

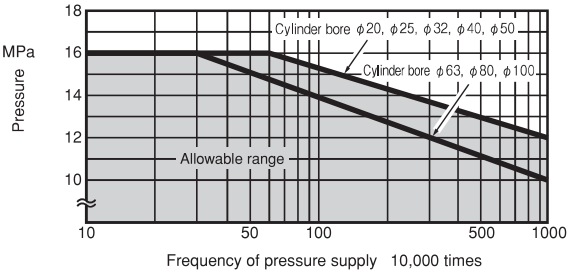
Aluminum body, compact design hydraulic cylinders in pursuit of cost performance

- Wide selection of models is available with cylinder bores from 20 mm to 100 mm.
- Light-weight, compact design hydraulic cylinders with bodies constructed of special aluminum alloy.
- Cost-effective selection is available based on frequency of operation and working pressure.
- Operates at up to 16 MPa depending on the frequency of pressure supply.
- Special copper alloy bearings are adopted to improve wear resistance.

Standard Specifications

Type	General purpose type	Cutting oil proof type
Nominal pressure	10 MPa	
Maximum allowable pressure	16 MPa (Refer to the working pressure range diagram.)	
Proof test pressure	20 MPa	
Minimum operating pressure	0.3 MPa	
Working speed range	8 to 100mm/s	
Working temperature range (ambient temp. and oil temp.)	Standard type -10 to +70°C Switch Set AX/AZ type, T type -10 to +70°C WR/WS type -10 to +60°C (No freezing)	
Structure of cushioning	None	
Adaptable fluid	Petroleum-based fluid (When using another fluid, refer to the table of fluid adaptability.)	
Tolerance for thread	JIS 6H/6g	
Tolerance of stroke	0 to 0.8mm	
Mounting style	SD, LD, FA, FB	
Rod end threads	Female thread and male thread	
Applicable sensor for Switch Set	100S-1R: (φ32 to φ100) AX/AZ type WR/WS type	100SW-1R:WR/WS type

Working Pressure Range Diagram



Terminologies

- Nominal pressure**
Pressure given to a cylinder for convenience of naming. It is not always the same as the working pressure (rated pressure) that guarantees performance under the specified conditions.
- Maximum allowable pressure**
Maximum allowable pressure generated in a cylinder (surge pressure, etc.).
- Proof test pressure**
Test pressure against which a cylinder can withstand without unreliable performance at the return to nominal pressure.
- Minimum operating pressure**
Minimum pressure at which cylinder installed horizontally operates under no load.

- Notes) ● This series of cylinders does not have air vents.
● Since side load (eccentric load) must not be applied to the piston rod, take care when installing the cylinder.

For the details of the working pressure range diagram, refer to the information page of 100S-1 Series.



Product Lineup

Unit: mm

Series Variations		Type	Mounting style	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
General purpose type	Double acting single rod	Standard type 100S-1	SD	●	●	●	●	●	●	●	●
		Switch Set 100S-1R	LD·FA·FB	●	●	●	●	●	●	●	●
	Double acting double rod	Standard type 100S-1D	SD	●	●	●	●	●	●	●	●
		Switch Set 100S-1RD	LD·FA	●	●	●	●	●	●	●	●
	Cutting oil proof type	Standard type 100SW-1	SD			●	●	●	●	●	●
		Switch Set 100SW-1R	LD·FA·FB			●	●	●	●	●	●
Cutting oil proof type	Double acting single rod	Standard type 100SW-1D	LD·FA			●	●	●	●	●	●
		Switch Set 100SW-1RD	LD·FA			●	●	●	●	●	●
	Double acting double rod	Standard type 100SW-1D	LD·FA			●	●	●	●	●	●
		Switch Set 100SW-1RD	LD·FA			●	●	●	●	●	●

- Notes) ● When using a sensor, use a Switch Set Cylinder.
● No sensor can be mounted onto the standard type cylinder.

Double acting single rod



Standard type (100S-1·100SW-1)



Switch Set (100S-1R·100SW-1R)

- The general purpose type and cutting oil proof type have the same dimensions.

Double acting double rod



Standard type (100S-1D·100SW-1D)



Switch Set (100S-1RD·100SW-1RD)

Cutting oil proof type

- This type of cylinders can be used in a place where they are exposed to cutting oil (coolant) for machine tools.
- The adaptability of seal materials to cutting oil is shown right.

Adaptability of Seal Material (HNBR) to Cutting oil

Nonaqueous cutting oil		Aqueous cutting oil
Type 1	Type 2	
○	×	○

○ : Applicable × : Inapplicable

● How to order

General Purpose Type (Bore ϕ 20 to ϕ 100)

The item enclosed by broken line needs not to be entered, if unnecessary. Semi-standard specification

● Standard type 100S-1

● Switch Set 100S-1R

Double acting single rod

100S-1 : Standard type

100S-1R : Switch Set

Double acting double rod

100S-1D : Standard type

100S-1RD : Switch Set

3 Fluorocarbon

6 HNBR

Note) The seal of cylinders with bores of 20 and 25 mm is only HNBR.

SD SD style (basic style)

LD LD style (end angles)

FA FA style (rod flange)

FB FB style (cap flange)

Note) When ordering the mounting style LD or FA cylinder, it is necessary to change dimension WF of the SD style. For details, contact us.

Cylinder bore (mm)

ϕ 20 to ϕ 100

No cushion

Cylinder stroke (mm)

None No air vent (standard)

V With air vent (order made: ϕ 32 to ϕ 100)

With one lock nut

Notes) Available only for male thread type. Additional order is required when 2 or more lock nuts are necessary.

Sensor quantity (1 or 2)

Sensor symbol

Note) Select applicable sensors out of the Sensor List.

Notes on ordering Switch Set

- When no sensor is required, specify 0 for the sensor symbol ⑨ and the sensor quantity ⑩.
- Sensors are not mounted on cylinders at delivery.

None Rc thread

G G thread

Note) G thread is applicable only to the SD style.

Female thread type (No entry for standard type)

T Male thread type (Semi-standard)

Note) In case of double acting double rod type, both sides are male thread type.

Note) When the sensor is retrofitted to the standard type, it does not work.

Adaptability of Fluid to Seal Material

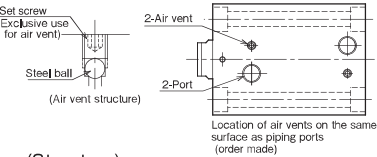
Seal material	Adaptable fluid				
	Petroleum-based fluid	Water-glycol fluid	Phosphate ester fluid	Water in oil fluid	Oil in water fluid
3 Fluorocarbon	○	×	○	○	○
6 HNBR	○	○	×	○	○

Notes) 1. ○ : Applicable × : Inapplicable

2. The ○-marked items are recommended seal materials in case of giving the first priority to abrasion resistance.

★ Specification of air vent (order made)

The air vents are laid on the port surface and located symmetrical positions to the ports.



(Structure)

Applicable to : Single rod, double rod

SD/LD/FA/FB style

Bore ϕ 32 to ϕ 100

● How to order

Cutting Oil Proof Type (Bore ϕ 32 to ϕ 100)

The item enclosed by broken line needs not to be entered, if unnecessary.

● Standard type 100SW-1

● Sensor set 100SW-1R

Double acting single rod

100SW-1 : Standard type

100SW-1R : Switch Set

Double acting double rod

100SW-1D : Standard type

100SW-1RD : Switch Set

6 HNBR

Cylinder bore (mm)

ϕ 32 to ϕ 100

Note) Bore size 20 mm and 25 mm are not available.

5 WR525 (rear wiring, w/5 m cord)

8 WR535 (upper wiring, w/5 m cord)

5F WR525F (rear wiring, w/5 m cord/flexible tube attached)

8F WR535F (upper wiring, w/5 m cord/flexible tube attached)

RA AX205WCE (rear wiring, w/5 m cord)

RB AZ205WCE (upper wiring, w/5 m cord)

2 WS235-1 (rear wiring, w/5 m cord)

1 WS245-1 (upper wiring, w/5 m cord)

2F WS235-1F (rear wiring, w/5 m cord/flexible tube attached)

1F WS245-1F (upper wiring, w/5 m cord/flexible tube attached)

Note) For the details of types other than the above, refer to the general purpose type.

Note) For the details of types other than the above, refer to the general purpose type.

Cutting Oil Proof Type: Adaptability of cutting oil to seal material

Seal material	Nonaqueous cutting oil		Aqueous cutting oil
	Type 1	Type 2	
6 HNBR	○	×	○

Note) ○ : Applicable × : Inapplicable

★ Port G thread type (only for SD style)

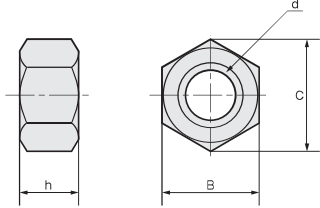
● Please specify the code as following.

(Example) 100S-1 6SD63N30-G

Port G thread type

Note) ● The port G thread has dimensions different from the standard dimensions depending on the bore. Refer to the dimensional tables.

