

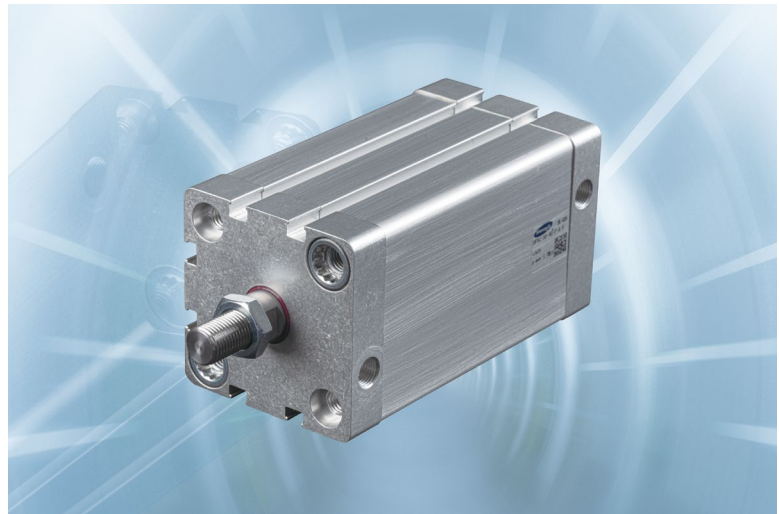
Compact Cylinder

Overview

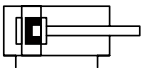
This series of compact cylinder is to ISO 21287 and its diameter ranges from $\phi 12$ to $\phi 100$, with exceptional cushioning characteristics and low friction values, thus featuring long service life and easy to install.

Feature

- With compact structure, effectively saving the mounting space
- The drive has adjustable, pneumatic end-position cushioning
- Sensor slots on three sides for flush mounting of proximity switches
- A wide range of fixed or non-fixed brackets are available for customers to select.



Graphical Symbol



P Cushioning

How to order

DPSC	-32	× 50	-P	-A	-2FT
Compact cylinder	①	②	③	④	⑤
①	- Piston diameter :12,16,20,25,32,40,50,63,80,100				
②	× Stroke length :5~500				
③	- Cushioning: P=Elastic cushioning rings/ plates at both ends				
④	- Position sensing:A= for proximity sensor				
⑤	- Variants				
	Piston rod type		Piston rod thread type		Temperature range
	At one end	-	Male thread	-	Standard
	Through piston rod	2	Female thread	F	-40-80°C
-	-	-	-	Heat-resistant seals Max120 °C	R

Data sheet

General technical data										
Diameter ϕ mm	12	16	20	25	32	40	50	63	80	100
Operating mode	Double acting									
Cushioning	P	Elastic cushioning rings/plates at both ends								
Pneumatic connection	M5	M5	M5	M5	G1/8					
Position sensing	Via proximity switch									
Type of mounting	Via through-hole / With female thread /With accessories									
Type of mounting	Any									
Female piston rod thread	M3	M4	M6		M8		M10		M12	
Male piston rod thread	M5	M6	M8		M10x1.25		M12x1.25		M16x1.5	
Operating and environmental conditions										
Operating medium	Compressed air (filtered through 40um or more)									
Operating pressure [MPa]	0.1~1	0.06~1								
Ambient and fluid temperature ¹⁾	-20 ~ 80° C									
Corrosion resistance class ²⁾	2									
Force [N]and impact energy [J]										
Theoretical force at 6 bar,advancing	68	121	188	295	483	754	1178	1870	3016	4712
Theoretical force at 6 bar,retracting	51	90	141	247	415	686	1057	1750	2827	4524
Max. impact energy in the end positions	0.07	0.15	0.2	0.3	0.4	0.7	1	1.3	1.8	2.5

