



1.2 DPST Series Double-acting Cylinder

This standard cylinder complies with ISO15552, with a cylinder diameter of ϕ 32-125, pull rod structure, double acting.



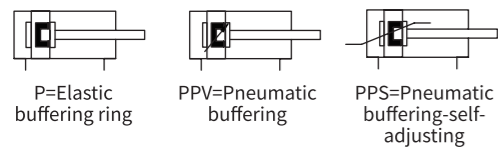
Summary

This standard cylinder complies with ISO15552, with a cylinder diameter of φ 32-125, pull rod structure, double acting

Product features

- Sturdy tie rod design
- Multiple buffering methods available for smooth adjustment
- The piston seal adopts two Y-shaped unidirectional sealing structures with compensation function, low starting pressure, and long service life
- Diversified brackets: Multiple fixed and non fixed brackets for customers to choose from

Diagram



- Technical parameter

Buffer	
DPST-...-P	Elastic buffer rings at both ends
DPST-...-PPV	Pneumatic buffer, adjustable at both ends
DPST-...-PPS	Pneumatic buffer, self-adjusting at both ends

Buffer length							
Diameter φ	32	40	50	63	80	100	125
-PPV [mm]	17	19	22	22	31	31	45
Position Sensing	Through the magnetic switch						
Type of mounting	With accessories/female thread						
Mounting position	Any						

Model selection

DPST	-32	×50	-PPV	A	-2F
Double-acting	①	②	③	④	⑤
①	-Diameter: 32 40 50 63 80 100 125				
②	× Stroke:1...2800				
③	-Buffer: P=Elastic buffering ring sat both ends;PPV=Pneumatic buffering, adjustable at both ends;PPS=Self-adjusting at both ends;				
④	Position sensing: A=With magnetic switch;None=Without magnetic switch				
⑤	-Derivative types				
		The type of piston rod	The type of thread of piston rod	The range of temperature	
		With one side	Male thread	Standard	
	2	Double-piston rod	F Female thread	T	-40-80°C
			R	Heat-resistant seals max. 120°C	

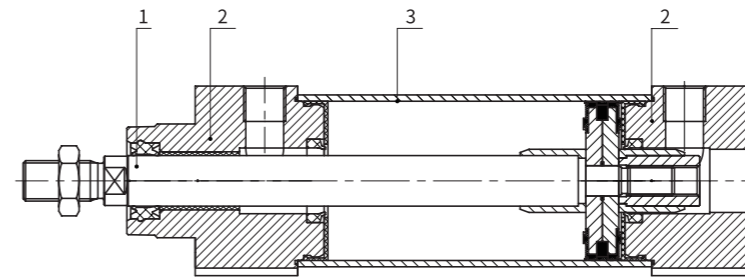
Technical parameter

General technical parameter							
Diameter φ	32	40	50	63	80	100	125
Standard	ISO 15552						
Model of operation	Double-acting						
Pneumatic connection	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod thread	M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5	M27x2
Stroke [mm]	1 ... 2800						
Design	Piston/Piston rod/Profile barrel						

Forces [N] and impact energy [J]							
Diameter φ	32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing	483	754	1178	1870	3016	4712	7363
Theoretical force at 6 bar, retracting	415	633	990	1682	2721	4418	6881
Max. Impact energy in the end positions	0.4	0.7	1.0	1.3	1.8	2.5	3.3
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: $m_2 = \frac{2 \times E}{V^2} - m_1$				
This parameter represents the maximum value that can be reached. Maximum allowable impact energy must be observed.							

