

Round Cylinder

Overview

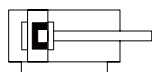
This series of round cylinder is to ISO 6432. Its diameter is at the range of $\phi 8 \sim \phi 63$, and its barrel uses high precision stainless tube. The surface of piston rod adopts pre-roller hardening treatment, the rod with male or female thread. This series have been plated with hard chrome and fine grinding treatment, thus featuring anti-rust and wear-resistant.

Feature

- Stainless steel piston rod
- Low pressure for operating and quick response
- Good running performance and long service life
- Wide range of accessories, enabling the cylinder to be installed virtually anywhere
- $\phi 8 \sim \phi 25$ is to ISO 6432 and its variants are corresponded with ISO or DIN.



Graphical Symbol



P: Elastic cushioning



PPV: Pneumatic adjustable cushioning

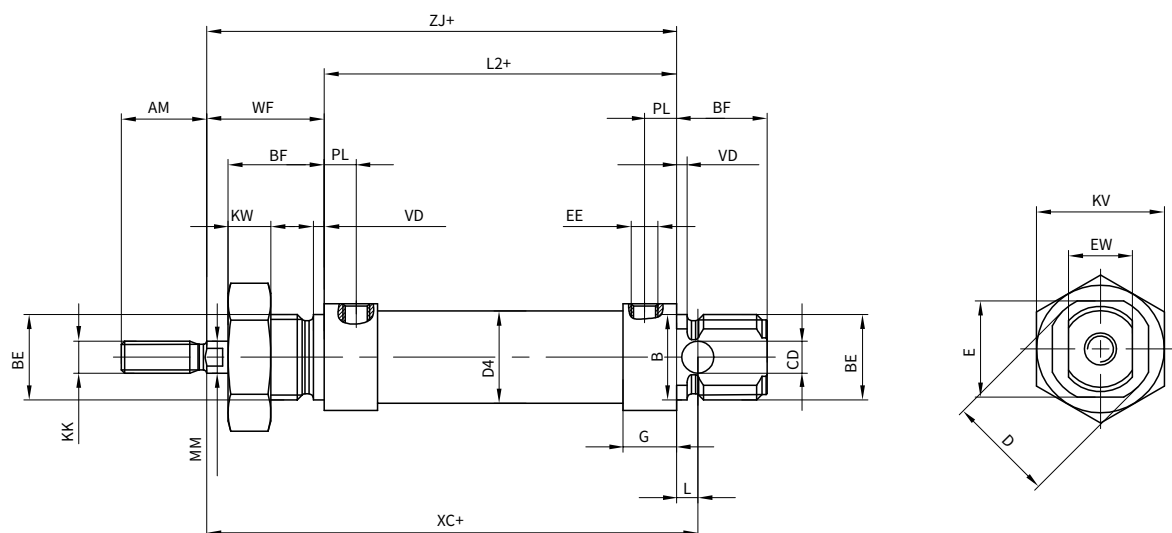
How to order

DPSR	-32	× 50	-P	-A	-2FEMAT
Round cylinder	①	②	③	④	⑤
①	- Piston diameter :8,12,16,20,25,32,40,50,63				
②	× Stroke length :1...500, technical data available for reference - Travel Table				
③	- Cushioning: P=Elastic cushioning rings/ plates at both ends;PPV= Pneumatic adjustable cushioning at both ends				
④	- Position sensing:A= for proximity sensor				
⑤	- Variants				
	Piston rod type		Piston rod thread type		Operating mode
	At one end	-	Male thread	-	Double acting
	Through piston rod	2	Female thread	F	Single acting (only for MA or Cushioning P)
				End cap	Temperature range
				Standard	Standard
				Axial supply port short end cap	-40-80°C
				Lateral supply port	Heat-resistant seals max120 °C
				Direct mounting	

