10 MPa double acting hydraulic cylinders with dimensions conforming to ISO standard

- Double acting hydraulic cylinders for 10 MPa with bores from 32 mm to 125 mm.
- Conforming to ISO 10762/JIS B8367-5 standard.
- The adoption of floating cushion realizes smooth startup.
- High-performance cushion provided as a standard feature.
- Seals in sliding parts conform to ISO standards for seal groove.

Standard Specifications

Type	Standard type, Switch Set
Nominal pressure	10 MPa
Maximum allowable pressure	Styles other than TC : 10 MPa TC style : 10 MPa (ϕ63 or less), 7 MPa (ϕ80 or more)
Proof test pressure	15 MPa
Minimum operating pressure	Cap side : 0.3 MPa or less Rod side : 0.45 MPa or less
Working speed range	ϕ32 to 63 : 8 to 400mm/s ϕ80 to 125 : 8 to 300mm/s
Working temperature range (ambient temperature)	Standard type : −10 to +80℃ Switch Set AX type : −10 to +60℃ WR/WS type : −10 to +70℃ (No freezing)
Structure of cushioning	Metal fitting system
Adaptable fluid	Petroleum-based fluid (When using another fluid, refer to the table of fluid adaptability.)
Tolerance for thread	JIS 6g/6H
Tolerance of stroke	0 to 250 mm $^{+1.0}_{0}$ 251 to 1000mm $^{+1.4}_{0}$ 1001 to 2000mm $^{+1.8}_{0}$
Mounting style	SD·FA·FB·EA·EB·LA·CA·CB·TA·TC
Accessories	● Rod eye (T-end) ● Rod clevis (Y-end) with pin ● Lock nut ● Boots : Nylon tarpaulin : Chloroprene : Conex

- The maximum allowable pressures for the TC style are applicable when load is applied to only one side with the TC positioned in the center.

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

The 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

The minimum pressure that a cylinder placed horizontally without a load can work.

Notes)

- The cylinder with 32 mm bore conforms to JIS B8367-2.
- Rod diameter and port Rc conform to JIS B8367. (not included in ISO 10762 standards for body)
- Working temperature range depends on the seal material. For details, refer to the selection materials.
- In case that the lock nut is attached to the piston rod end thread, increase the thread length (dimension A).
- Mounting dimensions of the mounting style CA differ from the specifications.
- As for the mounting style EA with 63 mm bore, only the length of centering guide (dimension F) differs from the specification.
- Conex, material of the boots, is the registered trademark of Teijin Limited.

- The following models and mounting dimensions are not specified in JIS B8367-5.
  - Double rod types (100H-2D and 100H-2RD)
  - Cutting oil proof types (100HW-2 and 100HW-2R)
  - Mounting styles SD, FA and FB

Product Lineup

Unit: mm

Series Variations	Type	Rod dia.	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
General purpose type	Double acting single rod	Standard type 100H-2	Rod B	●	●	●	●	●	●	●
		Switch Set 100H-2R	Rod B	●	●	●	●	●	●	●
	Double acting double rod	Standard type 100H-2D	Rod B	●	●	●	●	●	●	●
		Switch Set 100H-2RD	Rod B	●	●	●	●	●	●	●
Cutting oil proof type	Double acting single rod	Standard type 100HW-2	Rod B	●	●	●	●	●		
		Switch Set 100HW-2R	Rod B	●	●	●	●	●		

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

Double acting single rod

Standard type (100H-2・100HW-2)

Switch Set (100H-2R・100HW-2R)

Double acting double rod

Standard type (100H-2D)

Switch Set (100H-2RD)

Standard Stroke Range

Unit: mm

Bore	Stroke
ϕ32·ϕ40	1200
ϕ50·ϕ63	1400
ϕ80	1600
ϕ100	1800
ϕ125	2000

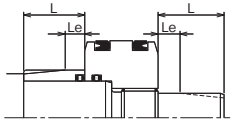
- The above strokes indicate the maximum available strokes for the standard type. Contact us for longer strokes.
- For the rod buckling, check with the buckling chart in the selection materials.

Cushion Stroke Length

Unit: mm

Bore	Cushion ring length L	Cushion ring parallel part length Le
ϕ32	21	6
ϕ40·ϕ50	23	6
ϕ63 to ϕ125	25	6

- The cushion stroke lengths in case of cylinders used up to the stroke end.
- In the case that a cylinder is not used up to the stroke end, and it is stopped 5 mm or more before the stroke end, the cushioning effect will be weakened.



● How to order

General Purpose Type

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

	Type ❶	Seal material ❷	Mounting style ❸	Cylinder bore ❹	Rod type ❺	Cushioning ❻	Stroke ❼	Port type ❽	Port position ❾	Cushion valve position ❿	Sensor symbol ⓫	Sensor quantity ⓬	Rod end attachment ⓭	Lock nut ⓮	Boots ⓯
● Standard type	100H-2	2	LA	50	B	B	100	G	A	B			T	K	J
● Switch Set	100H-2R	2	LA	50	B	B	100	G	A	B	AH	2	T	K	J

Double acting single rod
100H-2 : Standard type
100H-2R : Switch Set

Double acting double rod
100H-2D : Standard type
100H-2RD : Switch Set

- 1 Nitrile rubber
- 2 Urethane rubber
- 6 HNBR
- 8 Combined seal

● For seal structure, refer to the selection materials at the beginning of this catalog.

Mounting style

Cylinder bore (mm)
Standard type: ϕ32 to ϕ125
Switch Set: ϕ32 to ϕ125

B Rod B

- B With cushions on both ends
- R With cushion on the rod side
- H With cushion on the cap side
- N No cushion

Cylinder stroke (mm)

- None Rc thread
- G G thread

Port position (A, B, C, D)

Cushion valve position (A, B, C, D, 0)

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

❗ Note on ordering Switch Set
● When no sensor is required, specify 0 for the sensor symbol ⓫ and the sensor quantity ⓬.

Sensor quantity (1, 2, to n)

- T T-end(rod eye)
- Y Y-end(rod clevis)

- K Long thread with lock nut

● For the thread length, refer to "Thread length of rod end with lock nut."

- J Nylon tarpaulin
- JN Chloroprene
- JK Conex

Cutting Oil Proof Type

● Standard type	100HW-2	6	LA	50	B	B	100	G	A	B			T	K		
● Switch Set	100HW-2R	6	LA	50	B	B	100	G	A	B	5	2	T	K		

Double acting single rod
100HW-2 : Standard type
100HW-2R : Switch Set

6 HNBR

Cylinder bore (mm)
ϕ32 to ϕ80

Reed sensor
- 5 WR505(w/ 5 m cord)
- 7 WR505F(w/ 5 m cord/flexible tube attached)
- 6 WR515(w/ 5 m cord/cord type)

Solid state sensor
- RA AX205W(w/ 5 m cord)
- RB AZ205W(w/ 5 m cord)
- 2 WS215-1(w/ 5 m cord)
- 4 WS215-1F(w/ 5 m cord/flexible tube attached)
- 3 WS225-1(w/ 5 m cord/cord type)

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

Sensor List

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 AC:5 to 120V	DC:5 to 40mA AC:5 to 20mA	DC:1.5W AC:2VA	None	LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm Rear wiring	1.5m	Small relay, programmable controller
	AG AX105CE							5m	
	AH AX111CE				Provided			1.5m	
	AJ AX115CE							5m	
	AE AX125CE	DC:30V or less AC:120V or less	DC:40mA or less AC:20mA 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	
	AP AZ101CE	DC:5 to 30V AC:5 to 120V	DC:5 to 40mA AC:5 to 20mA	DC:1.5W AC:2VA	None	LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm Upper wiring	1.5m	
	AR AZ105CE							5m	
	AS AZ111CE				Provided			1.5m	
	AT AZ115CE							5m	
	AN AZ125CE	DC:30V or less AC:120V or less	DC:40mA or less AC:20mA 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 mm², 2-core, outer dia. ϕ4 mm, Rear wiring	5m	
	AY AZ135CE						0.3 mm², 2-core, outer dia. ϕ4 mm, Upper wiring	5m	
	5 WR505	DC:5 to 50V AC:5 to 120V	DC:3 to 40mA AC:3 to 20mA	DC:1.5W AC:2VA	None	LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm Rear wiring	5m	
	7 WR505F							5m	
	6 WR515							5m	
Solid state sensor	BE AX201CE-1	DC:5 to 30V	5 to 40mA	—	Provided	LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm Rear wiring	1.5m	Small relay, programmable controller
	BF AX205CE-1							5m	
	CE AX211CE-1					LED (2-LED type in red/green)		1.5m	
	CF AX215CE-1							5m	
	CH AX21CCE-1						4-pin connector type, Rear wiring	0.5m	
	CJ AX21DCE-1							1m	
	BM AZ201CE-1					LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm Upper wiring	1.5m	
	BN AZ205CE-1							5m	
	CM AZ211CE-1					LED (2-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 mm², 2-core, outer dia. ϕ4 mm, Rear wiring	5m	
	RB AZ205WCE						0.3 mm², 2-core, outer dia. ϕ4 mm, Upper wiring	5m	
	RE AX215WCE		5 to 20mA			LED (2-LED type in red/green)	0.3 mm², 2-core, outer dia. ϕ4 mm, Rear wiring	5m	
	RF AZ215WCE						0.3 mm², 2-core, outer dia. ϕ4 mm, Upper wiring	5m	
Solid state sensor	2 WS215-1	DC:10 to 30V	5 to 20mA	—	Provided	LED (2-LED type in red/green)	0.3 mm², 2-core, outer dia. ϕ4 mm Rear wiring	5m	
	4 WS215-1F							5m	
	3 WS225-1							5m	
Solid state sensor	CT AX211CE-1	DC:5 to 30V	5 to 40mA	—	Provided	LED (2-LED type in red/green)	0.3 mm², 2-core, outer dia. ϕ4 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 mm², 2-core, outer dia. ϕ4 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.
- 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)

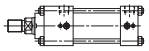
● Cutting oil proof type
WR/WS type sensor

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

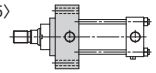
5 WR505	The sensor and straight box connector (F-SB) are
2 WS215-1	combined (the flexible tube (F-0.5: 4.8 m) is required).
7 WR505F	The flexible tube (F-0.5: 4.8 m) is attached to the
4 WS215-1F	sensor and straight box connector (F-SB).

Mounting Style The codes in the < > marks below are names called in ISO 10762.

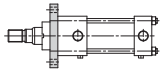
SD SD style (basic style)



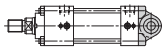
EA EA style(rectangular rod cover attached) 〈ME5〉



FA FA style (rod rectangular flange)

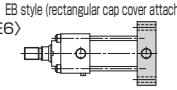


CA CA style (cap eye)

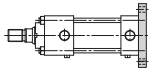


LA LA style (side lugs) 〈MS2〉

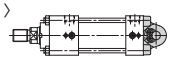
EB EB style (rectangular cap cover attached) 〈ME6〉



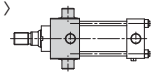
FB FB style (cap rectangular flange)



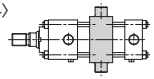
CB CB style (cap clevis) 〈MP1〉



TA TA style (rod trunnion) 〈MT1〉



TC TC style (intermediate trunnion) 〈MT4〉



Note) SD, FA and FB styles are not included in ISO standards.

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
1 Nitrile rubber	○	○	×	○	○
2 Urethane rubber	◎	×	×	△	△
6 HNBR	○	◎	×	◎	◎
8 Combined seal	○	○	×	○	○

- ◎○: Applicable ×: Inapplicable
- Consult us before using the △-marked items.
- The ◎-marked items are recommended seal materials in case of giving the first priority to abrasion resistance.
- For the working temperature range, refer to the selection materials.

