

# SD Series Compact Cylinder

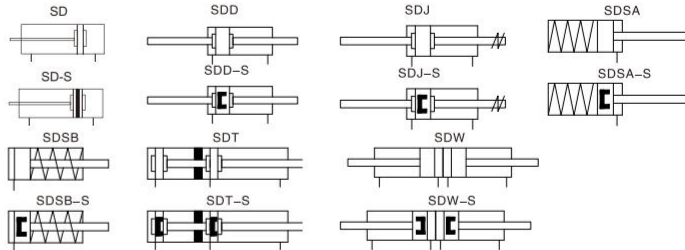


## SD

### Compact Cylinder



#### Pneumatic Symbols



#### Specifications

Bore(mm)	12	16	20	25	32	40	50	63	80	100
Acting type	Double Acting									
Working medium	Clean Air(40 μ m filtration)									
Working pressure(MPa)	0.1~1.0(Double acting) / 0.2~1.0(Single acting)									
Garanteed pressure(MPa)	1.5									
Working temperature(°C)	-20~70(No freezing)									
Speed range(mm/s)	30~500									
Cushion type	Rubber cushion									
Port size	M5 x 0.8			G1/8 ①			G1/4 ①			G3/8 ①

① PT, NPT port size is optional.

#### Product Features

- \* Compact cylinder, light weight.
- \* Unique slot type barrel design easy for magnet switch install.
- \* Equipped with self-lubricating bearings, piston rod no need extra lubricating.
- \* Magnet optional.

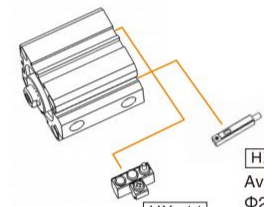
#### How to Order?

Series No	Type No	Bore X Stroke	Adjustable Stroke	Magnet No	Piston Rod Thread Type	Thread Type
SD		12 25 5 16 ... 10 20 100 15	10 20 30 40 50 75 100	Blank: No magnet S: With magnet	Blank: Female thread M: Male thread	Blank: G P: PT T: NPT
Blank: Basic type D: Double shaft type J: Double shaft and adjustable stroke type SA: Single acting spring extend SB: Single acting spring return						

Series No	Type No	Bore X Stroke1 X Stroke12	Magnet No	Piston Rod Thread Type	Thread Type
SD		12 5 25 16 10 50 20 15 75 25 ... 100	Blank: No magnet S: With magnet	Blank: Female thread M: Male thread	Blank: G P: PT T: NPT
T: Multi position type W: Double shaft and Multi position type					

**Ordering Example :** SD series, single acting spring extend, bore 40mm, stroke 30mm, with magnet, piston rod thread female thread type, G thread.ERP code is :SDSA40X30-S

#### Optional Accessories (Magnetic Opening)



HX-01  
Available in  
Φ20-100  
cylinder  
diameters

#### Stroke

Bore (mm)	Standard Stroke (mm)	Max. Stroke (mm)	
Double Acting	12/16	5 10 15 20 25 30 35 40 45 50 55 60	60
	20	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100 110 120 130 140 150	150
	25	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100 110 120 130 140 150	150
	32-100	5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100 110 120 130 140 150 160 170 180 190 200	200
Single Acting	12-63	5 10 15 20 25 30	30

Note: The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 27mm stroke cylinder has the same dimensions of 30 std. stroke cylinder.

