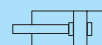




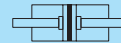
DOUBLE ACTING

- SINGLE END ROD TYPE..... **DS-1**

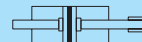
DOUBLE ACTING

- SINGLE END ROD TYPE (PISTON WITH MAGNET)..... **DS-1R**

DOUBLE ACTING

- DOUBLE END ROD TYPE..... **DS-1RD**




DOUBLE ACTING

- ADJUSTABLE FORWARD STROKE TYPE..... **DS-1RN**

Specification

Type		DS-1	DS-1R	DS-1RD	DS-1RN
Bore		Φ 12、16、20、25、32、40、50、63、80、100			
Power fluid		Filtered air with or without lubrication			
The range of pressure kgf/cm ²	Double acting	Φ 12 ~ 16 : 0.5 ~ 9.9 / Φ 20 ~ 25 : 0.3 ~ 9.9 / Φ 32 ~ 100 : 0.5 ~ 9.9			
Proof pressure		15 kgf/cm ²			
The range of temperature		-5 ~ +70 °C (No freezing)			
Material of cylinder barrel		Aluminium extrusion, Anodised 20 microns			

How to order

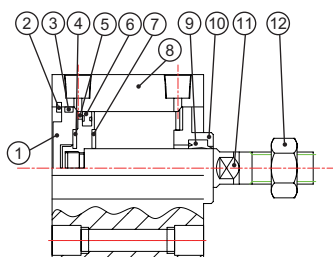
DS-1	12	N	30	-	A	-	T	-	A	2
Type	Bore	Cushion	Stroke		Adjustable stroke		Port thread		Sensor switch	Quantity
 DS-1	12 : $\Phi 12$ 16 : $\Phi 16$ 20 : $\Phi 20$	N : No cushion	Please see stroke table		A : Adjustable 30mm		- : Female thread T : Male thread		KT11R	1 : 1pc 2 : 2pcs
 DS-1R	25 : $\Phi 25$ 32 : $\Phi 32$ 40 : $\Phi 40$				B : Adjustable 50mm					
 DS-1RD	50 : $\Phi 50$ 63 : $\Phi 63$ 80 : $\Phi 80$ 100 : $\Phi 100$									
DS-1RN										

Stroke table

Bore	Stroke (mm)	Max. stroke
$\Phi 12$ 、 $\Phi 16$	5,10,15,20,25,30	65
$\Phi 20$	5,10,15,20,25,30,35,40,45,50	130
$\Phi 25$ 、 $\Phi 32$ 、 $\Phi 40$ 、 $\Phi 50$ 、 $\Phi 63$ 、 $\Phi 80$ 、 $\Phi 100$	5,10,15,20,25,30,35,40,45,50	130

* For other stroke, please contact to our sales.

DS-1 Inside structure

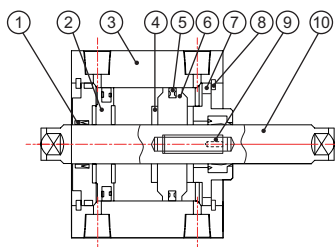


Parts list

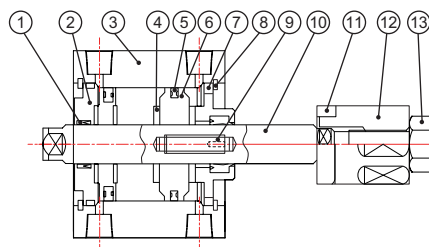
No.	Part name	Material	No.	Part name	Material	No.	Part name	Material
1	End cover	Φ 12 ~ 32 : Copper Φ 40 ~ 100 : Aluminium alloy	6	Piston gasket	NBR	11	Piston rod	S45C
2	C Snap ring	Spring steel	7	Cushion packing	NBR	12	Nut	Stainless steel
3	Cover gasket	NBR	8	Body	Aluminium alloy			
4	Cushion packing	NBR	9	Rod packing	NBR			
5	Piston	Aluminium alloy	10	Rod cover	Φ 12 ~ 32 : Copper Φ 40 ~ 100 : Aluminium alloy			

