70/140H-8

70/140H-8

7/14 MPa double acting hydraulic cylinder

Standard built-in high-performance cushion in hydraulic cylinders

- Double acting hydraulic cylinders for 7/14 MPa with a bore from ϕ32 to ϕ250.
- The adoption of high-performance cushion has reduced a shock at stopping.
- The adoption of newly designed cushion valve allows easy cushion adjustment.
- The anti-coming-off structure and looseness-preventive lock nut have been adopted as safety measures for the cushion valve.
- Standardized new-type small switch in varieties with the improved maintenance.

Standard specifications

Types	Specifications of general purpose and cutting fluid proof types	
Nominal pressure	7MPa	14MPa
Maximum allowable pressure	Head side: 9MPa Rod side : (A)15MPa (B)13.5MPa (C)11MPa	Head side: 18MPa Rod side : (A)18MPa (B)18MPa (C)14MPa
Proof test pressure	10.5MPa	21MPa
Minimum working pressure	Head side: 0.3MPa or less Rod side : (A)0.6MPa or less (B)0.45MPa or less (C)0.4MPa or less	
Operating speed range	ϕ32-ϕ63:8-400mm/s ϕ80-ϕ125:8-300mm/s ϕ140-ϕ250:8-200mm/s	
Temperature range (Ambient temperature and oil temperature)	Standard type ..... –10 - +80°C (Notes) Switch set AX type ..... –10 - +70°C WR•WS type ..... –10 - +60°C (at non-freezing condition)	
Structure of cushioning	Metal fitting type	
Adaptable working oil	Petroleum-based fluid (For other working oil, refer to the table of working oil adaptability)	
Tolerance of thread	JIS 6g/6H (JIS grade 2 or equivalence)	
Tolerance of stroke	100mm or lower $^{+0.8}_{0}$ 101- 250mm $^{+1.0}_{0}$ 251- 630mm $^{+1.25}_{0}$ 631-1000mm $^{+1.4}_{0}$ 1001-1600mm $^{+1.6}_{0}$ 1601-2000mm $^{+1.8}_{0}$	
Tube material	Standard type ..... • carbon steel for machine structural use Switch set ..... • stainless	
Mounting type	SD•LA•LB•LC•FA•FB•FC•FD•FK• FE•FY•FZ•CA•CB•CS•TA•TC	SD•LA•LC•FC•FD•FE•FK• FY•FZ•CA•CB•CS•TA•TC
Accessories	• Rod end eye (T-end), Eye joint with spherical bearing (S-end), rod end clevis (Y-end) with pin, lock nut • Floating joint (F-end) : only 7 MPa type • Boots : only general purpose type Standard: nylon tarpaulin Semi-standard: chloroprene, Conex	

Terminologies

Nominal pressure
The maximum set pressure of a relief valve in a hydraulic circuit in which a cylinder is used.

Maximum allowable pressure
The maximum allowable pressure generated in a cylinder (surge pressure, etc.)

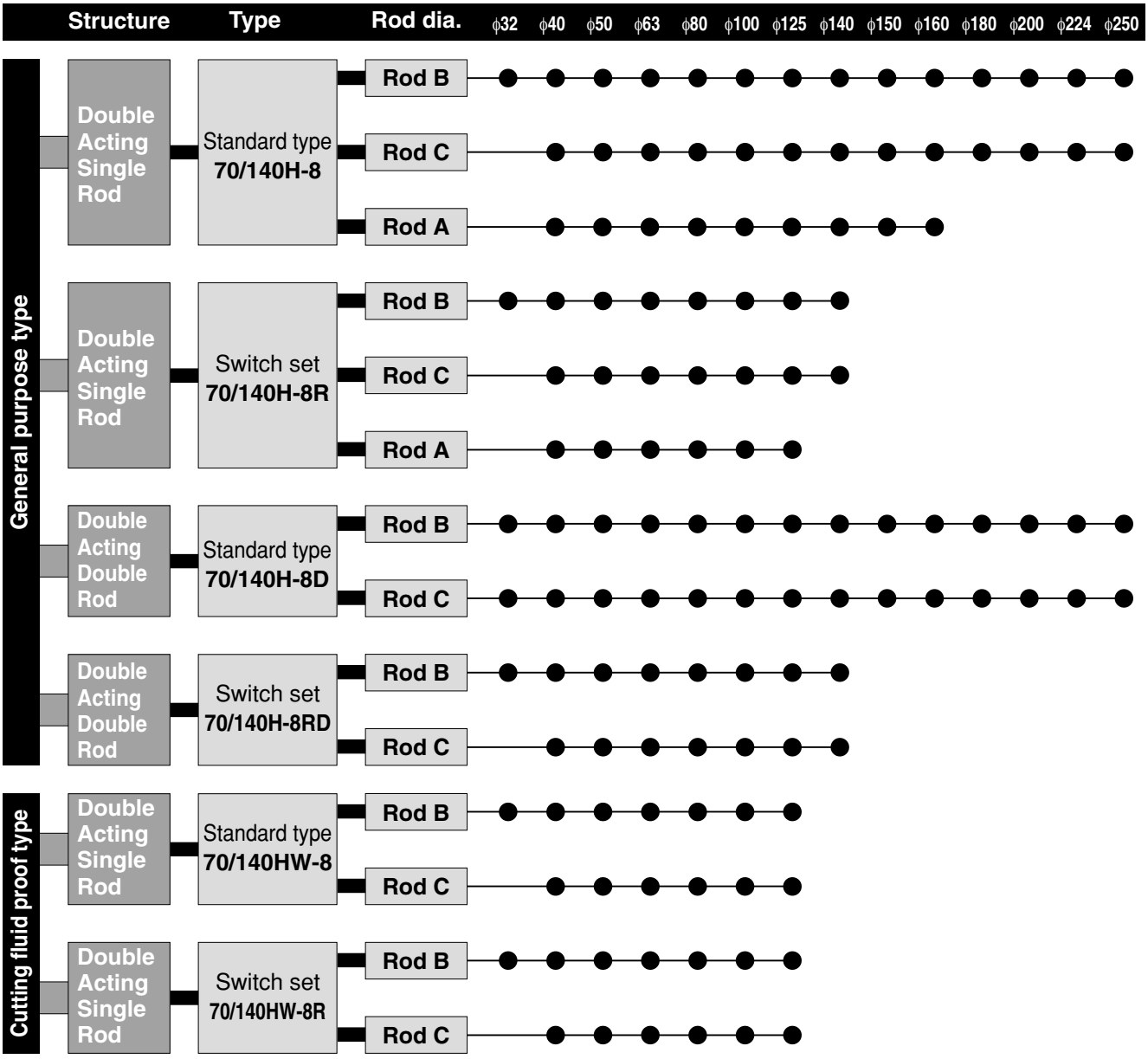
Proof test pressure
Test pressure against which a cylinder can withstand without unreliability performance at the return to nominal pressure.

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

Notes)
- The hydraulic pressure generated in a cylinder due to the inertia of load must be lower than the maximum allowable pressure.
- The working temperature range depends on the material of packings. For details, refer to the selection materials in the beginning of this catalogue.
- In case that the lock nut is attached to the piston rod end thread part, lengthen the thread length (dimension A).
- The cylinder with a bore of ϕ150 mm does not conform to JIS standards.
- The types in ( ) marks in the mounting style column are applicable to the nominal pressure of 7MPa. It is basically impossible to use them with the pressure exceeding 7 MPa. For using method, contact us. The FE type is applicable only to the rod A.
- For the internal structure, refer to the sectional drawings in the end of this catalogue.
- Conex, material of the boots, is the trademark of Teijin, Ltd.
- LB mounting and A rod is limited at the bore 125mm.

Lines

Unit: mm



Notes) ● You are requested to select "Switch set" cylinder when you would like to use switches.
● Switches can't be mounted on Standard type.

Stroke fabrication range

Unit: mm

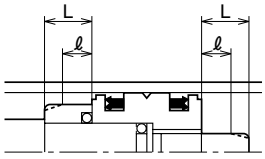
Bore	Standard type	Switch set
φ32 - φ50	- 1200	- 1200
φ63•φ80	- 1600	- 1600
φ100 - φ140	- 2000	- 2000
φ150 - φ250	- 2000	–

- The above strokes indicate the maximum available strokes for the standard type.
- For the rod buckling, check with the buckling chart of the selection materials. If you request the strokes other than in the table above, contact us.

Cushion stroke length

Unit: mm

Bore		Cushion ring length L	Cushion ring parallel part length ℓ
φ32	R side	25	7
	H side	23	7
φ40 - φ63		25	7
φ80 - φ125		25	8
φ140 - φ160		30	12
φ180 - φ224		40	20
φ250		45	25



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

General purpose type

The items in broken lines in the codes below need not to be entered, if unnecessary. Semi-standard specification

	Series ❶	Packing material ❷	Mounting type ❸	Cylinder bore ❹	Rod type ❺	Cushion type ❻	Stroke ❼	Port position ❽	Port position ❾	Cushion valve position ❿	Switch symbol ⓫	Switch quantity ⓬	Rod end attachment ⓭	Lock nut ⓮	Boots ⓯
• Standard type	140H-8	2	LA	80	B	B	200	G	A	B			T	L	J
• Switch set	140H-8R	2	LA	80	B	B	200	G	A	B	AH	2	T	L	J

Double Acting Single-Rod

- For 7MPa
  - 70H-8 : Standard type
  - 70H-8R : Switch set
- For 14MPa
  - 140H-8 : Standard type
  - 140H-8R : Switch set

Double Acting Double-Rod

- For 7MPa
  - 70H-8D : Standard type
  - 70H-8RD : Switch set
- For 14MPa
  - 140H-8D : Standard type
  - 140H-8RD : Switch set

❶ Series

❷ Packing material

- 1 Nitrile rubber (ϕ32 - ϕ250)
- 2 Urethane rubber (ϕ32 - ϕ160)
- 3 Fluoric rubber (ϕ32 - ϕ250)
- 6 Hydrogenated nitrile rubber (ϕ32 - ϕ160)
- 8 Slipper seal (ϕ32 - ϕ100)

Note) The packing material of the slipper seal, other than the piston packing, is nitrile rubber.

❸ Mounting type

❹ Cylinder bore

Rod A

Standard type: (ϕ40 - ϕ160)

Switch set: (ϕ40 - ϕ125)

Rod B, C

Standard type: (ϕ32 - ϕ250)

Switch set: (ϕ32 - ϕ140)

Note) The available minimum dia. of the rod C is ϕ40.