★ Lock nut number for ordering



Dimensional Table

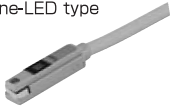
Bore	Part number	d	B	C	h
ϕ 20	LNH-10F-H	M10×1.25	17	19.6	6
ϕ 25	LNH-12F-H	M12×1.25	19	21.9	7
ϕ 32	LNH-16F-H	M16×1.5	22	25.4	10
ϕ 40	LNH-20F-H	M20×1.5	27	31.2	12
ϕ 50	LNH-24F-H	M24×1.5	32	37.0	14
ϕ 63	LNH-30F-H	M30×1.5	41	47.3	17
ϕ 80	LNH-39F-H	M39×1.5	55	63.5	20
ϕ 100	LNH-48F-H	M48×1.5	70	80.8	26

Sensor List (Bore ϕ 20 and ϕ 25)

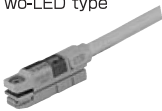
Type	Sensor symbol	Load voltage range	Load current range	Max. switching capacity	Protective circuit	Indicating lamp	Wiring method	Cord length	Applicable load
Reed sensor	UA TOH	DC:12・24V	DC : 5 to 50mA	DC : 1.2W AC : 2VA	None	LED (lights in red when sensing)	0.2 mm ² ; 2-core; outer dia. φ3.4 mm Rear wiring	1m	Small relay, programmable controller
	UB TOH3	AC:100V	AC : 7 to 20mA			3m			
	UC T5H	DC:5・12・24V	DC: 50 mA or less AC: 20 mA or less			None	1m		
	UD T5H3	AC:100V	DC : 5 to 50mA AC : 7 to 20mA			LED (lights in red when sensing)	0.2 mm ² ; 2-core; outer dia. φ3.4 mm Upper wiring	3m	
	UE TOV	DC:12・24V	AC:100V			1m			
	UF TOV3	AC:100V	AC : 7 to 20mA			3m			
	UG T5V	DC:5・12・24V	DC: 50 mA or less AC: 20 mA or less			None	1m		
	UH T5V3	AC:100V	AC: 20 mA or less			3m			
Solid state sensor	UJ T2H	DC:10 to 30V	5 to 20 mA	—	Provided	LED (lights in red when sensing)	0.2 mm ² ; 2-core; outer dia. φ3.4 mm Rear wiring	1m	Small relay, programmable controller
	UK T2H3					3m			
	UL T2YH					LED (two-LED type in red/green)	0.3 mm ² ; 2-core; outer dia. φ4.8 mm Rear wiring	1m	
	UM T2YH3					3m			
	UN T3H	DC:30 V or less	100 mA or less	Power supply voltage 10 to 30 V DC		LED (lights in red when sensing)	0.2 mm ² ; 3-core; outer dia. φ3.4 mm Rear wiring	1m	
	UP T3H3					3m			
	UQ T2V	DC:10 to 30V	5 to 20 mA	—		LED (lights in red when sensing)	0.2 mm ² ; 2-core; outer dia. φ3.4 mm Upper wiring	1m	
	UR T2V3					3m			
	US T2YV					LED (two-LED type in red/green)	0.3 mm ² ; 2-core; outer dia. φ4.8 mm Upper wiring	1m	
	UT T2YV3					3m			
	UU T3V	DC:30 V or less	100 mA or less	Power supply voltage 10 to 30 V DC		LED (lights in red when sensing)	0.2 mm ² ; 3-core; outer dia. φ3.4 mm Upper wiring	1m	
	UV T3V3					3m			

(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 the details of sensors, be sure to read 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
One-LED type



Two-LED type



Sensor Mountable Minimum Stroke

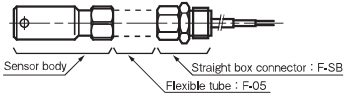
Bore	With one sensor				With two sensors			
	AX/AZ type	T type	WR type	WS type	AX/AZ type	T type	WR type	WS type
ϕ 20	—	5	—	—	—	10	—	—
ϕ 25								
ϕ 32								
ϕ 40	5	—	5	10	10*	—	10	20
ϕ 50								
ϕ 63								
ϕ 80								
ϕ 100								15

(Notes) ● When using two sensors of the WR or WS type, they cannot be mounted on the same surface.
● When two reed sensors are used on one surface at a stroke of 10 mm, adjust their positions because the sensors may interfere with each other.
* If you want to mount AX or AZ type solid state sensors to a 10 mm stroke cylinder, use two sensor mounting grooves.

■ Notes on ordering WR or WS type sensors

● When ordering the cutting oil proof type sensors, WR and WS types, please be carefully the following notification,

5	WR525	The sensor and straight box connector (F-SB) are combined (the flexible tube (F-0.5 : 4.8 m) is required).
8	WR535	
2	WS235-1	
1	WS245-1	
5F	WR525F	The flexible tube (F-0.5 : 4.8 m) is attached to the sensor and straight box connector (F-SB).
8F	WR535F	
2F	WS235-1F	
1F	WS245-1F	



Sensor List (Bore ϕ 32 to ϕ 100)

Type	Sensor symbol	Load voltage range	Load current range	Max. switching capacity	Protective circuit	Indicating lamp	Wiring method	Cord length	Applicable load			
Reed sensor	AF AX101CE	DC:5 to 30V	DC:5 to 40mA	DC:1.5W AC:2VA	None	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Rear wiring	1.5m	Small relay, programmable controller			
	AG AX105CE				5m							
	AH AX111CE				AC:5 to 120V	AC:5 to 20mA		Provided		1.5m		
	AJ AX115CE				5m							
	AE AX125CE	DC: 30 V or less AC: 120 V or less	DC: 40 mA or less AD: 20 mA or less	None	None	5m						
	AK AX11ACE	AC:5 to 120V	5 to 20mA	2VA	Provided	LED (lights in red when sensing)	4-pin connector type Rear wiring	0.5m				
	AL AX11BCE	DC:5 to 30V	5 to 40mA	1.5W		0.5m						
	5 WR525	DC:5 to 50V	DC:3 to 40mA	DC:1.5W AC:2VA	None	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Rear wiring	5m				
	5F WR525F	AC:5 to 120V	AC:3 to 20mA	5m								
	AP AZ101CE	DC:5 to 30V	DC:5 to 40mA	DC:1.5W AC:2VA	None	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Upper wiring	1.5m				
	AR AZ105CE				5m							
	AS AZ111CE				AC:5 to 120V	AC:5 to 20mA		Provided		1.5m		
	AT AZ115CE				5m							
	AN AZ125CE	DC: 30 V or less AC: 120 V or less	DC: 40 mA or less AD: 20 mA or less	None	None	5m						
	AU AZ11ACE	AC:5 to 120V	5 to 20mA	2VA	Provided	LED (lights in red when sensing)	4-pin connector type Upper wiring	0.5m				
	AW AZ11BCE	DC:5 to 30V	5 to 40mA	1.5W		0.5m						
	AM AX135CE	AC/DC : 90 to 240V	5 to 300mA		B contact output	Provided	LED (lights in red when not sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Rear wiring		5m		
AY AZ135CE	0.3 mm ² , 2-core, outer dia. φ 4 mm Upper wiring						5m					
Solid state sensor	8 WR535	DC:5 to 50V	DC:3 to 40mA	DC:1.5W AC:2VA	None	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Upper wiring	5m				
	8F WR535F	AC:5 to 120V	AC:3 to 20mA	5m								
	BE AX201CE-1	DC:5 to 30V	5 to 40mA	—	Provided	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Rear wiring	1.5m				
	BF AX205CE-1					5m						
	CE AX211CE-1					LED (two-LED type in red/green)		1.5m				
	CF AX215CE-1					5m						
	2 WS235-1	DC:10 to 30V	5 to 20mA	—	Provided	LED (two-LED type in red/green)	5m					
	2F WS235-1F					5m						
	BM AZ201CE-1					DC:5 to 30V	5 to 40mA	—	Provided	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Upper wiring	1.5m
	BN AZ205CE-1									5m		
	CM AZ211CE-1	LED (two-LED type in red/green)	1.5m									
	CN AZ215CE-1	5m										
	Cutting oil proof type	RA AX205WCE	DC:5 to 30V	5 to 40mA	—	Provided	LED (lights in red when sensing)	0.3 mm ² , 2-core, outer dia. φ 4 mm Rear wiring	5m	Small relay, programmable controller		
		RB AZ205WCE					5m					
	Solid state sensor	1 WS245-1	DC:10 to 30V	5 to 20mA	—	Provided	LED (two-LED type in red/green)	0.3 mm ² , 2-core, outer dia. φ 4 mm Upper wiring	5m			
		1F WS245-1F					5m					
		CT AX211CE-1	DC:5 to 30V	5 to 40mA	—	Provided	LED (two-LED type in red/green)	0.3 mm ² , 2-core, outer dia. φ 4 mm Rear wiring	1.5m			
CU AX215CE-1		5m										
CV AX21BCE-1		4-pin connector type Rear wiring						0.5m				
CW AZ211CE-1		0.3 mm ² , 2-core, outer dia. φ 4 mm Upper wiring						1.5m				
CX AZ215CE-1		5m										
CY AZ21BCE-1		4-pin connector type Upper wiring						0.5m				

(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.).
● The output logic of AX and AZ135CE is B contact. When the piston is detected, the sensor contact turns off (the lamp turns on).
● For the details of sensors, be sure to read the sensor specifications at the end of this catalog.
● WR and WS type sensors are cutting oil proof.
● We recommend AND Unit (AU series) for multiple sensors connected in series.
For details, refer to AND Unit at the end of this catalog.