DS-1RD / DS-1RN Inside structure

● DS-1RD



● DS-1RN

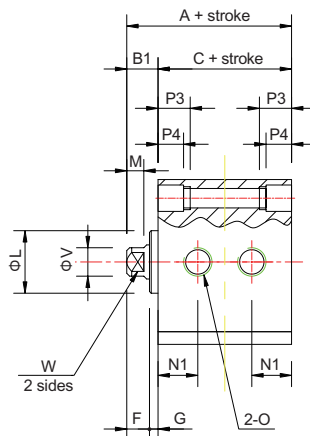
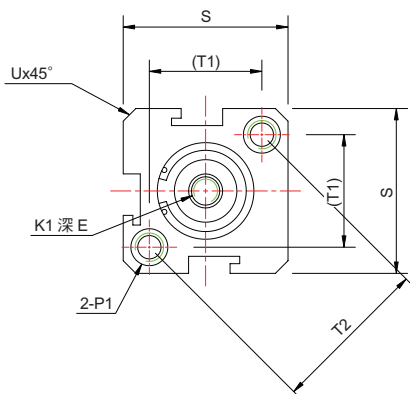
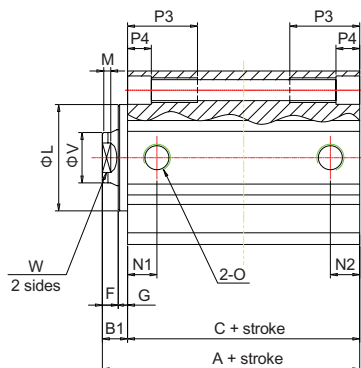
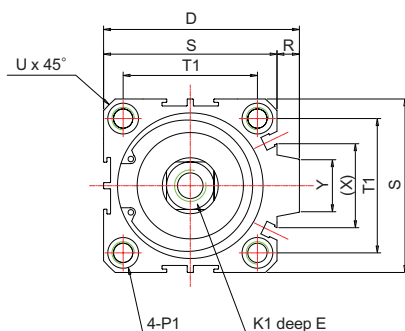


Parts list

No.	Part name	Material	No.	Part name	Part name	No.	Part name	Material
1	Rod cover packing	NBR	6	Piston	Aluminium alloy	11	Adjustable nut gasket	POM
2	Rod cover	Φ 12 ~ 32 : Copper Φ 40 ~ 100 : Aluminium alloy	7	Cover gasket	NBR	12	Adjustable nut	Medium carbon steel
3	Body	Aluminium alloy	8	C Snap ring	Spring steel	13	Nut	Stainless steel
4	Cushion packing	NBR	9	Fixed screw	Aluminium alloy			
5	Piston gasket	NBR	10	Piston rod	Φ 12 ~ 32 : Copper Φ 40 ~ 100 : Aluminium alloy			

DS-1 / DS-1R

Female thread type / Dimensional features

● Bore $\Phi 12 \sim 16$ ● Bore $\Phi 20 \sim 100$ 

Dimensional table

Mark Bore	Standard type			With magnet type			D	E	F	G	K1	L	M	N1		N2	
	A	B1	C	A	B1	C								S=5	S>5	S=5	S>5
Φ12	22	5	17	32	5	27	—	6	4	1	M3x0.5	10.2	2.8	7.5		5	
Φ16	24	5.5	18.5	34	5.5	28.5	—	6	4	1.5	M3x0.5	11	2.8	8		5.5	
Φ20	25	5.5	19.5	35	5.5	29.5	36	8	4	1.5	M4x0.7	13	2.8	9		5.5	
Φ25	27	6	21	37	6	31	42	10	4	2	M5x0.8	17	2.8	9.2		5.5	
Φ32	31.5	7	24.5	41.5	7	34.5	50	12	4	3	M6x1.0	22	2.8	9		9	6.5
Φ40	33	7	26	43	7	36	58.5	12	4	3	M8x1.25	28	2.8	9.5		7.5	
Φ50	37	9	28	47	9	38	71.5	15	5	4	M10x1.5	38	2.8	10.5		10.5	
Φ63	41	9	32	51	9	42	84.5	15	5	4	M10x1.5	40	2.8	9.5	12	9.5	11
Φ80	52	11	41	62	11	51	104	20	6	5	M14x1.5	45	4	11.5	14.5	11.5	14.5
Φ100	63	12	51	73	12	61	124	20	7	5	M18x1.5	55	4	16	20.5	16	20.5