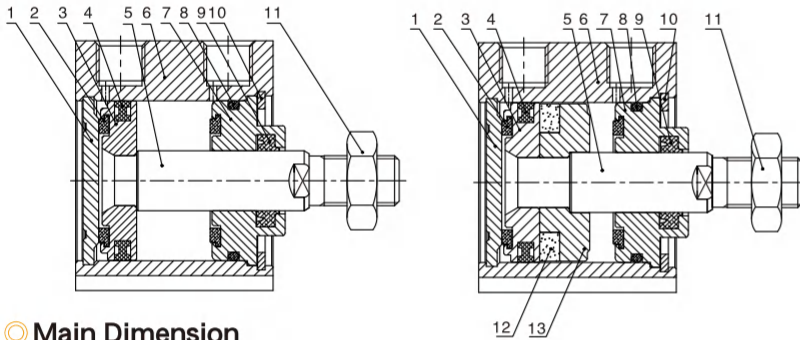
4

SD

# SD Series Compact Cylinder



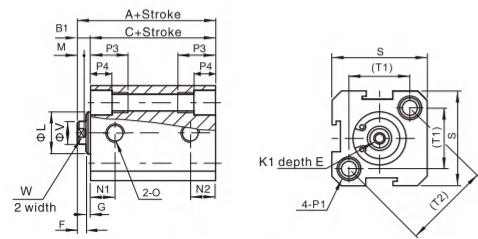
## Internal Structure



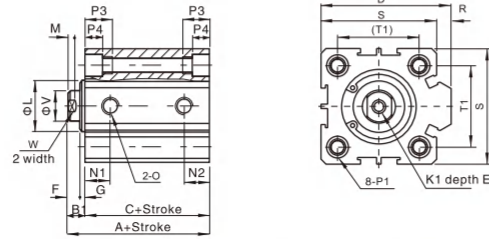
No	Part Name	Material
1	Rear cover	Aluminum alloy
2	Anti-bump cushion	TPU
3	Piston	Aluminum alloy
4	Piston seal	NBR
5	Piston rod	S45C hard chrome carbon steel
6	Barrel	Aluminum alloy
7	Head cover	Aluminum alloy
8	O-ring	NBR
9	Piston rod seal	TPU
10	C type retainner ring	Spring steel
11	Nut	Carbon steel
12	Magnet	RbFeb
13	Magnet base	Aluminum alloy