● Standard type

AX type (rear wiring)

AZ type (upper wiring)



● Cutting oil proof type

WR/WS type sensors

● Rear wiring

● Upper wiring



Standard Stroke Range

	Series variations	Type	Bore	Cylinder stroke (mm)																Male thread type
				5	10	15	20	25	30	35	40	45	50	60	70	80	90	100		
General purpose type	Double acting single rod	Standard type 100S-1	φ20	○	○	○	○	○	○	○	○	○	○	—	—	—	—	—	○	
			φ25	○	○	○	○	○	○	○	○	○	○	—	—	—	—	—	○	
			φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ63	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ100	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	○	
		Switch Set 100S-1R	φ20	○	○	○	○	○	○	○	○	○	○	—	—	—	—	—	○	
			φ25	○	○	○	○	○	○	○	○	○	○	—	—	—	—	—	○	
			φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ63	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ100	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	○	
	Double acting double rod	Standard type 100S-1D	φ20	○	○	○	○	○	○	○	□	□	□	—	—	—	—	—	□	
			φ25	○	○	○	○	○	○	○	□	□	□	—	—	—	—	—	□	
			φ32	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□	
			φ40	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□	
			φ50	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□	
			φ63	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□	
			φ80	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□	
			φ100	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	
Switch Set 100S-1RD		φ20	○	○	○	○	○	○	○	□	□	□	□	—	—	—	—	□		
		φ25	○	○	○	○	○	○	○	□	□	□	□	—	—	—	—	□		
		φ32	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□		
		φ40	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□		
		φ50	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□		
		φ63	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□		
Cutting oil proof type	Double acting single rod	Standard type 100SW-1	φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
			φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ63	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ100	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	○	
		Switch Set 100SW-1R	φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ63	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			φ100	○	○	○	○	○	○	○	○	○	○	□	□	□	□	□	□	
	Double acting double rod	Standard type 100SW-1D	φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ63	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ100	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	
		Switch Set 100SW-1RD	φ32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ40	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ63	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	□	
			φ100	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	

○ : Standard range
□ : Semi-standard range (The leadtime varies depending on the bore and stroke. For details, contact us.)
● For the minimum stroke of the Switch Set, refer to the sensor mountable minimum stroke table.
Note 1) 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.

Weight Table: General purpose and cutting oil proof types

Unit: kg

Series variations	Type	Bore	Cylinder stroke (mm)										Mounting accessory additional weight		Separate flange joint (M-end)	Male thread additional weight
			5	10	15	20	25	30	35	40	45	50	Foot type LD	Flange type FA・FB		
Double acting single rod	Standard type 100S-1 100SW-1	φ20	0.29	0.28	0.30	0.32	0.35	0.37	0.39	0.41	0.43	0.45	0.46	0.25	0.2	0.02
		φ25	0.41	0.40	0.43	0.45	0.48	0.51	0.54	0.56	0.59	0.62	0.58	0.30	0.3	0.03
		φ32	0.68	0.72	0.77	0.81	0.86	0.90	0.94	0.99	1.03	1.08	1.09	0.62	0.3	0.05
		φ40	0.90	0.95	1.01	1.07	1.12	1.18	1.24	1.29	1.35	1.41	1.42	1.16	0.4	0.10
		φ50	1.35	1.43	1.50	1.58	1.65	1.73	1.81	1.88	1.96	2.03	2.43	1.60	0.6	0.18
		φ63	2.10	2.21	2.31	2.42	2.52	2.63	2.74	2.84	2.95	3.05	3.30	2.02	0.8	0.40
	Switch Set 100S-1R 100SW-1R	φ80	3.87	4.02	4.18	4.34	4.49	4.65	4.81	4.96	5.12	5.28	5.86	3.77	1.4	0.76
		φ100	7.26	7.49	7.72	7.95	8.18	8.41	8.63	8.86	9.09	9.32	9.99	7.23	3.0	1.50
		φ20	0.30	0.29	0.31	0.33	0.36	0.38	0.40	0.42	0.44	0.46	0.46	0.25	0.2	0.02
		φ25	0.42	0.41	0.44	0.46	0.49	0.52	0.55	0.57	0.60	0.63	0.58	0.30	0.3	0.03
		φ32	0.70	0.75	0.80	0.84	0.89	0.93	0.98	1.02	1.07	1.11	1.09	0.02	0.3	0.05
		φ40	0.93	0.99	1.05	1.11	1.16	1.22	1.28	1.33	1.39	1.45	1.42	1.16	0.4	0.10
Double acting double rod	Standard type 100S-1D 100SW-1D	φ50	1.14	1.49	1.57	1.64	1.72	1.79	1.87	1.94	2.02	2.09	2.43	1.60	0.6	0.18
		φ63	2.20	2.30	2.40	2.51	2.61	2.72	2.82	2.93	3.03	3.14	3.30	2.02	0.8	0.40
		φ80	3.98	4.13	4.28	4.44	4.60	4.75	4.91	5.07	5.22	5.38	5.86	3.77	1.4	0.76
		φ100	7.38	7.61	7.84	8.07	8.30	8.53	8.75	8.98	9.21	9.44	9.99	7.23	3.0	1.50
		φ20	0.40	0.40	0.43	0.45	0.48	0.50	0.53	0.55	0.58	0.60	0.46	0.25	0.2	0.04
		φ25	0.57	0.56	0.59	0.62	0.65	0.70	0.72	0.75	0.78	0.81	0.58	0.30	0.3	0.06
	Switch Set 100S-1RD 100SW-1RD	φ32	1.06	1.11	1.17	1.22	1.28	1.33	1.39	1.44	1.50	1.55	1.09	0.62	0.3	0.10
		φ40	1.37	1.44	1.51	1.58	1.65	1.72	1.79	1.86	1.93	2.00	1.42	1.16	0.4	0.20
		φ50	2.00	2.09	2.19	2.29	2.39	2.49	2.59	2.69	2.79	2.89	2.43	1.60	0.6	0.36
		φ63	3.03	3.17	3.32	3.46	3.61	3.75	3.90	4.04	4.19	4.33	3.30	2.02	0.8	0.80
		φ80	5.58	5.79	6.01	6.23	6.44	6.66	6.88	7.09	7.31	7.53	5.86	3.77	1.4	1.52
		φ100	10.15	10.48	10.80	11.12	11.45	11.77	12.10	12.42	12.75	13.07	9.99	7.23	3.0	3.00

Sensor Additional Weight Table

Unit: kg

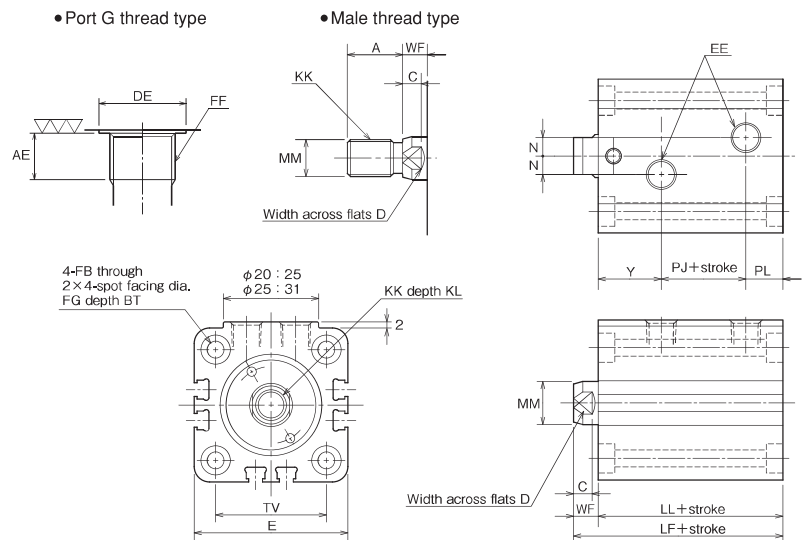
AX/AZ type

SD

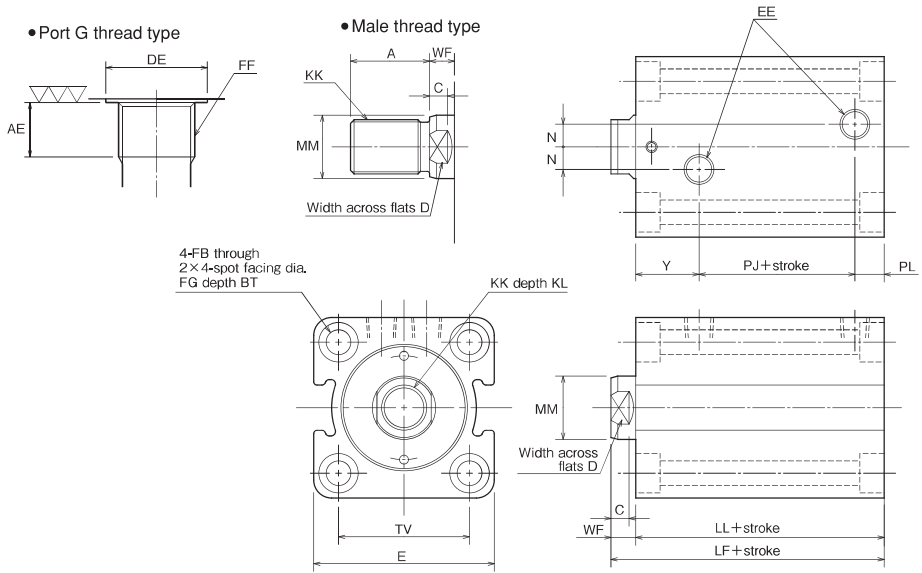
General purpose type 100S-1 6 SD Bore N Stroke T (φ20 to φ100)
Cutting oil proof type 100SW-1 6 SD Bore N Stroke T (φ32 to φ100)

CAD/DATA is available.

• Bore φ20 and φ25



• Bore φ32 to φ100



• For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
All the contents other than sensor mounting dimensions are the same.