Data sheet

General technical data										
Piston diameter ϕ mm	8	10	12	16	20	25	32	40	50	63
Standard	ISO 6432						–			
Pneumatic connection	M5	M5	M5	M5	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25	M10x1.25	M12x1.25	M16x1.5	M16x1.5
Stroke length ¹⁾ [mm]	1 ... 100		1 ... 200		1 ... 320	1 ... 500				
Design	Piston/ piston rod/ cylinder barrel									
Cushioning										
DPSR-...-P	Elastic cushioning rings/ pads at both ends									
DPSR-...-PPV	–		Pneumatic cushioning, adjustable at both ends							
Cushioning length										
DPSR-...-PPV [mm]	–		9	12	15	17	14	18	20	21
Position sensing	Via proximity switch									
Type of mounting	With accessories									
	Direct mounting (variant MH only)									
Mounting position	Any									
Operating and environmental conditions										
Operating medium	Compressed air (filtered through 40um or more)									
Operating pressure MPa	0.15~1		0.1~1							
Ambient and fluid temperature °C	-20 ~ 80									
Speed [mm/s]	Measurement of speed less than 1mm/s is not performed.									
Speed with stick-slip-free operation, horizontal, without load, at 0.6 MPa	-	-	-	10 ... 100			8 ... 100			5 ... 100
Mini. speed, advancing	-	-	-	2.7	5.3	< 1				
Mini. speed, retracting	-	-	-	3.2	4.7	< 1				
Force [N] and impact energy [J]	1) The values are reduced by about 50% at an ambient temperature of 80° C									
Theoretical force at 6 bar, advancing	30	47	68	121	189	295	483	753	1178	1870
Theoretical force at 6 bar, retracting	23	40	51	104	158	247	415	633	990	1682
Max. impact energy in the end positions	0.03	0.05	0.07	0.15	0.20	0.30	0.40	0.70	1.00	1.30

Dimensions ($\phi 8 \sim 25$)

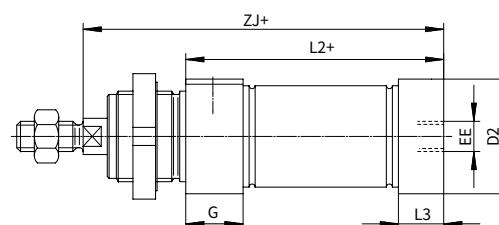
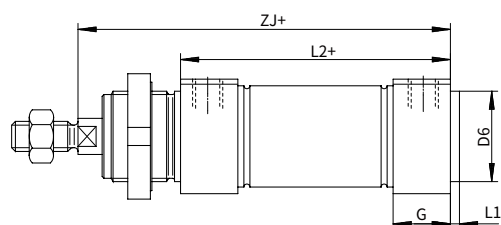


φ[mm]	AM	Bφh9	BE	BF	CDφH9	Dφ	D4φ	E	EE	EW	G	KK	KV
8	12	12	M12x1.25	12	4	15	9.3	14	M5	8	10	M4	19
10							11.3	14					
12	16	16	M16x1.5	17	6	20	13.3	18		12		M6	24
16							17.3	18					
20	20	22	M22x1.5	20	8	27	21.3	26	G1/8	16	16	M8	32
25	22			22			26.5	27				M10x1.25	

φ[mm]	KW	L	L2	MMφ	PL	VD	WF	XC±1	ZJ	≡G1	
8	6	6	46	4	6	2	16	64	62	-	
10											
12	8	9	50	6			22	75	72	5	
16			56					82	78		
20	11	12	68	8			8.2	24	95	92	7
25			69.5					10	28	104	97.5

DPSR-8 ... 25

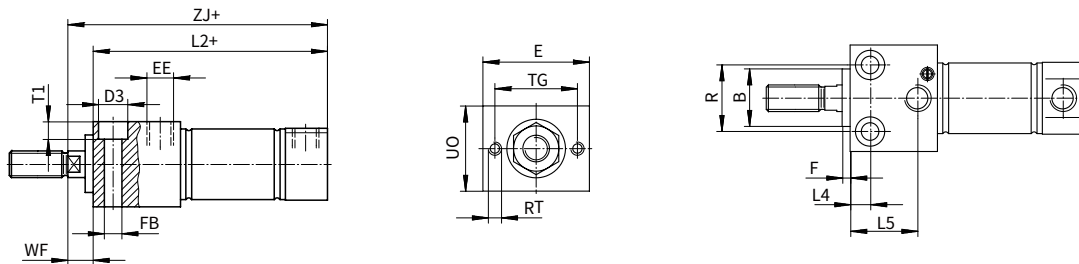
MQ -Lateral supply port, short end cap



Dimensiona (φ8 ~ 25)