❺ Rod type

- A Rod A
- B Rod B
- C Rod C

❻ Cushion type

- B with cushions on both ends
- R with cushion on the rod side
- H with cushion on the head side
- N without cushion

❼ Stroke

Cylinder stroke (mm)

❽ Port position

❾ Port position

Port position (A, B, C, D)

❿ Cushion valve position

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

⓫ Switch symbol

Swtich symbol

Note) Select applicable switches out of the Switch List

❶ Notes on order for switch sets

- If a switch is unnecessary, enter the switch symbol ⓫ and the switch quantity ⓬ of 0.
- Switches are not mounted to cylinders at delivery.

⓬ Switch quantity

Switch quantity (1, 2, to n)

⓭ Rod end attachment

- None Rc thread
- G G thread (Made-to-order)
- N NPT thread (Made-to-order)

- T T-end (rod end eye)
- S S-end (Eye joint with spherical bearing)
- Y Y-end (rod end clevis)
- F F-end (F-joint) (for 7 MPa)

Note) For the rod A, contact us.

⓮ Lock nut

- L with lock nut

⓯ Boots

- J Nylon tarpaulin
- JN Chloroprene
- JK Conex

Cutting fluid proof type

• Standard type	140HW-8	6	LA	80	B	B	200	G	A	B			T	L		
• Switch set	140HW-8R	6	LA	80	B	B	200	G	A	B	5	2	T	L		

Double Acting Single-Rod

- For 7MPa
  - 70HW-8 : Standard type
  - 70HW-8R : Switch set
- For 14MPa
  - 140HW-8 : Standard type
  - 140HW-8R : Switch set

Hydrogenated nitrile rubber

Cylinder bore (mm)
ϕ32 - ϕ125

Contact
- 5 WR 505 (with 5 m cord)
- 7 WR 505F (with 5 m cord/flex tube attached)
- 6 WR515 (with 5 m cord/cable type)

No contact
- RA AX205W (with 5m cord)
- RB AZ205W (with 5m cord)
- 2 WS215 (with 5 m cord)
- 4 WS215F (with 5 m cord/flex tube attached)
- 3 WS225 (with 5 m cord/cord type)

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

Switch List

Kind	Switch symbol	Load voltage range	Load current range	Maximum open/close capacity	Protective circuit	Indicating lamp	Wiring method	Cord length	Applicable load device
Contact	AF AX101	DC:5 - 30V AC:5 - 120V	DC:5 - 40mA AC:5 - 20mA	DC:1.5W AC:2VA	None	LED (red light lights up during ON)	0.3 mm² 2-core, outside diameter, ϕ4 mm Rear wiring	1.5m	Small relay, programmable controller
	AG AX105							5m	
	AH AX111				Present			1.5m	
	AJ AX115							5m	
	AE AX125	DC:30V or less AC:120V or less	DC:40mA or less AC:20mA or less		None	None		5m	
	AK AX11A	AC:5 - 120V	5 - 20mA	2VA	Present	LED (red light lights up during ON)	4-pin connector, type Rear wiring	0.5m	
	AL AX11B	DC:5 - 30V	5 - 40mA	1.5W				0.5m	
	AP AZ101	DC:5 - 30V AC:5 - 120V	DC:5 - 40mA AC:5 - 20mA	DC:1.5W AC:2VA	None	LED (red light lights up during ON)	0.3 mm² 2-core, outside diameter, ϕ4 mm Upper wiring	1.5m	
	AR AZ105							5m	
	AS AZ111				Present			1.5m	
	AT AZ115							5m	
	AN AZ125	DC:30V or less AC:120V or less	DC:40mA or less AC:20mA or less		None	None		5m	
	AU AZ11A	AC:5 - 120V	5 - 20mA	2VA	Present	LED (red light lights up during ON)	4-pin connector type Upper wiring	0.5m	
	AW AZ11B	DC:5 - 30V	5 - 40mA	1.5W				0.5m	
	5 WR505	DC:5 - 50V AC:5 - 120V	DC:3 - 40mA AC:3 - 20mA	DC:1.5W AC:2VA	None	LED (red light lights up during ON)	0.3 mm² 2-core, outside diameter, ϕ4 mm Rear wiring	5m	
	7 WR505F							5m	
	6 WR515							5m	
	S SR405	AC:80 - 220V	2 - 300mA	30VA	Present	Neon lamp (lamp lights up during OFF)	0.5mm² 2-core, outside diameter, ϕ6 mm Rear wiring	5m	
No contact	BE AX201	DC:5 - 30V	5 - 40mA	–	Present	LED (red light lights up during ON)	0.3 mm² 2-core, outside diameter, ϕ4 mm Rear wiring	1.5m	Small relay, programmable controller
	BF AX205							5m	
	CE AX211					LED (2-lamp type in red/green)		1.5m	
	CF AX215							5m	
	CH AX21C						4-pin connector type Rear wiring	0.5m	
	CJ AX21D							1m	
	BM AZ201					LED (red light lights up during ON)	0.3 mm² 2-core, outside diameter, ϕ4 mm Upper wiring	1.5m	
	BN AZ205							5m	
	CM AZ211					LED (2-lamp type in red/green)		1.5m	
	CN AZ215							5m	
Cutting fluid proof type	RA AX205W					LED (red light lights up during ON)	0.3mm² 2-core, outside diameter, ϕ4 mm Rear wiring	5m	
	RB AZ205W						0.3mm² 2-core, outside diameter, ϕ4 mm Upper wiring	5m	
No contact	2 WS215	DC:10 - 30V	6 - 70mA	–	Present	LED (2-lamp type in red/green)	0.3 mm² 2-core, outside diameter, ϕ4 mm Rear wiring	5m	
	4 WS215F							5m	
	3 WS225							5m	
No contact (CE)	CT AX211CE	DC:5 - 30V	5 - 40mA	–	Present	LED (2-lamp type in red/green)	0.3 mm² 2-core, outside diameter, ϕ4 mm Rear wiring	1.5m	
	CU AX215CE							5m	
	CV AX21BCE						4-pin connector type Rear wiring	0.5m	
	CW AZ211CE						0.3 mm² 2-core, outside diameter, ϕ4 mm Upper wiring	1.5m	
	CX AZ215CE							5m	
	CY AZ21BCE						4-pin connector type Upper wiring	0.5m	

Notes)
- For the switches without a protective circuit, be sure to provide the protective circuit (SK-100) with load devices when using induction load devices (relay, etc.).
- For the handling of switches, be sure to refer to the switch specifications in the end of this catalogue.
- All the AX type switches can be mounted. For the types other than the above, refer to the switch specifications in the end of this catalogue.
- The WR and WS type switches are cutting fluid proof type.
- SR405 switch can be used for only bore size ϕ32~ϕ125.
- We have developed CE conformed switches. Please refer to the end of a book for detailed information.
- We recommend AND UNIT (AU series) for multiple switches connected in series.

• General purpose type

AX type switch (Cord extended to rear)

AZ type switch
(Cord extended to upper)

• Cutting fluid proof type

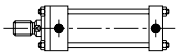
WR • WS type switch

- For the switch symbol ⓫, pay attention to the points below when ordering the cutting fluid proof type switches, WR and WS types.

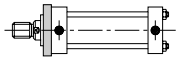
5 WR505 2 WS215	The switch and straight box connector (F-SB) are combined [the flex tube (F-05: 4.8 m) is required].
7 WR505F 4 WS215F	The flex tube (F-05: 4.8 m) is attached to the switch and straight box connector (F-SB).

Mounting type

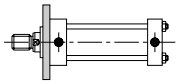
SD SD type (Basic type)



FA FA type (head rectangular flange mounting) (for 7MPa) (for Rod B•C)

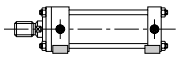


FC FC type (head square flange mounting) (for Rod B•C)

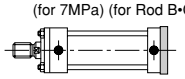


CS CS type (With spherical bearing)

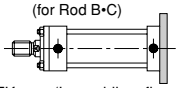
LA LA type (Side lugs mounting)



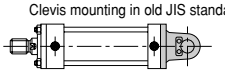
FB FB type (cap rectangular flange mounting) (for 7MPa) (for Rod B•C)



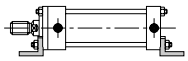
FD FD type (cap square flange mounting) (for Rod B•C)



CB CB type (Clevis mounting) Clevis mounting in old JIS standards

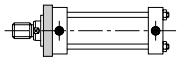


LB LB type (End angles mounting) (for 7MPa)

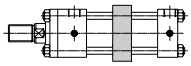


FY FY type (head rectangular flange mounting)

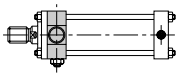
FE FE type (for Rod A)



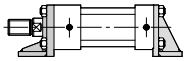
FK FK type (Intermidiate flange mounting)



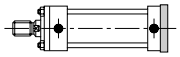
TA TA type (head trunnion mounting)



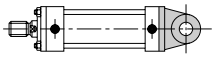
LC LC type (End angles mounting)



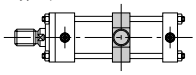
FZ FZ type (cap rectangular flange mounting)



CA CA type (Eye mounting) Cap eye mounting in old JIS standards



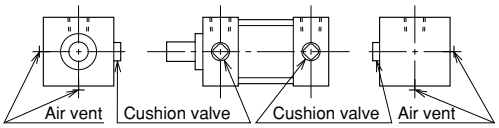
TC TC type (intermediate trunnion mounting)



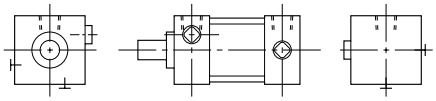
Note) The mounting type of the 7 MPa type cannot be used basically with the pressure exceeding 7 MPa. For the using method, contact us.