Dimensional Table

Symbol Bore	A	AE	BT	C	D	DE	E	EE	FB	FF	FG	KK		KL
												Female thread type	Male thread type	
φ20	15(25)	8	5.4	6	10	φ17.2	□44	Rc1/8	φ5.5	G1/8	φ9.5	M8×1.25	M10×1.25	10
φ25	18(30)	8	5.4	6	12	φ17.2	□50	Rc1/8	φ5.5	G1/8	φ9.5	M10×1.5	M12×1.25	12
φ32	25(40)	8	6.5	7	14	φ17.2	□62	Rc1/4	φ6.6	G1/8	φ11	M12×1.75	M16×1.5	15
φ40	30(45)	8	8.6	7	19	φ17.2	□70	Rc1/4	φ9	G1/8	φ14	M16×2	M20×1.5	20
φ50	35(50)	12	10.8	8	24	φ21.5	□80	Rc1/4	φ11	G1/4	φ17.5	M20×2.5	M24×1.5	24
φ63	45(60)	12	13	9	30	φ21.5	□94	Rc1/4	φ14	G1/4	φ20	M27×3	M30×1.5	33
φ80	60(80)	12	15.2	14	41	φ21.5	□114	Rc3/8	φ16	G1/4	φ23	M30×3.5	M39×1.5	36
φ100	75(95)	12	17.5	22	50	φ25.5	□138	Rc3/8	φ18	G3/8	φ26	M39×4	M48×1.5	45

Symbol Bore	LF	LL	MM	N		PJ		PL		TV	WF	Y	
				Rc thread	G thread	Rc thread	G thread	Rc thread	G thread			Rc thread	G thread
φ20	51	43	φ12	3	3	14.5	14.5	10	10	□30	8	18.5	18.5
φ25	53	45	φ14	6	6	12.5	12.5	12	12	□36	8	20.5	20.5
φ32	64	54	φ18	10	10	14	14	12	12	□47	10	28	28
φ40	65	55	φ22	10	10	16	16	12	12	□52	10	27	27
φ50	71	60	φ28	10	14	19	13.5	13	18.5	□58	11	28	28
φ63	80	67	φ36	10	16	24	20	13	17	□69	13	30	30
φ80	95	78	φ45	15	19	25	24	18	18	□86	17	35	36
φ100	122	96	φ56	15	18	26	26	28	28	□106	26	42	42

Notes) • When the lock nut is used, the parenthesized dimension A is recommended. (Order made)
• The lock nut needs to be ordered separately.
• 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
• 20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
• The tolerance of MM is f8.

LD

General purpose type

100S-1

6

LD

Bore

N

Stroke

T

(φ20 to φ100)

CAD/DATA is available.

Cutting oil proof type

100SW-1

6

LD

Bore

N

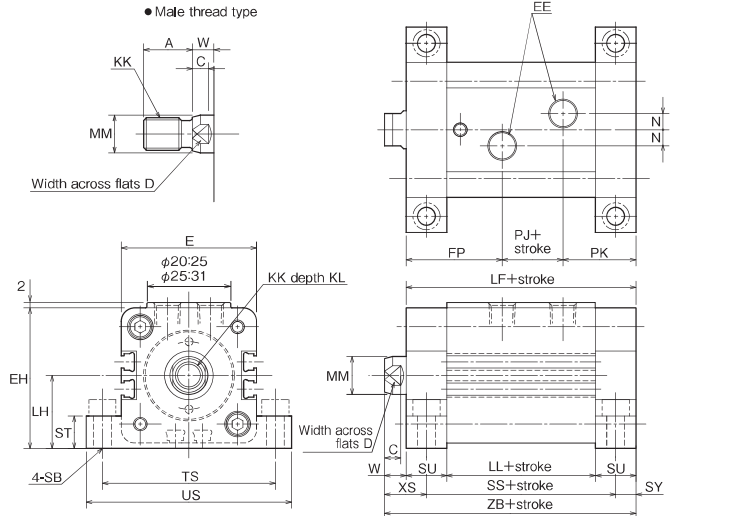
Stroke

T

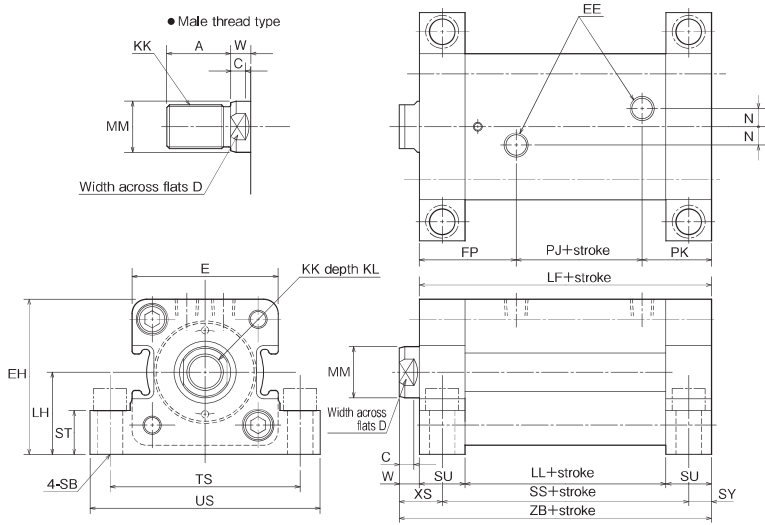
(φ32 to φ100)

None : Female thread type
T : Male thread type

●Bore φ20 and φ25



●Bore φ32 to φ100



● For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
All the contents other than sensor mounting dimensions are the same.
* When installing the cylinder on the grounding surface, be sure to use hex. socket head cap screws.

Dimensional Table

Symbol Bore	A	C	D	E	EE	EH	FP	KK		KL	LF	LH
								Female thread type	Male thread type			
φ20	15(25)	6	10	□44	Rc1/8	46	33.5	M8×1.25	M10×1.25	10	73	24±0.15
φ25	18(30)	6	12	□50	Rc1/8	52	35.5	M10×1.5	M12×1.25	12	75	27±0.15
φ32	25(40)	7	14	□62	Rc1/4	66	48	M12×1.75	M16×1.5	15	94	35±0.15
φ40	30(45)	7	19	□70	Rc1/4	72.5	47	M16×2	M20×1.5	20	95	37.5±0.15
φ50	35(50)	8	24	□80	Rc1/4	85	53	M20×2.5	M24×1.5	24	110	45±0.15
φ63	45(60)	9	30	□94	Rc1/4	97	55	M27×3	M30×1.5	33	117	50±0.15
φ80	60(80)	14	41	□114	Rc3/8	117	65	M30×3.5	M39×1.5	36	138	60±0.25
φ100	75(95)	22	50	□138	Rc3/8	140	77	M39×4	M48×1.5	45	166	71±0.25

Symbol Bore	LL	MM	N	PJ	PK	SB	SS	ST	SU	SY	TS	US	W	XS	ZB
φ20	43	φ12	3	14.5	25	6.6	58	12	15	7.5	58	70	8	15.5	81
φ25	45	φ14	6	12.5	27	6.6	60	12	15	7.5	64	76	8	15.5	83
φ32	54	φ18	10	14	32	9	74	16	20	10	79	94	10	20	104
φ40	55	φ22	10	16	32	11	75	20	20	10	90	108	10	20	105
φ50	60	φ28	10	19	38	14	85	24	25	12.5	104	126	11	23.5	121
φ63	67	φ36	10	24	38	16	92	30	25	12.5	121	146	13	25.5	130
φ80	78	φ45	15	25	48	18	108	35	30	15	144	172	17	32	155
φ100	96	φ56	15	26	63	22	131	43	35	17.5	174	208	26	43.5	192

Notes) ●When the lock nut is used, the parenthesized dimension A is recommended, (Order made)
●The lock nut needs to be ordered separately.
●20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
●20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
●The tolerance of MM is f8.

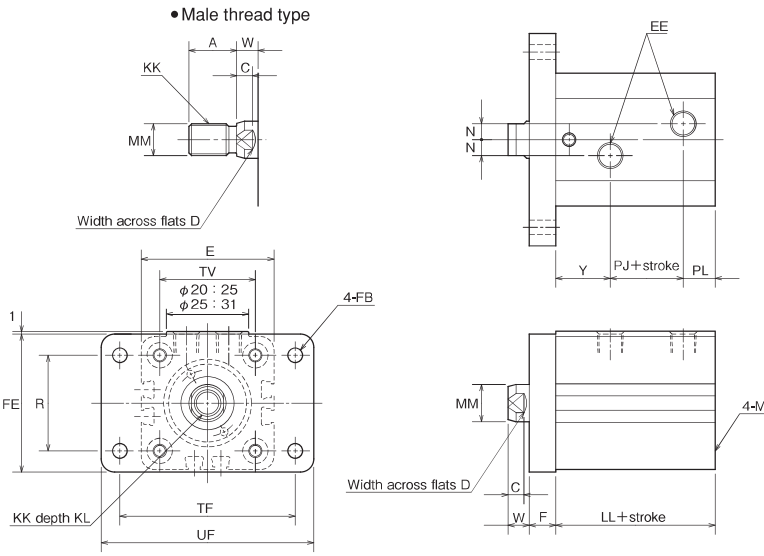
FA

General purpose type 100S-1 6 FA Bore N Stroke T (φ20 to φ100)
Cutting oil proof type 100SW-1 6 FA Bore N Stroke T (φ32 to φ100)

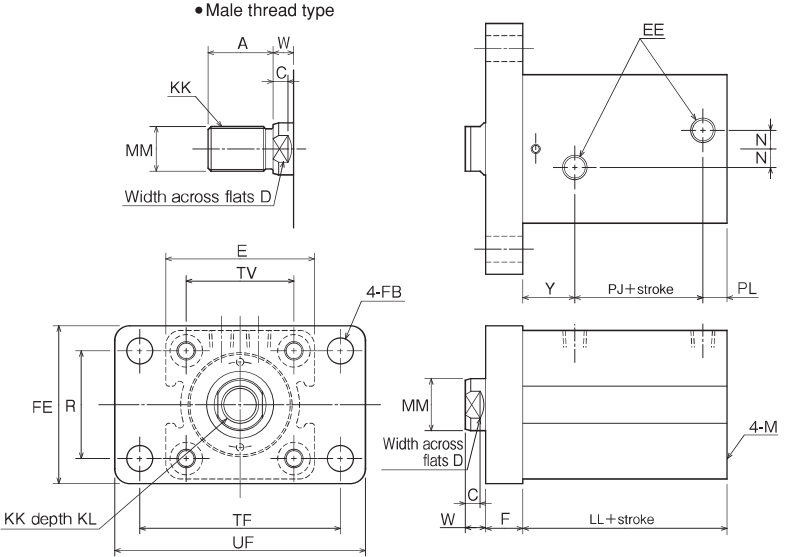
100S-1/THS1 Bore is available. CAD/DATA

None : Female thread type
T : Male thread type

● Bore φ20 and φ25



● Bore φ32 to φ100



● For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
All the contents other than sensor mounting dimensions are the same.