## Main Dimension

SD  $\Phi 12-\Phi 16$

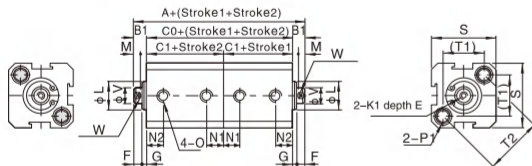


SD  $\Phi 20-\Phi 100$

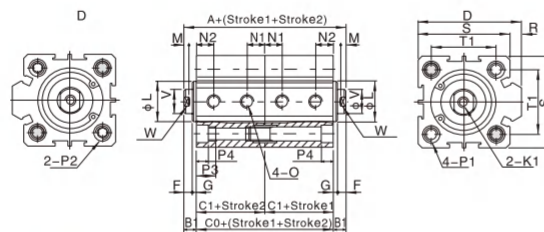


Sign Bore	A		C		B1	D	E	F	G	K1	L	M	N1			N2	O	P1	P3	P4	R	S	T1	T2	V	W
	standard	with magnet	standard	with magnet									St=5	St>5	St=5											
12	22	32	17	27	5	-	6	4	1	M3X0.5	10.2	3	7.5	7.5	5	5	M5X0.8	Counter bore: $\Phi 6.5$ Thread: M5X0.8 Through Hole: $\Phi 4.2$	12	4.5	-	25	16.2	23	6	5
16	24	34	18.5	28.5	5.5	-	6	4	1.5	M3X0.5	11	3	8	8	5	5.5	M5X0.8	Counter bore: $\Phi 6.5$ Thread: M5X0.8 Through Hole: $\Phi 4.2$	12	4.5	-	29	19.8	28	6	5
20	25	35	19.5	29.5	5.5	36	8	4	1.5	M4X0.7	13	3	8.2	9	5	5.5	M5X0.8	Counter bore: $\Phi 6.5$ Thread: M5X0.8 Through Hole: $\Phi 4.2$	14	4.5	2	34	24	-	8	6
25	27	37	21	31	6	42	10	4	2	M5X0.8	17	3	9	9	5.5	5.5	M5X0.8	Counter bore: $\Phi 8.2$ Thread: M6X1.0 Through Hole: $\Phi 5.2$	15	5.5	2	40	28	-	10	8
32	31.5	41.5	24.5	34.5	7	50	12	4.5	2.5	M6X1.0	22	3	9	9	6.5	9	1/8"	Counter bore: $\Phi 8.2$ Thread: M6X1.0 Through Hole: $\Phi 5.2$	16	5.5	6	44	34	-	12	10
40	33	43	26	36	7	58.5	12	4	3	M8X1.25	28	3	9.5	9.5	7.5	7.5	1/8"	Counter bore: $\Phi 10.2$ Thread: M8X1.25 Through Hole: $\Phi 6.8$	20	7.5	6.5	52	40	-	16	14
50	37	47	28	38	9	71.5	15	5	4	M10X1.5	38	3	8	10.5	8	10.5	1/4"	Counter bore: $\Phi 11$ Thread: M8X1.25 Through Hole: $\Phi 6.8$	25	8.5	9.5	62	48	-	20	17
63	41	51	32	42	9	84.5	15	5	4	M10X1.5	40	3	9.5	12	9.5	11	1/4"	Counter bore: $\Phi 11$ Thread: M8X1.25 Through Hole: $\Phi 6.8$	25	8.5	9.5	75	60	-	20	17
80	52	62	41	51	11	104	20	6	5	M14X1.5	45	4	11.5	14.5	11.5	14.5	3/8"	Counter bore: $\Phi 17$ Thread: M12X1.75 Through Hole: $\Phi 10.3$	25	11	10	94	74	-	25	22
100	63	73	51	61	12	124	20	7	5	M18X1.5	55	4	16	20.5	16	20.5	3/8"	Counter bore: $\Phi 19$ Thread: M14X2.0 Through Hole: $\Phi 12.2$	30	13	10	114	90	-	32	27

SDW  $\Phi 12-\Phi 16$



SDW  $\Phi 20-\Phi 100$



Bore/Sign	Basic Type			With Magnet			B1	D	E	F	G	K1	L	M	N2			N1	
	A	C0	C1	A	C0	C1									S=5	S>5	S=5	S>5	
12	44	34	17	64	54	27	5	-	6	4	1	M3x0.5	10.2	3	7.5	7.5	5	5	5
16	48	37	18.5	68	57	28.5	5.5	-	6	4	1.5	M3x0.5	11	3	8	8	5	5.5	5.5
20	50	39	19.5	70	59	29.5	5.5	36	8	4	1.5	M4x0.7	13	3	8.2	9	5	5.5	5.5
25	54	42	21	74	62	31	6	42	10	4	2	M5x0.8	17	3	9	9	5.5	5.5	5.5
32	63	49	24.5	83	69	34.5	7	50	12	4.5	2.5	M6x1	22	3	9	9	6.5	9	9
40	66	52	26	86	72	36	7	58.5	12	4	3	M8x1.25	28	3	9.5	9.5	7.5	7.5	7.5
50	74	56	28	94	76	38	9	71.5	15	5	4	M10x1.5	38	3	8	10.5	8	10.5	8
63	82	64	32	102	84	42	9	84.5	15	5	4	M10x1.5	40	3	9.5	12	9.5	11	11
80	104	82	41	124	102	51	11	104	20	6	5	M14x1.5	45	4	14.5	14.5	14.5	14.5	14.5
100	126	102	51	146	122	61	12	124	20	7	5	M18x1.5	55	4	20.5	20.5	20.5	20.5	20.5