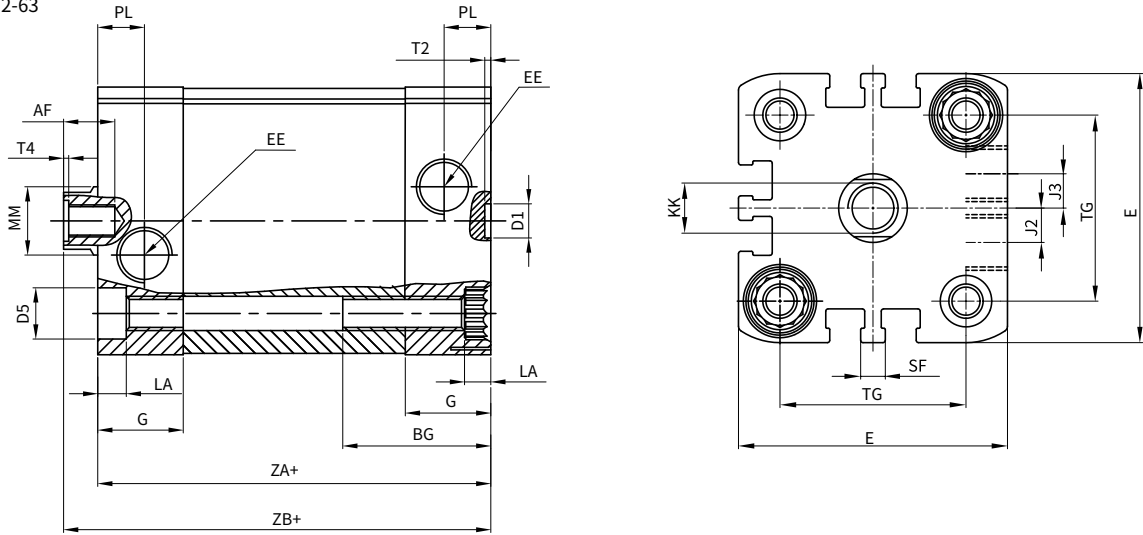
1) Note operating range of proximity switches

2) Corrosion resistance class

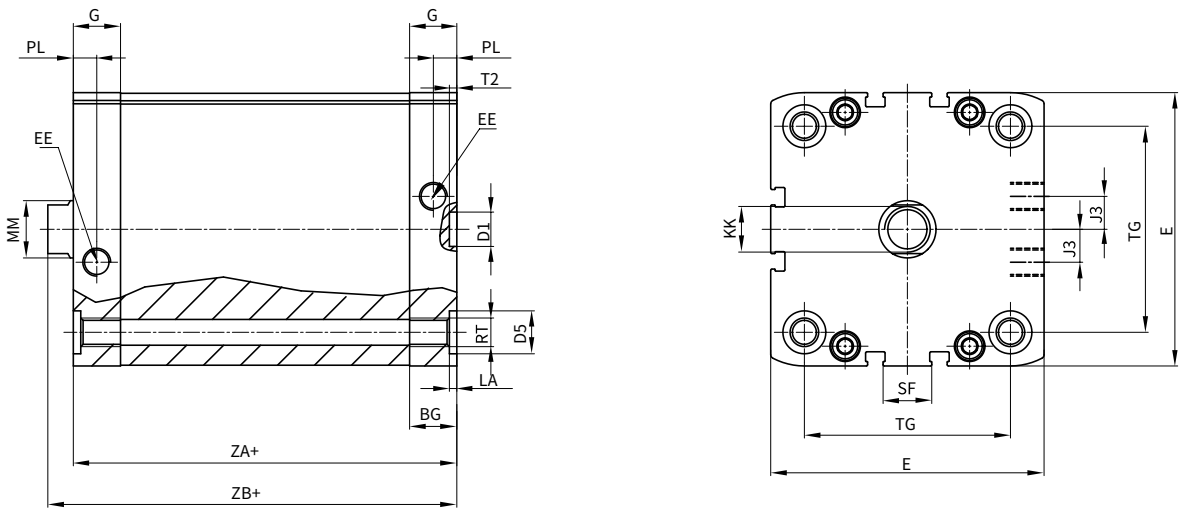
1. Slight protection for components subject to low corrosion stress, such as transport and storage protection, and parts without primarily decorative surface requirements such as in non-visible internal areas or behind coverings.
2. Medium protection for components subject to moderate corrosion stress such as externally visible parts with primarily decorative surface requirements and direct contact with a normal industrial environment or media such as coolants or lubricating agents.
3. Strong protection for components subject to high corrosion stress such as external, visible parts in direct contact with a normal industrial environment or media such as solvents and cleaning agents, and primarily functional surface requirements.