Dimensional Table

Symbol Bore	A	C	D	E	EE	F	FB	FE	KK		KL	LL
									Female thread type	Male thread type		
φ20	15(25)	6	10	□44	Rc1/8	10	φ5.5	46	M8×1.25	M10×1.25	10	43
φ25	18(30)	6	12	□50	Rc1/8	10	φ5.5	52	M10×1.5	M12×1.25	12	45
φ32	25(40)	7	14	□62	Rc1/4	15	φ6.6	62	M12×1.75	M16×1.5	15	54
φ40	30(45)	7	19	□70	Rc1/4	20	φ11	70	M16×2	M20×1.5	20	55
φ50	35(50)	8	24	□80	Rc1/4	20	φ14	85	M20×2.5	M24×1.5	24	60
φ63	45(60)	9	30	□94	Rc1/4	20	φ14	98	M27×3	M30×1.5	33	67
φ80	60(80)	14	41	□114	Rc3/8	25	φ18	118	M30×3.5	M39×1.5	36	78
φ100	75(95)	22	50	□138	Rc3/8	30	φ22	150	M39×4	M48×1.5	45	96

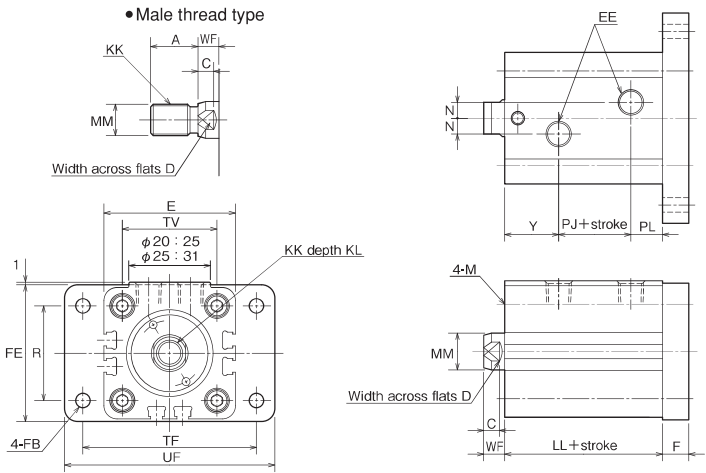
Symbol Bore	M	MM	N	PJ	PL	R	TF	TV	UF	W	Y
φ20	M5×0.8	φ12	3	14.5	10	30	60	□30	75	8	18.5
φ25	M5×0.8	φ14	6	12.5	12	36	66	□36	80	8	20.5
φ32	M6×1	φ18	10	14	12	40	80	□47	95	10	28
φ40	M8×1.25	φ22	10	16	12	46	96	□52	118	10	27
φ50	M10×1.5	φ28	10	19	13	58	108	□58	135	11	28
φ63	M12×1.75	φ36	10	24	13	65	124	□69	150	13	30
φ80	M14×2	φ45	15	25	18	87	154	□86	185	17	35
φ100	M16×2	φ56	15	26	28	109	190	□106	230	26	42

Notes) ● When the lock nut is used, the parenthesized dimension A is recommended, (Order made)
● The lock nut needs to be ordered separately.
● 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
● 20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
● The tolerance of MM is f8.

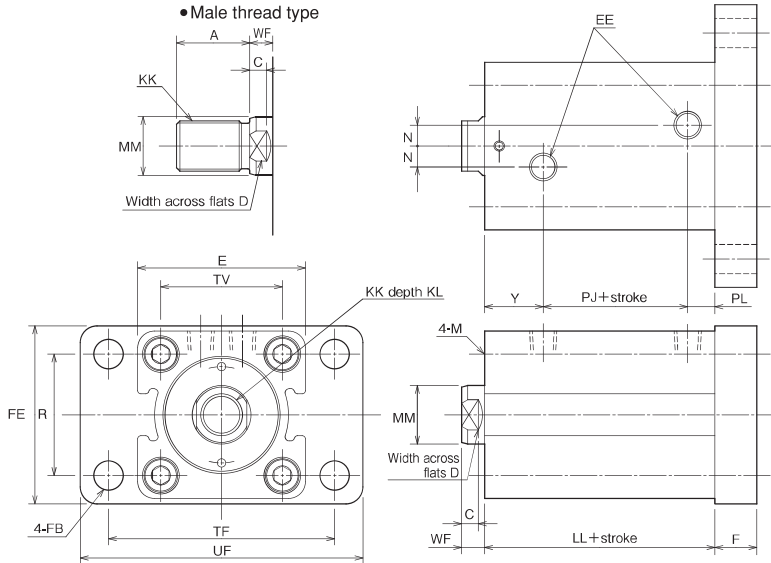
FB

General purpose type 100S-1 6 FB Bore N Stroke T (φ20 to φ100)
Cutting oil proof type 100SW-1 6 FB Bore N Stroke T (φ32 to φ100)

● Bore φ20 and φ25



● Bore φ32 to φ100



● For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
All the contents other than sensor mounting dimensions are the same.

CAD/DATA is available.



Dimensional Table

Symbol Bore	A	C	D	E	EE	F	FB	FE	KK		KL	LL
									Female thread type	Male thread type		
φ20	15(25)	6	10	□44	Rc1/8	10	φ5.5	46	M8×1.25	M10×1.25	10	43
φ25	18(30)	6	12	□50	Rc1/8	10	φ5.5	52	M10×1.5	M12×1.25	12	45
φ32	25(40)	7	14	□62	Rc1/4	15	φ6.6	62	M12×1.75	M16×1.5	15	54
φ40	30(45)	7	19	□70	Rc1/4	20	φ11	70	M16×2	M20×1.5	20	55
φ50	35(50)	8	24	□80	Rc1/4	20	φ14	85	M20×2.5	M24×1.5	24	60
φ63	45(60)	9	30	□94	Rc1/4	20	φ14	98	M27×3	M30×1.5	33	67
φ80	60(80)	14	41	□114	Rc3/8	25	φ18	118	M30×3.5	M39×1.5	36	78
φ100	75(95)	22	50	□138	Rc3/8	30	φ22	150	M39×4	M48×1.5	45	96

Symbol Bore	M	MM	N	PJ	PL	R	TF	TV	UF	WF	Y
φ20	M5×0.8	φ12	3	14.2	10	30	60	□30	75	8	18.5
φ25	M5×0.8	φ14	6	12.5	12	36	66	□36	80	8	20.5
φ32	M6×1	φ18	10	14	12	40	80	□47	95	10	28
φ40	M8×1.25	φ22	10	16	12	46	96	□52	118	10	27
φ50	M10×1.5	φ28	10	19	13	58	108	□58	135	11	28
φ63	M12×1.75	φ36	10	24	13	65	124	□69	150	13	30
φ80	M14×2	φ45	15	25	18	87	154	□86	185	17	35
φ100	M16×2	φ56	15	26	28	109	190	□106	230	26	42

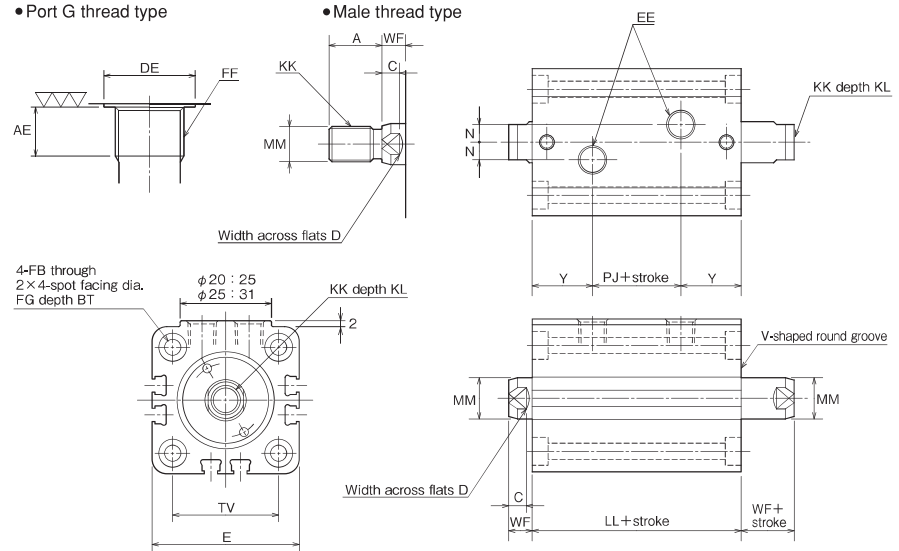
Notes) ● When the lock nut is used, the parent sized dimension A is recommended. (Order made)
● The lock nut needs to be ordered separately.
● 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
● 20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
● The tolerance of MM is f8.