Cushion valve position and air vent position depending on cylinder bore (for rod A only)

Bore ϕ40 • ϕ50 • ϕ100• ϕ140• ϕ150

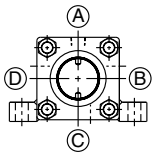


Bore ϕ63 • ϕ80 • ϕ125• ϕ160

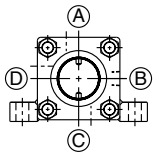


The locations of port, cushion and check in case of LA mounting

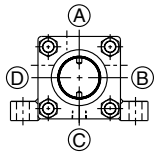
Port position A surface



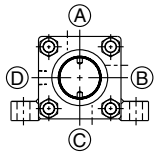
Port position B surface



Port position C surface



Port position D surface



Stroke fabrication range

Bore	Standard type	Switch set
ϕ32 - ϕ50	- 1200	- 1200
ϕ63 •ϕ80	- 1600	- 1600
ϕ100 - ϕ140	- 2000	- 2000
ϕ150 - ϕ250	- 2000	–

- The above strokes indicate the maximum available strokes for the standard type. For the rod buckling, check with the buckling chart of the selection materials. If you request the strokes other than in the table above, contact us.
- Please refer to the 140L-1 series beyond above mentioned strokes. (140L-1, bore:63mm to 160mm, Maximum:3000mm stroke)
  *140L-1 series is specilly designed for long stroke, so not interchangeable with H-8 series.

Adaptability of working oil to packing material

Packing material	Adaptable working oil				
	Petroleum-based fluid	Water-glycol fluid	Phosphate ester fluid	W/O Water in oil fluid	O/W Oil in water fluid
1 Nitrile rubber	○	○	×	○	○
2 Urethane rubber	◎	×	×	△	△
3 Fluoric rubber	○	×	○	○	○
6 Hydrogenated nitrile rubber	○	◎	×	◎	◎

Notes) 1. The ◎ and ○-marked items are applicable, while the ×-marked items are inapplicable. For the use of the △-marked items, contact us.
2. The ◎-marked items are the recommended packing materials in case of giving the first priority to abrasion resistance.

Cutting fluid proof type/adaptability of cutting fluid to packing material

Packing material	Nonaqueous cutting fluid		Aqueous cutting fluid
	Type 1	Type 2	
6 Hydrogenated nitrile rubber	○	×	○

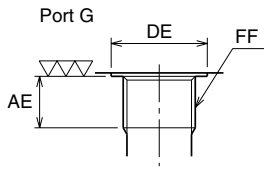
○ : applicable × : inapplicable

For the working temperature range of packing materials, refer to the selection materials in the beginning of this catalogue.

Port G (ISO1179-1) or NPT (Order-made)

Please specify the model as following
(ex.) 70H-8 2LA50BB100-G A B

Port G or NPT
Port position
Cushion valve position



Thread dimension table

Unit : mm

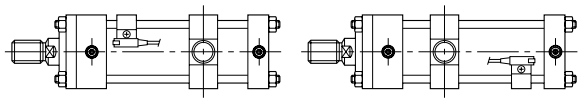
Bore	G thread			NPT thread
	AE	DE	FF	
ϕ32	12	ϕ25.5	G3/8	NPT3/8
ϕ40	12	ϕ25.5	G3/8	NPT3/8
ϕ50	14	ϕ30	G1/2	NPT1/2
ϕ63	14	ϕ30	G1/2	NPT1/2
ϕ80	16	ϕ36.9	G3/4	NPT3/4
ϕ100	16	ϕ36.9	G3/4	NPT3/4
ϕ125	18	ϕ46.1	G1	NPT1
ϕ140	18	ϕ46.1	G1	NPT1
ϕ150	18	ϕ46.1	G1	NPT1
ϕ160	18	ϕ46.1	G1	NPT1

Switch mounting minimum possible stroke

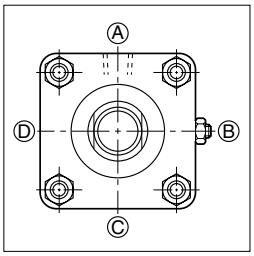
Unit: mm

Mounting style / Switch quantity / Bore mm / Switch type	Types other than TC type						TC type					
	with a switch			with two switches			with a switch			with two switches		
	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	20	45(35)		25	45(35)		50	70(60)	75(65)	110	155(135)	165(145)
ϕ40	20	45(35)		25	45(35)		50	70(60)	75(65)	115	155(135)	165(145)
ϕ50	20	45(30)	45(35)	25	40(30)	45(35)	50	70(60)	75(65)	115	155(135)	165(145)
ϕ63	20	40(30)		25	40(30)		60	85(75)		125	170(150)	175(155)
ϕ80	20	40(30)		25	40(30)		60	85(75)		130	170(150)	175(155)
ϕ100	20	35(25)	40(30)	25	35(25)	40(30)	65	85(75)	95(85)	135	175(150)	190(170)
ϕ125	20	35(25)	40(25)	25	35(25)	40(25)	70	90(80)	95(85)	150	185(160)	195(170)
ϕ140	20	–	–	25	–	–	95	–	–	175	–	–

Notes)
- For the TC type (with a switch), the cylinder strokes in case that the TC type attachment shown in the right figures are positioned in the place other than the center are shown in the table above.
- For the minimum PH dimension at the switch mounting, refer to the dimensional drawings of the TC type.
- The dimensions in the ( ) marks of the WR and WS types are the minimum strokes at the mounting of the WR505 and WS225.



Standard specifications



- With both ends cushions
- Port position Ⓐ, cushion valve position Ⓑ

Semi-standard Fabrication range

- With boots
- Magnetic proximity switch WR and WS types
  Note) The WR and WS types are the standard cutting fluid proof types.
- Modification of TC attachment (dimensional symbol: PH)
- Modification of FK dimension
- Plated cylinder tube (hard chrome plated 2/100 mm)
- Modification of piston rod end (dimensional symbol: W, A, KK)
  Refer to page 95.

Modification of port position and cushion valve position

The standard port position is Ⓐ, and the standard cushion valve position is Ⓑ.
When modifying the positions, enter the symbols shown in the dimensional drawings.

Ex.) **70H-8R 2SD80BB100 — B C AH2**
Port position (A, B, C, D)
Cushion valve position (A, B, C, D, 0)

- For the TA type, the standard port position and cushion valve position on the rod side are Ⓐ and Ⓒ, and those on the head side are Ⓐ and Ⓑ.
- In case that the cushion is not equipped, the cushion valve position is Ⓞ.

Weight table/general purpose type, cutting fluid proof type

Unit: kg

Bore mm	Rod type	Basic weight (SD type)		Additional weight per 1 mm stroke		Mounting accessories weight															
		Standard type switch set	Double rod type	Standard type switch set	Double rod type	LA	LB	LC	FA	FB	FC	FD	FK	FE	FY	FZ	CA	CS	CB	TA	TC
φ32	B	3.3	4.1	0.006	0.008	0.3	0.3	0.48	0.1	0.6	0.6	0.9	1.1	–	0.2	0.7	0.4	–	0.5	0.1	0.5
φ40	A	3.8	–	0.013	–	0.5	0.5	–	–	–	0.7	1.1	–	0.9	0.3	0.8	0.5	0.6	0.6	0.1	0.6
	B	3.5	4.4	0.011	0.014			0.63	0.2	0.7			1.2	–							
	C	3.4	4.3	0.010	0.012																
φ50	A	5.5	–	0.017	–	0.9	0.7	–	–	–	1.5	2.0	–	1.5	1.1	1.6	1.0	1.1	1.2	0.4	1.0
	B	5.0	6.4	0.014	0.019			0.88	0.7	1.2			2.2	–							
	C	4.9	6.2	0.012	0.014																
φ63	A	9.1	–	0.024	–	1.0	1.2	–	–	–	2.2	3.0	–	2.3	1.6	2.4	2.0	1.9	2.6	0.6	1.2
	B	7.9	10.2	0.019	0.027			1.5	1.0	1.8			3.6	–							
	C	7.6	9.8	0.017	0.022																
φ80	A	18.0	–	0.039	–	1.8	2.0	–	–	–	2.8	4.7	–	3.9	2.1	4.0	3.0	3.6	3.6	0.6	2.1
	B	16.2	20.3	0.032	0.045			2.5	1.1	3.0			4.7	–							
	C	15.5	19.4	0.027	0.035																
φ100	A	29.6	–	0.060	–	2.1	2.9	–	–	–	4.6	7.4	–	6.6	3.9	6.9	5.5	6.7	6.7	1.0	3.8
	B	26.0	32.7	0.048	0.067			3.63	1.8	4.8			8.9	–							
	C	24.9	31.1	0.042	0.055																
φ125	A	49.2	–	0.096	–	3.2	5.5	–	–	–	8.0	13.0	–	11.4	6.2	12.1	9.9	12.8	12.1	2.1	6.2
	B	42.9	53.6	0.077	0.107			6.88	2.9	8.4			12.6	–							
	C	42.5	52.7	0.065	0.084																
φ140	A	67.5	–	0.122	–	3.8	7.7	–	–	–	9.2	17.1	–	14.9	8.2	16.1	16.7	–	21.0	4.1	11.1
	B	59.6	73.9	0.100	0.140			9.63	3.2	11.1			20.4	–							
	C	56.0	69.6	0.085	0.111																
φ150	A	77.9	–	0.148	–	4.8	9.6	–	–	–	16.6	22.4	–	17.9	10.7	19.5	18.2	–	26.8	4.6	10.9
	B	69.6	86.5	0.118	0.162			12.0	4.9	13.7			22.9	–							
	C	67.9	83.6	0.101	0.127																
φ160	A	93.0	–	0.148	–	5.4	10.0	–	–	–	19.0	25.2	–	21.5	11.3	22.5	22.9	–	28.4	5.2	14.8
	B	84.3	114.6	0.121	0.171			13.0	5.3	16.5			31.2	–							
	C	79.9	99.1	0.102	0.132																
φ180	B	115.1	149.9	0.179	0.212	7.9	13.8	24.4	7.7	22.7	25.0	33.6	–	–	17.5	32.5	33.8	–	42.9	18.6	19.4
	C	108.5	140.1	0.157	0.168															17.9	
φ200	B	155.2	201.4	0.220	0.264	11.4	21.0	36.3	10.6	31.6	28.8	48.7	–	–	22.6	43.6	51.4	–	65.4	24.3	27.2
	C	147.3	189.0	0.192	0.209															23.4	
φ224	B	203.8	268.7	0.268	0.331	12.7	32.0	57.0	11.6	41.5	33.2	63.1	–	–	30.6	60.5	65.6	–	82.7	36.5	36.5
	C	190.9	247.7	0.234	0.262															35.1	
φ250	B	283.7	374.5	0.333	0.411	18.3	46.7	77.6	17.5	55.1	48.2	88.3	–	–	42.5	80.1	74.5	–	91.6	27.0	43.3
	C	264.1	344.1	0.290	0.324															26.1	