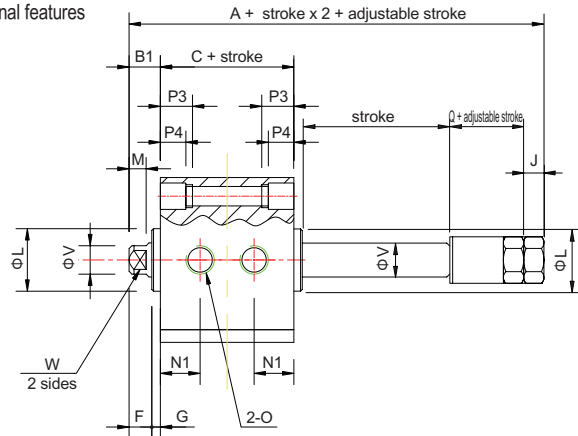
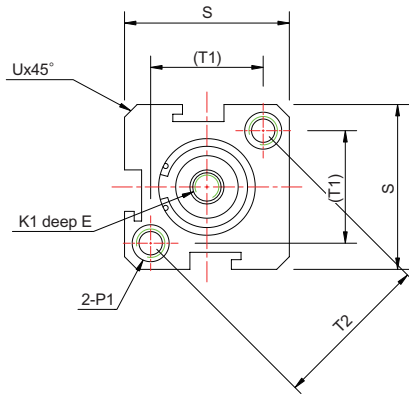
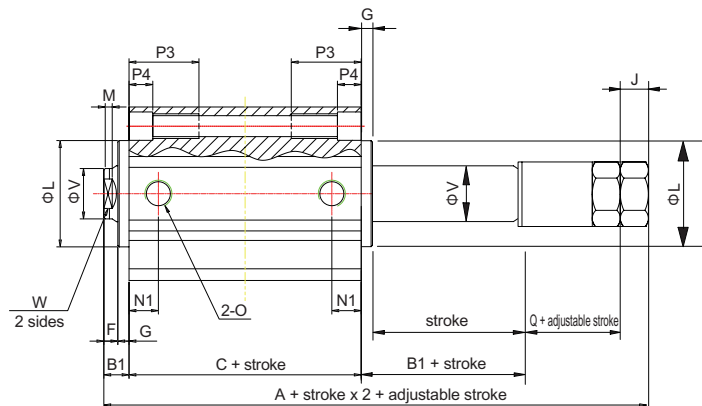
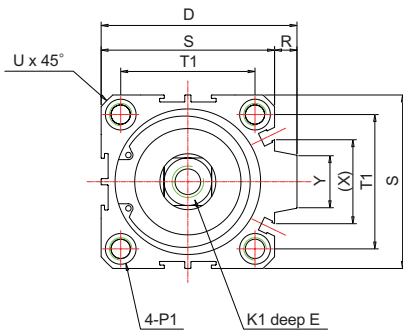
Mark Bore	O	P1	P3	P4	R	S	T1	T2	U	V	W	X	Y
Φ12	M5x0.8	Both sides : $\Phi 6.5$ thread : M5x0.8 thru. hole : $\Phi 4.2$	12	4.5	—	25	16.2	23	1.6	6	5	—	—
Φ16	M5x0.8	Both sides : $\Phi 6.5$ thread : M5x0.8 thru. hole : $\Phi 4.2$	12	4.5	—	29	19.8	28	1.6	6	5	—	—
Φ20	M5x0.8	Both sides : $\Phi 6.5$ thread : M5x0.8 thru. hole : $\Phi 4.2$	14	4.5	2	34	24	—	2.1	8	6	11.3	10
Φ25	M5x0.8	Both sides : $\Phi 8.2$ thread : M6x1.0 thru. hole : $\Phi 4.6$	15	5.5	2	40	28	—	3.1	10	8	12	10
Φ32	PT1/8	Both sides : $\Phi 8.2$ thread : M6x1.0 thru. hole : $\Phi 4.6$	16	5.5	6	44	34	—	2.15	12	10	18.3	15
Φ40	PT1/8	Both sides : $\Phi 10$ thread : M8x1.25 thru. hole : $\Phi 6.5$	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
Φ50	PT1/4	Both sides : $\Phi 11$ thread : M8x1.25 thru. hole : $\Phi 6.5$	25	8.5	9.5	62	48	—	4.15	20	17	30	20
Φ63	PT1/4	Both sides : $\Phi 11$ thread : M8x1.25 thru. hole : $\Phi 6.5$	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
Φ80	PT3/8	Both sides : $\Phi 14$ thread : M12x1.75 thru. hole : $\Phi 9.2$	25	10.5	10	94	74	—	3.65	25	22	36	26
Φ100	PT3/8	Both sides : $\Phi 17.5$ thread : M14x2 thru. hole : $\Phi 11.3$	30	13	10	114	90	—	3.65	32	27	35	26

Technical drawing of a 2-O type double door assembly. The drawing shows a cross-section of the door and its frame. Key dimensions and components are labeled:

- Dimensions:**
 - ΦL : Total height of the door assembly.
 - ΦV : Vertical clearance at the top and bottom.
 - $P3$: Horizontal distance from the centerline to the top edge of the door.
 - $P4$: Horizontal distance from the centerline to the top edge of the frame.
 - $N1$: Horizontal distance from the centerline to the bottom edge of the door.
 - F : Horizontal distance from the centerline to the bottom edge of the frame.
 - $B1$: Horizontal distance from the centerline to the bottom edge of the door.
 - W : Width of the door (2 sides).
 - $W/2$: Width of the door (1 side).
 - $F + \text{stroke}$: Horizontal distance from the centerline to the bottom edge of the frame.
 - $B1 + \text{stroke}$: Horizontal distance from the centerline to the bottom edge of the door.
 - $C + \text{stroke}$: Horizontal distance from the centerline to the bottom edge of the door.
 - $A + \text{stroke} \times 2$: Total horizontal distance from the centerline to the bottom edge of the door.
- Components:**
 - 2-O**: Label for the door assembly.
 - M**: Label for the top edge of the door.
 - G**: Label for the bottom edge of the door.
 - W**: Label for the width of the door (2 sides).
 - F**: Label for the horizontal distance from the centerline to the bottom edge of the frame.
 - B1**: Label for the horizontal distance from the centerline to the bottom edge of the door.
 - C**: Label for the horizontal distance from the centerline to the bottom edge of the door.
 - A**: Label for the total horizontal distance from the centerline to the bottom edge of the door.

Mark Bore	O	P1	P3	P4	R	S	T1	T2	U	V	W	X	Y
Φ 12	M5x0.8	Both sides : Φ6.5 thread : M5x0.8 thru. hole : Φ4.2	12	4.5	—	25	16.2	23	1.6	6	5	—	—
Φ 16	M5x0.8	Both sides : Φ6.5 thread : M5x0.8 thru. hole : Φ4.2	12	4.5	—	29	19.8	28	1.6	6	5	—	—
Φ 20	M5x0.8	Both sides : Φ6.5 thread : M5x0.8 thru. hole : Φ4.2	14	4.5	2	34	24	—	2.1	8	6	11.3	10
Φ 25	M5x0.8	Both sides : Φ8.2 thread : M6x1.0 thru. hole : Φ4.6	15	5.5	2	40	28	—	3.1	10	8	12	10
Φ 32	PT1/8	Both sides : Φ8.2 thread : M6x1.0 thru. hole : Φ4.6	16	5.5	6	44	34	—	2.15	12	10	18.3	15
Φ 40	PT1/8	Both sides : Φ10 thread : M8x1.25 thru. hole : Φ6.5	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
Φ 50	PT1/4	Both sides : Φ11 thread : M8x1.25 thru. hole : Φ6.5	25	8.5	9.5	62	48	—	4.15	20	17	30	20
Φ 63	PT1/4	Both sides : Φ11 thread : M8x1.25 thru. hole : Φ6.5	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
Φ 80	PT3/8	Both sides : Φ14 thread : M12x1.75 thru. hole : Φ9.2	25	10.5	10	94	74	—	3.65	25	22	36	26
Φ 100	PT3/8	Both sides : Φ17.5 thread : M14x2 thru. hole : Φ11.3	30	13	10	114	90	—	3.65	32	27	35	26