-DPSR-8 ... 25

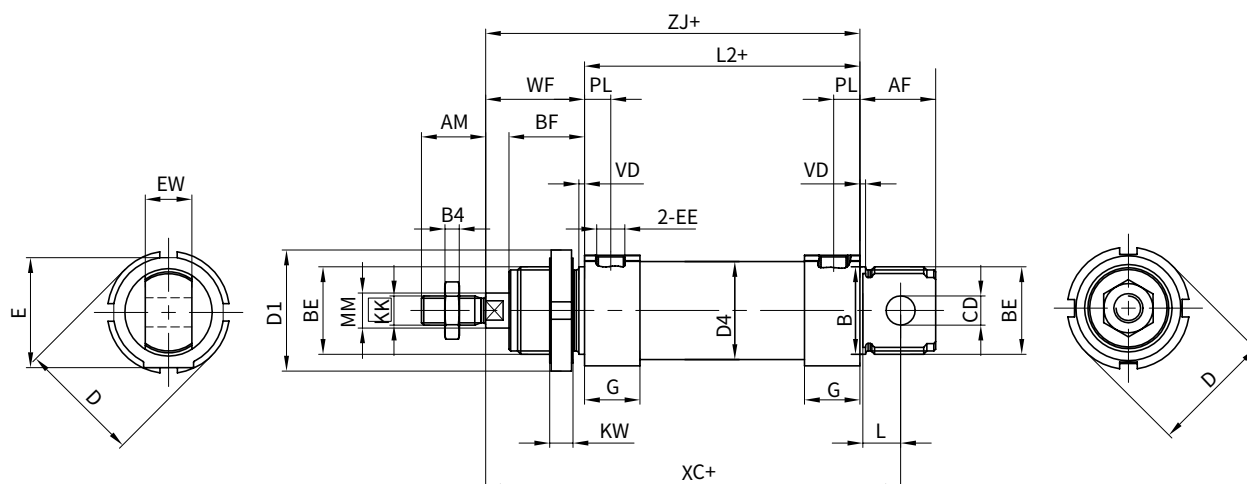
MH – Direct mounting



φ[mm]	B φ h9	D2 φ	D3 φ	E	EE	F	FB φ	G	L2		
									DPSR-...		
									-MQ	-MA	-MH
8	12	10.5	6	24	M5	3	3.4	10	46	43.6	53.5
10		12.5								43.1	53.8
12	16	14.5	8	30			4.5		50	47.7	62
16		17.5							56	53.7	67.5
20	22	21.7	10	40	G1/8		5.5	16	68	66.5	81.5
25		26.7	11								69.5

φ[mm]	L3	L4	L5	R	RT	TG	T1	UO	WF	ZJ		
										DPSR-...		
										-MQ	-MA	-MH
8	7.6	5	14	12	M3	18	3.4	16	8	62	59.6	61.5
10	7.1										59.1	61.8
12	7.7	6	18.1	16	M4	23	4.5	22	10	72	69.7	72
16										78	75.7	77.8
20	14.5	7.5	22.4	22	M5	31	5.5	28		92	90.5	91.5
25	14		25.2	25			6.6	32	11	97.5	96.5	97.2

Dimensions (φ32~63)



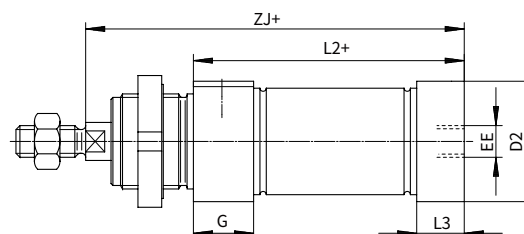
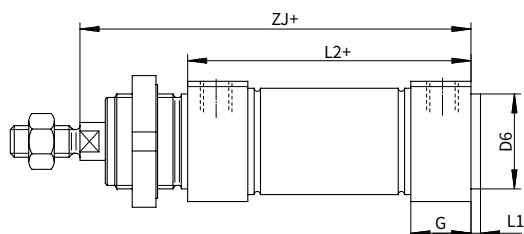
φ[mm]	AM	Bφh9	B4	BE	BF	CDφE10	Dφ	D1φ	D4φ	E	EE	EW	G
32	22	30	5	M30x1.5	26	10	38	42	33.6	38	G1/8	16	19
40	24	38	6	M38x1.5	30	12	46	50	41.6	45	G1/4	18	25
50	32	45	8	M45x1.5	33	16	57	60	52.4	-		21	
63							70		65.4	-			G3/8