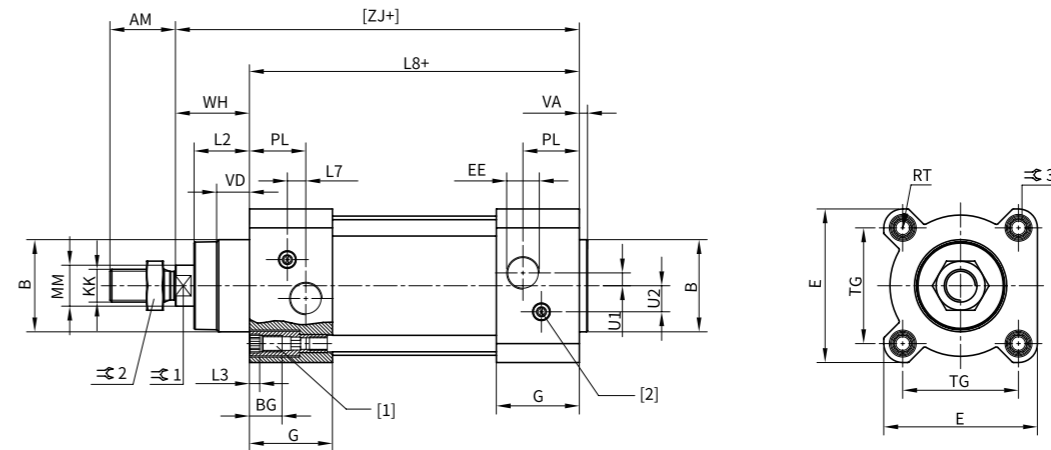
Operating and environmental conditions							
Diameter φ	32	40	50	63	80	100	125
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]						
Operating pressure MPa	0.06 ... 1.2		0.04 ... 1.2			0.02 ... 1	
Environmental and fluid temperature	-20 ~ 80° C						
Corrosion resistance grade	2						

Structure Diagram

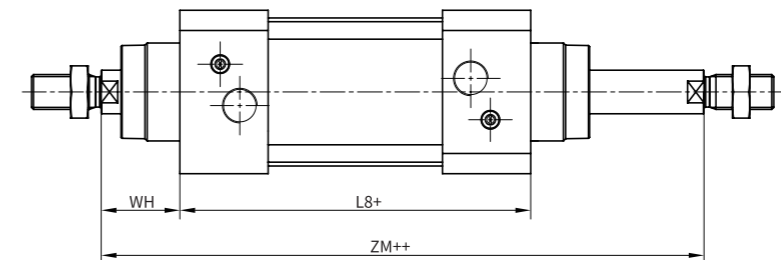


Standard cylinder	
[1] Piston rod	High-alloy steel
[2] Cover	Coated die-cast aluminium
[3] Profile barrel	Anodized wrought aluminium alloy
- Piston seal	PUR
- Cushion piston	POM
- Buffer seal	PUR

Dimensions



T - Through piston rod



+ = plus stroke length
++ = plus 2x stroke length

-Dimensions

Diameter ϕ [mm]	A-0.5	B ϕ d11	BGmin	E+0.5	EE	G-0.2	U2 \pm 0.1	U1 \pm 0.1	KK
32	22	30	16	45	G1/8	28	5.7	5.25	M10x1.25
40	24	35	16	54	G1/4	33	8	4	M12x1.25
50	32	40	16	64	G1/4	33	10.4	5.5	M16x1.5
63	32	45	16	75	G3/8	40.5	12.75	6.25	M16x1.5
80	40	45	17	93	G3/8	43	12.5	8	M20x1.5
100	40	55	17	110	G1/2	48	13.5	10	M20x1.5
125	54	60	20	136	G1/2	44.7	13	8	M27x2