Switch additional weight

Unit: kg

Switch / Bore (mm)	AX type			SR type	WR, WS types
	Cord length 1.5 m	Cord length 5 m	Connector type	Cord length 5m	
φ32 - φ50	0.05	0.13	0.04	0.22	0.5
φ63	0.07	0.14	0.06	0.22	
φ80 • φ100	0.07	0.15	0.06	0.22	
φ125	0.09	0.16	0.07	0.22	
φ140	0.09	0.16	0.08	–	

Calculation formula: cylinder weight (kg) = basic weight + (cylinder stroke mm × additional weight per 1 mm stroke) + (switch additional weight × switch quantity) + mounting accessories weight + rod end attachment weight

Calculation example: 140H-8R, bore φ80, rod B, cylinder stroke 200 mm, 2 pcs. of AX215, LA type
16.2 + (0.032 × 200) + (0.15 × 2) + 1.8 = 24.7 kg

Unit: kg

Bore mm	Rod type	Rod end attachment weight					
		Rod end eye (T-end)	Rod end eye (S-end)	Rod end clevis (Y-end w/ pin)	Floating joint (F-end)	Lock nut	Separate flange joint (M type joint)
ϕ32	B	0.5	–	0.7	0.39	0.02	0.3
ϕ40	A	–	–	–	–	0.05	0.6
	B	0.5	0.7	0.7	0.75	0.03	0.4
	C		0.7		0.39	0.02	–
ϕ50	A	–	–	–	–	0.11	0.8
	B	1.0	1.1	1.2	1.41	0.05	0.6
	C		1.2		0.75	0.03	–
ϕ63	A	–	–	–	–	0.24	1.4
	B	2.7	2.1	3.9	2.68	0.11	0.8
	C		2.3		1.41	0.05	–
ϕ80	A	–	–	–	–	0.52	3.0
	B	2.2	3.2	3.7	–	0.24	1.4
	C		3.6		2.68	0.11	–
ϕ100	A	–	–	–	–	1.10	5.3
	B	4.2	6.7	7.7	–	0.52	3.0
	C		7.3		–	0.24	–
ϕ125	A	–	–	–	–	1.93	10.6
	B	8.0	12.4	14.6	–	1.10	5.3
	C		13.7		–	0.52	–
ϕ140	A	–	–	–	–	2.90	–
	B	19.0	–	28.8	–	1.44	7.0
	C		–		–	0.77	–
ϕ150	A	–	–	–	–	3.24	–
	B	18.9	–	28.3	–	1.65	9.3
	C		–		–	0.94	–
ϕ160	A	–	–	–	–	3.24	–
	B	22.7	–	34.2	–	1.93	10.6
	C		–		–	1.10	–
ϕ180	B	37.6	–	53.7	–	2.90	–
	C		–		–	1.44	–
ϕ200	B	53.9	–	87.4	–	3.24	–
	C		–		–	1.93	–
ϕ224	B	77.2	–	128.3	–	5.97	–
	C		–		–	2.90	–
ϕ250	B	74.4	–	123.9	–	7.77	–
	C		–		–	3.24	–

70/140H-8

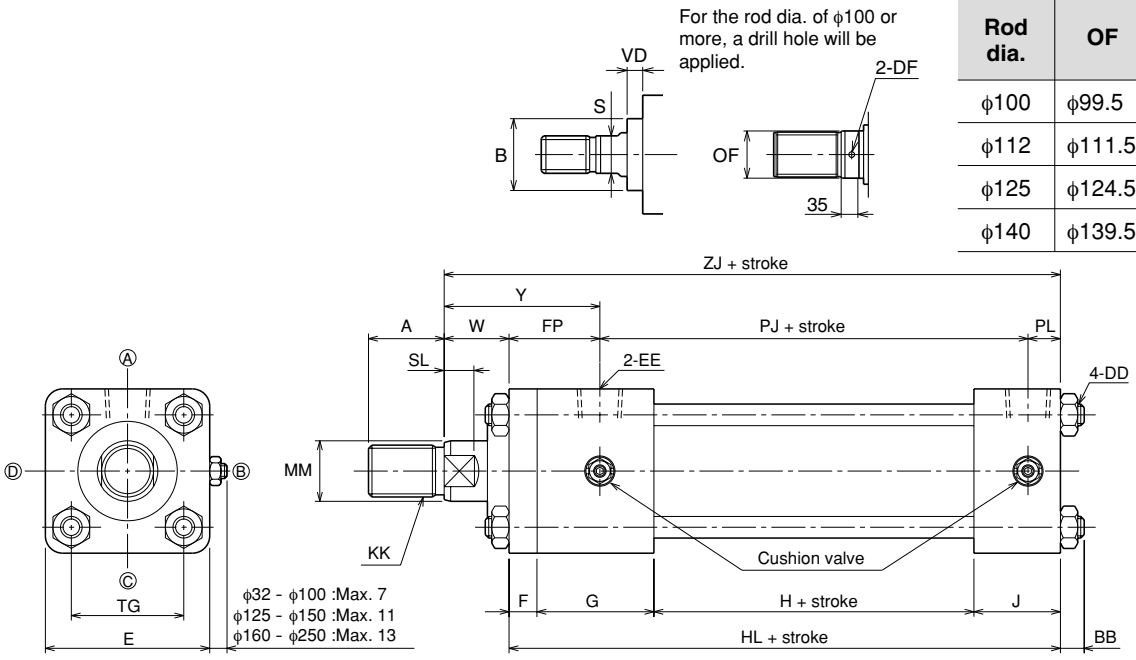
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

70-140H-8/TH8 Bore A.C CAD/DATA is available.

SD

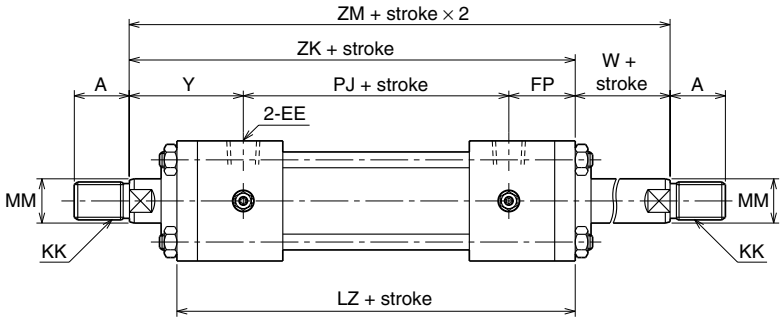
70H-8	1	SD	Bore	B	B	Stroke	–	A	B
140H-8	1	SD	Bore	B	B	Stroke	–	A	B



Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15

- For the use of the SD type, be sure to refer to the "Precautions for use, 4. Mounting" in the beginning of this catalogue.
- For the screw length (dimension A) in the case of using the lock nut, refer to "Accessories".
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

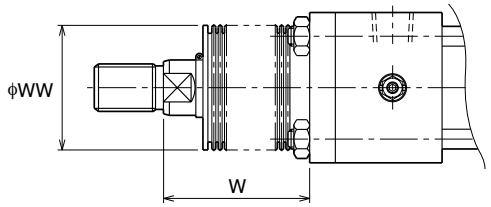
Double rod type (ϕ32 – ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	ϕ40	1/3.5	Stroke + X
	ϕ50 - ϕ80	1/4	Stroke + X
	ϕ100 - ϕ160	1/5	Stroke + X
Conex	ϕ40	1/2.5	Stroke + X
	ϕ50 - ϕ80	1/3	Stroke + X
	ϕ100	1/3.5	Stroke + X
	ϕ125 - ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	33	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	BB	DD	E	EE	F	FP	G	H	HL	J	LZ	PJ	PL	TG	W		Y		ZJ		ZK	ZM
															B•C	A	B•C	A	B•C	A		
ϕ32	11	M10×1.25	□58	Rc 3/8	11	38	50	44	141	36	166	90	13	□38	30	–	68	–	171	–	196	226
ϕ40	11	M10×1.25	□65	Rc 3/8	11	38	50	44	141	36	166	90	13	□45	30	35	68	73	171	176	196	226
ϕ50	11	M10×1.25	□76	Rc 1/2	13	42	54	48	155	40	182	98	15	□52	30	41	72	83	185	196	212	242
ϕ63	13	M12×1.5	□90	Rc 1/2	15	46	56	52	163	40	194	102	15	□63	35	48	81	94	198	211	229	264
ϕ80	16	M16×1.5	□110	Rc 3/4	18	56	66	54	184	46	222	110	18	□80	35	51	91	107	219	235	257	292
ϕ100	18	M18×1.5	□135	Rc 3/4	20	58	66	60	192	46	232	116	18	□102	40	57	98	115	232	249	272	312
ϕ125	21	M22×1.5	□165	Rc 1	24	67	76	64	220	56	264	130	23	□122	45	57	112	124	265	277	309	354
ϕ140	22	M24×1.5	□185	Rc 1	26	69	76	72	230	56	276	138	23	□138	50	57	119	126	280	287	326	376
ϕ150	25	M27×1.5	□196	Rc 1	28	71	76	80	240	56	288	146	23	□148	50	57	121	128	290	297	338	388
ϕ160	25	M27×1.5	□210	Rc 1	31	74	81	80	253	61	304	156	23	□160	55	57	129	131	308	310	359	414
ϕ180	27	M30×1.5	□235	Rc 1¼	33	75	85	86	275	71	322	172	28	□182	55	–	130	–	330	–	377	432
ϕ200	29	M33×1.5	□262	Rc 1½	37	85	95	90	301	79	354	184	32	□200	55	–	140	–	356	–	409	464
ϕ224	34	M39×1.5	□292	Rc 1½	41	89	95	90	305	79	362	184	32	□225	60	–	149	–	365	–	422	482
ϕ250	37	M42×1.5	□325	Rc 2	46	106	115	90	346	95	412	200	40	□250	65	–	171	–	411	–	477	542

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

70/140H-8

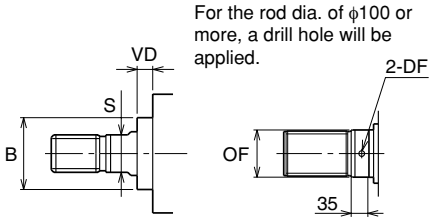
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

70-140H-8/TH8 Bore A.C CAD/DATA is available.