φ[mm]	KK	KW	L	L2	MMφ	PL	VD	WF	XC±1	ZJ	≡G1	≡G2
32	M10x1.25	8	13	69.5	12	9	2	34	117.5	103.5	10	16
40	M12x1.25	10	15	84.6	16	12	3	39	139.6	123.6	13	18
50	M16x1.5		16	86.2	20			13	44	147.2	130.2	17
63				94.2		45			156.2	139.2		

DPSR-32 ... 63

MQ – Lateral supply port, short end cap

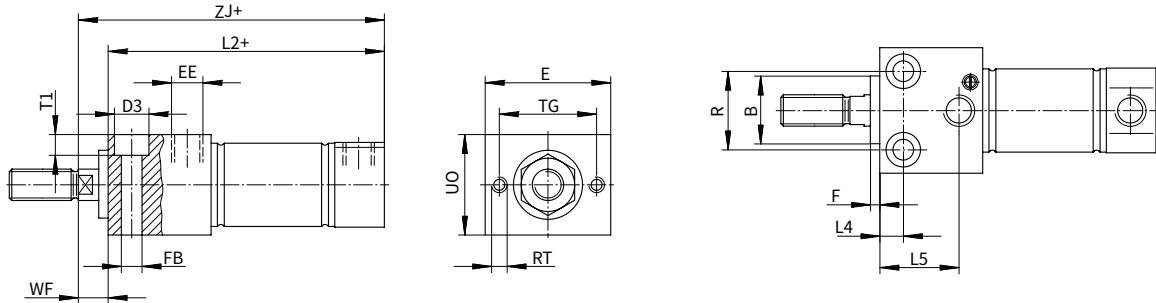
MA – Axial supply port, short end cap



Dimensions (φ32~63)

-DPSR-32 ... 63

MH – Direct mounting



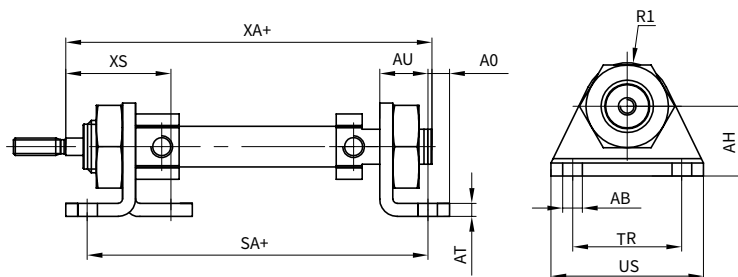
φ [mm]	B φh9	B2	E	EE	G	F	FB φ	D2 φ	D3	D5 φ	D6 φ	L1	L2		
													DPSR-...		
													-MQ	-MA	-MH
32	30	1	48	G1/8	19	4	6.6	34	11	9	30	3	69.5	65.5	85.5
40	38		54	G1/4	25		9	42	14	12	38	4	84.6	77.6	104.6
50	45		64		28			53			45		86.2	86.2	109.2
63		2	72	G3/8			11	66	18	15			94.2	94.2	117.2

φ [mm]	L3	L4	L5	R	RT	TO	T1	T2	TG	UO	WF	ZJ		
												DPSR-...		
												-MQ	-MA	-MH
32	15	15	25	30	M5	19	6.6	2.1	38	40	12	103.5	99.5	97.5
40	18		32	38		24	9	2.6	42	48		123.6	116.5	116.6
50	25		35	42	M6	32			50	58	15	130.2	130.2	124.2
63	28		36	44	M8	36	11	3.1	52	72		139.2	139.2	132.2