DS-1RN Double acting - adjustable forward stroke type / Dimensional features

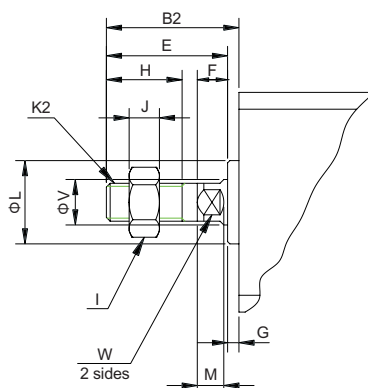
 ● Bore $\Phi 12 \sim 16$

 ● Bore $\Phi 20 \sim 100$

Dimensional table

Mark Bore	Standard type			With magnet type			D	E		F	G	J	K1	L	M	N1	
	A	B1	C	A	B1	C		S ≤ 10	S > 10							S=5	S>5
Φ12	40	5	17	50	5	27	—	6	—	4	1	4	M3x0.5	10.2	2.8	7.5	—
Φ16	42.5	5.5	18.5	52.5	5.5	28.5	—	6	—	4	1.5	4	M3x0.5	11	2.8	8	—
Φ20	47.5	5.5	19.5	57.5	5.5	29.5	36	8 (When S=5, 6.5)	—	4	1.5	5	M4x0.7	13	2.8	9	—
Φ25	55	6	21	65	6	31	42	10 (When S=5, 7)	—	4	2	6	M5x0.8	17	2.8	9.2	—
Φ32	61.5	7	24.5	71.5	7	34.5	50	8	12	4	3	6	M6x1.0	22	2.8	9	—
Φ40	65	7	26	75	7	36	58.5	8	12	4	3	8	M8x1.25	28	2.8	9.5	—
Φ50	73	9	28	83	9	38	71.5	8	15	5	4	11	M10x1.5	38	2.8	10.5	—
Φ63	77	9	32	87	9	42	84.5	10	15	5	4	11	M10x1.5	40	2.8	9.5	11.8
Φ80	94	11	41	104	11	51	104	13	20	6	5	13	M14x1.5	45	4	11.5	14.5
Φ100	105	12	51	115	12	61	124	18	20	7	5	13	M18x1.5	55	4	16	20.5

Mark Bore	O	P1	P3	P4	Q	R	S	T1	T2	U	V	W	X	Y
Φ12	M5x0.8	Both sides : $\Phi 6.5$ thread : M5x0.8 thru. hole : $\Phi 4.2$	12	4.5	13	—	25	16.2	23	1.6	6	5	—	—
Φ16	M5x0.8	Both sides : $\Phi 6.5$ thread : M5x0.8 thru. hole : $\Phi 4.2$	12	4.5	13	—	29	19.8	28	1.6	6	5	—	—
Φ20	M5x0.8	Both sides : $\Phi 6.5$ thread : M5x0.8 thru. hole : $\Phi 4.2$	14	4.5	16	2	34	24	—	2.1	8	6	11.3	10
Φ25	M5x0.8	Both sides : $\Phi 8.2$ thread : M6x1.0 thru. hole : $\Phi 4.6$	15	5.5	19	2	40	28	—	3.1	10	8	12	10
Φ32	PT1/8	Both sides : $\Phi 8.2$ thread : M6x1.0 thru. hole : $\Phi 4.6$	16	5.5	21	6	44	34	—	2.15	12	10	18.3	15
Φ40	PT1/8	Both sides : $\Phi 10$ thread : M8x1.25 thru. hole : $\Phi 6.5$	20	7.5	21	6.5	52	40	—	2.25	16	14	21.3	16
Φ50	PT1/4	Both sides : $\Phi 11$ thread : M8x1.25 thru. hole : $\Phi 6.5$	25	8.5	21	9.5	62	48	—	4.15	20	17	30	20
Φ63	PT1/4	Both sides : $\Phi 11$ thread : M8x1.25 thru. hole : $\Phi 6.5$	25	8.5	21	9.5	75	60	—	3.15	20	17	28.7	20
Φ80	PT3/8	Both sides : $\Phi 14$ thread : M12x1.75 thru. hole : $\Phi 9.2$	25	10.5	24	10	94	74	—	3.65	25	22	36	26
Φ100	PT3/8	Both sides : $\Phi 17.5$ thread : M14x2 thru. hole : $\Phi 11.3$	30	13	24	10	114	90	—	3.65	32	27	35	26

DS-1 / DS-1R / DS-1RD / DS-1RN

Male thread type / Dimensional features



Dimensional table

Mark Bore	B2	E	F	G	H	I	J	K2	L	M	V	W
Φ 12	17	16	4	1	10	8	4	M5x0.8	10.2	2.8	6	5
Φ 16	17.5	16	4	1.5	10	8	4	M5x0.8	11	2.8	6	5
Φ 20	20.5	19	4	1.5	13	10	5	M6x1.0	13	2.8	8	6
Φ 25	23	21	4	2	15	12	6	M8x1.25	17	2.8	10	8
Φ 32	25	22	4	3	15	17	6	M10x1.25	22	2.8	12	10
Φ 40	35	32	4	3	25	19	8	M14x1.5	28	2.8	16	14
Φ 50	37	33	5	4	25	27	11	M18x1.5	38	2.8	20	17
Φ 63	37	33	5	4	25	27	11	M18x1.5	40	2.8	20	17
Φ 80	44	39	6	5	30	32	13	M22x1.5	45	4	25	22
Φ 100	50	45	7	5	35	36	13	M26x1.5	55	4	32	27