Dimensions

Diameter 12-63



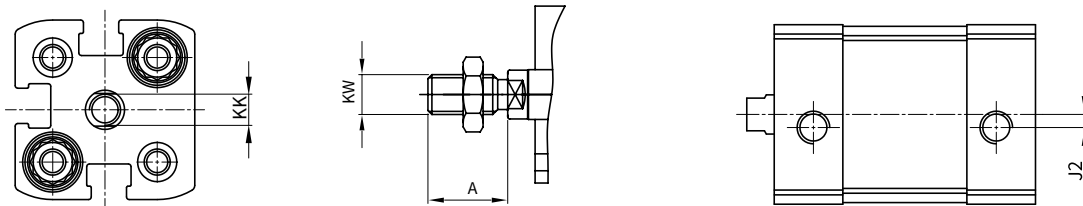
Diameter 80-100



Diameter 12-25

Male thread

Diameter 12



Dimensions

Φ[mm]	BG min.	D1ΦH9	D5Φ	E	EE	G	J2	J3	LA+0.2
12	17	9	6F9	27.5 +0.3	M5	10.5	2	-	3.5
16				29 +0.3		11	2.6		
20	19.5		9F9	35.5 +0.3		12			
25				39.5 +0.3					
32	26		12F9	47 +0.3	G1/8	15		6	11.5
40				54.5 +0.3					
50	27	65.5 +0.3							
63		75.5 +0.3							
80	17	12	15	95.5 +0.6	16.5	20	2.6		
100	21.5			113.5 +0.6	21.5				

Φ[mm]	MM Φ	KK	PL +0.2	RT	SF h13	T2 +0.1	TG ±0.2	ZA ±0.3	ZB	
									+1.2	PPS +1.3
12	6	M3	6	M4	5	2.1	16	35	39.2	-
16	8	M4			7		18		39.7	
20	10	M6		M5	9		22	37	42.5	42.5
25							26	39	44.5	45.3
32	12	M8	8.2	M6	10	2.6	32.5	44	50	50.6
40							38		45	51.1
50	16	M10		M8	13		46.5	49		52.7
63							56.5	54	56.5	57
80	20	M12		M10	17		72	54	62.9	63.4
100							89	67	76	76.8

Φ[mm]	A	AF	T4	KW
12	10	8	1.5	M5
16	12	10		M6
20	16	14	2.6	M8
25				
32	19	16	3.3	M10×1.25
40				
50	22	20	4.7	M12×1.25
63				
80	28	25	6.1	M16×1.5
100	40			