Type of mounting

Foot mounting LB-R

Material: Galvanised steel

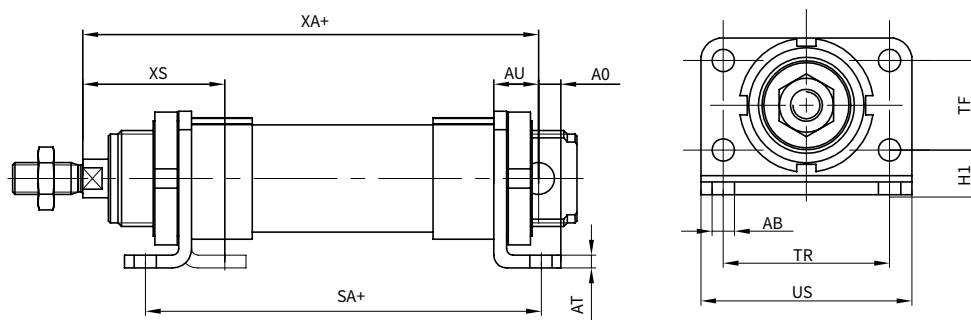


+ = plus stroke length

Applicable ϕ [mm]	AB ϕ	AH	AO	AT	AU	R1	SA	TR	US	XA	XS	Type
8, 10	4.5	16	5	2	11	10	68	25	35	72	23	LB-8/10-R
12	5.5	20	6	2.5	14	13	78	32	42	84.5	30.5	LB-12/16-R
16	5.5	20	6	2.5	14	13	84	32	42	91.5	30.5	LB-12/16-R
20	7	25	8	3	17	20	102	40	54	107	34	LB-20/25-R
25	7	25	8	3	17	20	103.5	40	54	112.5	38	LB-20/25-R

Flange mounting LBN

Material: Galvanised steel



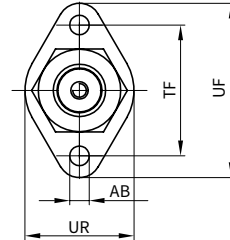
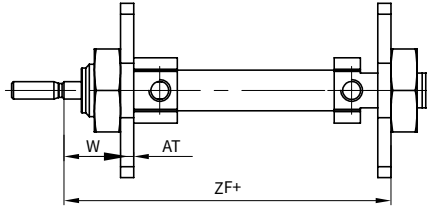
+ = plus stroke length

Applicable ϕ [mm]	AB ϕ	AT	H1	TF	TR	US	XA	XS	Type
32	7	3.5	14	28	52	66	117.5	44	LBN-32
40	9	3.5	18	30	60	80	143.6	54	LBN-40
50	9	6	20	40	70	90	150.2	58	LBN-50
63	9	6	20	50	76	96	159.2	59	LBN-63

Type of mounting

Flange mounting FA/FB-R

Material: Galvanised steel

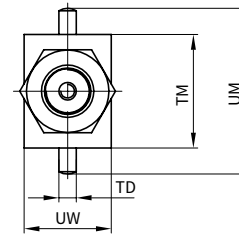
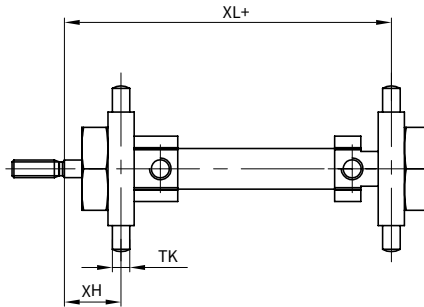
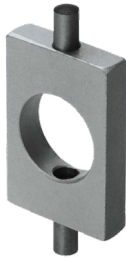


+ = plus stroke length

Applicable ϕ [mm]	AB ϕ	AT	TF	UF	UR	W	ZF	Type
8, 10	4.5	3	30	40	25	13	65	FA/FB-8/10-R
12	5.5	4	40	53	30	18	76	FA/FB-12/16-R
16	5.5	4	40	53	30	18	82	FA/FB-12/16-R
20	6.6	5	50	66	40	19	97	FA/FB-20/25-R
25	6.6	5	50	66	40	23	102.5	FA/FB-20/25-R