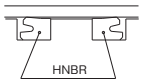
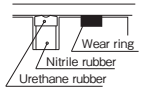
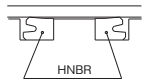
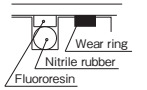
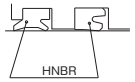
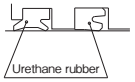
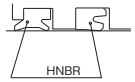
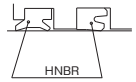
Cutting Oil Proof Type/Adaptability of cutting oil to seal material

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

○: Applicable ×: Inapplicable

For the working temperature ranges of seal materials, refer to the selection materials at the beginning of this catalog.

Seal Structure and Selection Guidelines

Seal code		1	2	6	8
Type name		Nitrile rubber type	Urethane rubber type	HNBR type	Combined seal type
Seal structure	Piston seal				
	Rod seal and wiper ring				
	Fixed part (O-ring, etc.)	Nitrile rubber	Nitrile rubber	HNBR	Nitrile rubber

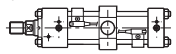
Sensor Mountable Minimum Stroke

Unit: mm

Mounting Style	Styles other than TC		TC style	
Sensor type	AX type AX205W	WR/WS type	AX type AX205W	WR/WS type
ϕ32	30 (40)	55 (75)	115	170
ϕ40	30	55	115	170
ϕ50	30	55	125	175
ϕ63	30	55	130	180
ϕ80	30	55	140	190
ϕ100	25	50	150	200
ϕ125	20	50	160	210

- The parenthesized values in the ϕ32 row are the minimum strokes when the rod side detection sensor and the cap side detection sensor are mounted on the same surface.

Notes)
- The minimum stroke is identical whether only one sensor (one-side stroke end detector) or two sensors (double end detector) mounted.
- For the TC style, the values are applicable when the TC accessory is in the center, and the sensor can be installed to any of the rod and cap sides.

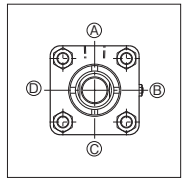


✪ Port position and cushion valve position

- Standard: with cushions on both ends
  Standard port position and cushion valve position

Mounting style	Order symbol		Rod cover		Cap cover	
	Port position	Valve position	Port position	Valve position	Port position	Valve position
SD·LA·CA·CB·FA·FB·TC	A (B·C·D)	B (C·D·A)	A (B·C·D)	B (C·D·A)	A (B·C·D)	B (C·D·A)
EB	A	B	A	B	A	C
EA·TA	A	C	A	C	A	B

- The standard positions of port and cushion valve for styles other than EA, EB and TA are Ⓐ and Ⓑ, respectively. When modifying the positions, enter the symbol shown in the dimensional drawings.



(Example)
100H-2R 2CA50BB100− B A AH2
Port position (A, B, C, D)
Cushion valve position (A, B, C, D, O)

- Specification of change in the positions of cap side port and cushion valve

(Example)
100H-2 2CA50BB100−AB−X PPC
Rod side port and cushion valve positions
Cap side port and cushion position change specification symbol

Position specification : PC−BA
Rod side port and cushion valve positions

- Order symbols and port and cushion valve positions shown above are applicable to EA, EB and TA styles. When modifying the position, specify the position on the rod and cap sides. As for the TA style rod cover, neither port nor cushion valve can be provided on the Ⓑ or Ⓓ side. As for the EA style rod cover, cushion valves cannot be provided on the Ⓑ or Ⓓ side. As for the EB style cap cover, cushion valves cannot be provided on the Ⓑ or Ⓓ side.
- In case that the cylinder is not equipped, the cushion valve position is "O".
- If the ports are located on the Ⓑ or Ⓓ side of the LA style cylinder and general piping joints are used, they may interfere with the cylinder mounting bolts.
- Air vents are located on the same side as the cushion valves. If the cylinder has no cushion, they are located on the Ⓑ side (or Ⓒ side in case of the EA or TA style rod cover).

✪ Port G thread type

- For the port G thread type, add "G" ahead of the port position symbol.

(Example)
100H-2 2CA50BB100− G A B
Port G thread type
Port position
Cushion valve position

Note) For cylinders with 32 mm bore, the rod cover size is changed. For details, contact us.

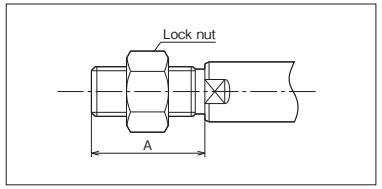
✪ Notes on ordering cylinder with lock nut

● The rod end thread length (dimension A) is longer when a lock nut [K] is attached to the rod end.

(Example)

100H-2R 2LA50BB200−ABAH2−[K]

Long thread with lock nut



Dimension A without lock nut
A=28

↓

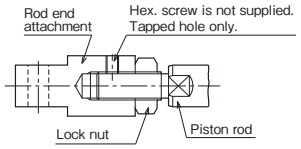
Dimension A of long thread with lock nut
A=40

Note) When a lock nut is attached to the rod end, dimension A must be equal to or longer than that of the long thread with lock nut.
For details, refer to "Thread length of rod end with lock nut."

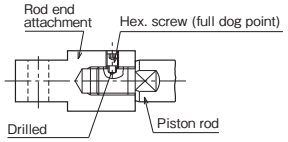
✪ Delivery of rod end attachment (T-end or Y-end)

A delivery method for a cylinder provided with a lock nut and a rod end attachment differs from that for a cylinder provided with a rod end attachment only (without a lock nut). For details, refer to the dimensional drawings of rod end attachments.

● When the lock nut and rod end attachment are additionally ordered



● When only the rod end attachment is additionally ordered (without lock nut)



✪ Semi-standard range

- Change in piston rod end (dimensional symbol: WF (W), A, KK)
- Plated cylinder tube (hard chrome plating thickness: 0.02 mm)
- With boots

Weight Table

Unit: kg

Bore (mm)	Basic weight (SD style)		Additional weight per mm of stroke		Mounting accessory weight									Rod end attachment weight		
	Single rod type	Double rod type	Single rod type	Double rod type	LA	EA	EB	FA	FB	CA	CB	TA	TC	Rod eye (T-end)	Rod clevis (Y-end)	Lock nut
ϕ32	1.31	1.73	0.0062	0.0082	0.26	0.34	0.23	0.32	0.28	0.15	0.19	0.04	0.16	0.31	0.38	0.03
ϕ40	1.96	2.50	0.0062	0.0092	0.24	0.43	0.43	0.45	0.37	0.22	0.29	0.06	0.56	0.38	0.54	0.03
ϕ50	3.18	4.06	0.0103	0.0151	0.25	0.64	0.62	0.75	0.68	0.31	0.36	0.11	0.97	0.50	0.62	0.05
ϕ63	4.99	6.32	0.0144	0.0224	0.32	0.72	0.91	1.26	1.11	0.88	1.07	0.22	1.39	1.25	1.86	0.09
ϕ80	8.65	11.24	0.0227	0.0351	0.68	1.26	1.33	2.16	1.86	1.22	1.40	0.49	2.66	1.66	2.08	0.13
ϕ100	14.27	17.66	0.0362	0.0554	1.13	1.31	1.99	3.15	2.81	2.15	2.65	0.82	3.85	2.98	3.98	0.23
ϕ125	22.91	28.22	0.0547	0.0848	1.40	1.51	2.86	5.53	4.98	4.88	6.09	1.30	6.97	6.78	9.25	0.31

Sensor Additional Weight

Unit: kg

Sensor / Bore (mm)	AX type			WR/WS type
	Cord length 1.5 m	Cord length 5 m	Connector type	
ϕ32 to ϕ80	0.05	0.13	0.04	0.5
ϕ100 to ϕ125	0.07	0.15	0.06	0.5

Calculation formula: Cylinder weight (kg)=basic weight+(cylinder stroke (mm)×additional weight per mm of stroke)+mounting accessory weight+rod end attachment weight+(sensor additional weight×sensor quantity)

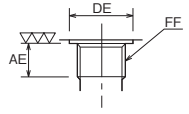
Calculation example: 100H-2R, bore ϕ80, cylinder stroke 200 mm, LA style, 2 pcs of AX215
8.65+(0.0227×200)+0.68+(0.13×2)=14.13kg

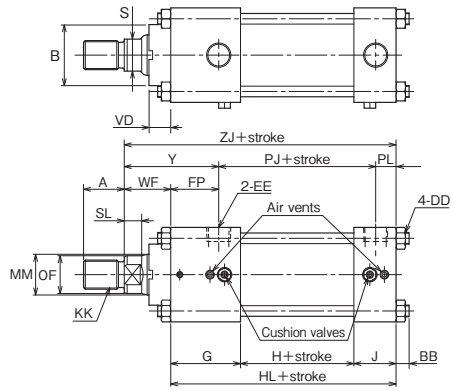
100H-2/TQH2 Bore B CAD/DATA is available.

SD

100H-2 2 SD Bore B B Stroke – A B

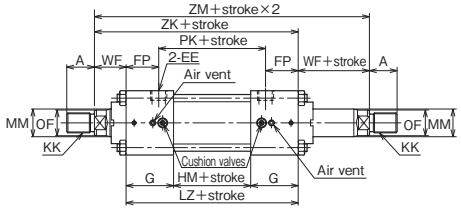
Port G thread type





- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- When using the SD style, be sure to see "4. Mounting" in "Precautions for use" at the beginning of this catalog.
- If you want to change the rod protrusion length, specify dimension WF.

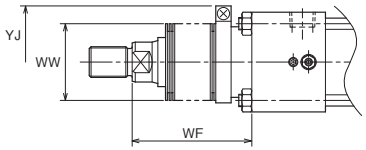
Double acting double rod



- The distance between the covers of the double rod cylinder is longer than that of the single rod cylinder by 10 mm.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin Chloroprene	ϕ32·ϕ40	1/3	stroke+X
	ϕ50	1/3.5	stroke+X
	ϕ63 to ϕ100	1/4	stroke+X
	ϕ125	1/5	stroke+X
Conex	ϕ32	1/2	stroke+X
	ϕ40 · ϕ50	1/2.5	stroke+X
	ϕ63 to ϕ100	1/3	stroke+X
	ϕ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
ϕ32	18	ϕ30f9	ϕ34f9	M14 ×1.5	ϕ18	ϕ17	14	10	10
ϕ40	22	ϕ34f9	ϕ40f9	M16 ×1.5	ϕ22	ϕ21	17	9	12
ϕ50	28	ϕ42f9	ϕ46f9	M20 ×1.5	ϕ28	ϕ26	22	11	15
ϕ63	36	ϕ50f9	ϕ55f9	M27 ×2	ϕ36	ϕ34	30	14	15
ϕ80	45	ϕ60f9	ϕ65f9	M33 ×2	ϕ45	ϕ43	38	17	8
ϕ100	56	ϕ72f9	–	M42 ×2	ϕ56	ϕ54	50	21	16
ϕ125	63	ϕ88f9	–	M48 ×2	ϕ70	ϕ68	60	24	13

Symbol / Bore	AE	BB	DD	DE	E	EE	FF	FP	G	H	HL
ϕ32	12 Notes)	7	M6 ×1	ϕ21.5	□45	Rc1/4	G1/4	35	49	28	103
ϕ40	12	7	M6 ×1	ϕ25.5	□52	Rc3/8	G3/8	33	48	28	105
ϕ50	12	9	M8 ×1	ϕ25.5	□65	Rc3/8	G3/8	33	48	28	105
ϕ63	14	9	M8 ×1	ϕ30 or more	□76	Rc1/2	G1/2	35	53	30	117
ϕ80	14	11	M10 ×1.25	ϕ30 or more	□94	Rc1/2	G1/2	42	62	34	131
ϕ100	16	14	M14 ×1.5	ϕ36.9 or more	□114	Rc3/4	G3/4	38	61	40	143
ϕ125	16	16	M16 ×1.5	ϕ36.9 or more	□140	Rc3/4	G3/4	39	62	47	151

Symbol / Bore	HM	J	LZ	PJ	PK	PL	TG	WF	Y	ZJ	ZK	ZM
ϕ32	38	26	136	56	66	12	□33.2	25	60	128	161	186
ϕ40	38	29	134	58	68	14	□40	25	58	130	159	184
ϕ50	38	29	134	58	68	14	□50	32	65	137	166	198
ϕ63	40	34	146	66	76	16	□58	34	69	151	180	214
ϕ80	44	35	168	74	84	15	□75	35	77	166	203	238
ϕ100	50	42	172	86	96	19	□90	41	79	184	213	254
ϕ125	57	42	181	93	103	19	□112	41	80	192	222	263

Notes)
- The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
- The tolerance of MM is f8.