Actuator element

Control element

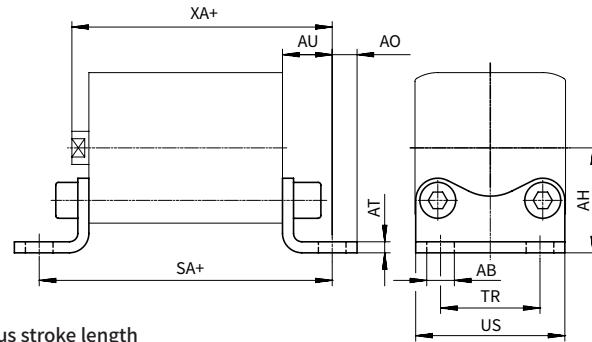
Service unit combination

Attachment

Type of mounting

Foot mounting LB-C

Material: Galvanised steel

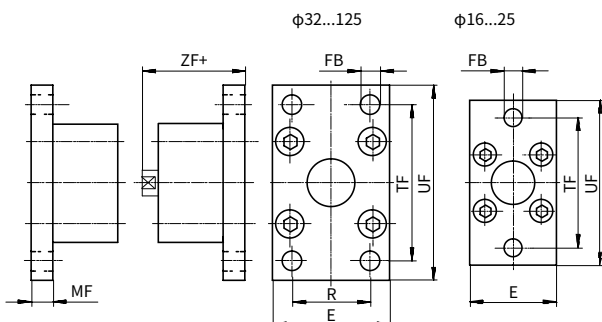


+ = plus stroke length

Size										
Applicable \varnothing [mm]	AB \varnothing H14	AH JS14	AO	AT ± 0.5	AU ± 0.2	SA	TR ± 0.2	US -0.5	XA	Type
12	5.5	21	5	3	13	61	16	26	52.2	LB-12-C
16	5.5	22	5	3			18	27.5	52.9	LB-16-C
20	6.5	27	6.3	3.8	16	69	22	34.5	58.7	LB-20-C
25	6.5	29	6.3	3.8			26	38.5	60.7	LB-25-C
32	7	33.5	6.5	4			32	46	66.2	LB-32-C
40	10	38	8	4	18	81	36	54	69.2	LB-40-C
50	10	45	8	5	21	87	45	64	74.2	LB-50-C
63	10	50	8	5			50	75	78.2	LB-63-C
80	12	63	10.5	6	26	106	63	93	89	LB-80-C
100	14.5	74	12.5	6	27	121	75	110	103	LB-100-C

Flange mounting FA/FB

Material: Galvanised steel



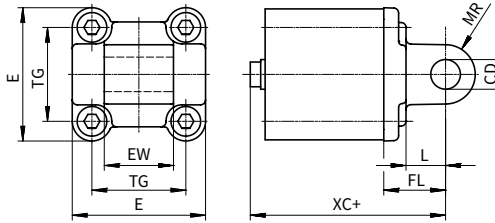
Applicable \varnothing [mm]	E	FB \varnothing	MF	R	TF	UF ± 1	ZF	Type
12	25	5.5	8	-	40	55	47.2	FA/FB-12
16	30				43	55	47.9	FA/FB-16
20	35	55			68	50.7	FA/FB-20	
25	39.5	60			68	52.7	FA/FB-25	
32	47	7	10	32	64	80	60.2	FA/FB-32
40	53	36			72	90	61.2	FA/FB-40
50	65	9	12	45	90	108	65.2	FA/FB-50
63	75				50	100	118	69.2
80	95	12.5	16	63	126	150	79	FA/FB-80
100	115				14.5	75	150	176

+ = plus stroke length

Type of mounting

Swivel flange CA

Material:
 φ 02 ... 25: Wrought aluminum alloy
 φ 32 ... 100: Die-cast aluminium

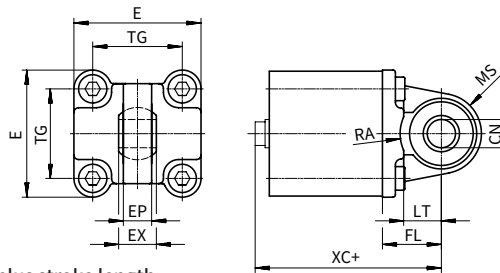
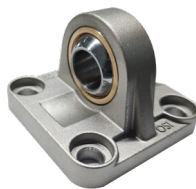