SD

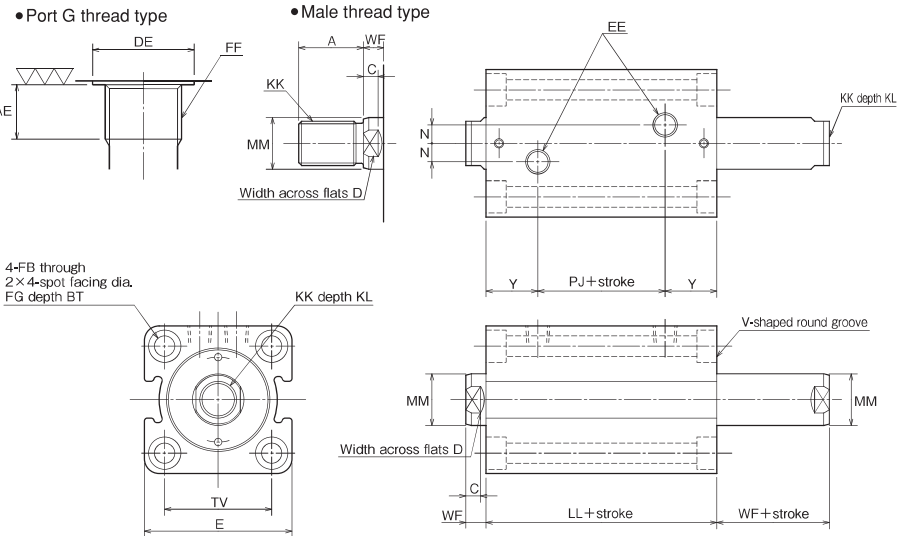
General purpose type 100S-1D 6 SD Bore N Stroke T (φ20 to φ100)
Cutting oil proof type 100SW-1D 6 SD Bore N Stroke T (φ32 to φ100)

CAD/DATA is available.

- Bore φ20 and φ25
- Port G thread type



- Bore φ32 to φ100



- The surface without V-shaped round grooves on the end face is the mounting surface.
- For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
- All the contents other than sensor mounting dimensions are the same.

Dimensional Table

Symbol Bore	A	AE	BT	C	D	DE	E	EE	FB	FF	FG	KK		KL
												Female thread type	Male thread type	
φ20	15(25)	8	5.4	6	10	φ17.2	□44	Rc1/8	φ5.5	G1/8	φ9.5	M8×1.25	M10×1.25	10
φ25	18(30)	8	5.4	6	12	φ17.2	□50	Rc1/8	φ5.5	G1/8	φ9.5	M10×1.5	M12×1.25	12
φ32	25(40)	8	6.5	7	14	φ17.2	□62	Rc1/4	φ6.6	G1/8	φ11	M12×1.75	M16×1.5	15
φ40	30(45)	8	8.6	7	19	φ17.2	□70	Rc1/4	φ9	G1/8	φ14	M16×2	M20×1.5	20
φ50	35(50)	12	10.8	8	24	φ21.5	□80	Rc1/4	φ11	G1/4	φ17.5	M20×2.5	M24×1.5	24
φ63	45(60)	12	13	9	30	φ21.5	□94	Rc1/4	φ14	G1/4	φ20	M27×3	M30×1.5	33
φ80	60(80)	12	15.2	14	41	φ21.5	□114	Rc3/8	φ16	G1/4	φ23	M30×3.5	M39×1.5	36
φ100	75(95)	12	17.5	22	50	φ25.5	□138	Rc3/8	φ18	G3/8	φ26	M39×4	M48×1.5	45

Symbol Bore	LL	MM	N		PJ		TV	WF	Y	
			Rc thread	G thread	Rc thread	G thread			Rc thread	G thread
φ20	54	φ12	3	3	17	17	□30	8	18.5	18.5
φ25	56	φ14	6	6	15	15	□36	8	20.5	20.5
φ32	72	φ18	10	10	16	16	□47	10	28	28
φ40	72	φ22	10	10	18	18	□52	10	27	27
φ50	75	φ28	10	14	19	19	□58	11	28	28
φ63	82	φ36	10	16	22	22	□69	13	30	30
φ80	95	φ45	15	19	25	23	□86	17	35	36
φ100	108	φ56	15	18	24	24	□106	26	42	42

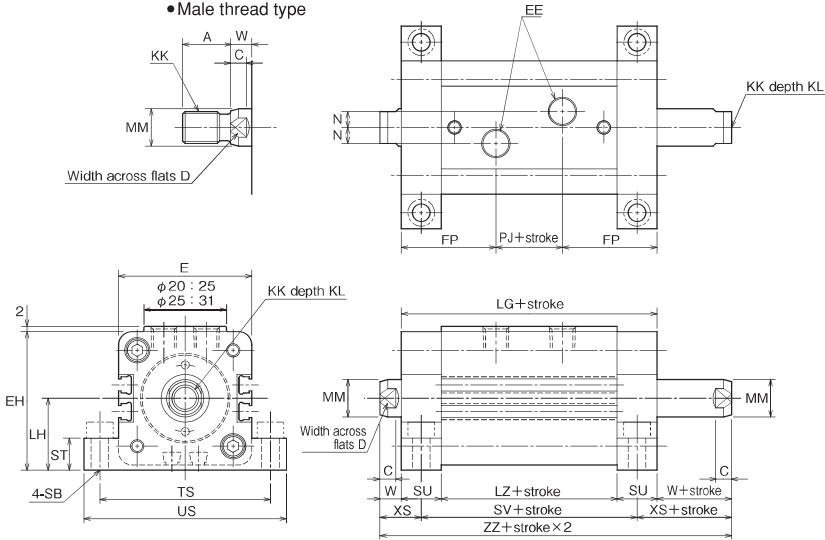
- (Notes)
- When the lock nut is used, the parenthesized dimension A is recommended. (Order made)
 - The lock nut needs to be ordered separately.
 - 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
 - 20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
 - The tolerance of MM is f8.

LD

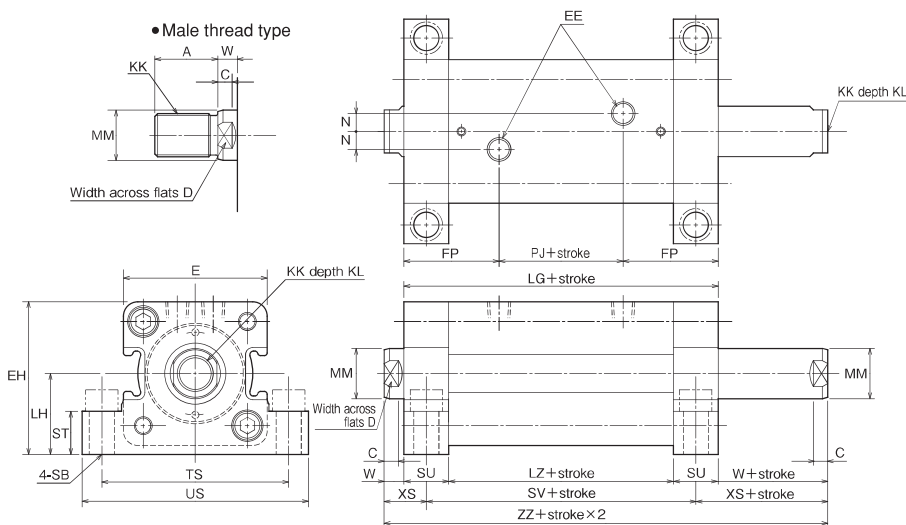
General purpose type 100S-1D 6 LD Bore N Stroke T (φ20 to φ100)
Cutting oil proof type 100SW-1D 6 LD Bore N Stroke T (φ32 to φ100)

100S-1/THS1 Bore is available.
None : Female thread type
T : Male thread type

• Bore φ20 and φ25



• Bore φ32 to φ100



• For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
All the contents other than sensor mounting dimensions are the same.
* When installing the cylinder on the grounding surface, be sure to use hex, socket head cap screws.

Dimensional Table

Symbol Bore	A	C	D	E	EE	EH	FP	KK		KL	LG	LH
								Female thread type	Male thread type			
φ20	15(25)	6	10	□44	Rc1/8	46	33.5	M8×1.25	M10×1.25	10	84	24±0.15
φ25	18(30)	6	12	□50	Rc1/8	52	35.5	M10×1.5	M12×1.25	12	86	27±0.15
φ32	25(40)	7	14	□62	Rc1/4	66	48	M12×1.75	M16×1.5	15	112	35±0.15
φ40	30(45)	7	19	□70	Rc1/4	72.5	47	M16×2	M20×1.5	20	112	37.5±0.15
φ50	35(50)	8	24	□80	Rc1/4	85	53	M20×2.5	M24×1.5	24	125	45±0.15
φ63	45(60)	9	30	□94	Rc1/4	97	55	M27×3	M30×1.5	33	132	50±0.15
φ80	60(80)	14	41	□114	Rc3/8	117	65	M30×3.5	M39×1.5	36	155	60±0.25
φ100	75(95)	22	50	□138	Rc3/8	140	77	M39×4	M48×1.5	45	178	71±0.25

Symbol Bore	LZ	MM	N	PJ	SB	ST	SU	SV	TS	US	W	XS	ZZ
φ20	54	φ12	3	17	6.6	12	15	69	58	70	8	15.5	100
φ25	56	φ14	6	15	6.6	12	15	71	64	76	8	15.5	102
φ32	72	φ18	10	16	9	16	20	92	79	94	10	20	132
φ40	72	φ22	10	18	11	20	20	92	90	108	10	20	132
φ50	75	φ28	10	19	14	24	25	100	104	126	11	23.5	147
φ63	82	φ36	10	22	16	30	25	107	121	146	13	25.5	158
φ80	95	φ45	15	25	18	35	30	125	144	172	17	32	189
φ100	108	φ56	15	24	22	43	35	143	174	208	26	43.5	230

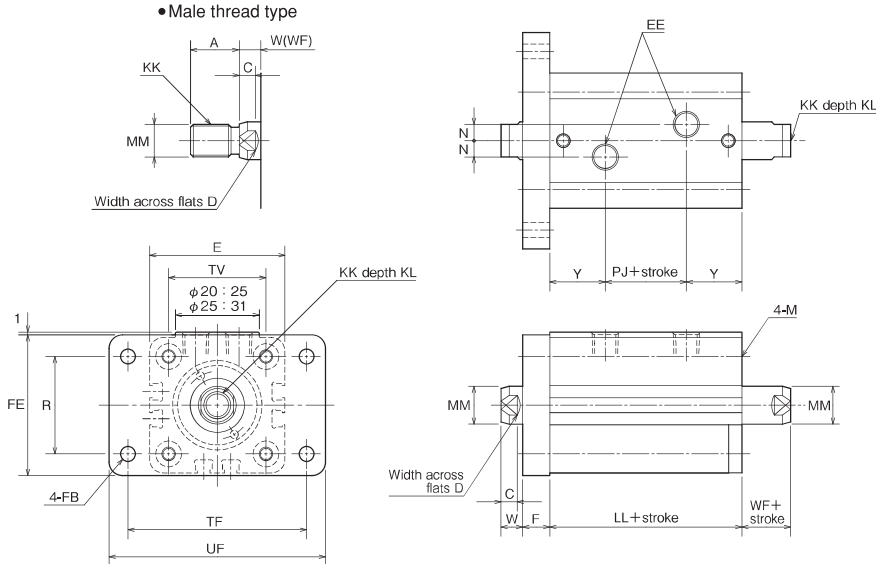
Notes) • When the lock nut is used, the parenthesized dimension A is recommended. (Order made)
• The lock nut needs to be ordered separately.
• 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
• 20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
• The tolerance of MM is f8.