With Boots

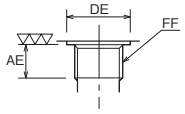
Symbol / Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
X	56	56	58	71	73	75	89
YJ	ϕ65	ϕ70	ϕ75	ϕ83	ϕ93	ϕ105	ϕ120

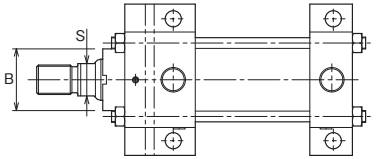
100H-2/TQH2 Bore B CAD/DATA is available.

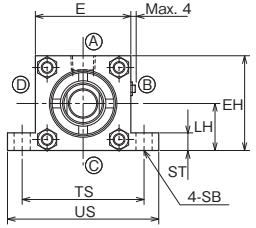
LA

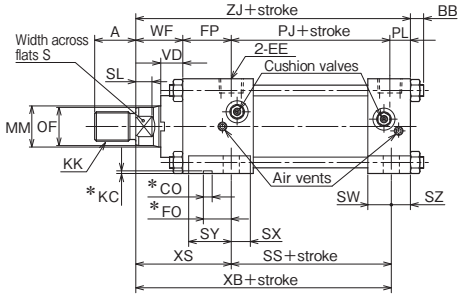
100H-2 2 LA Bore B B Stroke – A B

Port G thread type



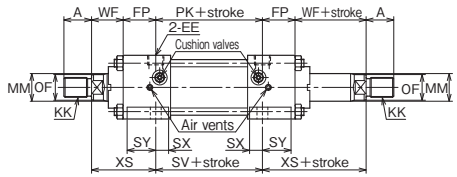






- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- Notes on mounting bolts
  Use hex. socket head cap screws as the mounting bolts for cylinders other than the 32 mm bore cylinder.
  If hex. head bolts are used, bolt heads may interfere with the cover and spot facing, causing mounting failure.
- *CO, FO and KC are key groove (option) dimensions.
- If you want to change the rod protrusion length, specify dimension WF.

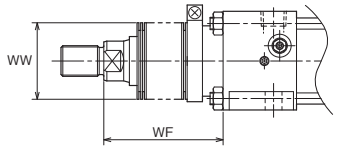
Double acting double rod



- The distance between the covers of the double rod cylinder is longer than that of the single rod cylinder by 10 mm.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin / Chloroprene

φ32·φ40	1/3	stroke+X
φ50	1/3.5	stroke+X
φ63 to φ100	1/4	stroke+X
φ125	1/5	stroke+X

Conex

φ32	1/2	stroke+X
φ40・φ50	1/2.5	stroke+X
φ63 to φ100	1/3	stroke+X
φ125	1/3.5	stroke+X

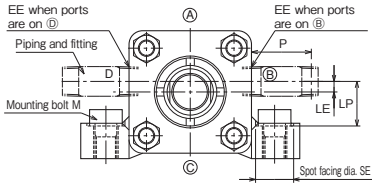
- If the calculated WF has a fractional part, round it up.

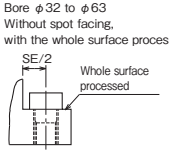
Notes on LA style with ports on lateral side (Ⓑ or Ⓓ)

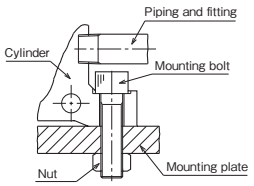
- The port G thread type is not the standard type. (The position on Ⓐ or Ⓒ is the same as that of the standard type.)
- The port position deviates from the cylinder center by dimension LE.
- Take into consideration the interference of the piping and fitting with the mounting bolts (including handling of tightening tools), referring to the table on the right.
- When the cylinder bore is 32 mm, mounting with hex. head bolts is recommended.
- When the cylinder bore is 40 mm or more, hex. head bolts cannot be used. (because their heads interfere with the cover and spot facing). In such a case, use hex. socket head cap screws, and mount the cylinder by tightening nuts on the back of the mounting plate (refer to the drawing on the right).

Bore \ Symbol	Port EE	LE	LP	Mounting bolt M	Spot facing dia. SE	P Note 1
φ32	1/4	5.5	15	8	18	20
φ40	3/8	6.5	20	10	18	20
φ50	3/8	10	30	10	18	20
φ63	1/2	11	37	10	19	20
φ80	1/2	14	43.5	12	24	27
φ100	3/4	16	48	16	28	33
φ125	3/4	20	58.5	20	32	38

Note 1) Dimension P must be determined in consideration of interference of the fitting with the mounting bolts.







Dimensional Table

Bore \ Symbol	A	B Standard type	B Cutting oil proof type	KK	MM	OF	S	SL	VD
φ32	18	φ30f9	φ34f9	M14×1.5	φ18	φ17	14	10	10
φ40	22	φ34f9	φ40f9	M16×1.5	φ22	φ21	17	9	12
φ50	28	φ42f9	φ46f9	M20×1.5	φ28	φ26	22	11	15
φ63	36	φ50f9	φ55f9	M27×2	φ36	φ34	30	14	15
φ80	45	φ60f9	φ65f9	M33×2	φ45	φ43	38	17	8
φ100	56	φ72f9	–	M42×2	φ56	φ54	50	21	16
φ125	63	φ88f9	–	M48×2	φ70	φ68	60	24	13

Bore \ Symbol	AE	BB	DE	E	EE	EH	FF	FP	LH	PJ	PK	PL	SB	SS	ST	SV	SW	SX	SY	SZ	TS	US	WF
φ32	12 [Notes]	7	φ21.5	45	Rc1/4	44.5	G1/4	35	22h10	56	66	12	φ9	73	12.5	96	16	29	20	10	63	84	25
φ40	12	7	φ25.5	52	Rc3/8	51.5	G3/8	33	25.5h10	58	68	14	φ11	59	12	68	16	15	33	13	70	90	25
φ50	12	9	φ25.5	65	Rc3/8	64.5	G3/8	33	32h10	58	68	14	φ11	59	12	68	16	15	33	13	83	103	32
φ63	14	9	φ30 or more	76	Rc1/2	76	G1/2	35	38h10	66	76	16	φ11	68	12	78	19	19	34	15	95	115	34
φ80	14	11	φ30 or more	94	Rc1/2	94.5	G1/2	42	47.5h10	74	84	15	φ14	74	18	84	20	17	39	13	121	147	35
φ100	16	14	φ36.9 or more	114	Rc3/4	114	G3/4	38	57h10	86	96	19	φ18	86	25	96	23	20	35	16	145	179	41
φ125	16	16	φ36.9 or more	140	Rc3/4	139.5	G3/4	39	69.5h10	93	103	19	φ22	95	31	105	24	21	35	17	175	216	41

Key groove (option)

Bore \ Symbol	XB	XS	ZJ	CO	FO	KC
φ32	118	45	128	6N9	14	1.8 +0.3/0
φ40	117	58	130	6N9	18	1.8 +0.3/0
φ50	124	65	137	6N9	19	1.8 +0.3/0
φ63	136	68	151	12N9	21	3.3 +0.3/0
φ80	151	77	166	14N9	30	3.8 +0.3/0
φ100	165	79	184	14N9	30	3.8 +0.3/0
φ125	174	79	192	14N9	30	3.8 +0.3/0

Notes)
- The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
- The tolerance of MM is f8.

With Boots

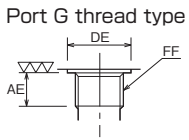
Bore \ Symbol	φ32	φ40	φ50	φ63	φ80	φ100	φ125
WW	φ40	φ50	φ50	φ71	φ80	φ100	φ100
X	56	56	58	71	73	75	89

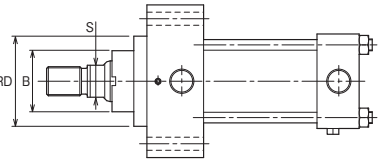
100H-2/TQH2 Bore B CAD/DATA is available.

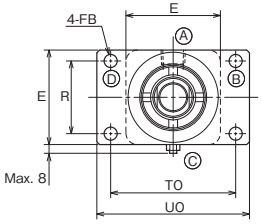
EA

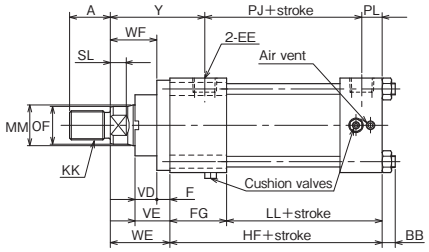
100H-2 | 2 | EA | Bore | B | B | Stroke | – | A | C

Port G thread type



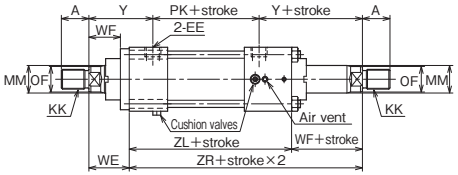






- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If the mounting plate is located on the cylinder tube side of the Switch Set Cylinder, take into consideration the interference of the sensor with the mounting plate.
- If you want to change the rod protrusion length, specify dimension WF.
- The symbols Ⓐ and Ⓒ shown in the above figure indicate the standard positions of port and cushion valve (Rod side: ⒶⒸ, Cap side: ⒶⒷ).
  When changing any position, be sure to specify the port or cushion valve positions on the rod and cap sides.