+ = plus stroke length

Size									
Applicable Ø [mm]	CD Ø H9	E	EW	FL ±0.2	L	MR	TG	XC	Type
12	6	25-0.6	12h12	16	10	6	16	55.2	CA-12
16		27.5-0.6					18	55.9	CA-16
20	8	34.5-0.6	16h12	20	14	8	22	62.7	CA-20
25		38.5-0.6					26	64.7	CA-25
32	10	45+0.2/-0.5	26-0.2/-0.6	22	13	10	32.5	72.2	CA-32
40	12	54-0.5	28-0.2/-0.6	25	16	12	38	75.2	CA-40
50		64-0.6	32-0.2/-0.6	27			46.5	80.2	CA-50
63	16	75-0.6	40-0.2/-0.6	32	21	16	56.5	89.2	CA-63
80		93-0.8	50-0.2/-0.6	36			22	72	99
100	20	110+0.3/-0.8	60-0.2/-0.6	41	27	20	89	117	CA-100

Swivel flange CAQ

Material:
 φ 32 ... 50: Wrought aluminum alloy
 φ 63 ... 100: Die-cast aluminium



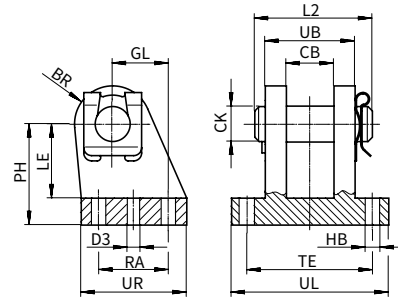
+ = plus stroke length

Size											
Applicable Ø [mm]	CN Ø	E	EP ±0.2	EX	FL ±0.2	LT	MS	RA +1	TG	XC	Type
32	10+0.013	45+0.2/-0.5	10.5	14	22	13	15+0.5	14.5	32.5	72.2	CAQ-32
40	12+0.015	54-0.5	12	16	25	16	17+0.5	17.5	38	75.2	CAQ-40
50	16+0.015	64-0.6	15	21	27	16	20+0.5	18.5	46.5	80.2	CAQ-50
63	16+0.015	74.5±0.5	15	21	32	21	23-0.5	23	56.5	89.2	CAQ-63
80	20+0.018	92.2±0.8	18	25	36	22	28-0.5	25	72	99	CAQ-80
100	20+0.018	109+1/-0.7	18	25	41	27	30±0.5	95	89	117	CAQ-100

Type of mounting

Clevis foot CBG

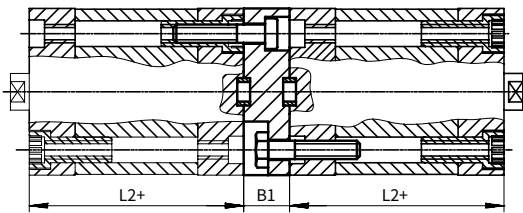
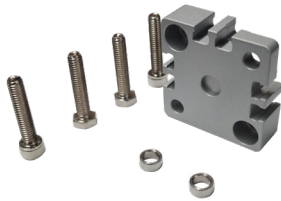
Material:
 CBG 32 ... 03: Stainless steel casting
 CBG 80 ... 100: S Spheroidal graphite cast iron
 The pivot is secured against rotation with a spring pin.



Size															
Applicable Ø [mm]	BR	CB	CK Ø	D3 Ø	GL	HB Ø	L2	LE	PH	RA	TE	UB	UL	UR	Type
32	12	14.1	10	4.8	16	6.8	35	24	32	20	42	28	56	36	CBG-32
40	14	16.1	12	5.8	20	6.8	39	26	36	26	44	30	58	41.5	CBG-40
50	15	21.1	16	5.8	25	9.2	50	33	45	31	56	40	70	47	CBG-50
63	17	21.1	16	7.8	25	9.2	50	38	50	31	56	40	70	49	CBG-63
80	17	25.1	20	7.8	30	11	60	49	63	36	70	50	89	55	CBG-80
100	20	25.1	20	9.8	41	11	60	56	71	46	70	50	89	65	CBG-100