TA/TB-R Swivel mounting

Material: Galvanised steel



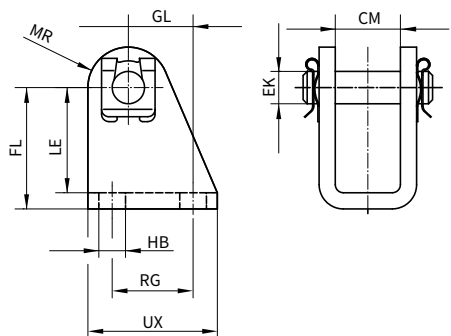
+ = plus stroke length

Applicable ϕ [mm]	TD ϕ -0.01/-0.05	TK	TM	UM	UW	XH	XL	Type
8, 10	4	6	26	38	20	13	65	TA-TB-8/10-R
12	6	8	38	58	25	18	76	TA-TB-12/16-R
16	6	8	38	58	25	18	82	TA-TB-12/16-R
20	6	8	46	66	30	20	96	TA-TB-20/25-R
25	6	8	46	66	30	24	101.5	TA-TB-20/25-R
32	8	12	50	76	40	28	109.5	TA-TB-32-R
40	10	15	60	92	50	31.5	126.1	TA-TB-40-R
50	12	20	80	116	65	34	140.2	TA-TB-50/63-R
63	12	20	80	116	65	35	149.2	TA-TB-50/63-R

Type of mounting

LU Clevis mounting

Material: Galvanised steel



Applicable ϕ [mm]	CM	EK $\varnothing$	FL	GL	HB	LE	MR	RG	UX	Type
8, 10	8.1	4	24 +0.3/-0.2	13.8	4.5	22	5	12.5	20	LU-8/10
12, 16	12.1	6	27 +0.3/-0.2	13	5.5	24	7	15	25	LU-12/16
20, 25	16.1	8	30 +0.4/-0.2	16	6.6	26	10	20	32	LU-20/25
32	16.1	10	35 +0.4/-0.2	18.5	6.6	31	11	24	35	LU-32
40	18.1	12	40 +0.4/-0.2	24.5	9	35	13	30	45	LU-40
50, 63	21.1	16	45 +0.5/-0.2	28	9	39	14	34	50	LU-50/63