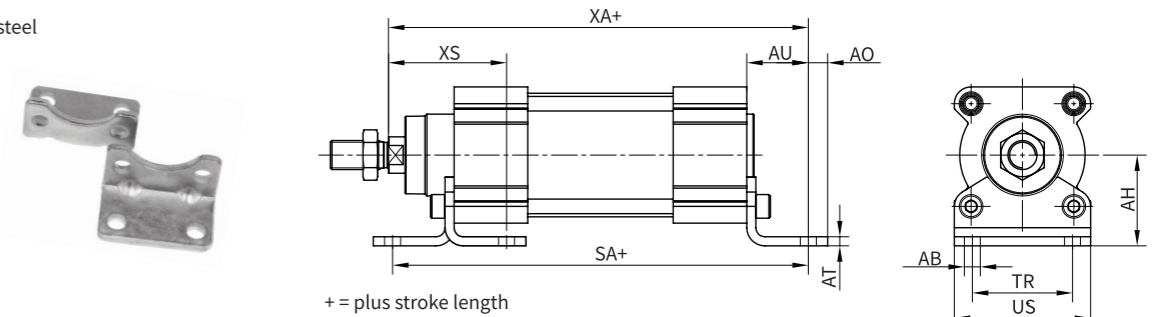
Diameter ϕ [mm]	L2	L3max.	L7	L8 \pm 0.4	MM ϕ	PL	RT	TG \pm 0.3	ZM+1
32	18-0.2	5	6.5	94	12	19.5	M6	32.5	146.1
40	21.3-0.2	5	7.5	105	16	22.5	M6	38	164.8
50	26.8-0.2	5	9.5	106	20	22.5	M8	46.5	179.8
63	27-0.2	5	9	121	20	27.5	M8	56.5	195.4
80	34.2-0.2	-	11	128	25	30	M10	72	221
100	38-0.2	-	7.5	138	25	31.5	M10	89	238.8
125	45-0.3	-	10	160	32	22.5	M12	110	290

Diameter ϕ [mm]	VA	VD+0.5	WH+2.2	ZJ+1.8	\varnothing 1	\varnothing 2	\varnothing 3
32	4 _{-0.2}	10	25	119.1	10	16	6
40	4 _{-0.2}	10.5	28.7	133.9	13	18	6
50	4 _{-0.2}	11.5	35.6	141.8	17	24	8
63	4 _{-0.2}	15	35.9	157.1	17	24	8
80	4 _{-0.2}	15.7	45.4	173.6	22	30	6
100	4 _{-0.2}	19.2	49.3	187.5	22	30	6
125	6 _{-0.3}	20.5	64.1	225	27	41	8

Type of mounting

LB Axial foundation Type

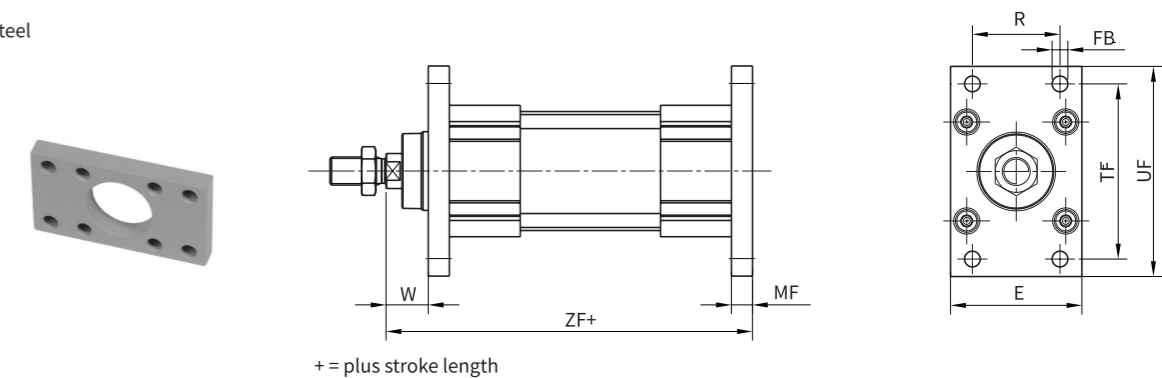
Material: Galvanized steel



Diameter ϕ [mm]	AB ϕ	AH	AO	AT	AU	SA	TR	US	XA	XS
32	7	32	6.5	4	24	142	32	45	143.1	46
40	10	36	9	4	28	161	36	54	161.9	52.7
50	10	45	9.5	5	32	170	45	64	173.8	62.6
63	10	50	12.5	5	32	185	50	75	189.1	62.9
80	12	63	15	6	41	210	63	93	214.6	80.4
100	14.5	71	17.5	6	41	220	75	110	228.5	84.3
125	16.5	90	22	8	45	250	90	131	270	102