Multi-position kit DW-C

Material :
 Flange: Wrought aluminium alloy
 Screws: Galvanised steel



+ = plus stroke length

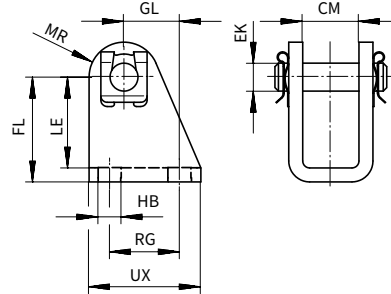
Applicable Ø [mm]	L2	B1	Max. total stroke length [mm]	Type
12	35	13	600	DW-12-C
16				DW-16-C
20				DW-20-C
25				DW-25-C
32	44	15	800	DW-32-C
40				DW-40-C
50				DW-50-C
63	49	17	1000	DW-63-C
80	54			DW-80-C
100	67	19.5		DW-100-C

Note: The Max. total stroke length must not be exceeded when combining cylinders and multi-position kit.

Type of mounting

LU Clevis foot

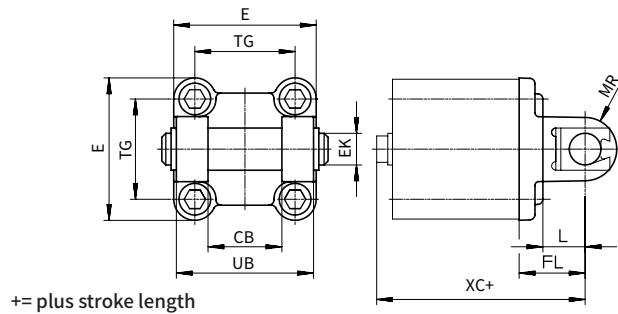
Material: Galvanised steel



Size											
Applicable Ø [mm]	CM	EK Ø	FL	GL	HB Ø	LE	MR	RG	UX	Type	
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	

Swivel flange CB-C

Material: Die-cast aluminum

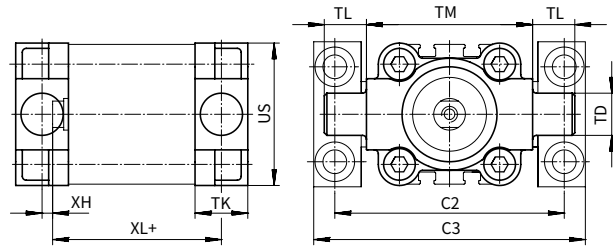


Dimensions and ordering data										
Applicable Ø [mm]	CB H14	E	EK Ø H9/e8	FL ±0.2	L	MR -0.5	TG	UB h14	XC	Type
32	26	45+0.2/-0.5	10	22	13	8.5	32.5	45	72	CB-32-C
40	28	54-0.5	12	25	16	12	38	51	76	CB-40-C
50	32	64-0.6	12	27	16	12	46.5	60	80	CB-50-C
63	40	75-0.6	16	32	21	16	56.5	70	89	CB-63-C
80	50	93-0.8	16	36	22	16	72	90	99	CB-80-C
100	60	110+0.3/-0.8	20	41	27	20	89	110	117	CB-100-C

Type of mounting

Trunnion flange TA/TB

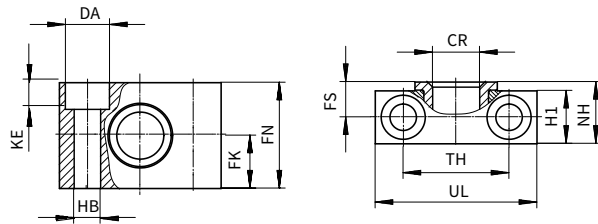
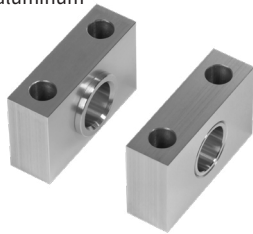
Material: Spheroidal stainless steel