Actuator element

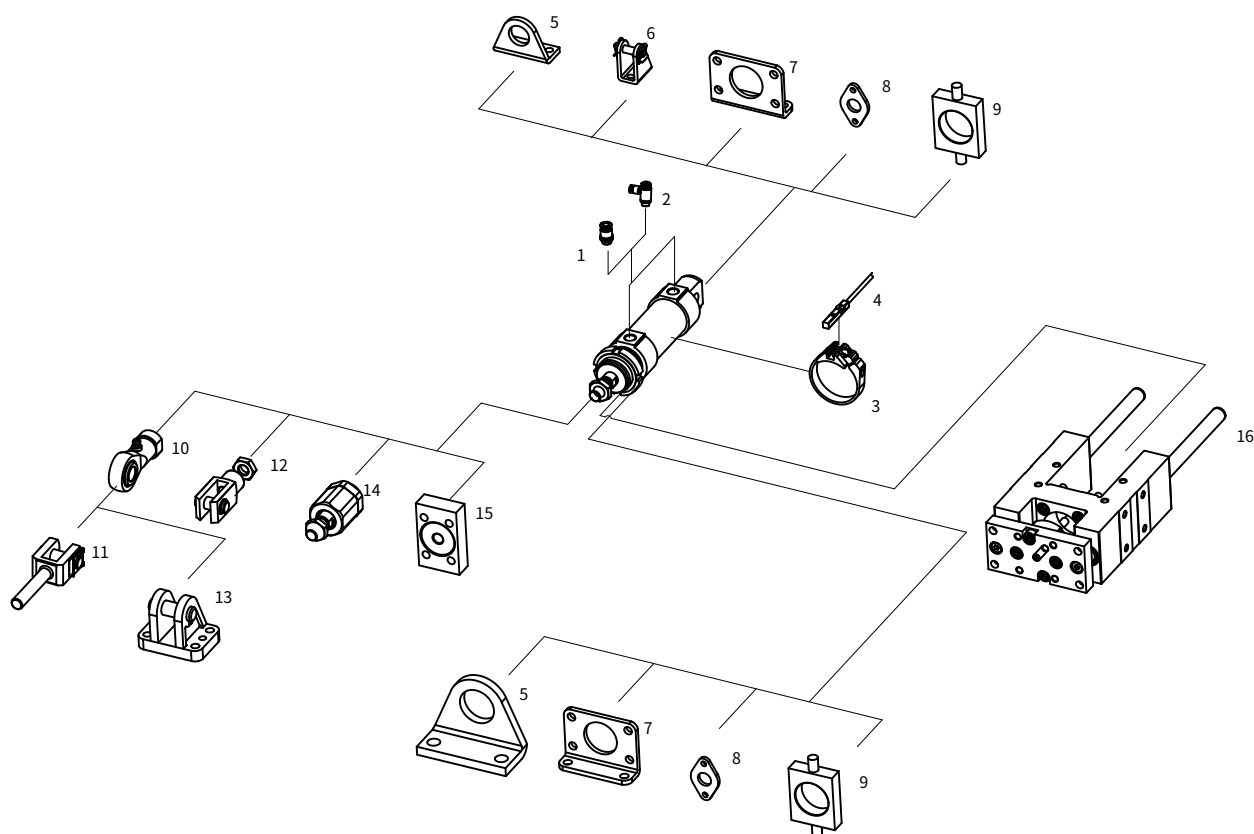
Control element

Service unit combination

Attachment

Peripherals overview

·OPSR -.....



·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 P461 for model details
2	NSE	One-way flow control valve	For speed regulation
3	BM2	Mounting kit	-
4	CDX	Proximity switch	Mount on mounting kit
5	LB-R	Foot mounting	For bearings or end caps
6	LU	Clevis foot	For rod clevis
7	LBN	Foot mounting	For bearings or end caps
8	FA/FB-R	Flange mounting	For bearings or end caps
9	TA/TB-R	Swivel mounting	For bearings or end caps
10	YY	Rod eye	With spherical bearing
11	YF	Rod clevis	With male thread
12	Y	Rod clevis	Permits a swivelling movement of the cylinder in one plane
13	CBG	Clevis foot	-
14	FD	Self-aligning rod coupler	To compensate for radial and angular deviations
15	HKSG	Coupling piece	To compensate for radial deviations
	HKSZ	Coupling piece	For cylinders with a non-rotating piston rod to compensate for radial deviations
16	HFE-S-GF/KF	Guide unit	For protecting standards-based cylinders against rotation at high torques

Peripherals overview

·Piston rod accessories

Name	Avail-ableΦ	Model	Name	Avail-ableΦ	Model	Name	Avail-ableΦ	Model
Rod eye YY			Rod clevis			Self-aligning rod coupler		
	8,10	YY-M4		8	Y-M4		8	FD-M4
	12,16	YY-M6		10			10	
	20,	YY-M8		12, 16	Y-M6		12, 16	FD-M6
	25, 32	YY-M10×1.25		20	Y-M8		20	FD-M8
	40	YY-M12×1.25		25, 32	Y-M10×1.25		25, 32	FD-M10×1.25
	50, 63	YY-M16×1.5		40	Y-M12×1.25		40	FD-M12×1.25
				50, 63	Y-M16×1.5		50, 63	FD-M16×1.5

Refer to P252 for more details

·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							
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
DPSR	Proximity switch	Open end	magneto-resistive, 3-wire PNP	CDX-11P-O-2.5	8,10,12,16,20,25,32,40
				CDX-11P-O-5	
			magneto-resistive, 3-wire NPN	CDX-11N-O-2.5	
				CDX-11N-O-5	
			magnetic reed, 2-wire R	CDX-11R-O-2.5	
				CDX-11R-O-5	
		Plug	magneto-resistive, 3-wire PNP	CDX-11P-O-0.3-M8	
				CDX-11P-O-0.3-M12	
			magneto-resistive, 3-wire NPN	CDX-11N-O-0.3-M8	
				CDX-11N-O-0.3-M12	
			magnetic reed, 2-wire R	CDX-11R-O-0.3-M8	
				CDX-11R-O-0.3-M12	

Proximity switch bracket:BM0- diameter -T00R (e.g. The bracket for 50 piston diameter is BM2-50-T11R)