

Compact design pneumatic cylinders for long strokes (up to 400mm)

- Provided with wear ring as standard part and applicable to long strokes
- New piston structure reduces the cylinder overall length.
- Two types of rod end, female thread and male thread, are available.
- A variety of accessories including mounting accessories and rod end attachments makes the cylinder applicable to a wide range of purposes.
- Order made cylinders of non-rotating type are available.



Cylinder Specifications

Series variation	Double acting single rod												
Type	Standard type, Switch Set												
Cylinder bore (mm)	φ 32 · φ 40 · φ 50 · φ 63 · φ 80 · φ 100												
Working fluid	Air												
Lubrication	Unnecessary												
Working pressure range	φ 32: 0.1 to 1 MPa φ 40 to φ 100: 0.05 to 1 MPa												
Working speed range	φ 32, φ 40: 30 to 500 mm/s φ 50 to φ 100: 30 to 300 mm/s												
Working temperature range	1.5 MPa												
Proof test pressure	Standard type: -10 to +70°C (No freezing) Switch Set: 0 to +60°C (No freezing)												
Structure of cushioning	With cushion pads on both ends												
Tolerance for thread	JIS 6H/6g												
Tolerance of stroke	Stroke of 100 or less ^{+1.0} ₀ Stroke of 101 or more ^{+1.5} ₀												
Mounting style	SD (basic style) · ST (tapped on both sides) · LA · LB · FA · FB · CA · CB · TA · TB												
Rod end threads	Female thread, male thread												
Accessories	Bracket for CB, bracket for TA/TB												

Standard Stroke Range

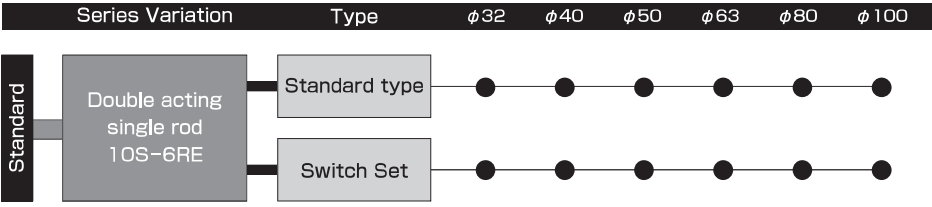
Cylinder bore	Stroke																				Male thread type
	5	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100	125	150	200	250	300
φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
φ50	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
φ63	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
φ80	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
φ100	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Stroke Limit

Cylinder bore	Stroke limit
φ32·φ40·φ50	300
φ63·φ80·φ100	400

● If a stroke more than the above limit is required, consult us.

Product Lineup



Weight Table

Bore (mm)	Basic weight		Additional weight										
	SD·ST		Additional weight per mm of stroke	Mounting accessory							Rod end attachment		Male threaded rod end
				LA	LB	FA FB	CA	CB	TA	TB	Rod eye (T-end)	Rod clevis (Y-end) with pin	
φ32	180	202	4.1	96	84	210	145	165	310	280	160	270	43
φ40	275		4.9	110	100	275	205	220	740	690	160	270	43
φ50	454		7.4	160	150	415	275	380	950	880	210	340	74
φ63	657		8.6	260	240	560	375	505	1325	1255	210	340	74
φ80	1248		13.8	520	500	1515	890	1100	2250	2100	620	870	162
φ100	1988		18.9	590	580	1950	1090	1360	3140	2920	1240	1470	291

Sensor Additional Weight

Unit: g

Bore (mm)	Sensor additional weight	
	PD/PF type	ZD136C-T
φ32	A: 15 B: 35	254
φ40		
φ50		
φ63		
φ80		
φ100		

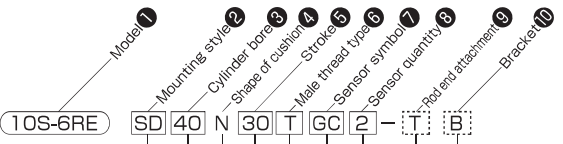
- "1" and "3" shown in the sensor additional weight column are cord lengths, (1: 1m 3: 3 m)
- Calculation formula** Cylinder weight (g)=basic weight+(cylinder stroke (mm)×additional weight per mm of stroke)
+mounting accessory weight+male threaded rod end+(sensor additional weight×sensor quantity)
- Calculation example** Switch Set, cylinder bore 40 mm, stroke 100 mm, LB style, male thread type, 2 pcs of PD12L1
275+ (4.9×100) +100+43+ (15×2) =938 (g)

How to order

Standard

Without mounting accessory	SD	(Basic style)
	ST	(Basic style/tapped on both sides)
	LA	(Side lugs)
	LB	(End angle)
For mounting accessory mounting	FA	(Rod flange)
	FB	(Cap flange)
	CA	(Cap eye)
	CB	(Cap clevis) with pin
	TA	(Rod trunnion)
	TB	(Rod trunnion)

SD style (basic style) cylinders are not tapped, so mounting accessories cannot be mounted to them. When requiring only the cylinder body with mounting accessories, place an order for ST style (tapped on both sides).