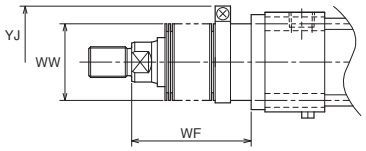
Double acting double rod



- The distance between the covers of the double rod cylinder is longer than that of the single rod cylinder by 10 mm.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin Chloroprene	ϕ32・ϕ40	1/3	stroke+X
	ϕ50	1/3.5	stroke+X
	ϕ63 to ϕ100	1/4	stroke+X
	ϕ125	1/5	stroke+X
Conex	ϕ32	1/2	stroke+X
	ϕ40・ϕ50	1/2.5	stroke+X
	ϕ63 to ϕ100	1/3	stroke+X
	ϕ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	RD	S	SL	VD	VE
		Standard type	Cutting oil proof type								
ϕ32	18	ϕ30f9	ϕ34f9	M14×1.5	ϕ18	ϕ17	ϕ42f8	14	10	10	20
ϕ40	22	ϕ34f9	ϕ40f9	M16×1.5	ϕ22	ϕ21	ϕ51f8	17	9	12	22
ϕ50	28	ϕ42f9	ϕ46f9	M20×1.5	ϕ28	ϕ26	ϕ62f8	22	11	15	24
ϕ63	36	ϕ50f9	ϕ55f9	M27×2	ϕ36	ϕ34	ϕ72f8	30	14	15	29
ϕ80	45	ϕ60f9	ϕ65f9	M33×2	ϕ45	ϕ43	ϕ92f8	38	17	8	24
ϕ100	56	ϕ72f9	–	M42×2	ϕ56	ϕ54	ϕ110f8	50	21	16	32
ϕ125	63	ϕ88f9	–	M48×2	ϕ70	ϕ68	ϕ130f8	60	24	13	29

Symbol / Bore	AE	BB	DE	E	EE	F	FB	FF	FG	HF	LL
ϕ32	12	7	ϕ21.5	□45	Rc1/4	10	ϕ6.6	G1/4	39	93	54
ϕ40	12	7	ϕ25.5	□52	Rc3/8	10	ϕ6.6	G3/8	38	95	57
ϕ50	12	9	ϕ25.5	□65	Rc3/8	9	ϕ9	G3/8	39	96	57
ϕ63	14	9	ϕ30 or more	□76	Rc1/2	14 (Note 1)	ϕ9	G1/2	39	103	64
ϕ80	14	11	ϕ30 or more	□94	Rc1/2	16	ϕ11	G1/2	46	115	69
ϕ100	16	14	ϕ36.9 or more	□114	Rc3/4	16	ϕ13.5	G3/4	45	127	82
ϕ125	16	16	ϕ36.9 or more	□140	Rc3/4	16	ϕ17.5	G3/4	46	135	89

Symbol / Bore	PJ	PK	PL	R	TO	UO	WE	WF	Y	ZL	ZR
ϕ32	56	66	12	33	58	70	35	25	60	126	151
ϕ40	58	68	14	40	70	86	35	25	58	124	149
ϕ50	58	68	14	50	86	105	41	32	65	125	157
ϕ63	66	76	16	56	98	118	48	34	69	132	166
ϕ80	74	84	15	70	119	142	51	35	77	152	187
ϕ100	86	96	19	90	138	161	57	41	79	156	197
ϕ125	93	103	19	110	168	194	57	41	80	165	206

Note 1) ● Up to 10 according to the standard (JIS B8367-5)
● The tolerance of MM is f8.

With Boots

Symbol / Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
XX	56	56	58	71	73	75	89
YJ	ϕ65	ϕ70	ϕ75	ϕ83	ϕ93	ϕ105	ϕ120

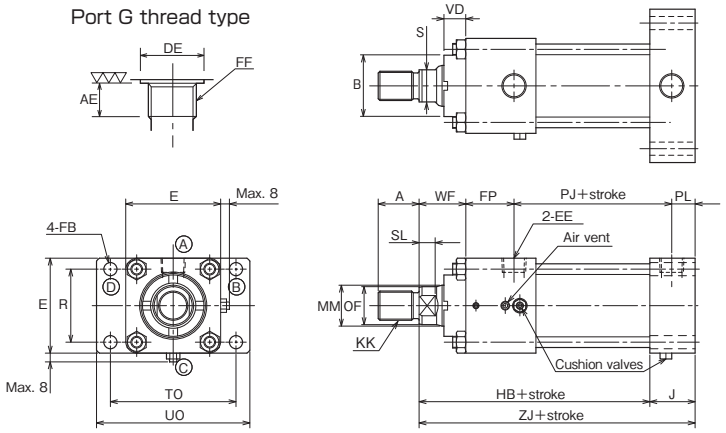
Unit: mm

100H-2/TQH2 Bore B CAD/DATA is available.

EB

100H-2 2 EB Bore B B Stroke – A B

Port G thread type

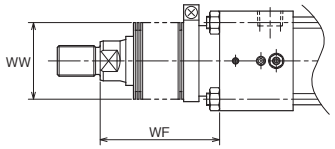


- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If the mounting plate is located on the cylinder tube side of the Switch Set Cylinder, take into consideration the interference of the sensor with the mounting plate.
- If you want to change the rod protrusion length, specify dimension WF.

- The symbols Ⓐ and Ⓑ shown in the above figure indicate the standard positions of port and cushion valve (Rod side: ⒶⒷ, Cap side: ⒶⒸ). When changing any position, be sure to specify the port or cushion valve positions on the rod and cap sides.

With Boots

100H-2/TQH2 Bore K



Dimension WF

Nylon tarpaulin Chloroprene	φ32・φ40	1/3	stroke+X
	φ50	1/3.5	stroke+X
	φ63 to φ100	1/4	stroke+X
	φ125	1/5	stroke+X
Conex	φ32	1/2	stroke+X
	φ40・φ50	1/2.5	stroke+X
	φ63 to φ100	1/3	stroke+X
	φ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
φ32	18	φ30f9	φ34f9	M14×1.5	φ18	φ17	14	10	10
φ40	22	φ34f9	φ40f9	M16×1.5	φ22	φ21	17	9	12
φ50	28	φ42f9	φ46f9	M20×1.5	φ28	φ26	22	11	15
φ63	36	φ50f9	φ55f9	M27×2	φ36	φ34	30	14	15
φ80	45	φ60f9	φ65f9	M33×2	φ45	φ43	38	17	8
φ100	56	φ72f9	–	M42×2	φ56	φ54	50	21	16
φ125	63	φ88f9	–	M48×2	φ70	φ68	60	24	13

Symbol / Bore	AE	DE	E	EE	FB	FF	FP	HB	J	PJ	PL
φ32	12	φ21.5	□45	Rc1/4	φ6.6	G1/4	35	102	26	56	12
φ40	12	φ25.5	□52	Rc3/8	φ6.6	G3/8	33	101	31	58	16
φ50	12	φ25.5	□65	Rc3/8	φ9	G3/8	33	108	31	58	16
φ63	14	φ30 or more	□76	Rc1/2	φ9	G1/2	35	117	36	66	18
φ80	14	φ30 or more	□94	Rc1/2	φ11	G1/2	42	131	37	74	17
φ100	16	φ36.9 or more	□114	Rc3/4	φ13.5	G3/4	38	142	45	86	22
φ125	16	φ36.9 or more	□140	Rc3/4	φ17.5	G3/4	39	150	46	93	23

Symbol / Bore	R	TO	UO	WF	ZJ
φ32	33	58	70	25	128
φ40	40	70	86	25	132
φ50	50	86	105	32	139
φ63	56	98	118	34	153
φ80	70	119	142	35	168
φ100	90	138	161	41	187
φ125	110	168	194	41	196

- The tolerance of MM is f8.

With Boots

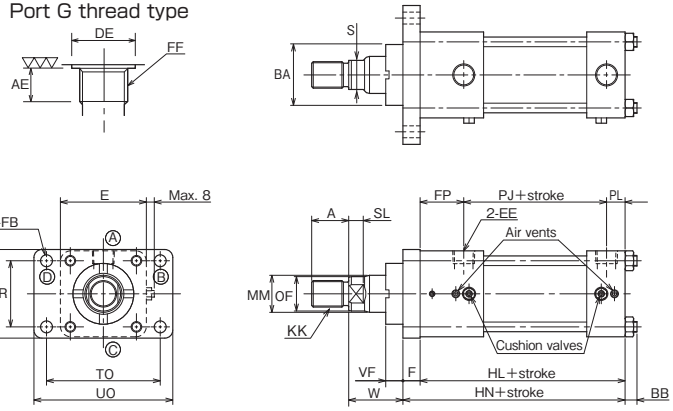
Symbol / Bore	φ32	φ40	φ50	φ63	φ80	φ100	φ125
WW	φ40	φ50	φ50	φ71	φ80	φ100	φ100
X	56	56	58	71	73	75	89

100H-2/TQH2 Bore B CAD/DATA is available.

FA

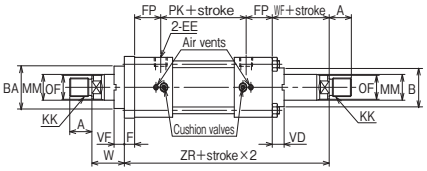
100H-2 2 FA Bore B B Stroke – A B

Port G thread type



- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If you want to change the rod protrusion length, specify dimension W.

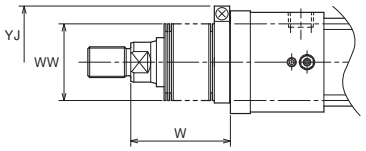
Double acting double rod



- The distance between the covers of the double rod cylinder is longer than that of the single rod cylinder by 10 mm.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension W

Nylon tarpaulin Chloroprene	φ32・φ40	1/3	stroke+X
	φ50	1/3.5	stroke+X
	φ63 to φ100	1/4	stroke+X
	φ125	1/5	stroke+X
Conex	φ32	1/2	stroke+X
	φ40・φ50	1/2.5	stroke+X
	φ63 to φ100	1/3	stroke+X
	φ125	1/3.5	stroke+X

- If the calculated W has a fractional part, round it up.

Dimensional Table

Symbol / Bore	A	B		BA	KK	MM	OF	S	SL	VD	VF
		Standard type	Cutting oil proof type								
φ32	18	φ30f9	φ34f9	φ34f9	M14×1.5	φ18	φ17	14	10	10	13
φ40	22	φ34f9	φ40f9	φ40f9	M16×1.5	φ22	φ21	17	9	12	13
φ50	28	φ42f9	φ46f9	φ46f9	M20×1.5	φ28	φ26	22	11	15	13
φ63	36	φ50f9	φ55f9	φ55f9	M27×2	φ36	φ34	30	14	15	13
φ80	45	φ60f9	φ65f9	φ65f9	M33×2	φ45	φ43	38	17	8	13
φ100	56	φ72f9	–	φ77f9	M42×2	φ56	φ54	50	21	16	13
φ125	63	φ88f9	–	φ92f9	M48×2	φ70	φ68	60	24	13	13

Symbol / Bore	AE	BB	DE	E	EE	F	FB	FE	FF	FP	HL	HN
φ32	12 (Note 1)	7	φ21.5	□45	Rc1/4	11	φ6.6	47	G1/4	35	103	114
φ40	12	7	φ25.5	□52	Rc3/8	11	φ6.6	54	G3/8	33	105	116
φ50	12	9	φ25.5	□65	Rc3/8	13	φ9	67	G3/8	33	105	118
φ63	14	9	φ30 or more	□76	Rc1/2	16	φ9	78	G1/2	35	117	133
φ80	14	11	φ30 or more	□94	Rc1/2	18	φ11	96	G1/2	42	131	149
φ100	16	14	φ36.9 or more	□114	Rc3/4	20	φ13.5	116	G3/4	38	143	163
φ125	16	16	φ36.9 or more	□140	Rc3/4	24	φ17.5	142	G3/4	39	151	175

Symbol / Bore	PJ	PK	PL	R	TO	UO	W	WF	ZR
φ32	56	66	12	33	58	70	35	25	172
φ40	58	68	14	40	70	86	35	25	170
φ50	58	68	14	50	86	105	41	32	179
φ63	66	76	16	56	98	118	48	34	196
φ80	74	84	15	70	119	143	51	35	221
φ100	86	96	19	90	138	162	57	41	233
φ125	93	103	19	110	168	194	57	41	246

Note 1) ● The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
● The tolerance of MM is f8.

With Boots

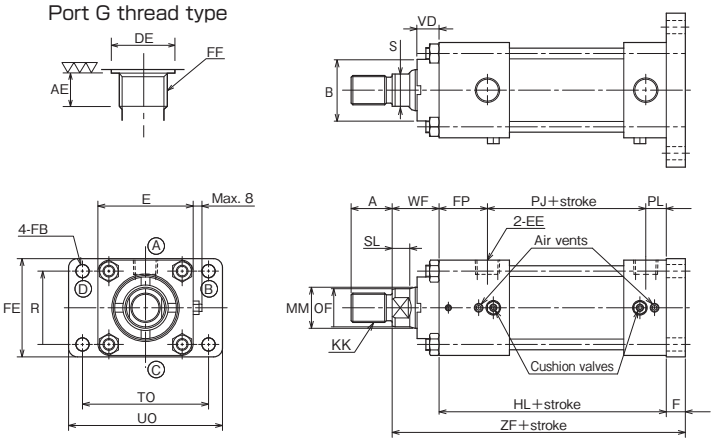
Symbol / Bore	φ32	φ40	φ50	φ63	φ80	φ100	φ125
WW	φ40	φ50	φ50	φ71	φ80	φ100	φ100
X	45	45	45	55	55	55	65
YJ	φ65	φ70	φ75	φ83	φ93	φ105	φ120

100H-2/TQH2 Bore B CAD/DATA is available.