FA/FB Front Rear Flange Type

Material: Galvanized steel

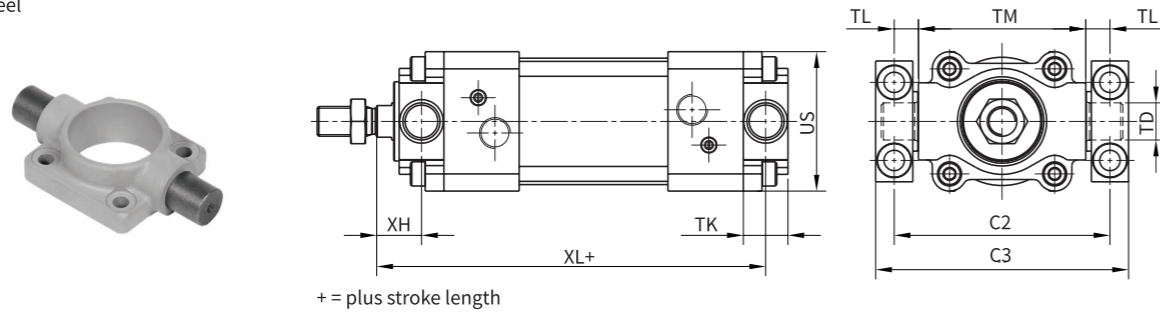


Diameter ϕ [mm]	E	FB ϕ H13	MF	R	TF	UF	W	ZF
32	45	7	10	32	64	80	16	129.1
40	54	9	10	36	72	90	18.7	143.9
50	65	9	12	45	90	110	23.6	153.8
63	75	9	12	50	100	120	23.9	169.1
80	93	12	16	63	126	150	29.4	189.6
100	110	14	16	75	150	175	33.3	203.5
125	132	16	20	90	180	210	45	245

- Type of mounting

TA /TB Front axle end pin seat type

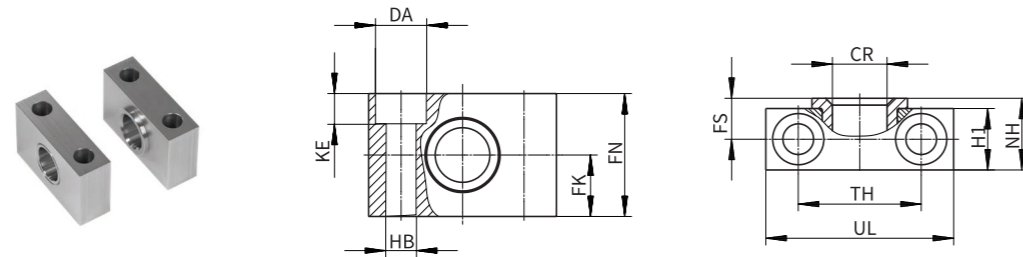
Material: Galvanized steel



Diameter ϕ [mm]	C2	C3	TD ϕ 9	TK	TL	TM	US	XH	XL
32	71	86	12	16	12	50	45	18	127.1
40	87	105	16	20	16	63	54	18.7	143.9
50	99	117	16	24	16	75	64	23.6	153.8
63	116	136	20	24	20	90	75	23.9	169.1
80	136	156	20	28	20	110	93	31.4	187.6
100	164	189	25	38	25	132	110	30.3	206.5
125	192	217	25	50	25	160	131	40	250