With bracket
Applicable mounting styles: CB, TA, TC

T Rod eye (T-end)
Y Rod clevis (Y-end)
Note) The rod end attachments are designed only for the male thread type.

Sensor quantity (1 or 2)

Sensor symbol
Note) Select applicable sensors out of the Sensor List.

Note on ordering sensors
Sensors are not mounted on cylinders at delivery.

-	Female thread type (No entry for standard type)
T	Male thread type

Mounting Style

SD (Basic style)

LA (Side lugs)

CA (Cap eye)

ST (Basic style/tapped on both sides)

LB (End angle)

CB (Cap clevis)

FA (Rod flange)

TA (Rod trunnion)

FB (Cap flange)

TB (Cap trunnion)

Space-saving Pneumatic Cylinder

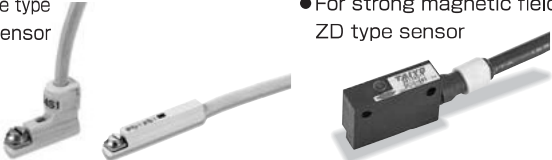
10S-6RE

Sensor List

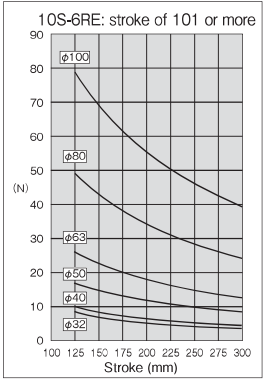
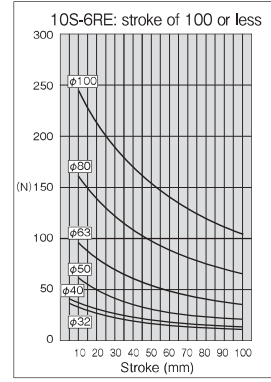
Type	Sensor symbol	Load voltage range	Load current range	Protective circuit	Indicating lamp	Wiring method	Cord length	Classification
Reed sensor	GA PD12L1	24 V DC 110 V AC	DC:2.5 to 40 mA AC:2.5 to 20 mA	None	None	0.2 mm ² , 2-core, outer dia. φ2.6 mm, rear wiring	1 m	General purpose
	GB PD12L3					3 m		
	GC PD11L1		DC:5 to 40 mA AC:5 to 20 mA		LED (Lights when sensing)	0.2 mm ² , 2-core, outer dia. φ2.6 mm, rear wiring	1 m	
	GD PD11L3					3 m		
	GE PD32L1		DC:2.5 to 40 mA AC:2.5 to 20 mA		None	0.2 mm ² , 2-core, outer dia. φ2.6 mm, upper wiring	1 m	
	GF PD32L3					3 m		
	GG PD31L1		DC:5 to 40 mA AC:5 to 20 mA		LED (Lights when sensing)	0.2 mm ² , 2-core, outer dia. φ2.6 mm, upper wiring	1 m	
	GH PD31L3					3 m		
Solid state sensor	GJ PD14L1	10 to 28 V DC	5 to 20 mA	Provided	LED (Lights when sensing)	0.2 mm ² , 2-core, outer dia. φ2.6 mm, rear wiring	1 m	General purpose
	GK PD14L3	28 V DC or less	0.1 to 40 mA	Provided	LED (Lights when sensing)	0.15 mm ² , 3-core, outer dia. φ2.6 mm, rear wiring	3 m	
	GL PD13L1						1 m	
	GM PD13L3					3 m		
	GN PE34L1	10 to 28 V DC	5 to 20 mA	Provided	LED (Lights when sensing)	0.2 mm ² , 2-core, outer dia. φ2.6 mm, upper wiring	1 m	
	GP PE34L3				3 m			
	GR PE33L1	28 V DC or less	0.1 to 40 mA	Provided	LED (Lights when sensing)	0.15 mm ² , 3-core, outer dia. φ2.6 mm, upper wiring	1 m	
	GS PE33L3						3 m	
	NK ZD136C-T	10 to 28 V DC	5 to 50 mA	Provided	LED (2-LED type in red/green)	0.5 mm ² , 2-core, outer dia. φ6 mm, upper wiring	5 m	Strong magnetic field resistance

Notes) For the sensors without a protective circuit, be sure to provide a protective circuit (SK-100) with the load when using any induction load (relay, etc.).
For handling of sensors, be sure to see the sensor specifications at the end of this catalog.
We recommend AND Unit (AU series) for multiple sensors connected in series.
For details, refer to AND Unit at the end of this catalog.