FA

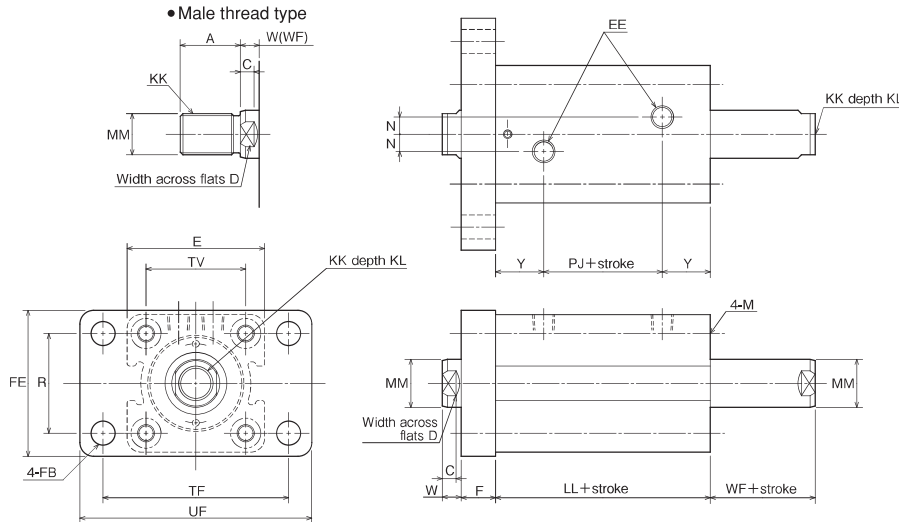
General purpose type 100S-1D 6 FA Bore N Stroke T (φ20 to φ100)
Cutting oil proof type 100SW-1D 6 FA Bore N Stroke T (φ32 to φ100)

100S-1/THS1 Bore is available.
None : Female thread type
T : Male thread type

● Bore φ20 and φ25



● Bore φ32 to φ100



● For the mounting of sensors, refer to the "dimensional drawings of Switch Set".
All the contents other than sensor mounting dimensions are the same.

Dimensional Table

Symbol Bore	A	C	D	E	EE	F	FB	FE	KK		KL	LL
									Female thread type	Male thread type		
φ20	15(25)	6	10	□44	Rc1/8	10	φ5.5	46	M8×1.25	M10×1.25	10	54
φ25	18(30)	6	12	□50	Rc1/8	10	φ5.5	52	M10×1.5	M12×1.25	12	56
φ32	25(40)	7	14	□62	Rc1/4	15	φ6.6	62	M12×1.75	M16×1.5	15	72
φ40	30(45)	7	19	□70	Rc1/4	20	φ11	70	M16×2	M20×1.5	20	72
φ50	35(50)	8	24	□80	Rc1/4	20	φ14	85	M20×2.5	M24×1.5	24	75
φ63	45(60)	9	30	□94	Rc1/4	20	φ14	98	M27×3	M30×1.5	33	82
φ80	60(80)	14	41	□114	Rc3/8	25	φ18	118	M30×3.5	M39×1.5	36	95
φ100	75(95)	22	50	□138	Rc3/8	30	φ22	150	M39×4	M48×1.5	45	108

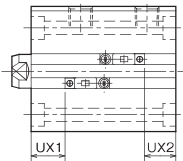
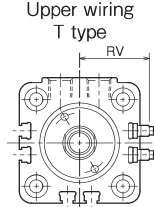
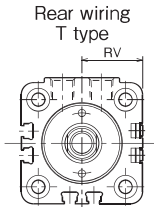
Symbol Bore	M	MM	N	PJ	R	TF	TV	UF	W	WF	Y
φ20	M5×0.8	φ12	3	17	30	60	□30	75	8	8	18.5
φ25	M5×0.8	φ14	6	15	36	66	□36	80	8	8	20.5
φ32	M6×1	φ18	10	16	40	80	□47	95	10	10	28
φ40	M8×1.25	φ22	10	18	46	96	□52	118	10	10	27
φ50	M10×1.5	φ28	10	19	58	108	□58	135	11	11	28
φ63	M12×1.75	φ36	10	22	65	124	□69	150	13	13	30
φ80	M14×2	φ45	15	25	87	154	□86	185	17	17	35
φ100	M16×2	φ56	15	24	109	190	□106	230	26	26	42

Notes) ● When the lock nut is used, the parentesized dimension A is recommended. (Order made)
● The lock nut needs to be ordered separately.
● 20 mm and 25 mm bore cylinders with a stroke of 5 mm have the same body size as those with a stroke of 10 mm.
● 20 mm and 25 mm bore sizes of the cutting oil proof type are not available.
● The tolerance of MM is f8.

Switch Set

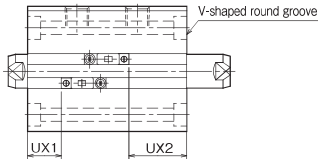
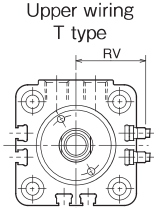
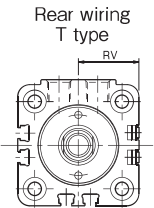
General purpose type	100S-1R	6	Mounting style	Bore	N	Stroke	T	Sensor symbol	Sensor quantity
Cutting oil proof type	100SW-1R	6	Mounting style	Bore	N	Stroke	T	Sensor symbol	Sensor quantity

- Bore $\phi 20$ and $\phi 25$
Single rod



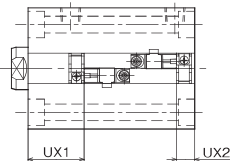
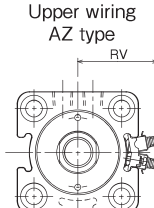
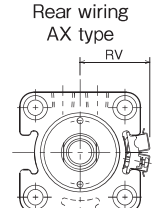
: Female thread type
 : Male thread type

Double rod



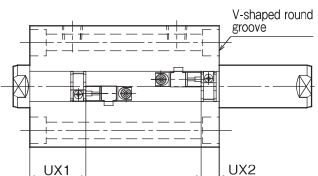
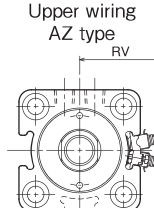
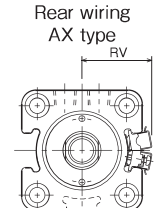
- The side without V-shaped round grooves on the end face corresponds to UX1.

- Bore $\phi 32$ to $\phi 100$
Single rod



- The 100 mm bore cylinder has three sensor mounting grooves.

Double rod



- The 100 mm bore cylinder has three sensor mounting grooves.
- The side without V-shaped round grooves on the end face corresponds to UX1.

General purpose type

Dimensional Table (T/AX/AZ type)

Bore	RV						UX1						UX2							
	T0H · T5H T2H · T3H		T0V · T5V T2V · T3V		T2YH	T2YV	AX	AZ	Single rod			Double rod			Single rod			Double rod		
									T	AX	AZ	T	AX	AZ	T	AX	AZ	T	AX	AZ
φ20	22	26	28	31	—	—	13	—	—	13	—	—	12	—	—	23	—	—		
φ25	25	29	31	34	—	—	14	—	—	14	—	—	13	—	—	24	—	—		
φ32	—	—	—	—	37	44	—	19	19	—	19	19	—	17	17	—	35	35		
φ40	—	—	—	—	41	48	—	20	20	—	20	20	—	17	17	—	34	34		
φ50	—	—	—	—	46	53	—	22	22	—	22	22	—	20	20	—	35	35		
φ63	—	—	—	—	54	61	—	24	24	—	24	24	—	25	25	—	40	40		
φ80	—	—	—	—	63	70	—	30	30	—	30	30	—	30	30	—	47	47		
φ100	—	—	—	—	76.5	83.5	—	36	36	—	36	36	—	42	42	—	53	53		

Note) ● Dimension UX is for reference only. For details, refer to the sensor mountable minimum stroke table.

