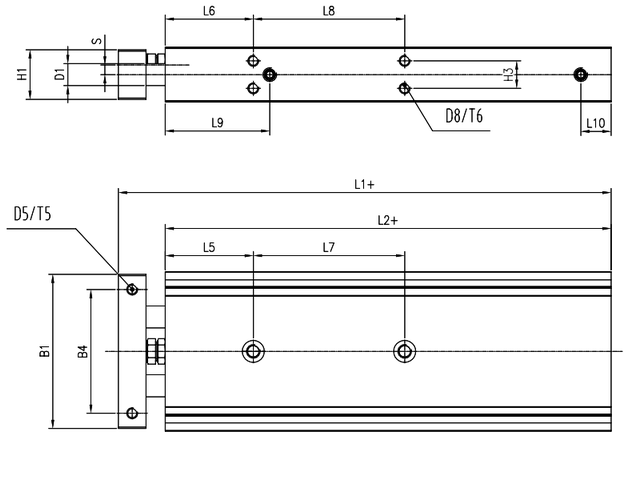
-Diameter Φ10~16mm

ϕ[mm]	Stroke [mm]	L10	L11	L12	L13	S	T1	T2	T4	T5	T6
10	10 ... 80	5	37	37	4	2.5	3.3	5.5	7	6	4.5
	81 ... 150	9									
16	10 ... 200	11	49	49	5	3.5	4.4	5.5	9	7	5.5

Diameter ϕ 10		
Stroke [mm]	L7	L8
10	20	
20	30	
30	40	
40	40	
50	40	
60	50	
70	50	
80	50	
81 ... 100	60	
101 ... 125	70	
126 ... 150	80	

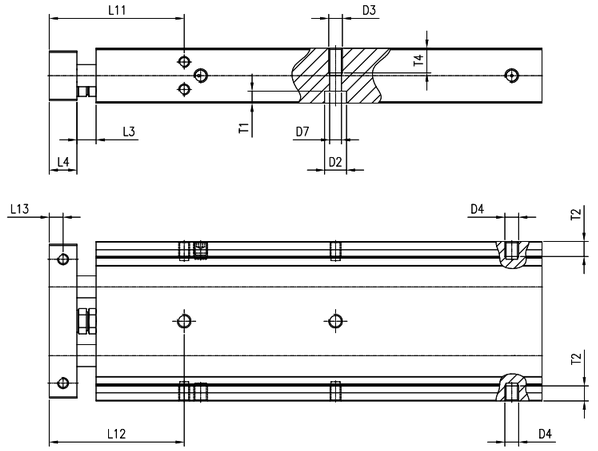
Diameter ϕ 16	
Stroke [mm]	L7	L8
10	20
20	25
30	35
40	35
50	35
60	45
70	45
80	45
90	55
100	55
101 ... 125	65
126 ... 150	75
151 ... 175	85
176 ... 200	85

Diameter Φ20~32mm



-Dimensions

-Diameter Φ20~32mm



ϕ[mm]	Stroke [mm]	B1	B2	B3	B4	B5	D1ϕ	D2ϕ	D3	D4	D5	D6	D7ϕ
20	10 ... 200	62	64	29	50	1	10	9.5	M6	M5	M4	M5	5.5
25		78	80	35	60	1	12	11	M8	G1/8	M5	M6	6.9
32		94	96	45	75	1	16	11	M8	G1/8	M5	M6	6.9

ϕ[mm]	Stroke [mm]	D8	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6
20	10 ... 100	M4	23	25	9.5	12.5	1	86.5[1)]	69.5[1)]	5	12	37	37
	101 ... 125							211.5	194.5				
	126 ... 150							236.5	219.5				
	151 ... 175							261.5	244.5				
	176 ... 200							286.5	269.5				
25	10 ... 100	M5	28	30	13	15	1	88[1)]	71[1)]	5	12	37	37
	101 ... 125							213	196				
	126 ... 150							238	221				
	151 ... 175							263	246				
	176 ... 200							288	271				
32	10 ... 100	M5	36	38	20	19	1	97[1)]	76[1)]	5	16	39	39
	101 ... 125							222	201				
	126 ... 150							247	226				
	151 ... 175							272	251				
	176 ... 200							297	276				

1) Plus stroke length

-Dimensions

-Diameter Φ20~32mm

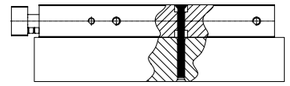
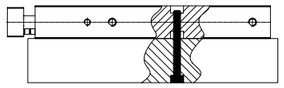
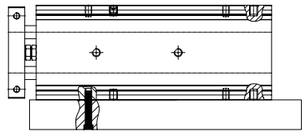
ϕ[mm]	Stroke [mm]	L9	L10	L11	L12	L13	S	T1	T2	T4	T5	T6
20	10 ... 200	42.5	12	54	54	6	6	5.3	5.5	10	8	5.5
25		45	11.4	54	54	6	6	6.3	7	12	9	7.5
32		49.5	11.6	60	60	8	8	6.3	7	12	10	7.5

Diameter ϕ 20, 25		
Stroke [mm]	L7	L8
10	25	
20	30	
30	40	
40	40	
50	40	
60	60	
70	60	
80	60	
90	60	
100	60	
101 ... 125	80	
126 ... 150	80	
151 ... 175	100	
176 ... 200	100	

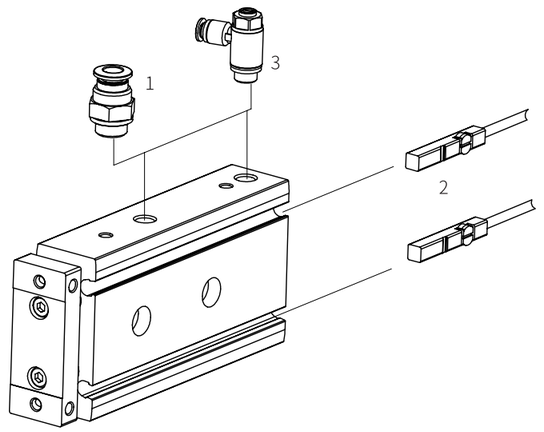
Diameter ϕ 32		
Stroke [mm]	L7	L8
10	30	
20	40	
30	50	
40	50	
50	50	
60	70	
70	70	
80	70	
90	70	
100	70	
101 ... 125	90	
126 ... 150	90	
151 ... 175	110	
176 ... 200	110	

Type of mounting

Mounting options

Type of mounting	Flat from above	Flat from underneath	Flat from the side
Diagrammatic sketch			

Peripherals overview



List of installation methods and accessories		Description
[1]	Push-in fitting	For connecting compressed air tubing with standard O.D.
[2]	Magnetic switch	Can be integrated in the cylinde
[3]	One-way flow control valve	For regulating speed
-		

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