Bore/Sign	O	W	P1	P2	P3	P4	R	S	T1	T2	V
12	M5x0.8	5	$\Phi 6.5$ Thread: M5X0.8 Through Hole: $\Phi 4.2$	-	12	4.5	-	25	16.2	23	6
16	M5x0.8	5	$\Phi 6.5$ Thread: M5X0.8 Through Hole: $\Phi 4.2$	-	12	4.5	-	29	19.8	28	6
20	M5x0.8	6	Counter bore: $\Phi 6.5$ Thread: M5X0.8 Through Hole: $\Phi 4.2$	Counter bore: $\Phi 6.5$ Through Hole: $\Phi 5.2$	14	4.5	2	34	24	-	8
25	M5x0.8	8	Counter bore: $\Phi 8.2$ Thread: M6X1.0 Through Hole: $\Phi 5.2$	Counter bore: $\Phi 8.2$ Through Hole: $\Phi 6.2$	15	5.5	2	40	28	-	10
32	1/8"	10	Counter bore: $\Phi 8.2$ Thread: M6X1.0 Through Hole: $\Phi 5.2$	Counter bore: $\Phi 8.2$ Through Hole: $\Phi 6.2$	16	5.5	6	44	34	-	12
40	1/8"	14	Counter bore: $\Phi 10.2$ Thread: M8X1.25 Through Hole: $\Phi 6.8$	Counter bore: $\Phi 10$ Through Hole: $\Phi 6.2$	20	7.5	6.5	52	40	-	16
50	1/4"	17	Counter bore: $\Phi 11$ Thread: M8X1.25 Through Hole: $\Phi 6.8$	Counter bore: $\Phi 11$ Through Hole: $\Phi 6.5$	25	8.5	9.5	62	48	-	20
63	1/4"	17	Counter bore: $\Phi 11$ Thread: M8X1.25 Through Hole: $\Phi 6.8$	Counter bore: $\Phi 11$ Through Hole: $\Phi 6.5$	25	8.5	9.5	75	60	-	20
80	3/8"	22	Counter bore: $\Phi 17$ Thread: M12X1.75 Through Hole: $\Phi 10.3$	Counter bore: $\Phi 17$ Through Hole: $\Phi 12.3$	25	11	10	94	74	-	25
100	3/8"	27	Counter bore: $\Phi 19$ Thread: M14X2.0 Through Hole: $\Phi 12.2$	Counter bore: $\Phi 19$ Through Hole: $\Phi 14.2$	30	13	10	114	90	-	32

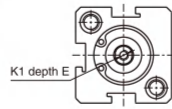
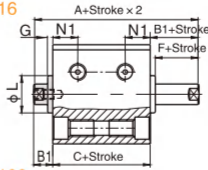
# SD Series Compact Cylinder



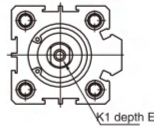
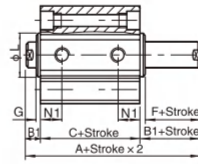
## ◎ Main Dimension

### SDD $\Phi 12-\Phi 100$

$\Phi 12-16$



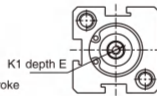
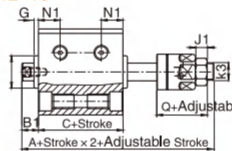
$\Phi 20-100$



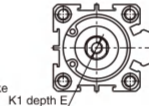
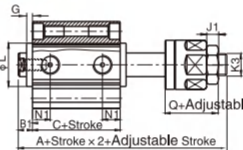
Bore	Basic Type		With Magnet		E		B1	F	G	K1	L	N1	
	A	C	A	C	S ≤ 10	S > 10						S=5	S > 5
	12	27	17	37	27	6							5
16	29.5	18.5	39.5	28.5	6		5.5	4	1.5	M3x0.5	11	6	7.3
20	30.5	19.5	40.5	29.5	8		5.5	4	1.5	M4x0.7	15	6.5	7.5
25	33	21	43	31	10		6	4	2	M5x0.8	17	7	8
32	38.5	24.5	48.5	34.5	12	12	7	4	3	M6x1	22	6	9
40	40	26	50	36	12	12	7	4	3	M8x1.25	28	8	10
50	46	28	56	38	15(S ≤ 10.11)	15	9	5	4	M10x1.5	38	8	10.5
63	50	32	60	42	15(S ≤ 10.11)	15	9	5	4	M10x1.5	40	9.5	11.8
80	63	41	73	51	13	20	11	6	5	M14x1.5	45	14.5	14.5
100	75	51	85	61	18	20	12	7	5	M18x1.5	55	20.5	20.5