TZ Trunnion support

Material:
Trunnion support: Anodized aluminium

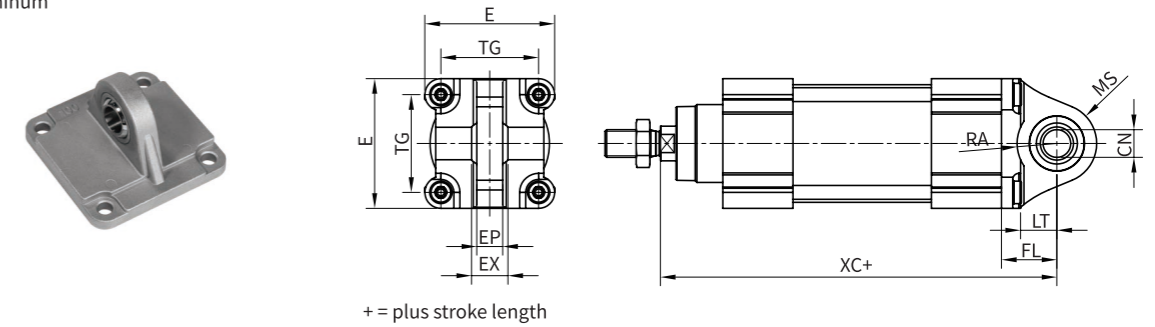


Diameter ϕ [mm]	CR ϕ D11	DA ϕ H13	FK $\phi \pm 0.1$	FN	FS	H1	HB ϕ H13	KE	NH	TH ± 0.2	UL
32	12	11	15	30	10.5	15	6.6	6.8	18	32	46
40, 50	16	15	18	36	12	18	9	9	21	36	55
63, 80	20	18	20	40	13	20	11	11	23	42	65
100, 125	25	20	25	50	16	24.5	14	13	28.5	50	75

- Type of mounting

CAQ Swivel flange

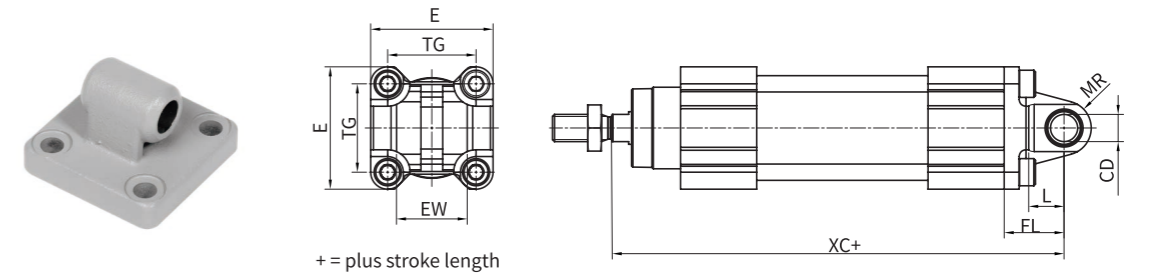
Material: Die-cast aluminum



Diameter ϕ [mm]	CN	E	EP ± 0.2	EX	FL ± 0.2	LT	MS	RA+1	TG	XC
32	10+0.013	45+0.2/-0.5	10.5	14	22	13	15+0.5	14.5	32.5	141.1
40	12+0.015	54-0.5	12	16	25	16	17+0.5	17.5	38	158.9
50	16+0.015	64-0.6	15	21	27	16	20+0.5	18.5	46.5	168.8
63	16+0.015	74.5 ± 0.5	15	21	32	21	23-0.5	23	56.5	189.1
80	20+0.018	92.2 ± 0.8	18	25	36	22	28-0.5	25	72	209.6
100	20+0.018	109+1/-0.7	18	25	41	27	30 ± 0.5	95	89	228.5
125	30+0.018	132+1/-0.7	25	37	50	30	39 ± 0.5	100	110	275