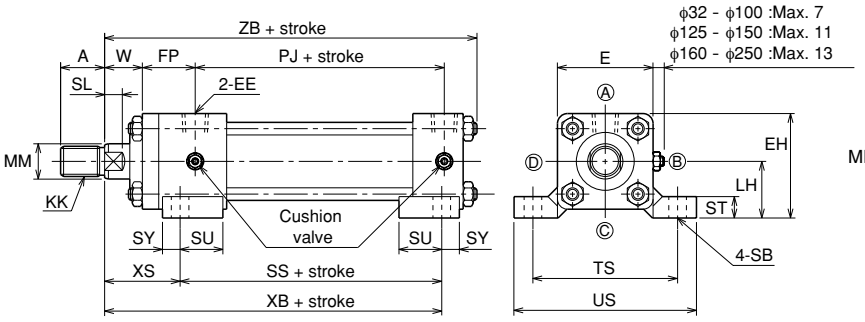
LA

70H-8	1	LA	Bore	B	B	Stroke	–	A	B
140H-8	1	LA	Bore	B	B	Stroke	–	A	B

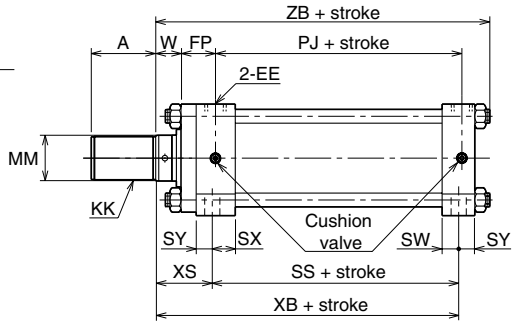


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15

• Bore ϕ32 - ϕ160

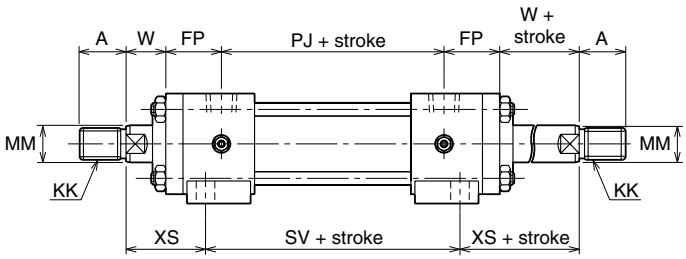


• Bore ϕ180 - ϕ250



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

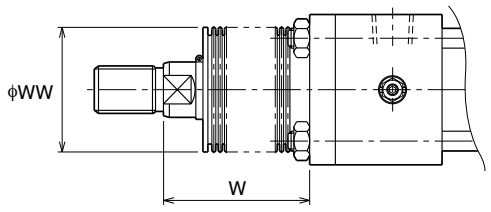
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	ϕ40	1/3.5	Stroke + X
	ϕ50 - ϕ80	1/4	Stroke + X
	ϕ100 - ϕ160	1/5	Stroke + X
Conex	ϕ40	1/2.5	Stroke + X
	ϕ50 - ϕ80	1/3	Stroke + X
	ϕ100	1/3.5	Stroke + X
	ϕ125 - ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	30	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	E	EE	EH	FP	LH	PJ	SB	SS	ST	SU	SV	SW	SX	SY	TS	US	W		XB		XS		ZB	
																	B•C	A	B•C	A	B•C	A	B•C	A
ϕ32	□58	Rc 3/8	64	38	35±0.15	90	ϕ11	98	12	31	112	–	–	13	88	109	30	–	155	–	57	–	182	–
ϕ40	□65	Rc 3/8	70	38	37.5±0.15	90	ϕ11	98	14	31	112	–	–	13	95	118	30	35	155	160	57	62	182	187
ϕ50	□76	Rc 1/2	83	42	45±0.15	98	ϕ14	108	17	34	122	–	–	14	115	145	30	41	168	179	60	71	196	207
ϕ63	□90	Rc 1/2	95	46	50±0.15	102	ϕ18	106	19	32	122	–	–	18	132	165	35	48	177	190	71	84	211	224
ϕ80	□110	Rc 3/4	115	56	60±0.25	110	ϕ18	124	25	42	144	–	–	18	155	190	35	51	198	214	74	90	235	251
ϕ100	□135	Rc 3/4	138.5	58	71±0.25	116	ϕ22	122	27	38	142	–	–	22	190	230	40	57	207	224	85	102	250	267
ϕ125	□165	Rc 1	167.5	67	85±0.25	130	ϕ26	136	32	41	156	–	–	25	224	272	45	57	235	247	99	111	286	298
ϕ140	□185	Rc 1	187.5	69	95±0.25	138	ϕ26	144	35	41	164	–	–	25	250	300	50	57	250	257	106	113	302	309
ϕ150	□196	Rc 1	204	71	106±0.25	146	ϕ30	146	37	38	166	–	–	28	270	320	50	57	257	264	111	118	315	322
ϕ160	□210	Rc 1	217	74	112±0.25	156	ϕ33	150	42	40	170	–	–	31	285	345	55	57	272	274	122	124	333	335
ϕ180	□235	Rc 1¼	242.5	75	125±0.25	172	ϕ33	172	47	–	186	36	50	35	315	375	55	–	295	–	123	–	357	–
ϕ200	□262	Rc 1½	271	85	140±0.25	184	ϕ36	186	52	–	202	40	56	39	355	425	55	–	317	–	131	–	385	–
ϕ224	□292	Rc 1½	296	89	150±0.25	184	ϕ42	186	52	–	202	40	56	39	395	475	60	–	326	–	140	–	399	–
ϕ250	□325	Rc 2	332.5	106	170±0.25	200	ϕ45	206	57	–	226	48	68	47	425	515	65	–	364	–	158	–	448	–

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	Rod B	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	Rod B	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

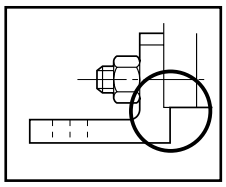
Unit: mm

70-140H-8/TH8 Bore A.C CAD/DATA is available.

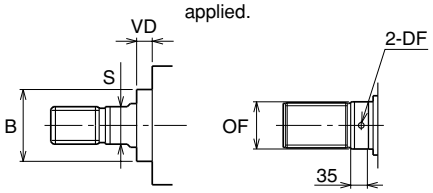
LB For 7 MPa

70H-8	1	LB	Bore	B	B	Stroke	–	A	B

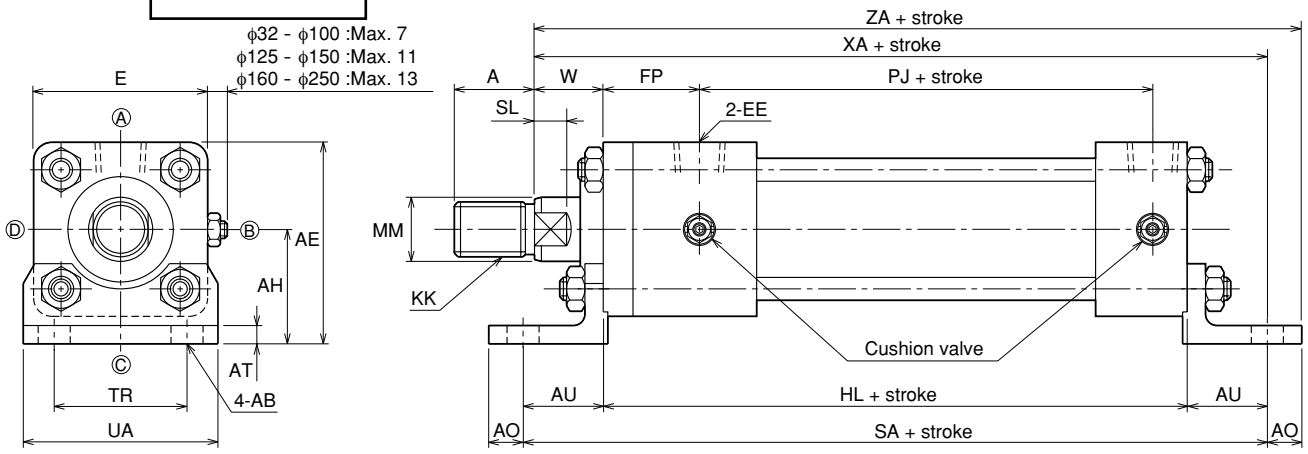
LB accessory working face
(ϕ32 - ϕ80)



For the rod dia. of ϕ100 or more, a drill hole will be applied.