- General purpose type PD/PE type sensor
- For strong magnetic field resistance ZD type sensor



Allowable Traverse Loading Charts



Space-saving Pneumatic Cylinder

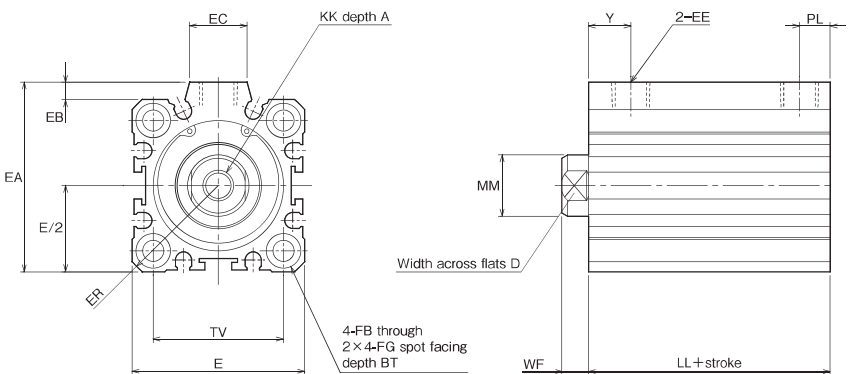
10S-6RE

SD

Double acting single rod/standard type/basic style

10S-6RE SD Bore N Stroke

10S-6RE/TAS6RE Bore is available. 



Dimensional Table

Symbol Bore	A	BT	D	E	EA	EB	EC	EE	ER	FB	FG
φ 32	13	5.4	14	□45	49.5	4.5	15	Rc1/8	R30	φ 5.5	φ 9
φ 40	13	5.4	14	□52	57	5	17.5	Rc1/8	R34.5	φ 5.5	φ 9
φ 50	15	8	17	□64	71	7	19	Rc1/4	R42.5	φ 6.6	φ 11
φ 63	15	10.5	17	□77	84	7	19	Rc1/4	R51	φ 9	φ 14
φ 80	21	13.5	22	□98	104	6	25	Rc3/8	R65	φ 11	φ 17.5
φ 100	27	13.5	27	□117	123.5	6.5	25	Rc3/8	R78	φ 11	φ 17.5

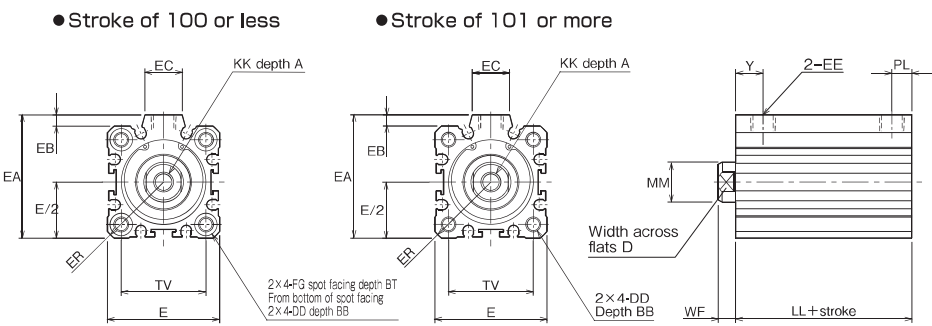
Symbol Stroke Bore	KK	LL		MM	PL		TV	WF	Y
		Stroke of 100 or less	Stroke of 101 or more		Stroke of 100 or less	Stroke of 101 or more			
φ 32	M8×1.25	38	43.5	φ 16	8	11	□34	7	11
φ 40	M8×1.25		44.5	φ 16		11.5	□40	7	11.5
φ 50	M10×1.5		45.5	φ 20		12	□50	8	12
φ 63	M10×1.5		51	φ 20		14.5	□60	8	14.5
φ 80	M16×2		58.5	φ 25		16.5	□77	10	16.5
φ 100	M20×2.5		68	φ 30		21	□94	12	21

ST

Double acting single rod/standard type/basic style (tapped on both sides)

10S-6RE ST Bore N Stroke

10S-6RE/TAS6RE Bore is available. 



Dimensional Table

Symbol Bore	A	BB	BT	D	DD	E	EA	EB	EC	EE	ER
φ 32	13	12	5.4	14	M6×1	□45	49.5	4.5	15	Rc1/8	R30
φ 40	13	12	5.4	14	M6×1	□52	57	5	17.5	Rc1/8	R34.5
φ 50	15	14	8	17	M8×1.25	□64	71	7	19	Rc1/4	R42.5
φ 63	15	18	10.5	17	M10×1.5	□77	84	7	19	Rc1/4	R51
φ 80	21	22	13.5	22	M12×1.75	□98	104	6	25	Rc3/8	R65
φ 100	27	22	13.5	27	M12×1.75	□117	123.5	6.5	25	Rc3/8	R78

Symbol Stroke Bore	FG	KK	LL		MM	PL		TV	WF	Y
			Stroke of 100 or less	Stroke of 101 or more		Stroke of 100 or less	Stroke of 101 or more			
φ 32	φ 9	M8×1.25	38	43.5	φ 16	8	11	□34	7	11
φ 40	φ 9	M8×1.25		44.5	φ 16		11.5	□40	7	11.5
φ 50	φ 11	M10×1.5		45.5	φ 20		12	□50	8	12
φ 63	φ 14	M10×1.5		51	φ 20		14.5	□60	8	14.5
φ 80	φ 17.5	M16×2		58.5	φ 25		16.5	□77	10	16.5
φ 100	φ 17.5	M20×2.5		68	φ 30		21	□94	12	21