CA Single-ear

Material: Die-cast aluminum

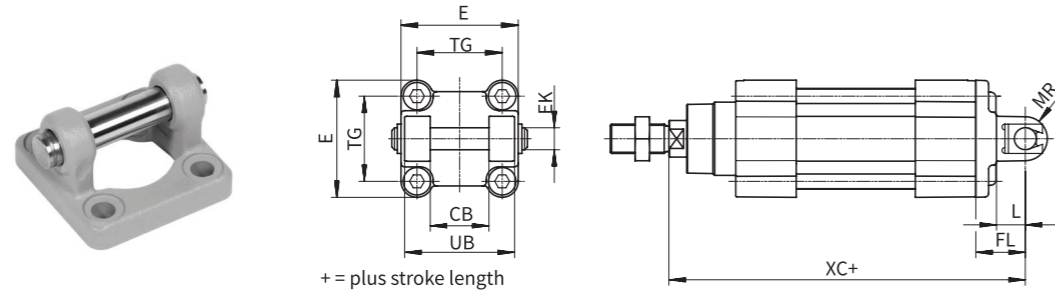


Diameter ϕ [mm]	CD ϕ H9	E	EW ϕ 12	FL ± 0.2	L	MR	TG	XC
32	10	45+0.2/-0.5	26	22	13	10	32.5	141.1
40	12	54-0.5	28	25	16	12	38	158.9
50	12	64-0.6	32	27	16	12	46.5	168.8
63	16	75-0.6	40	32	21	16	56.5	189.1
80	16	93-0.8	50	36	22	16	72	209.6
100	20	110+0.3/-0.8	60	41	27	20	89	228.5
125	25	131-0.8	70	50	30	25	110	275

- Type of mounting

CB Double-ear

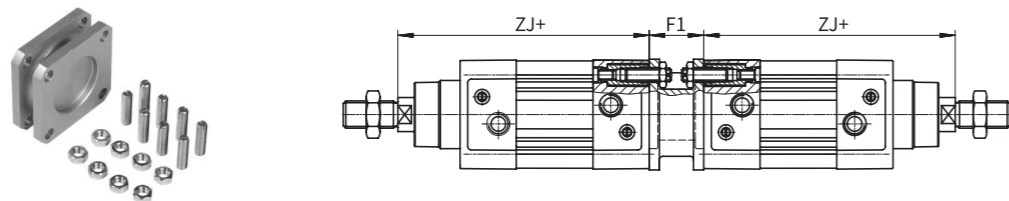
Material: Die-cast aluminum



Diameter ϕ [mm]	CBh14	E	EK ϕ H9/e8	FL \pm 0.2	L	MR-0.5	TG	UBh14	XC
32	26	45+0.2/-0.5	10	22	13	8.5	32.5	45	141.1
40	28	54-0.5	12	25	16	12	38	52	158.9
50	32	64-0.6	12	27	16	12	46.5	60	168.8
63	40	75-0.6	16	32	21	16	56.5	70	189.1
80	50	93-0.8	16	36	22	16	72	90	209.6
100	60	110+0.3/-0.8	20	41	27	20	89	110	228.5
125	70	131-0.8	25	50	30	25	110	130	275