### SDJ $\Phi 12-\Phi 100$

$\Phi 12-16$



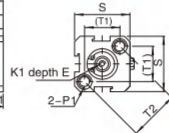
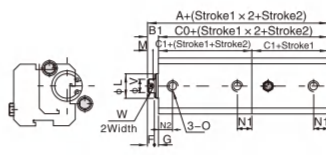
$\Phi 20-100$



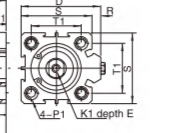
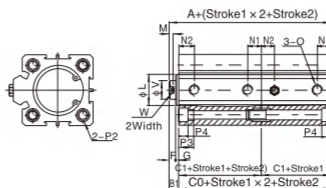
Bore	Basic Type		With Magnet		E		B1	Q	G	J1	K1	K3	L	N1	
	A	C	A	C	S ≤ 10	S > 10								S=5	S > 5
	12	40	17	50	27	6									5
16	42.5	18.5	52.5	28.5	6		5.5	17	1.5	4	M3x0.5	M5x0.8	11	6	7.3
20	47.5	19.5	57.5	29.5	8		5.5	21	1.5	5	M4x0.7	M6x1.0	15	6.5	7.5
25	54	21	64	31	10		6	25	2	6	M5x0.8	M8x1.25	17	7	8
32	61.5	24.5	71.5	34.5	12	12	7	27	3	6	M6x1.0	M10x1.25	22	6	9
40	65	26	75	36	12	12	7	29	3	8	M8x1.25	M14x1.5	28	8	10
50	73	28	83	38	15(S ≤ 10.11)	15	9	32	4	11	M10x1.5	M18x1.5	38	8	10.5
63	77	32	87	42	15(S ≤ 10.11)	15	9	32	4	11	M10x1.5	M18x1.5	40	9.5	11.8
80	94	41	104	51	13	20	11	37	5	13	M14x1.5	M22x1.5	45	14.5	14.5
100	105	51	115	61	18	20	12	37	5	13	M18x1.5	M26x1.5	55	20.5	20.5

### SDT $\Phi 12-\Phi 100$

$\Phi 12-16$



$\Phi 20-100$



Bore	Basic Type		With Magnet		B1	D	E	F	G	K1	L	M	N1		N2			
	A	C0	C1	A									C0	C1	S=5	S > 5	S=5	S > 5
	12	39	34	17									59	54	27	5	-	6
16	42.5	37	18.5	62.5	57	28.5	5.5	-	6	4	1.5	M3 x 0.5	10	3	5	5.5	8	8
20	44.5	39	19.5	64.5	59	29.5	5.5	36	8	4	1.5	M4 x 0.7	13	3	5	5.5	8.2	9
25	48	42	21	68	62	31	6	42	10	4	2	M5 x 0.8	17	3	5.5	5.5	9	9
32	56	49	24.5	76	69	34.5	7	50	12	4	2.4	M6 x 1	22	3	6.5	9	9	9
40	59	52	26	79	72	36	7	58.5	12	4	3	M8 x 1.25	28	3	7.5	7.5	9.5	9.5
50	65	58	28	85	78	38	9	71.5	15	5	4	M10 x 1.5	38	3	8	10.5	8	10.5
63	73	64	32	93	84	42	9	84.5	15	5	4	M10 x 1.5	40	3	9.5	11	9.5	12
80	93	82	41	113	102	51	11	104	20	6	5	M14 x 1.5	45	4	14.5	14.5	14.5	14.5
100	114	102	51	134	122	61	12	124	20	7	5	M18 x 1.5	55	4	20.5	20.5	20.5	20.5