Size										
Applicable \varnothing [mm]	C2	C3	TD $\varnothing e9$	TK	TL	TM	US	XH	XL	Type
32	71	86	12	19	12	50	45	2	58	TA/TB-32
40	87	105	16	21	16	63	54	4	61.1	TA/TB-40
50	99	117	16	26	16	75	64	4	64.7	TA/TB-50
63	116	136	20	28	20	90	75	4	68.5	TA/TB-63
80	136	156	20	31	20	110	93	5	76.9	TA/TB-80
100	164	189	25	35	25	132	110	10	95	TA/TB-100

Trunnion support TZ

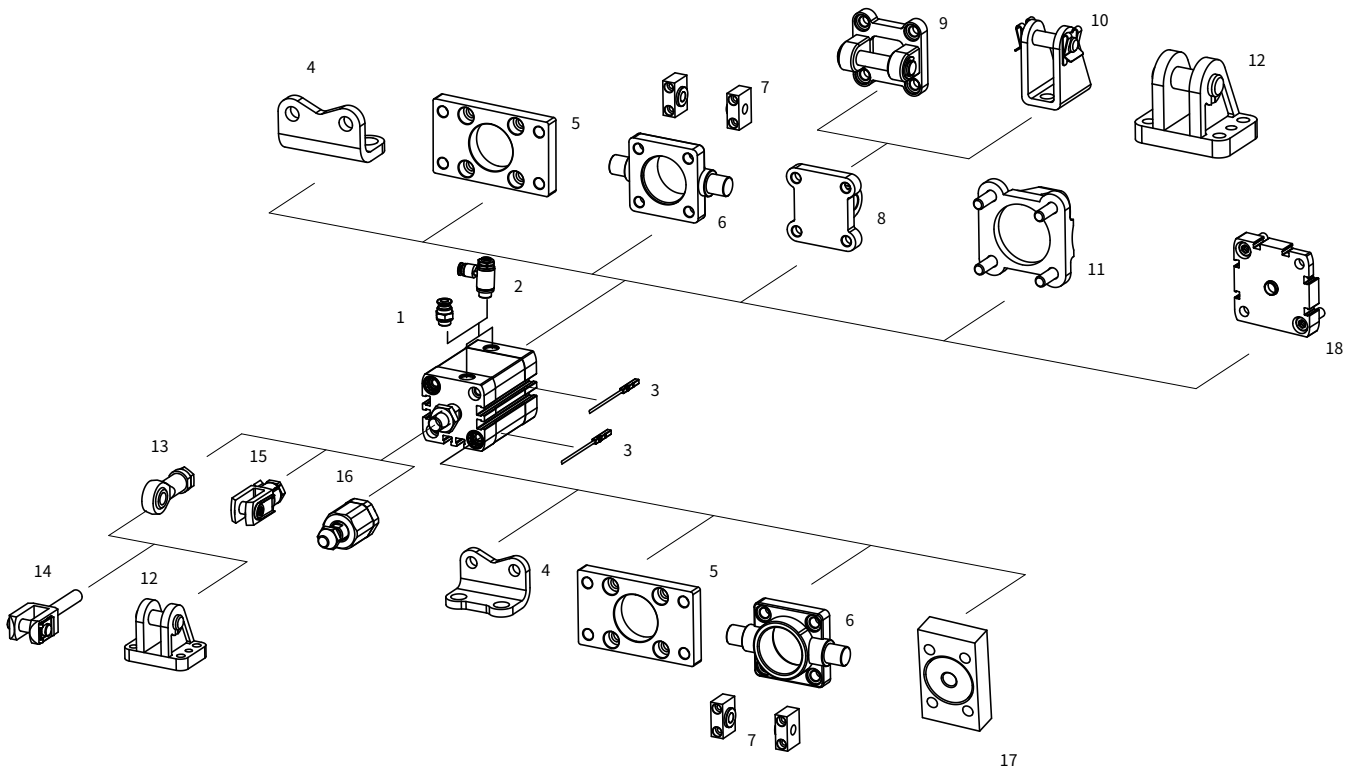
Material:
Trunnion support: Anodised aluminum
Plain bearing: Plastic