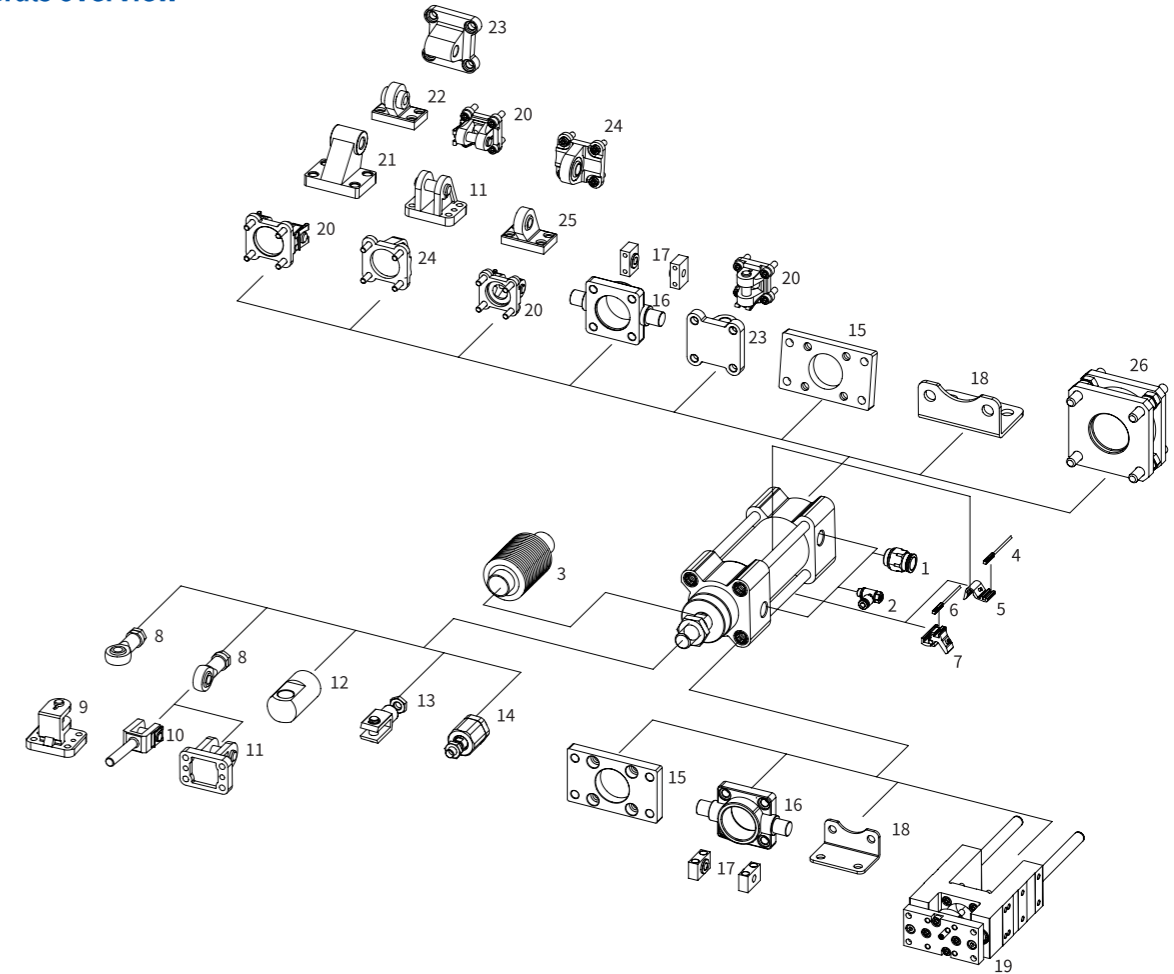
DW Multi-position kit

Material:
Flange: Wrought aluminium alloy
Threaded pins, hex nuts:
Galvanized steel



Diameter ϕ [mm]	F1	ZJ+1.8	Max. complete stroke [mm]	To achieve 3 positions Connection two cylinders with the same stroke	To achieve 4 positions Connection two cylinders with the same stroke
32	27	119.1	500		
40	27	133.9	800		
50	32	141.8	800		
63	28	157.1	700		
80	38	173.6	1000		
100	38	187.5	900		
125	48	225	1000		