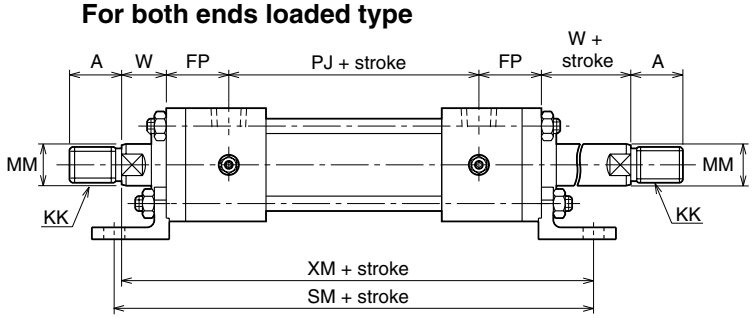


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

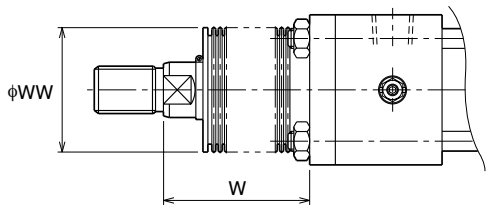
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 - ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.
- The boots is not available for 'A' type rod in LB mounting.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	33	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	–	–	–	–	–	–	–
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	–	–	–	–	–	–	–
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	–	–	–	–	–	–	–
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	AB	AE	AH	AO	AT	AU	E	EE	FP	HL	PJ	SA	SM	TR	UA	W		XA		XM	ZA	
																B•C	A	B•C	A		B•C	A
ϕ32	ϕ11	69	40±0.15	13	8	32	□58	Rc 3/8	38	141	90	205	230	40	62	30	–	203	–	228	216	–
ϕ40	ϕ11	75.5	43±0.15	13	8	32	□65	Rc 3/8	38	141	90	205	230	46	69	30	35	203	208	228	216	221
ϕ50	ϕ14	88	50±0.15	15	8	35	□76	Rc 1/2	42	155	98	225	252	58	85	30	41	220	231	247	235	246
ϕ63	ϕ18	105	60±0.15	18	10	42	□90	Rc 1/2	46	163	102	247	278	65	98	35	48	240	253	271	258	271
ϕ80	ϕ18	127	72±0.25	20	12	50	□110	Rc 3/4	56	184	110	284	322	87	118	35	51	269	285	307	289	305
ϕ100	ϕ22	152.5	85±0.25	23	12	55	□135	Rc 3/4	58	192	116	302	342	109	150	40	57	287	304	327	310	327
ϕ125	ϕ26	187.5	105±0.25	29	15	66	□165	Rc 1	67	220	130	352	396	130	175	45	57	331	343	375	360	372
ϕ140	ϕ26	207.5	115±0.25	30	18	70	□185	Rc 1	69	230	138	370	416	145	195	50	–	350	–	396	380	–
ϕ150	ϕ30	221	123±0.25	30	18	75	□196	Rc 1	71	240	146	390	438	155	210	50	–	365	–	413	395	–
ϕ160	ϕ33	237	132±0.25	35	18	75	□210	Rc 1	74	253	156	403	454	170	225	55	–	383	–	434	418	–
ϕ180	ϕ33	265.5	148±0.25	40	20	85	□235	Rc 1 1/4	75	275	172	445	492	185	243	55	–	415	–	462	455	–
ϕ200	ϕ36	296	165±0.25	40	25	98	□262	Rc 1 1/2	85	301	184	497	550	206	272	55	–	454	–	507	494	–
ϕ224	ϕ42	331	185±0.25	45	30	115	□292	Rc 1 1/2	89	305	184	535	592	230	310	60	–	480	–	537	525	–
ϕ250	ϕ45	370.5	208±0.25	50	35	130	□325	Rc 2	106	346	200	606	672	250	335	65	–	541	–	607	591	–

● Allowance of B is h8, allowance of MM is f8.

With boots

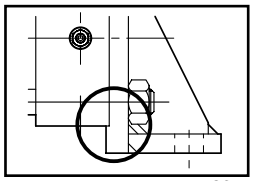
Symbol	Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	Rod B	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	Rod B	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

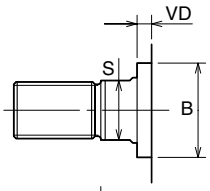
LC

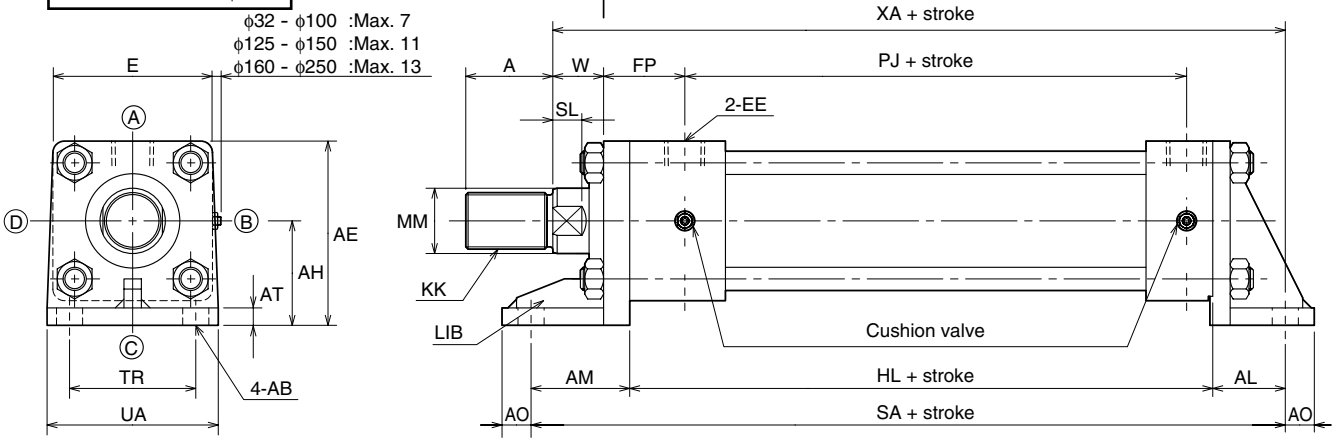
70H-8	1	LC	Bore	B	B	Stroke	–	A	B
140H-8	1	LC	Bore	B	B	Stroke	–	A	B

Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15

Detail of LC mounting working face (ϕ32 - ϕ80)

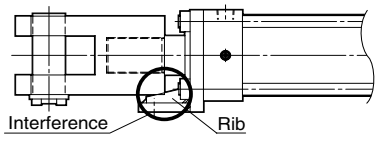




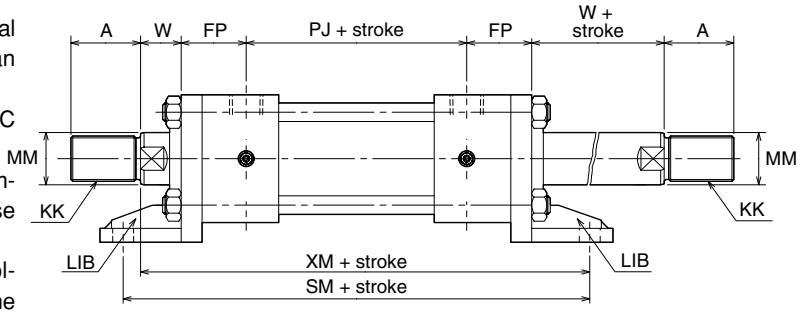


- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- The reinforcing plate is not being attached to the LC mounting bracket in case of under 63mm bore.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

Note) If you fixing the Rod end clevis (Y-end) as following drawing, it will cause interference with the rib of the LC mounting. Please feel free to contact us for the solution.

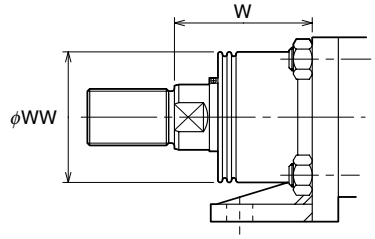


Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 - ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10

Symbol / Bore	AB	AE	AH	AL	AM	AO	AT	E	EE	FP	HL	PJ	SA	TR	UA	W	XA	XM	SM
ϕ32	ϕ11	69	40±0.15	32	43	13	8	58	Rc3/8	38	130	90	205	40	62	30	203	228	230
ϕ40	ϕ11	75.5	43±0.15	32	43	13	8	65	Rc3/8	38	130	90	205	46	69	30	203	228	230
ϕ50	ϕ14	88	50±0.15	35	48	15	8	76	Rc1/2	42	142	98	225	58	85	30	220	247	252
ϕ63	ϕ18	105	60±0.15	42	57	18	10	90	Rc1/2	46	148	102	247	65	98	35	240	271	278
ϕ80	ϕ18	127	72±0.25	50	68	20	12	110	Rc3/4	56	166	110	284	87	118	35	269	307	322
ϕ100	ϕ22	152.5	85±0.25	55	75	23	12	135	Rc3/4	58	172	116	302	109	150	40	287	327	342
ϕ125	ϕ26	187.5	105±0.25	66	90	29	15	165	Rc1	67	196	130	352	130	175	45	331	375	396
ϕ140	ϕ26	207.5	115±0.25	70	96	30	18	185	Rc1	69	204	138	370	145	195	50	350	396	416
ϕ150	ϕ30	221	123±0.25	75	103	30	18	196	Rc1	71	212	146	390	155	210	50	365	413	438
ϕ160	ϕ33	237	132±0.25	75	106	35	18	210	Rc1	74	222	156	403	170	225	55	383	434	454
ϕ180	ϕ33	265.5	148±0.25	85	118	40	20	235	Rc1 1/4	75	242	172	445	185	243	55	415	462	492
ϕ200	ϕ36	296	165±0.25	98	135	40	25	262	Rc1 1/2	85	264	184	497	206	272	55	454	507	550
ϕ224	ϕ42	331	185±0.25	115	156	45	30	292	Rc1 1/2	89	264	184	535	230	310	60	480	537	592
ϕ250	ϕ45	370.5	208±0.25	130	176	50	35	325	Rc2	106	300	200	606	250	335	65	541	607	672

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol	Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

70/140H-8

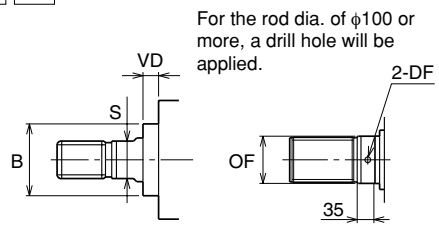
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

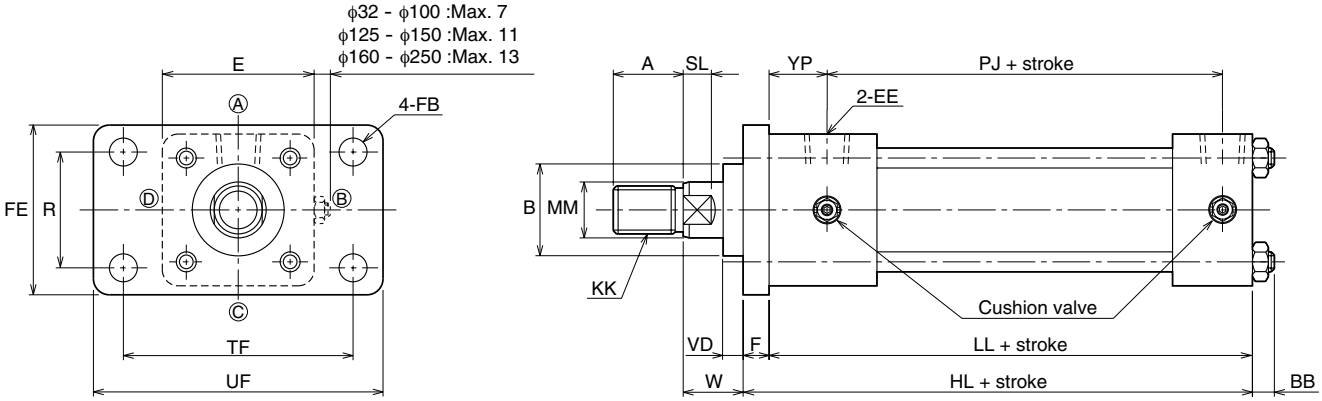
70-140H-8/TH8 Bore B CAD/DATA is available.