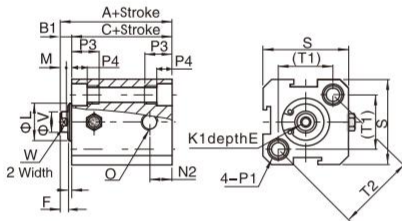
  

Bore	O	W	P1		P2		P3	P4	R	S	T1	T2	V
			Ø	Depth	Ø	Depth							
12	M5x0.8	5	Ø6.5 Thread: M5X0.8 Through Hole: Ø4.2	-	-	-	12	4.5	-	25	16.2	23	6
16	M5x0.8	5	Ø6.5 Thread: M5X0.8 Through Hole: Ø4.2	-	-	-	12	4.5	-	29	19.8	28	6
20	M5x0.8	6	Counter bore: Ø6.5 Thread: M5X0.8 Through Hole: Ø4.2	Counter bore: Ø6.5 Thread: M5X0.8 Through Hole: Ø5.2	12	4.5	2	34	24	-	8	-	10
25	M5x0.8	8	Counter bore: Ø6.2 Thread: M6X1.0 Through Hole: Ø4.6	Counter bore: Ø6.2 Thread: M6X1.0 Through Hole: Ø4.6	16	5.5	6	44	34	-	12	-	12
32	1/8"	10	Counter bore: Ø10.2 Thread: M8X1.25 Through Hole: Ø6.5	Counter bore: Ø10.2 Thread: M8X1.25 Through Hole: Ø6.5	20	7.5	6.5	52	40	-	16	-	16
40	1/8"	14	Counter bore: Ø11 Thread: M8X1.25 Through Hole: Ø6.5	Counter bore: Ø11 Thread: M8X1.25 Through Hole: Ø6.5	25	8.5	9.5	62	48	-	20	-	20
50	1/4"	17	Counter bore: Ø11 Thread: M8X1.25 Through Hole: Ø6.5	Counter bore: Ø11 Thread: M8X1.25 Through Hole: Ø6.5	25	8.5	9.5	65	60	-	20	-	20
63	1/4"	17	Counter bore: Ø17 Thread: M12X1.75 Through Hole: Ø10.3	Counter bore: Ø17 Thread: M12X1.75 Through Hole: Ø10.3	25	11	10	94	74	-	25	-	25
80	3/8"	22	Counter bore: Ø19 Thread: M14X2 Through Hole: Ø12.2	Counter bore: Ø19 Thread: M14X2 Through Hole: Ø12.2	30	13	10	114	90	-	32	-	32