Size												
Applicable \varnothing [mm]	CR $\varnothing D11$	DA $\varnothing H13$	FK $\varnothing \pm 0.1$	FN	FS	H1	HB $\varnothing H13$	KE	NH	TH ± 0.2	UL	Type
32	12	11	15	30	10.5	15	6.6	6.8	18	32	46	TZ-32
40, 50	16	15	18	36	12	18	9	9	21	36	55	TZ-40/50
63, 80	20	18	20	40	13	20	11	11	23	42	65	TZ-63/80
100	25	20	25	50	16	24.5	14	13	28.5	50	75	TZ-100

Peripherals overview

· DPSC -.....



Actuator element

Control element

Service unit combination

Attachment

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 P461 for model details
2	NSE	One-way flow control valve	For speed regulation, refer to P505 for model details
3	CDX	Proximity switch	Can be integrated in the cylinder profile barre
4	LB-C	Foot mounting	For bearings or end caps
5	FA/FB	Flange mounting	For bearings or end caps
6	TA/TB	Trunnion flange	For bearings or end caps
7	TZ	Trunnion support	For trunnion flangeTA/TB
8	CA	Swivel flange	For end caps
9	CB-C	Swivel flange	For end caps
10	LU	Clevis foot	For swivel flange
11	CAQ	Swivel flange	For end caps
12	CBG	Clevis foot	-
13	YY	Rod eye	With spherical bearing
14	YF	Rod clevis	With male thread
15	Y	Rod clevis	Permits a swivelling movement of the cylinder in one plane
16	FD	Self-aligning rod coupler	To compensate for radial and angular deviations
17	HKSG	Coupling piece	To compensate for radial deviations
	HKSZ	Coupling piece	For cylinders with a non-rotating piston rod to compensate for radial deviations
18	DW-C	Multi-position kit	For connecting two cylinders with the same piston diameter to form a multi-position cylinder

Accessory

·Piston rod accessories

Name	Applicableφ	Model	Name	Applicableφ	Model	Name	Applicableφ	Model
Rod eye YY			Y Rod clevis			Self-aligning rod coupler FD		
	16	YY-M6		12	-		12	FD-M5
	20, 25	YY-M8		16	Y-M6		16	FD-M6
	32, 40	YY-M10×1.25		20, 25	Y-M8		20, 25	FD-M8
	50, 63	YY-M12×1.25		32, 40	Y-M10×1.25		32, 40	FD-M10×1.25
	80, 100	YY-M16×1.5		50, 63	Y-M12×1.25		50, 63	FD-M12×1.25
			80, 100	Y-M16×1.5		80, 100	FD-M16×1.5	

Refer to P255 for more details

·Proximity switch model selection chart

CDX	-13	-P	-O	-2.5	-M8	-G3	-220V	-L
Proximity switch	①	②	③	④	⑤	⑥	⑦	⑧
①	Slot form: 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
DPSC	Proximity switch	Open end	Magneto-resistive, 3-wire PNP	CDX-13P-O-2.5	12,16,20,25,32, 40,50,63, 80,100
			Magneto-resistive, 3-wire NPN	CDX-13N-O-2.5	
			Magneto-resistive, 3-wire NPN	CDX-13N-O-5	
			Magnetic reed, 2-wire R	CDX-13R-O-2.5	
			Magnetic reed, 2-wire R	CDX-13R-O-5	
			Magnetic reed, 2-wire R	CDX-13R-O-5	
		Plug	Magneto-resistive, 3-wire PNP	CDX-13P-O-0.3-M8	
			Magneto-resistive, 3-wire PNP	CDX-13P-O-0.3-M12	
			Magneto-resistive, 3-wire NPN	CDX-13N-O-0.3-M8	
			Magneto-resistive, 3-wire NPN	CDX-13N-O-0.3-M12	
Magnetic reed, 2-wire R	Magnetic reed, 2-wire R	CDX-13R-O-0.3-M8			
	Magnetic reed, 2-wire R	CDX-13R-O-0.3-M12			