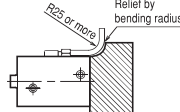
Operating Range and Hysteresis

Bore	Reed sensor								Solid state sensor							
	AX1** · AZ1**		T type		WR type		AX2** · AZ2**		AX205W · AZ205W		T2/T3 type		T2Y type		WS type	
	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis
$\phi 20$	—	—	3 to 10	2 or less	—	—	—	—	—	—	3 to 8	1 or less	5 to 10	1 or less	—	—
$\phi 25$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
$\phi 32$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
$\phi 40$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
$\phi 50$	10 to 17	2 or less	—	—	10 to 17	2 or less	4 to 8	1 or less	15 to 22	2 or less	—	—	—	—	12 to 15	2 or less
$\phi 63$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
$\phi 80$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
$\phi 100$	6 to 14	—	—	—	7 to 15	2.5 or less	6 to 9	—	19 to 25	—	—	—	—	—	19 to 25	—

Cutting oil proof type

Dimensional Table

Bore	RV				RY				UX1			UX2		
	Rear wiring		Upper wiring		Rear wiring		Upper wiring		AX*W	WR	WS	AX*W	WR	WS
	AX*W	WR · WS	AZ*W	WR · WS	AX*W	WR · WS	AZ*W	WR · WS	AZ*W			AZ*W		
$\phi 32$	37	53	44	53	74	106	88	106	13(13)	11(11)	15(15)	11(29)	12(28)	16(32)
$\phi 40$	41	57	48	57	82	114	96	114	14(14)	17(17)	20(20)	11(28)	14(33)	16(36)
$\phi 50$	46	62	53	62	92	124	106	124	16(16)	19(19)	21(21)	14(29)	16(35)	20(37)
$\phi 63$	54	69	61	69	108	138	122	138	17(17)	20(20)	24(24)	18(33)	21(36)	23(40)
$\phi 80$	63	79	70	79	126	158	140	158	22(22)	25(25)	29(29)	22(39)	25(43)	29(47)
$\phi 100$	76.5	91.5	83.5	91.5	153	183	167	183	27(27)	33(33)	35(35)	33(44)	40(50)	41(52)



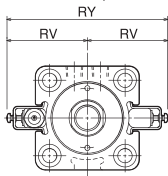
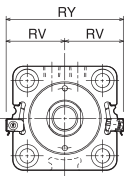
If the sensor cannot be mounted as shown above, use the upper wiring type.

- Notes) ● Ensure that the bending radius of the flexible tube is R25 or more.
If the bending radius is smaller, the wire may be broken.
● The parenthesized values apply to the double rod cylinders.

Sensor Attachment Dimensions

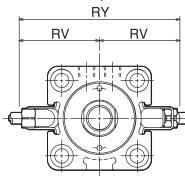
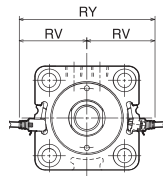
● Rear wiring

AX205W(solid state sensor) WR525(reed sensor)
WS235-1(solid state sensor)



● Upper wiring

AZ205W(solid state sensor) WR535(reed sensor)
WS245-1(solid state sensor)



* The 100 mm bore cylinder has mounting grooves in three surfaces.

Change of Rod End Shape

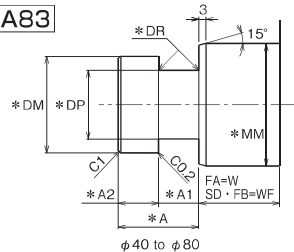
■ You can specify the shape and dimension of the rod end as shown below using the semi-standard symbols and dimension symbols. (No need to specify the dimension symbol if you order a cylinder with the basic dimensions. Specify only the semi-standard symbol.)

How to order

Series Model number – X

Semi-standard symbol	Dimension symbol (Specify only when the dimension differs from the basic dimension.)
----------------------	--

KM and KP need to be specified as a pair. —

Example **A83**

Note) In the case of this shape, only dimension WF can be changed.

- Bore $\phi 40$, rod end shape: A83, WF=60
100S-1 6SD40N50T-X A83
WF-60

Special Rod End Shapes

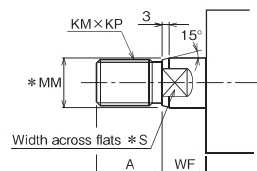
$$A_{00}(T)$$


Table of Basic Dimensions (Standard dimensions)

Bore	A	KM	KP	* MM	* S	WF
φ20	15	10	1.25	φ12	10	8
φ25	18	12	1.25	φ14	12	8
φ32	25	16	1.5	φ18	14	10
φ40	30	20	1.5	φ22	19	10
φ50	35	24	1.5	φ28	24	11
φ63	45	30	1.5	φ36	30	13
φ80	60	39	1.5	φ45	41	17
φ100	75	48	1.5	φ56	50	26

A51

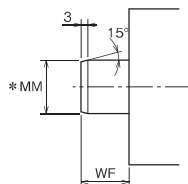
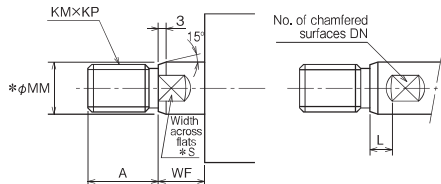


Table of Basic Dimensions

Bore	* MM	WF
φ20	φ12	8
φ25	φ14	8
φ32	φ18	10
φ40	φ22	10
φ50	φ28	11
φ63	φ36	13
φ80	φ45	17
φ100	φ56	26

- The *-marked dimension is fixed.
- If it is necessary to change the fixed dimension, consult us.

A53



Note) Increase dimension WF by dimension L.

Table of Basic Dimensions

Bore	A	DN	KM	KP	L	* MM	* S	WF
φ20	15	2	10	1.25	0	φ12	10	8
φ25	18	2	12	1.25	0	φ14	12	8
φ32	25	2	16	1.5	0	φ18	14	10
φ40	30	2	20	1.5	0	φ22	19	10
φ50	35	2	24	1.5	0	φ28	24	11
φ63	45	2	30	1.5	0	φ36	30	13
φ80	60	2	39	1.5	0	φ45	41	17
φ100	75	2	48	1.5	0	φ56	50	26

Use this shape to move the width across flats S of 'A00(T)'.

A54

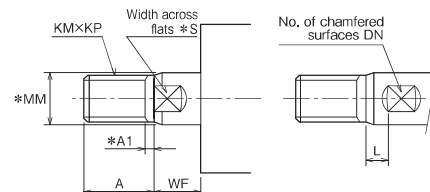


Table of Basic Dimensions

Bore	A	* A1	DN	KM	KP	L	* MM	* S	W
φ20	15	4	2	10	1.25	0	φ12	10	8
φ25	18	4	2	12	1.25	0	φ14	12	8
φ32	25	4	2	16	1.5	0	φ18	14	10
φ40	30	4	2	20	1.5	0	φ22	19	10
φ50	35	4	2	24	1.5	0	φ28	24	11
φ63	45	4	2	30	1.5	0	φ36	30	13
φ80	60	4	2	39	1.5	0	φ45	41	17
φ100	75	4	2	48	1.5	0	φ56	50	26

A82

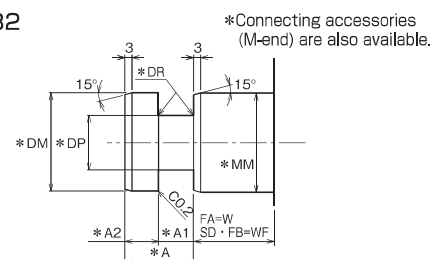


Table of Basic Dimensions (Standard dimensions)

Bore	*A	*A1 ^{+0.5 -0.3}	*A2 ^{+0.2 -0.3}	*DM	*DP ^{+0.2 -0.3}	*DR	*MM	W	WF
								FA style	SD/FB style
φ20	25	12.5	12.5	φ12	φ8	0.5	φ12	20	20
φ25	25	12.5	12.5	φ14	φ10	0.5	φ14	20	20
φ32	25	12.5	12.5	φ18	φ13	1.0	φ18	30	30
φ40	25	12.5	12.5	φ22	φ16	1.5	φ22	35	35
φ50	25	12.5	12.5	φ28	φ21	1.5	φ28	35	35
φ63	30	15	15	φ36	φ26	2.0	φ36	40	40
φ80	30	15	15	φ45	φ31	2.0	φ45	45	45
φ100	40	20	20	φ56	φ38	3.0	φ56	55	55

- The *-marked dimension is fixed.
- If it is necessary to change the fixed dimension, consult us.

A81

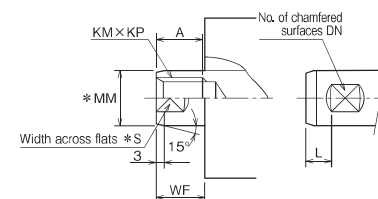


Table of Basic Dimensions

Bore	A	DN	KM	KP	L	* MM	* S	W
ø20	10	2	8	1.25	0	ø12	10	8
ø25	12	2	10	1.5	0	ø14	12	8
ø32	15	2	12	1.75	0	ø18	14	10
ø40	20	2	16	2	0	ø22	19	10
ø50	24	2	20	2.5	0	ø28	24	11
ø63	33	2	27	3	0	ø36	30	13
ø80	36	2	30	3.5	0	ø45	41	17
ø100	45	2	39	4	0	ø56	50	26

A83

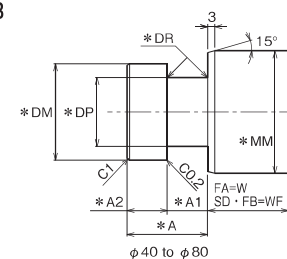


Table of Basic Dimensions (Standard dimensions)

Bore	*A	*A1 ^{+0.5 -0.3}	*A2 ^{+0.2 -0.3}	*DM ^{+0.1 -0.4}	*DP ^{+0.2 -0.3}	*DR	*MM	W FA style	WF SD FB
φ40	25	12.5	12.5	φ18	φ13	1.0	φ22	35	35
φ50	25	12.5	12.5	φ22	φ16	1.5	φ28	35	35
φ63	25	12.5	12.5	φ28	φ21	1.5	φ36	40	40
φ80	30	15	15	φ36	φ26	2.0	φ45	45	45