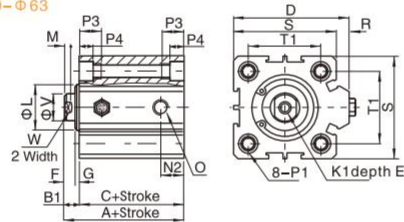
## Main Dimension

### SDSB/SDSA $\Phi 12$ - $\Phi 63$

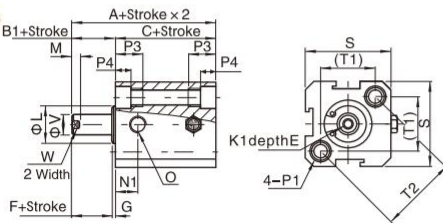
SDSB  
 $\Phi 12, \Phi 16$



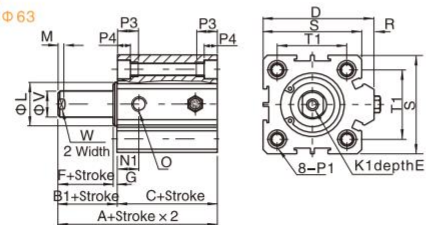
SDSB  
 $\Phi 20$ - $\Phi 63$



SDSA  
 $\Phi 12, \Phi 16$



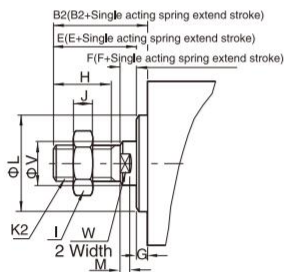
SDSA  
 $\Phi 20$ - $\Phi 63$



Bore	Sign	A ( standard )		A ( With magnet )		C ( standard )		C ( With magnet )		B1	D	E	F	G	K1	L	M	N1	N2
		St $\leq$ 10	St $>$ 10	St $\leq$ 10	St $>$ 10	St $\leq$ 10	St $>$ 10	St $\leq$ 10	St $>$ 10										
12		32	42	42	52	27	37	37	47	5	-	6	4	1	M3 $\times$ 0.5	10.2	3	7.5	5
16		34	44	44	54	28.5	38.5	38.5	48.5	5.5	-	6	4	1.5	M3 $\times$ 0.5	11	3	8	5.5
20		35	45	45	55	29.5	39.5	39.5	49.5	5.5	36	8	4	1.5	M4 $\times$ 0.7	13	3	9	5.5
25		37	47	47	57	31	41	41	51	6	42	10	4	2	M5 $\times$ 0.8	17	3	9	5.5
32		41.5	51.5	51.5	61.5	34.5	44.5	44.5	54.5	7	50	12	4.5	2.5	M6 $\times$ 1.0	22	3	9	9
40		43	53	53	63	36	46	46	56	7	58.5	12	4	3	M8 $\times$ 1.25	28	3	9.5	7.5
50		47	57	57	67	38	48	48	58	9	71.5	15	5	4	M10 $\times$ 1.5	38	3	10.5	10.5
63		51	61	61	71	42	52	52	62	9	84.5	15	5	4	M10 $\times$ 1.5	40	3	12	11

Bore /Sign	O	R	S	T1	T2	P1	P3	P4	V	W
12	M5 $\times$ 0.8	-	25	16.2	23	Counter bore: $\Phi 6.5$ Thread: M5 $\times$ 0.8 Through Hole: $\Phi 4.2$	12	4.5	6	5
16	M5 $\times$ 0.8	-	29	19.8	28	Counter bore: $\Phi 6.5$ Thread: M5 $\times$ 0.8 Through Hole: $\Phi 4.2$	12	4.5	6	5
20	M5 $\times$ 0.8	2	34	24	-	Counter bore: $\Phi 6.5$ Thread: M5 $\times$ 0.8 Through Hole: $\Phi 4.2$	14	4.5	8	6
25	M5 $\times$ 0.8	2	40	28	-	Counter bore: $\Phi 8.2$ Thread: M6 $\times$ 1.0 Through Hole: $\Phi 5.2$	15	5.5	10	8
32	1/8"	6	44	34	-	Counter bore: $\Phi 8.2$ Thread: M6 $\times$ 1.0 Through Hole: $\Phi 5.2$	16	5.5	12	10
40	1/8"	6.5	52	40	-	Counter bore: $\Phi 10.2$ Thread: M8 $\times$ 1.25 Through Hole: $\Phi 6.8$	20	7.5	16	14
50	1/8"	9.5	62	48	-	Counter bore: $\Phi 11$ Thread: M8 $\times$ 1.25 Through Hole: $\Phi 6.8$	25	8.5	20	17
63	1/4"	9.5	75	60	-	Counter bore: $\Phi 11$ Thread: M8 $\times$ 1.25 Through Hole: $\Phi 6.8$	25	8.5	20	17

## Male Thread Dimension



Bore /Sign	B2	E	F	G	H	I
12	17	16	4	1	10	8
16	17.5	16	4	1.5	10	8
20	20.5	19	4	1.5	13	10
25	23	21	4	2	15	12
32	25	22.5	4.5	2.5	15	17
40	35	32	4	3	25	19
50	37	33	5	4	25	27
63	37	33	5	4	25	27
80	44	39	6	5	30	32
100	50	45	7	5	35	36
Bore /Sign	J	K2	L	M	V	W
12	4	M5 $\times$ 0.8	10.2	3	6	5
16	4	M5 $\times$ 0.8	11	3	6	5
20	5	M6 $\times$ 1.0	13	3	8	6
25	6	M8 $\times$ 1.25	17	3	10	8
32	6	M10 $\times$ 1.25	22	3	12	10
40	8	M14 $\times$ 1.5	28	3	16	14
50	11	M18 $\times$ 1.5	38	3	20	17
63	11	M18 $\times$ 1.5	40	3	20	17
80	13	M22 $\times$ 1.5	45	4	25	22
100	13	M26 $\times$ 1.5	55	4	32	27