FB

100H-2 2 FB Bore B B Stroke – A B

Port G thread type

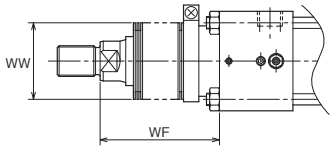


- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If you want to change the rod protrusion length, specify dimension WF.

- For the G thread type, the FB accessory may interfere with the fitting when the fitting is screwed into the rod side port, depending on the fitting type. Check the size of the fitting to be used referring to dimension PL.
  Consult us if any interference occurs.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin Chloroprene	ϕ32・ϕ40	1/3	stroke+X
	ϕ50	1/3.5	stroke+X
	ϕ63 to ϕ100	1/4	stroke+X
	ϕ125	1/5	stroke+X
Conex	ϕ32	1/2	stroke+X
	ϕ40・ϕ50	1/2.5	stroke+X
	ϕ63 to ϕ100	1/3	stroke+X
	ϕ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
ϕ32	18	ϕ30f9	ϕ34f9	M14×1.5	ϕ18	ϕ17	14	10	10
ϕ40	22	ϕ34f9	ϕ40f9	M16×1.5	ϕ22	ϕ21	17	9	12
ϕ50	28	ϕ42f9	ϕ46f9	M20×1.5	ϕ28	ϕ26	22	11	15
ϕ63	36	ϕ50f9	ϕ55f9	M27×2	ϕ36	ϕ34	30	14	15
ϕ80	45	ϕ60f9	ϕ65f9	M33×2	ϕ45	ϕ43	38	17	8
ϕ100	56	ϕ72f9	–	M42×2	ϕ56	ϕ54	50	21	16
ϕ125	63	ϕ88f9	–	M48×2	ϕ70	ϕ68	60	24	13

Symbol / Bore	AE	DE	E	EE	F	FB	FE	FF	FP	HL	PJ
ϕ32	12 (Note 1)	ϕ21.5	□45	Rc1/4	11	ϕ6.6	47	G1/4	35	103	56
ϕ40	12	ϕ25.5	□52	Rc3/8	11	ϕ6.6	54	G3/8	33	105	58
ϕ50	12	ϕ25.5	□65	Rc3/8	13	ϕ9	67	G3/8	33	105	58
ϕ63	14	ϕ30 or more	□76	Rc1/2	16	ϕ9	78	G1/2	35	117	66
ϕ80	14	ϕ30 or more	□94	Rc1/2	18	ϕ11	96	G1/2	42	131	74
ϕ100	16	ϕ36.9 or more	□114	Rc3/4	20	ϕ13.5	116	G3/4	38	143	86
ϕ125	16	ϕ36.9 or more	□140	Rc3/4	24	ϕ17.5	142	G3/4	39	151	93

Symbol / Bore	PL	R	TO	UO	WF	ZF
ϕ32	12	33	58	70	25	139
ϕ40	14	40	70	86	25	141
ϕ50	14	50	86	105	32	150
ϕ63	16	56	98	118	34	167
ϕ80	15	70	119	143	35	184
ϕ100	19	90	138	162	41	204
ϕ125	19	110	168	194	41	216

Note 1) ● The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
● The tolerance of MM is f8.

With Boots

Symbol / Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
X	56	56	58	71	73	75	89

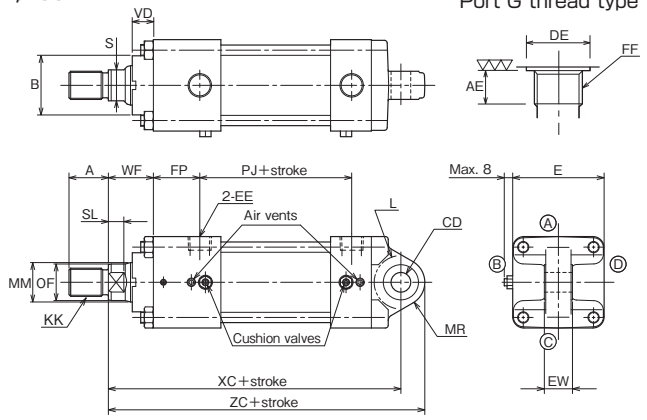
100H-2/TQH2 Bore B CAD/DATA is available.

CA

100H-2 | 2 | CA | Bore | B | B | Stroke | – | A | B

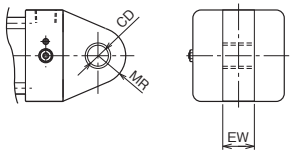
● Bore ϕ40 to ϕ100

Port G thread type



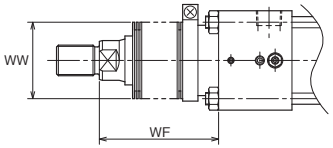
- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If you want to change the rod protrusion length, specify dimension WF.

● Bore ϕ32 · ϕ125



With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin Chloroprene	ϕ32·ϕ40	1/3	stroke+X
	ϕ50	1/3.5	stroke+X
	ϕ63 to ϕ100	1/4	stroke+X
	ϕ125	1/5	stroke+X
Conex	ϕ32	1/2	stroke+X
	ϕ40 · ϕ50	1/2.5	stroke+X
	ϕ63 to ϕ100	1/3	stroke+X
	ϕ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

Dimensional Table

Bore \ Symbol	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
ϕ32	18	ϕ30f9	ϕ34f9	M14×1.5	ϕ18	ϕ17	14	10	10
ϕ40	22	ϕ34f9	ϕ40f9	M16×1.5	ϕ22	ϕ21	17	9	12
ϕ50	28	ϕ42f9	ϕ46f9	M20×1.5	ϕ28	ϕ26	22	11	15
ϕ63	36	ϕ50f9	ϕ55f9	M27×2	ϕ36	ϕ34	30	14	15
ϕ80	45	ϕ60f9	ϕ65f9	M33×2	ϕ45	ϕ43	38	17	8
ϕ100	56	ϕ72f9	–	M42×2	ϕ56	ϕ54	50	21	16
ϕ125	63	ϕ88f9	–	M48×2	ϕ70	ϕ68	60	24	13

Bore \ Symbol	AE	CD	DE	E	EE	EW	FF	FP	L	MR	PJ	WF
ϕ32	12 (Note 1)	ϕ12H9	ϕ21.5	□45	Rc1/4	16h14	G1/4	35	R19	R17	56	25
ϕ40	12	ϕ14H9	ϕ25.5	□52	Rc3/8	20h14	G3/8	33	R19	R17	58	25
ϕ50	12	ϕ14H9	ϕ25.5	□65	Rc3/8	20h14	G3/8	33	R19	R17	58	32
ϕ63	14	ϕ20H9	ϕ30 or more	□76	Rc1/2	30h14	G1/2	35	R32	R29	66	34
ϕ80	14	ϕ20H9	ϕ30 or more	□94	Rc1/2	30h14	G1/2	42	R32	R29	74	35
ϕ100	16	ϕ28H9	ϕ36.9 or more	□114	Rc3/4	40h14	G3/4	38	R39	R34	86	41
ϕ125	16	ϕ36H9	ϕ36.9 or more	□140	Rc3/4	50h14	G3/4	39	R54	R50	93	41

Bore \ Symbol	XC	ZC
ϕ32	147	164
ϕ40	151	168
ϕ50	158	175
ϕ63	185	214
ϕ80	200	229
ϕ100	226	260
ϕ125	250	300

Note 1) ● The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
● The tolerance of MM is f8.

With Boots

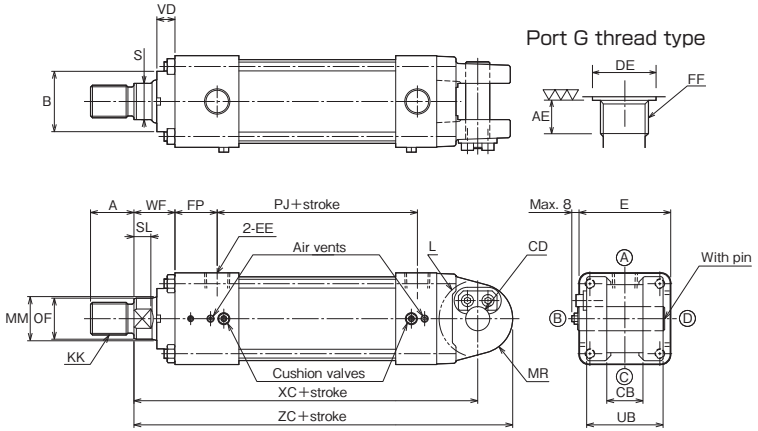
Bore \ Symbol	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
X	56	56	58	71	73	75	89

100H-2/TQH2 Bore B CAD/DATA is available.

CB

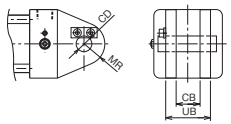
100H-2 | 2 | CB | Bore | B | B | Stroke | – | A | B

● Bore ϕ63 to ϕ125

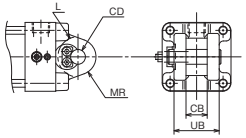


● The positions of cushion valves and air vents depend on the cylinder bore.
● Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
● If you want to change the rod protrusion length, specify dimension WF.

● Bore ϕ32

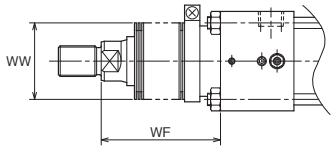


● Bore ϕ40 · ϕ50



With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes) ● Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
● Conex is the registered trademark of Teijin Limited.
● The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin Chloroprene	ϕ32·ϕ40	1/3	stroke+X
	ϕ50	1/3.5	stroke+X
	ϕ63 to ϕ100	1/4	stroke+X
	ϕ125	1/5	stroke+X
Conex	ϕ32	1/2	stroke+X
	ϕ40 · ϕ50	1/2.5	stroke+X
	ϕ63 to ϕ100	1/3	stroke+X
	ϕ125	1/3.5	stroke+X

● If the calculated WF has a fractional part, round it up.

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
ϕ32	18	ϕ30f9	ϕ34f9	M14×1.5	ϕ18	ϕ17	14	10	10
ϕ40	22	ϕ34f9	ϕ40f9	M16×1.5	ϕ22	ϕ21	17	9	12
ϕ50	28	ϕ42f9	ϕ46f9	M20×1.5	ϕ28	ϕ26	22	11	15
ϕ63	36	ϕ50f9	ϕ55f9	M27×2	ϕ36	ϕ34	30	14	15
ϕ80	45	ϕ60f9	ϕ65f9	M33×2	ϕ45	ϕ43	38	17	8
ϕ100	56	ϕ72f9	–	M42×2	ϕ56	ϕ54	50	21	16
ϕ125	63	ϕ88f9	–	M48×2	ϕ70	ϕ68	60	24	13

Symbol / Bore	AE	CB	CD	DE	E	EE	FF	FP	L	MR	PJ
ϕ32	12 (Note 1)	16A16	ϕ12 H9/f8	ϕ21.5	□45	Rc1/4	G1/4	35	R19	R17	56
ϕ40	12	20A16	ϕ14 H9/f8	ϕ25.5	□52	Rc3/8	G3/8	33	R19	R17	58
ϕ50	12	20A16	ϕ14 H9/f8	ϕ25.5	□65	Rc3/8	G3/8	33	R19	R17	58
ϕ63	14	30A16	ϕ20 H9/f8	ϕ30 or more	□76	Rc1/2	G1/2	35	R32	R29	66
ϕ80	14	30A16	ϕ20 H9/f8	ϕ30 or more	□94	Rc1/2	G1/2	42	R32	R29	74
ϕ100	16	40A16	ϕ28 H9/f8	ϕ36.9 or more	□114	Rc3/4	G3/4	38	R39	R34	86
ϕ125	16	50A16	ϕ36 H9/f8	ϕ36.9 or more	□140	Rc3/4	G3/4	39	R54	R50	93

Symbol / Bore	UB	WF	XC	ZC
ϕ32	32	25	147	164
ϕ40	43	25	151	168
ϕ50	43	32	158	175
ϕ63	65	34	185	214
ϕ80	65	35	200	229
ϕ100	83	41	226	260
ϕ125	103	41	250	300

Note 1) ● The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
● The tolerance of MM is f8.