FA For 7 MPa

70H-8	1	FA	Bore	B	B	Stroke	–	A	B

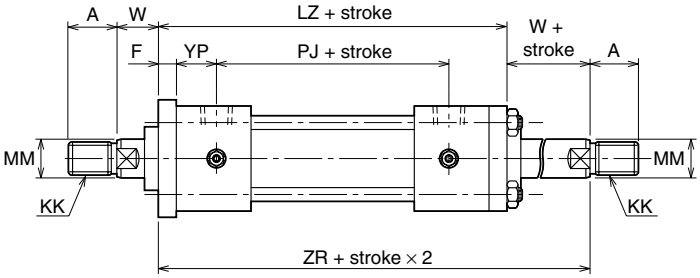


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

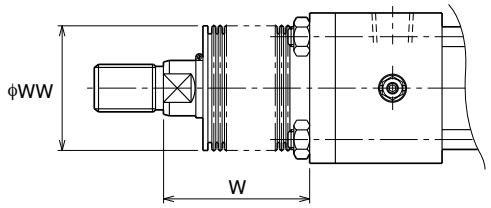
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 - ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10

Symbol / Bore	BB	E	EE	F	FB	FE	HL	LL	LZ	PJ	R	TF	UF	W	YP	ZR
ϕ32	11	□58	Rc 3/8	11	ϕ11	62	141	130	166	90	40	88	109	30	27	196
ϕ40	11	□65	Rc 3/8	11	ϕ11	69	141	130	166	90	46	95	118	30	27	196
ϕ50	11	□76	Rc 1/2	13	ϕ14	85	155	142	182	98	58	115	145	30	29	212
ϕ63	13	□90	Rc 1/2	15	ϕ18	98	163	148	194	102	65	132	165	35	31	229
ϕ80	16	□110	Rc 3/4	18	ϕ18	118	184	166	222	110	87	155	190	35	38	257
ϕ100	18	□135	Rc 3/4	20	ϕ22	150	192	172	232	116	109	190	230	40	38	272
ϕ125	21	□165	Rc 1	24	ϕ26	175	220	196	264	130	130	224	272	45	43	309
ϕ140	22	□185	Rc 1	26	ϕ26	195	230	204	276	138	145	250	300	50	43	326
ϕ150	25	□196	Rc 1	28	ϕ30	210	240	212	288	146	155	270	320	50	43	338
ϕ160	25	□210	Rc 1	31	ϕ33	225	253	222	304	156	170	285	345	55	43	359
ϕ180	27	□235	Rc 1 1/4	33	ϕ33	243	275	242	322	172	185	315	375	55	42	377
ϕ200	29	□262	Rc 1 1/2	37	ϕ36	272	301	264	354	184	206	355	425	55	48	409
ϕ224	34	□292	Rc 1 1/2	41	ϕ42	310	305	264	362	184	230	395	475	60	48	422
ϕ250	37	□325	Rc 2	46	ϕ45	335	346	300	412	200	250	425	515	65	60	477

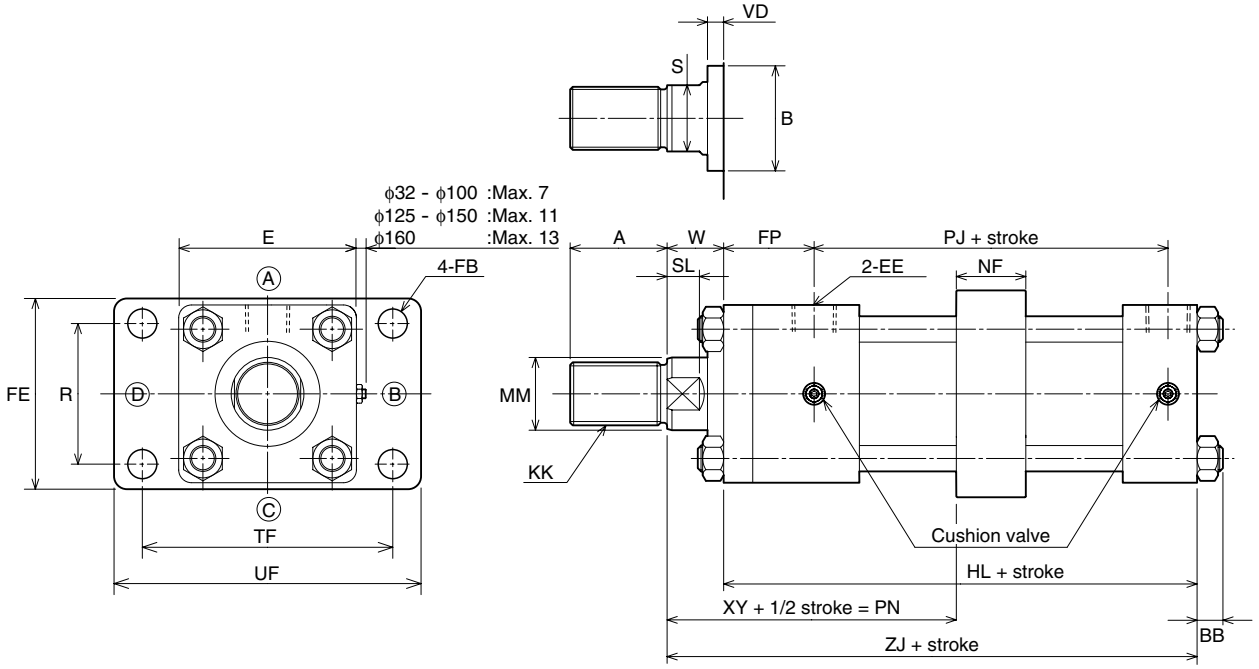
- Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

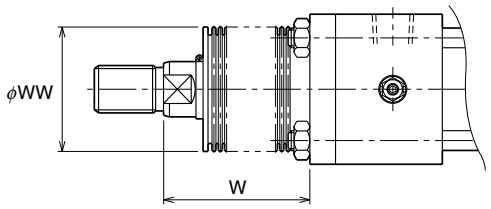
FK

70H-8	1	FK	Bore	B	B	Stroke	–	A	B
140H-8	1	FK	Bore	B	B	Stroke	–	A	B



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.

With boots



Rod B • C Nylon tarpaulin Chloroprene	φ32	1/3	Stroke + X
	φ40 • φ50	1/3.5	Stroke + X
	φ63 - φ100	1/4	Stroke + X
	φ125 - φ160	1/5	Stroke + X
Conex	φ32	1/2	Stroke + X
	φ40 • φ50	1/2.5	Stroke + X
	φ63 - φ100	1/3	Stroke + X
	φ125 • φ140	1/3.5	Stroke + X
	φ150 - φ160	1/4	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	φ40	1/3.5	Stroke + X
	φ50 - φ80	1/4	Stroke + X
	φ100 - φ160	1/5	Stroke + X
Conex	φ40	1/2.5	Stroke + X
	φ50 - φ80	1/3	Stroke + X
	φ100	1/3.5	Stroke + X
	φ125 - φ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	33	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16

Symbol / Bore	BB	E	EE	FB	FE	FP	HL	NF	PJ	Minimum PN	R	TF	UF	W		XY		ZJ	
														B•C	A	B•C	A	B•C	A
ϕ32	11	□58	Rc3/8	ϕ11	62	38	141	28	90	91	40	88	109	30	–	99	–	171	–
ϕ40	11	□65	Rc3/8	ϕ11	69	38	141	28	90	91	46	95	118	30	35	99	104	171	176
ϕ50	11	□76	Rc1/2	ϕ14	85	42	155	33	98	97	58	115	145	30	41	104.5	115.5	185	196
ϕ63	13	□90	Rc1/2	ϕ18	98	46	163	43	102	106	65	132	165	35	48	110.5	123.5	198	211
ϕ80	16	□110	Rc3/4	ϕ18	118	56	184	43	110	119	87	155	190	35	51	124.5	140.5	219	235
ϕ100	18	□135	Rc3/4	ϕ22	150	58	192	53	116	126	109	190	230	40	57	129.5	146.5	232	249
ϕ125	21	□165	Rc1	ϕ26	175	67	220	58	130	145	130	224	272	45	57	148	160	265	277
ϕ140	22	□185	Rc1	ϕ26	195	69	230	78	138	152	145	250	300	50	57	149	156	280	287
ϕ150	25	□196	Rc1	ϕ30	210	71	240	78	146	154	155	270	320	50	57	155	162	290	297
ϕ160	25	□210	Rc1	ϕ33	225	74	253	88	156	167	170	285	345	55	57	163	165	308	310

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol	Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140
	Rod C	–	50	50	63	71	80	100	125	125	125
	Rod A	–	63	71	80	100	125	140	160	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65
	Rod C	–	45	45	55	55	55	65	65	65	65
	Rod A	–	45	55	55	55	65	65	65	65	65

70/140H-8

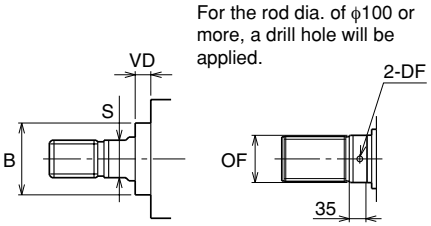
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

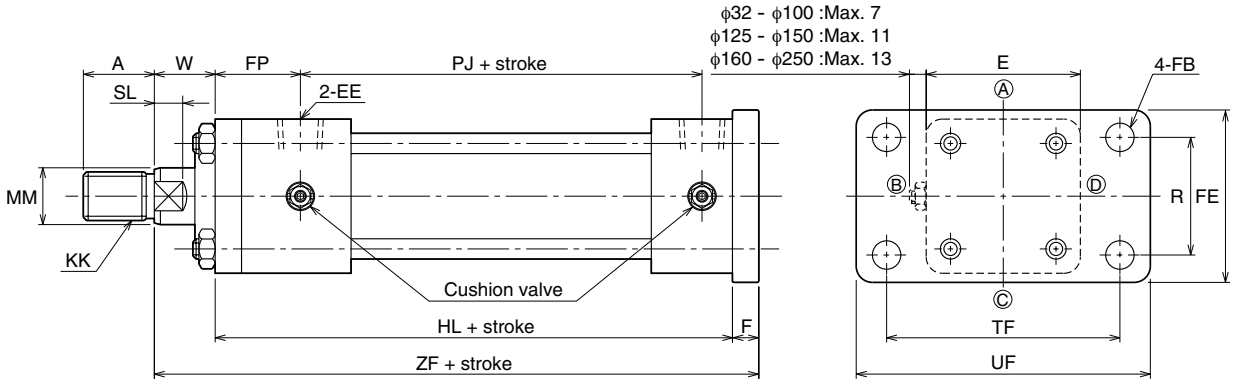
70-140H-8/TH8 Bore B CAD/DATA is available.