Peripherals overview



List of installation components and accessories

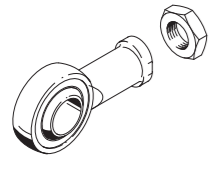

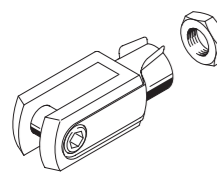
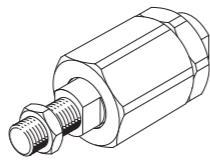
Serial number	Code	Names	Description
1	PC	Push-in fitting	For connecting compressed air tubing with standard O.D.
2	NSE	One-way flow control valve	For speed regulation
3	FCZ	Dust guard	Protects the cylinder (piston rod, seal and bearings) against a wide range of media and thus prevents premature wear
4	C	Magnetic switch	CDX-50R-1.3 (for CJ)
5	CJ	Mounting kit	For the ϕ 32-63 cylinder diameter
6	C	Magnetic switch	CDX-21R-1.3(for CZ)
7	CZ	Mounting kit	For the ϕ 80-125 cylinder diameter
8	YY	Fish eye joint	With spherical bearing
9	CBZ	Right-angle clevis foot	-
10	YF	Y joint	With male thread
11	CBG	Clevis foot	-
12	I	I joint	-
13	Y	Y joint	Permits a swivelling movement of the cylinder in one plane
14	FD	Self-aligning rod coupler	For compensating radial and angular deviations
15	FA/FB	Front / Rear flange	<ul style="list-style-type: none"> For bearing or end caps Cannot be used on the bearing cap in combination with the bellows kit FCZ
16	TA/TB/TC	Trunnion flange	<ul style="list-style-type: none"> For bearing or end caps Cannot be used on the bearing cap in combination with the bellows kit DADB

-Peripherals overview

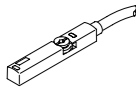
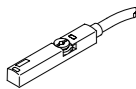
- List of installation components and accessories

Serial number	Code	Names	Description
17	TZ	Trunnion support	Used in conjunction with TA/TB/TC/TR
18	LB	Foot mounting	For bearing or end caps
19	DX	Guide unit	For protecting standards-based cylinders against rotation at high torque loads
20	CB	Double-ear	For end caps
21	LN	Clevis foot	Used in conjunction with CB
22	LNQ2	Ball articulated ear ring support	With spherical bearing
23	CA	Single-ear	For end caps
24	CAQ	Single-ear belt bearing	For end caps
25	LNQ	Clevis foot with bearing	With spherical bearing
26	DW	Multi-position kit	For connecting two cylinders with identical piston diameters to form a multi-position cylinder

-Piston rod accessories

Name	Diameter ϕ	TYPE	Name	Diameter ϕ	TYPE
Fish eye joint YY			I joint		
	32	YY-M10×1.25		32	I-M10×1.25
	40	YY-M12×1.25		40	I-M12×1.25
	53, 63	YY-M16×1.5		50, 63	I-M16×1.5
	80, 100	YY-M20×1.5		80, 100	I-M20×1.5
	125	YY-M27×2		125	I-M27×2
Y joint			Self-aligning rod coupler FD		
	32	Y-M10×1.25		32	FD-M10×1.25
	40	Y-M12×1.25		40	FD-M12×1.25
	53, 63	Y-M16×1.5		53, 63	FD-M16×1.5
	80, 100	Y-M20×1.5		80, 100	FD-M20×1.5
	125	Y-M27×2		125	FD-M27×2

-C magnetic switch

Magnetic switch is used for T-groove						
	Type of mounting	Switching output	Connection	Cable length [m]	Code	For diameter ϕ
N/O						
	Insertable in the slot from above, flush with the cylinder profile.	PNP	Magneto-resistive, 3-wire	1.3	CDX-50P-1.3	32-63
		NPN	Magneto-resistive, 3-wire	1.3	CDX-50N-1.3	
		R	Tongue spring type, 2-wire	1.3	CDX-50R-1.3	
				2.5	CDX-50R-2.5	
	Insertable in the slot from above, flush with the cylinder profile.	PNP	Magneto-resistive, 3-wire	1.3	CDX-21P-1.3	80-125
		NPN	Magneto-resistive, 3-wire	1.3	CDX-21N-1.3	
		R	Tongue spring type, 2-wire	1.3	CDX-21R-1.3	
				2.5	CDX-21R-2.5	

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