With Boots

Symbol / Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
X	56	56	58	71	73	75	89

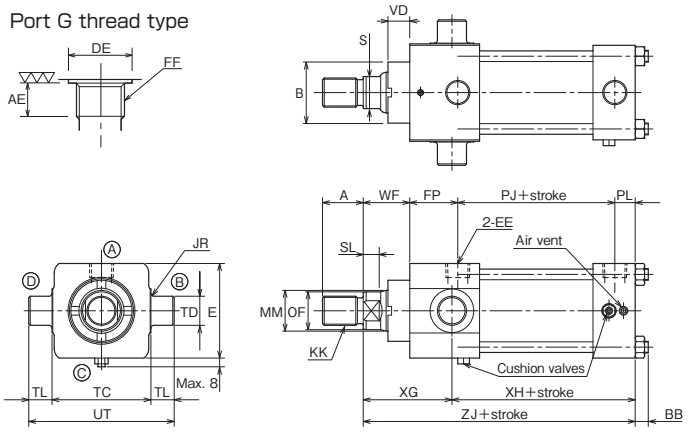
Unit: mm

100H-2/TQH2 Bore B CAD/DATA is available.

TA

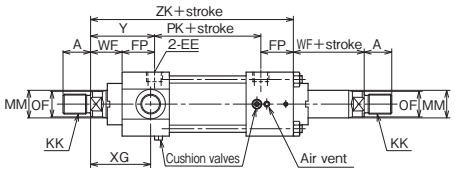
100H-2 2 TA Bore B B Stroke – A C

Port G thread type



- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If the stroke is short, take care that the cushion valve does not get into contact with the mounting bracket.
- If you want to change the rod protrusion length, specify dimension WF.

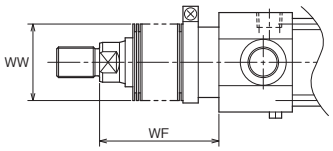
Double acting double rod



- The distance between the covers of the double rod cylinder is longer than that of the single rod cylinder by 10 mm.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin Chloroprene	ϕ32・ϕ40	1/3	stroke+X
	ϕ50	1/3.5	stroke+X
	ϕ63 to ϕ100	1/4	stroke+X
	ϕ125	1/5	stroke+X
Conex	ϕ32	1/2	stroke+X
	ϕ40・ϕ50	1/2.5	stroke+X
	ϕ63 to ϕ100	1/3	stroke+X
	ϕ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

Unit: mm

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
ϕ32	18	ϕ30f9	ϕ34f9	M14×1.5	ϕ18	ϕ17	14	10	10
ϕ40	22	ϕ34f9	ϕ40f9	M16×1.5	ϕ22	ϕ21	17	9	12
ϕ50	28	ϕ42f9	ϕ46f9	M20×1.5	ϕ28	ϕ26	22	11	15
ϕ63	36	ϕ50f9	ϕ55f9	M27×2	ϕ36	ϕ34	30	14	15
ϕ80	45	ϕ60f9	ϕ65f9	M33×2	ϕ45	ϕ43	38	17	8
ϕ100	56	ϕ72f9	–	M42×2	ϕ56	ϕ54	50	21	16
ϕ125	63	ϕ88f9	–	M48×2	ϕ70	ϕ68	60	24	13

Symbol / Bore	AE	BB	DE	E	EE	FF	FP	JR	PJ	PK	PL	TC
ϕ32	12 (Note 1)	7	ϕ21.5	□45	Rc1/4	G1/4	35	R2	56	66	12	44h14
ϕ40	12	7	ϕ25.5	□52	Rc3/8	G3/8	33	R2	58	68	14	55h14
ϕ50	12	9	ϕ25.5	□65	Rc3/8	G3/8	33	R2	58	68	14	68h14
ϕ63	14	9	ϕ30 or more	□76	Rc1/2	G1/2	35	R2.5	66	76	16	80h14
ϕ80	14	11	ϕ30 or more	□94	Rc1/2	G1/2	42	R2.5	74	84	15	100h14
ϕ100	16	14	ϕ36.9 or more	□114	Rc3/4	G3/4	38	R3	86	96	19	120h14
ϕ125	16	16	ϕ36.9 or more	□140	Rc3/4	G3/4	39	R3	93	103	19	145h14

Symbol / Bore	TD	TL	UT	WF	XG	XH	ZJ	ZK
ϕ32	ϕ16f8	12	68	25	54	74	128	161
ϕ40	ϕ16f8	12	79	25	54	76	130	159
ϕ50	ϕ20f8	16	100	32	61	76	137	166
ϕ63	ϕ25f8	20	120	34	67	84	151	180
ϕ80	ϕ32f8	25	150	35	73	93	166	203
ϕ100	ϕ40f8	32	184	41	79	105	184	213
ϕ125	ϕ50f8	40	225	41	71	121	192	222

Note 1) ● The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
● The tolerance of MM is f8.

With Boots

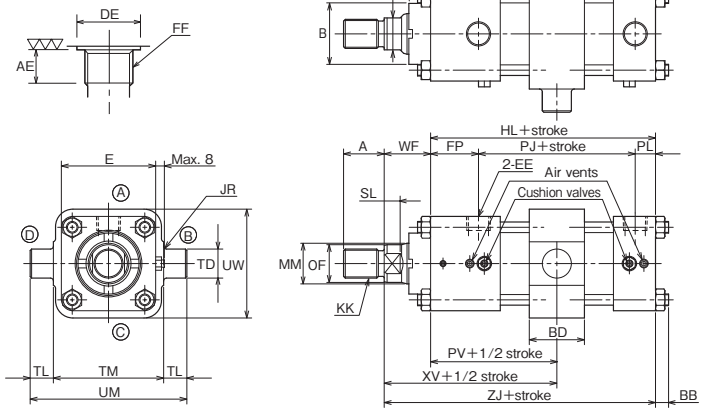
Symbol / Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
X	56	56	58	71	73	75	89

100H-2/TQH2 Bore B CAD/DATA is available.

TC

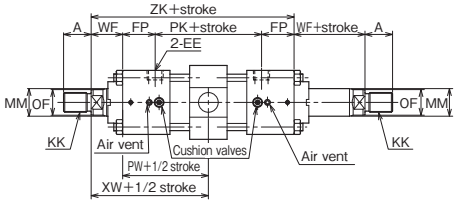
100H-2 2 TC Bore B B Stroke – A B

Port G thread type



- The positions of cushion valves and air vents depend on the cylinder bore.
- Rod end thread length (dimension A) is longer when a lock nut is attached to the rod end. Refer to "Thread length of rod end with lock nut" in "Rod End Attachment."
- If the stroke is short, take care that the cushion valve does not get into contact with the mounting bracket.
- If you want to change the rod protrusion length, specify dimension WF.
  (Dimensions XV and XW apply in the case where WF is the standard value.)
- The TC accessory must be normally positioned in the center. When changing the position, contact us.

Double acting double rod



- The distance between the covers of the double rod cylinder is longer than that of the single rod cylinder by 10 mm.

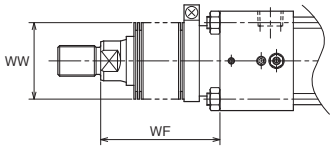
Minimum Stroke of TC Style

Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
Min. stroke	10	50	50	50	100	100	100

Note) ● For the min. strokes of Switch Set Cylinders, refer to the page of model numbers.

With Boots

100H-2/TQH2 Bore K



	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80℃	130℃	200℃

Notes)
- Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Limited.
- The boots have been mounted at our factory prior to delivery.

Dimension WF

Nylon tarpaulin / Chloroprene

ϕ32·ϕ40	1/3	stroke+X
ϕ50	1/3.5	stroke+X
ϕ63 to ϕ100	1/4	stroke+X
ϕ125	1/5	stroke+X

Conex

ϕ32	1/2	stroke+X
ϕ40・ϕ50	1/2.5	stroke+X
ϕ63 to ϕ100	1/3	stroke+X
ϕ125	1/3.5	stroke+X

- If the calculated WF has a fractional part, round it up.

Maximum Allowable Pressure of TC Style

When the TC accessory is at the normal position (center) and load is applied on one side

Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
Max. allowable pressure (MPa)	10	10	10	10	7	7	7

Dimensional Table

Symbol / Bore	A	B		KK	MM	OF	S	SL	VD
		Standard type	Cutting oil proof type						
ϕ32	18	ϕ30f9	ϕ34f9	M14×1.5	ϕ18	ϕ17	14	10	10
ϕ40	22	ϕ34f9	ϕ40f9	M16×1.5	ϕ22	ϕ21	17	9	12
ϕ50	28	ϕ42f9	ϕ46f9	M20×1.5	ϕ28	ϕ26	22	11	15
ϕ63	36	ϕ50f9	ϕ55f9	M27×2	ϕ36	ϕ34	30	14	15
ϕ80	45	ϕ60f9	ϕ65f9	M33×2	ϕ45	ϕ43	38	17	8
ϕ100	56	ϕ72f9	–	M42×2	ϕ56	ϕ54	50	21	16
ϕ125	63	ϕ88f9	–	M48×2	ϕ70	ϕ68	60	24	13

Symbol / Bore	AE	BB	BD	DE	E	EE	FF	FP	HL	JR	PJ	PK	PL
ϕ32	12 (Note 1)	7	30	ϕ21.5	□45	Rc1/4	G1/4	35	103	R2	56	66	12
ϕ40	12	7	30	ϕ25.5	□52	Rc3/8	G3/8	33	105	R2	58	68	14
ϕ50	12	9	38	ϕ25.5	□65	Rc3/8	G3/8	33	105	R2	58	68	14
ϕ63	14	9	43	ϕ30 or more	□76	Rc1/2	G1/2	35	117	R2.5	66	76	16
ϕ80	14	11	53	ϕ30 or more	□94	Rc1/2	G1/2	42	131	R2.5	74	84	15
ϕ100	16	14	63	ϕ36.9 or more	□114	Rc3/4	G3/4	38	143	R3	86	96	19
ϕ125	16	16	73	ϕ36.9 or more	□140	Rc3/4	G3/4	39	151	R3	93	103	19

Symbol / Bore	PV	PW	TD	TL	TM	UM	UW	WF	XV	XW	ZJ	ZK
ϕ32	63	68	ϕ16f8	12	55h14	79	55	25	88	93	128	161
ϕ40	62	67	ϕ16f8	12	63h14	87	63	25	87	92	130	159
ϕ50	62	67	ϕ20f8	16	76h14	108	75	32	94	99	137	166
ϕ63	68	73	ϕ25f8	20	88h14	128	88	34	102	107	151	180
ϕ80	79	84	ϕ32f8	25	114h14	164	107	35	114	119	166	203
ϕ100	81	86	ϕ40f8	32	132h14	196	126	41	122	127	184	213
ϕ125	85.5	90.5	ϕ50f8	40	165h14	245	157	41	126.5	131.5	192	222

Note 1) ● The 32 mm bore cylinder with G thread port has a thread length adjusting spacer on the rod side.
● The tolerance of MM is f8.

With Boots

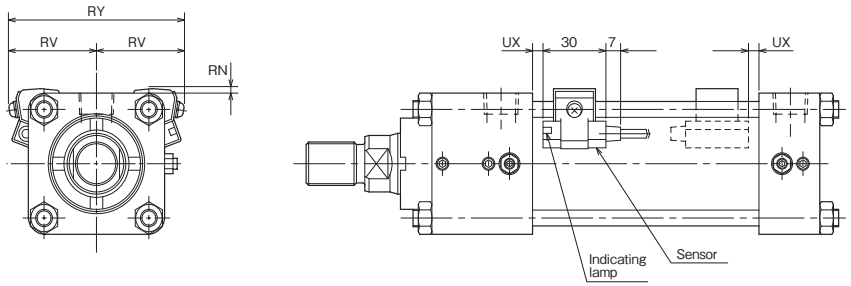
Symbol / Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	ϕ40	ϕ50	ϕ50	ϕ71	ϕ80	ϕ100	ϕ100
X	56	56	58	71	73	75	89

Unit: mm

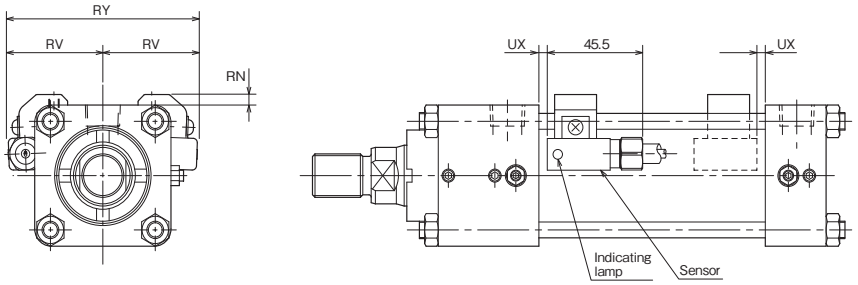
Switch Set

100H-2R	2	SD	Bore	B	B	Stroke	–	A	B	Sensor symbol	Sensor quantity

AX/AZ type (Reed sensor/Solid state sensor)



WR type (Reed sensor), WS type (Solid state sensor/2-wire, 2-LED type) (Cutting oil proof type)



Unit: mm

Dimensional Table

Symbol / Bore	RN		RV		RY		UX		
	AX type AX205W	WR type WS type	AX type AX205W	WR type WS type	AX type AX205W	WR type WS type	AX type AX205W	WR type	WS type
ϕ32	4	6	33	39	66	78	4(9)	2(7)	4(9)
ϕ40	4	5	37	40	74	80	5(10)	2(7)	4(9)
ϕ50	3	5	42	46	84	92	5(10)	2(7)	4(9)
ϕ63	1	4	46	51	92	102	6(11)	3(8)	5(10)
ϕ80	2	3	55	58	110	116	8(13)	5(10)	7(12)
ϕ100	3	5	65	70	130	140	11(16)	8(13)	10(15)
ϕ125	4	1	76	80	152	160	14(19)	11(16)	13(18)

Notes)
- The figures on the previous page show the AX type sensor (rear wiring). As for the AZ type sensor (upper wiring), take into consideration the bending radius of the cord.
- Dimension UX indicates the appropriate sensor position for detection of stroke end.
- The parenthesized values apply to double rod cylinders.

Operating Range and Hysteresis

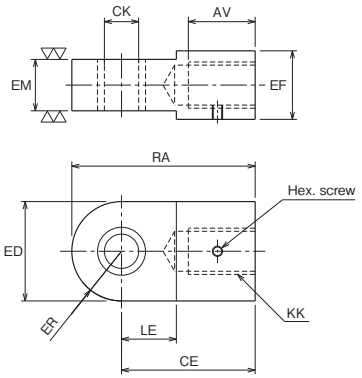
Bore (mm)	Reed sensor				Solid state sensor					
	AX1＊＊		WR type		AX2＊＊		AX2＊＊W		WS type	
	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis
ϕ32	4 to 14	2 or less	5 to 10	2 or less	3 to 8	1 or less	8 to 14	2 or less	8 to 14	2 or less
ϕ40	5 to 10		6 to 9		3 to 8					
ϕ50										
ϕ63	7 to 11		8 to 10		3 to 7					
ϕ80										
ϕ100	5 to 12		9 to 11				13 to 20		13 to 20	
ϕ125	8 to 17		10 to 17		4 to 10					

100H-2/TQH2 Bore K

CAD/DATA is available.

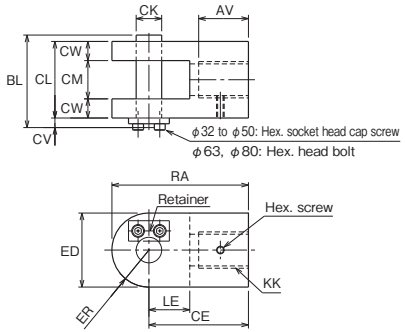
Rod End Attachment

●Rod eye (T-end)

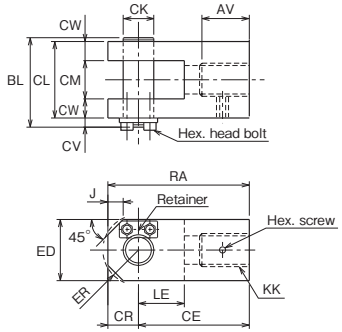


●Rod clevis (Y-end)

Bore ϕ32 to ϕ80



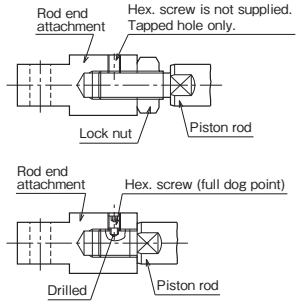
Bore ϕ100・ϕ125



●Delivery of rod end attachment (T-end or Y-end)

① When the lock nut and rod end attachment are additionally ordered
The rod end attachment and lock nut are temporarily assembled to the piston rod for delivery. Since the lock nut is not tightened, tighten it after adjusting the position of the rod end attachment.
No hex. screw is supplied.

② When only the rod end attachment is additionally ordered (without lock nut)
The rod end attachment is tightened to the piston rod, and a drill hole is made on the piston rod for delivery.
If the drill hole is unnecessary, give us such instructions.



Dimensional Table/Rod eye (T-end)

Symbol / Bore	Part number	AV	CE	EF	KK	RA	Hex. screw
ϕ 32	RTH-14-H	21	50	25	M14×1.5	67	M6
ϕ 40	RTH-16-3-H	25	55	30	M16×1.5	72	M6
ϕ 50	RTH-20-4-H	31	67	35	M20×1.5	84	M6
ϕ 63	RTH-27-H	39	78	40	M27×2	107	M6
ϕ 80	RTH-33-1-H	48	94	50	M33×2	123	M6
ϕ 100	RTH-42-1-H	59	112	65	M42×2	146	M8
ϕ 125	RTH-48-4-H	66	135	75	M48×2	185	M10

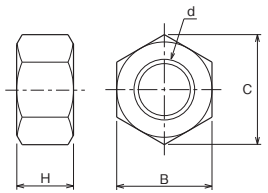
Symbol / Bore	CK	ED	EM	ER	LE
ϕ 32	ϕ12H9	34	$16\ ^{0}_{-0.27}$	R17	19
ϕ 40	ϕ14H9	34	$20\ ^{0}_{-0.33}$	R17	19
ϕ 50	ϕ14H9	34	$20\ ^{0}_{-0.33}$	R17	19
ϕ 63	ϕ20H9	58	$30\ ^{0}_{-0.33}$	R29	32
ϕ 80	ϕ20H9	58	$30\ ^{0}_{-0.33}$	R29	32
ϕ 100	ϕ28H9	68	$40\ ^{0}_{-0.39}$	R34	39
ϕ 125	ϕ36H9	100	$50\ ^{0}_{-0.39}$	R50	54

Dimensional Table/Rod clevis (Y-end)

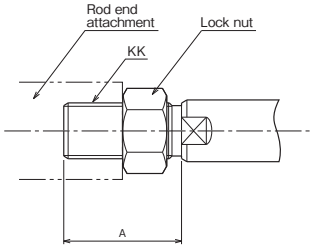
Symbol / Bore	Part number	AV	CE	KK	RA	Hex. screw
ϕ 32	RYH-14-H	21	50	M14×1.5	67	M6
ϕ 40	RYH-16-3-H	25	55	M16×1.5	72	M6
ϕ 50	RYH-20-4-H	31	67	M20×1.5	84	M6
ϕ 63	RYH-27-H	39	78	M27×2	107	M6
ϕ 80	RYH-33-1-H	48	94	M33×2	123	M6
ϕ 100	RYH-42-1-H	59	112	M42×2	143	M8
ϕ 125	RYH-48-4-H	66	135	M48×2	178	M10

Symbol / Bore	BL	CK	CL	CM	CR	CV	CW	ED	ER	J	LE
ϕ 32	42	ϕ12H9/f8	32	$16\ ^{+0.69}_{+0.29}$	–	8	8	34	R17	–	19
ϕ 40	50	ϕ14H9/f8	40	$20\ ^{+0.70}_{+0.30}$	–	8	10	34	R17	–	19
ϕ 50	50	ϕ14H9/f8	40	$20\ ^{+0.70}_{+0.30}$	–	8	10	34	R17	–	19
ϕ 63	72	ϕ20H9/f8	60	$30\ ^{+0.70}_{+0.30}$	–	10	15	58	R29	–	32
ϕ 80	72	ϕ20H9/f8	60	$30\ ^{+0.70}_{+0.30}$	–	10	15	58	R29	–	32
ϕ 100	92	ϕ28H9/f8	80	$40\ ^{+0.91}_{+0.31}$	31	10	20	65	R33	22	39
ϕ 125	115	ϕ36H9/f8	100	$50\ ^{+0.92}_{+0.32}$	43	13	25	90	R48	24	54

●Lock nut



●Thread length of rod end with lock nut



The standard fitting length of the rod end attachment and piston rod is about 80% of the thread diameter. When using a lock nut, it is necessary to increase the thread length (dimension A) as shown above.
If you order a cylinder with a lock nut (symbol: K), the thread length (dimension A) is as shown on the next page.

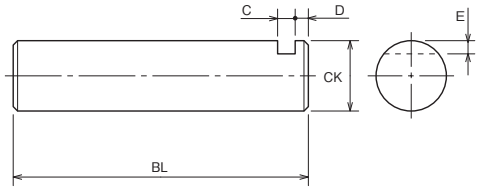
Dimensional Table/Lock nut

Symbol / Bore	Rod B				
	Part number	B	C	d	H
φ 32	LNH-14F-H	22	25.4	M14×1.5	11
φ 40	LNH-16F-1-H	24	27.7	M16×1.5	13
φ 50	LNH-20F-2-H	30	34.6	M20×1.5	16
φ 63	LNH-27F-H	41	47.3	M27×2	22
φ 80	LNH-33F-H	50	57.7	M33×2	26
φ 100	LNH-42F-1-H	65	75.0	M42×2	34
φ 125	LNH-48F-2-H	75	86.5	M48×2	38

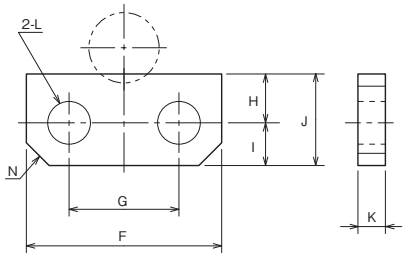
Dimensional Table/Dimension A when lock nut is used (long thread)

Symbol / Bore	Rod B	
	A	KK
φ 32	28	M14×1.5
φ 40	32	M16×1.5
φ 50	40	M20×1.5
φ 63	54	M27×2
φ 80	66	M33×2
φ 100	84	M42×2
φ 125	96	M48×2

●Parallel Pin



●Retainer



Dimensional Table/Parallel pin

Symbol / Bore	Rod B				
	BL	C	CK	D	E
ϕ 32	42	4	ϕ12f8	4	2
ϕ 40	50	4	ϕ14f8	4	2
ϕ 50	50	4	ϕ14f8	4	2
ϕ 63	72	5.5	ϕ20f8	4.5	3
ϕ 80	72	5.5	ϕ20f8	4.5	3
ϕ 100	92	5.5	ϕ28f8	4.5	4
ϕ 125	115	7	ϕ36f8	6	5

Dimensional Table/Retainer

Symbol / Bore	Rod B								Mounting bolt
	F	G	H	I	J	K	L	N	
ϕ 32	19	10	5.5	4.5	10	3	ϕ 5.5	C2.5	M5
ϕ 40	19	10	5.5	4.5	10	3	ϕ 5.5	C2.5	M5
ϕ 50	19	10	5.5	4.5	10	3	ϕ 5.5	C2.5	M5
ϕ 63	32	17	8	8	16	4.5	ϕ 6.6	C4	M6
ϕ 80	32	17	8	8	16	4.5	ϕ 6.6	C4	M6
ϕ 100	38	23	7	8	15	4.5	ϕ 6.6	C4	M6
ϕ 125	44	24	11	11	22	6	ϕ 9	C3	M8

Change of Rod End Shape Rod B (For other shapes, consult us.)

■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 dimension. Specify only the semi-standard symbol.)

How to order: Series | Model number | −× | Semi-standard symbol | Dimension symbol (Specify only when the dimension differs from the basic dimension.)

Semi-standard symbol : A01 (KM and KP need to be specified as a pair.)

Applicable dimension symbols : A | KM | KP | W | WF

φ32 to φ80 : 2
φ100 to φ125 : 3
Within the basic dimension (See Notes.)
A dimension over the basic dimension goes for 'A00'

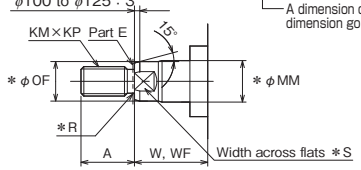


Table of Basic Dimensions (=Standard dimensions of 100H-2)

Bore	A	KM	KP	＊MM	＊OF	＊R	＊S	W (FA)	WF (Others)
φ32	18	14	1.5	φ18	φ17	1	14	35	25
φ40	22	16	1.5	φ22	φ21	1.6	17	35	25
φ50	28	20	1.5	φ28	φ26	1.6	22	41	32
φ63	36	27	2	φ36	φ34	2	30	48	34
φ80	45	33	2	φ45	φ43	2	38	51	35
φ100	56	42	2	φ56	φ54	2	50	57	41
φ125	63	48	2	φ70	φ68	2	60	57	41

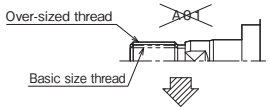
Usage

■To change the dimensions of the rod end shape of 100H-2

Notes

■When the dimensions are identical to the basic dimensions, the semi-standard symbol is unnecessary because the basic dimensions are the same as the standard dimensions.

■When a thread size that differs from the basic dimension is specified, the part E will not have a contact area.
Therefore, the rod end will have the shape of 'A00'.
In this case, the semi-standard symbol must be 'A00'.
('A01' cannot be used.)



Use symbol A00 and specify the dimensions.

Examples

●Bore: 40 mm, rod B, rod end thread: M16×2, WF=80 mm
(Order)100H-2 1CA40BB250-AB-X A01
KM-16, KP-2, WF-80
(Fabrication) Rod end shape A=22, KM=16, KP=2, WF=80, φMM=φ22, φOF=φ21, R=1.6, S=17

●Bore: 100 mm, rod B, rod end thread: M45×1.5
'A01' cannot be used. Refer to 'A00'.

Semi-standard symbol : A00 (KM and KP need to be specified as a pair.)

Applicable dimension symbols : A | KM | KP | W | WF

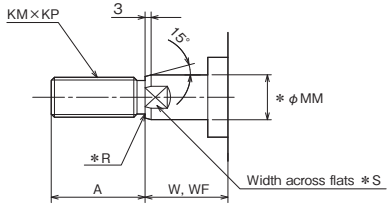


Table of Basic Dimensions (Standard dimensions)

Bore	A	KM	KP	＊MM	＊R	＊S	W (FA)	WF (Others)
φ32	25	16	1.5	φ18	1	14	35	25
φ40	30	20	1.5	φ22	1	19	35	25
φ50	35	24	1.5	φ28	1	24	41	32
φ63	45	30	1.5	φ36	1.6	30	48	34
φ80	60	39	1.5	φ45	1.6	41	51	35
φ100	75	48	1.5	φ56	1.6	50	57	41
φ125	95	64	2	φ70	2	65	57	41

Usage

■To specify a thread size different from the basic dimension of 'A01'
■To conform to the rod end thread pitch of the rod B of TAIYO 70H-8

Notes

■The basic dimensions A, KM and KP of 'A00' differ from those of 'A01'.
When using symbol 'A00' to specify a thread size different from the basic dimension of 'A01', specify dimension A at the same time.

Examples

●Bore: 63 mm, rod B, with basic dimensions of 'A00'
(Order)100H-2R 2FA63BB300-BC-X A00
(Fabrication) Rod end shape A=45, KM=30, KP=1.5, W=48, φMM=φ36, R=1.6, S=30

●Bore: 100 mm, rod B, rod end thread: M45×1.5, with other standard dimensions of 100H-2 (=basic dimensions of 'A01')
Since the thread differs from the basic dimension of 'A01', the shape must be 'A00'.
(Order)100H-2 2CB100BR500-AB-X A00
KM-45, KP-1.5, A-56
(Fabrication) Rod end shape A=56, KM=45, KP=1.5, WF=41, φMM=φ56, R=1.6, S=50

●Bore: 50 mm, rod B, shape: A00, rod end thread: M22×1.5, WF=100 mm, with other basic dimensions of 'A01'
(Order)100H-2 2CA50BB500-AB-X A00
KM-22, KP-1.5, WF-100
(Fabrication) Rod end shape A=35, KM=22, KP=1.5, WF=100, φMM=φ28, R=1, S=24

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

Rod B Special Rod End Shapes

A51

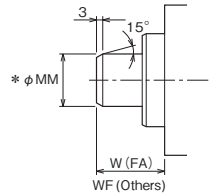


Table of Basic Dimensions

Bore	φMM	W (FA)	WF (Others)
φ32	φ18	35	25
φ40	φ22	35	25
φ50	φ28	41	32
φ63	φ36	48	34
φ80	φ45	51	35
φ100	φ56	57	41
φ125	φ70	57	41

A81

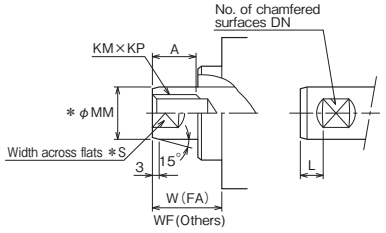


Table of Basic Dimensions

Bore	A	DN	KM	KP	L	＊MM	＊S	W (FA)	WF (Others)
φ32	15	2	M12	1.75	0	φ18	14	35	25
φ40	20	2	M16	2	0	φ22	19	35	25
φ50	24	2	M20	2.5	0	φ28	24	41	32
φ63	33	2	M27	3	0	φ36	30	48	34
φ80	36	2	M30	3.5	0	φ45	41	51	35
φ100	45	2	M39	4	0	φ56	50	57	41
φ125	58	2	M48	2	0	φ70	65	57	41

A82

Fitting (separate flange joint) is available.

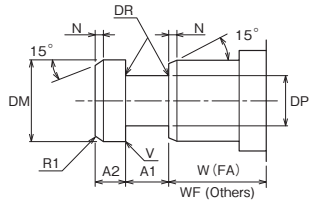


Table of Basic Dimensions

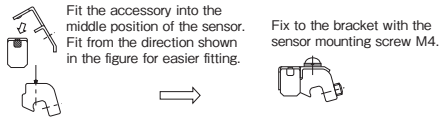
Bore	＊A1 $^{-0.5}_{+0.3}$	＊A2 $^{-0.2}_{+0.3}$	＊DM	＊DP $^{-0.2}_{+0.3}$	＊DR	＊MM	＊N	＊V	W (FA)	WF (Others)
φ32	12.5	12.5	φ18	φ13	1.0	φ18	3	C0.2	35	25
φ40	12.5	12.5	φ22	φ16	1.5	φ22	3	C0.2	35	25
φ50	12.5	12.5	φ28	φ21	1.5	φ28	3	C0.2	41	32
φ63	15	15	φ36	φ26	2.0	φ36	3	C0.2	48	34
φ80	15	15	φ45	φ31	2.0	φ45	3	C0.2	51	35
φ100	20	20	φ56	φ38	3.0	φ56	3	C0.2	57	41
φ125	25	25	φ70	φ49	3.5	φ70	3	R1	57	41

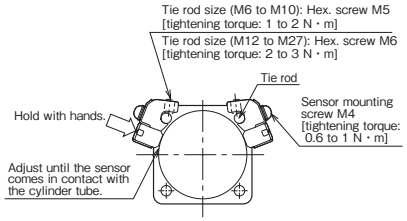
MM is the rod diameter.

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

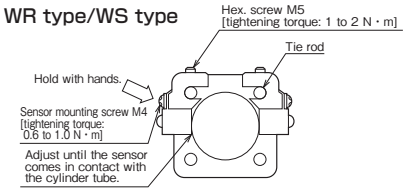
Setting method of sensor detecting position

AX type/AZ type





WR type/WS type

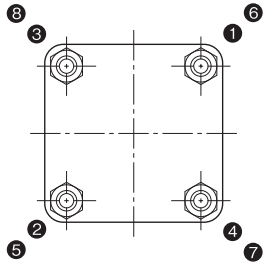


1. Loosen the two hex. screws with a hex. wrench, and move them along the tie rod.
2. Adjust the detecting position (for the 2-LED type, the position where the green lamp lights up) 2 to 5 mm (about half of the operating range is appropriate) before the required position where the sensor indicator lamp starts to light up (ON). Then, gently hold the top of the sensor so that the cylinder tube contacts the detecting face of the sensor, and clamp the hex. screw to an appropriate tightening torque.
   Note) Inappropriate tightening torque may cause the off-center of the sensor position.
3. The indicating lamp lights up when the sensor is set to the ON position.
4. Sensors can be mounted to any of four tie rods and on the most suitable position depending on the mounting space of the cylinder and wiring method.
5. Mount a sensor to the most suitable position to detect the stroke end with the "sensor mounting dimension" (dimension UX).

Notes on assembly

Tightening of tie rods

- Apply molybdenum paste to the nut bearing surfaces and thread surfaces before tightening the tie rods. Tightening with dry surfaces may cause failure in appropriate tie rod axial tension.
- DO NOT tighten only one tie rod at a time, but tighten them gradually in the order shown in the right diagram. Uneven tightening of the tie rods can cause operation failure or stick-slip.



Specified Tie Rod Tightening Torque Table (when molybdenum paste is applied)

Bore (mm)	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
Tie rod screw	M6×1	M6×1	M8×1	M8×1	M10×1.25	M14×1.5	M16×1.5
Tightening torque (N・m)	8	8	22	22	41	120	170