FB For 7 MPa

70H-8 | 1 | FB | Bore | B | B | Stroke | – | A | B

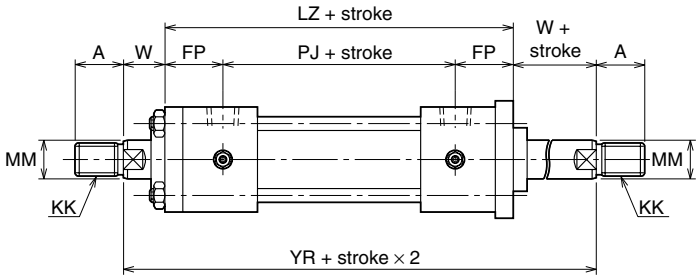


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

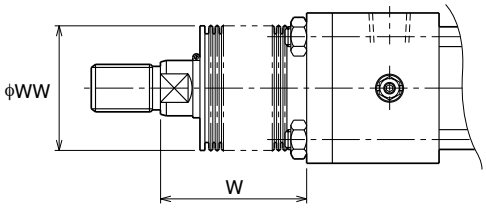
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10

Symbol / Bore	E	EE	F	FB	FE	FP	HL	LZ	PJ	R	TF	UF	W	YR	ZF
ϕ32	□58	Rc 3/8	11	ϕ11	62	38	141	166	90	40	88	109	30	226	182
ϕ40	□65	Rc 3/8	11	ϕ11	69	38	141	166	90	46	95	118	30	226	182
ϕ50	□76	Rc 1/2	13	ϕ14	85	42	155	182	98	58	115	145	30	242	198
ϕ63	□90	Rc 1/2	15	ϕ18	98	46	163	194	102	65	132	165	35	264	213
ϕ80	□110	Rc 3/4	18	ϕ18	118	56	184	222	110	87	155	190	35	292	237
ϕ100	□135	Rc 3/4	20	ϕ22	150	58	192	232	116	109	190	230	40	312	252
ϕ125	□165	Rc 1	24	ϕ26	175	67	220	264	130	130	224	272	45	354	289
ϕ140	□185	Rc 1	26	ϕ26	195	69	230	276	138	145	250	300	50	376	306
ϕ150	□196	Rc 1	28	ϕ30	210	71	240	288	146	155	270	320	50	388	318
ϕ160	□210	Rc 1	31	ϕ33	225	74	253	304	156	170	285	345	55	414	339
ϕ180	□235	Rc 1 1/4	33	ϕ33	243	75	275	322	172	185	315	375	55	432	363
ϕ200	□262	Rc 1 1/2	37	ϕ36	272	85	301	354	184	206	355	425	55	464	393
ϕ224	□292	Rc 1 1/2	41	ϕ42	310	89	305	362	184	230	395	475	60	482	406
ϕ250	□325	Rc 2	46	ϕ45	335	106	346	412	200	250	425	515	65	542	457

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

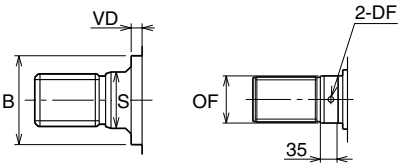
Unit: mm

70-140H-8/TH8 Bore C CAD/DATA is available.

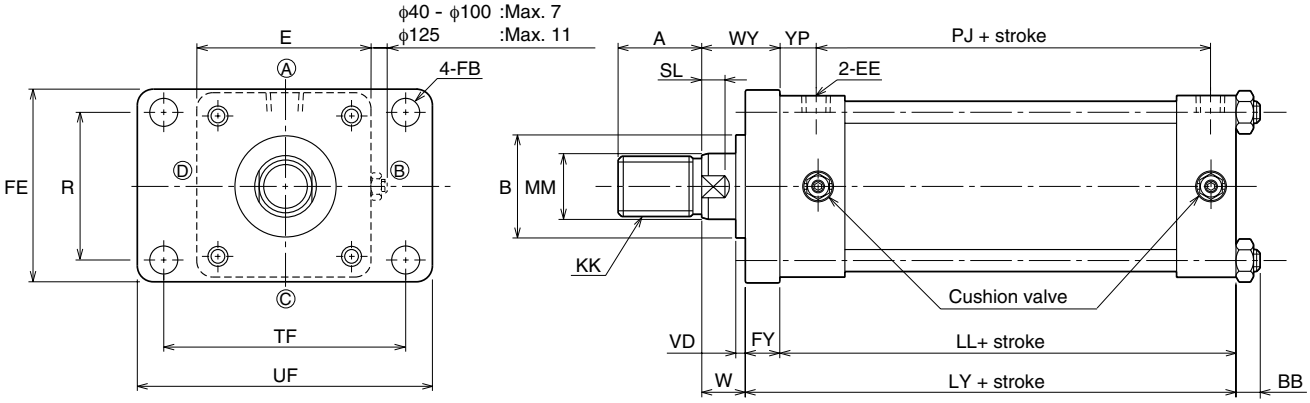
FE For rod A

70H-8	1	FE	Bore	A	B	Stroke	–	A	B
140H-8	1	FE	Bore	A	B	Stroke	–	A	B

For the rod dia. of ϕ100 or more, a drill hole will be applied.



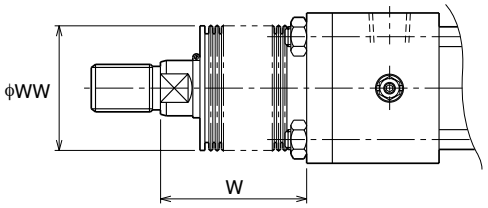
Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15



● For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).

With boots

70-140H-8/TH8 Bore K



Nylon tarpaulin
Chloroprene

Rod A		
ϕ40	1/3.5	Stroke + X
ϕ50 - ϕ80	1/4	Stroke + X
ϕ100 • ϕ160	1/5	Stroke + X

Conex

Rod A		
ϕ40	1/2.5	Stroke + X
ϕ50 - ϕ80	1/3	Stroke + X
ϕ100	1/3.5	Stroke + X
ϕ125 - ϕ160	1/4	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod A							BB	E	EE	FB	FE	FY	LL	LY	PJ	R	TF	UF	W	WY	YP
	A	B	KK	MM	S	SL	VD															
ϕ40	35	ϕ43	M24×1.5	ϕ28	24	14	10	11	□65	Rc 3/8	ϕ11	69	18	130	148	90	46	95	118	35	53	27
ϕ50	45	ϕ50	M30×1.5	ϕ35.5	30	16	10	11	□76	Rc 1/2	ϕ14	85	20	142	162	98	58	115	145	41	61	29
ϕ63	60	ϕ65	M39×1.5	ϕ45	41	20	10	13	□90	Rc 1/2	ϕ18	98	24	148	172	102	65	132	165	48	72	31
ϕ80	75	ϕ80	M48×1.5	ϕ56	50	23	8	16	□110	Rc 3/4	ϕ18	118	30	166	196	110	87	155	190	51	81	38
ϕ100	95	ϕ95	M64×2	ϕ71	65	27	11	18	□135	Rc 3/4	ϕ22	150	32	172	204	116	109	190	230	57	89	38
ϕ125	120	ϕ115	M80×2	ϕ90	85	30	10	21	□165	Rc1	ϕ26	175	41	196	237	130	130	224	272	57	98	43
ϕ140	140	ϕ125	M95×2	ϕ100	–	Drill hole	13	22	□185	Rc1	ϕ26	195	43	204	247	138	145	250	300	57	100	43
ϕ150	140	ϕ125	M95×2	ϕ100	–	Drill hole	13	25	□196	Rc1	ϕ30	210	43	212	255	146	155	270	320	57	100	43
ϕ160	150	ϕ140	M100×2	ϕ112	–	Drill hole	15	25	□210	Rc1	ϕ33	225	46	222	268	156	170	285	345	57	103	43

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160
WW	**Rod A**	63	71	80	100	125	140	160	160	180
X	**Rod A**	45	55	55	55	65	65	65	65	65

70/140H-8

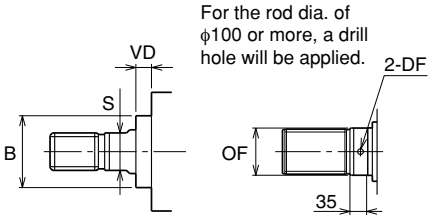
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

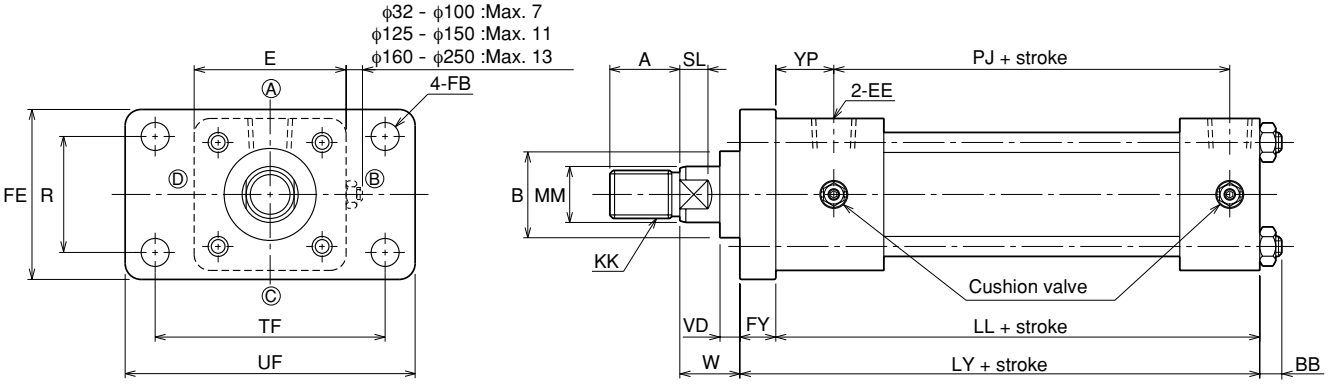
70-140H-8/TH8 Bore B CAD/DATA is available.

FY

70H-8	1	FY	Bore	B	B	Stroke	–	A	B
140H-8	1	FY	Bore	B	B	Stroke	–	A	B

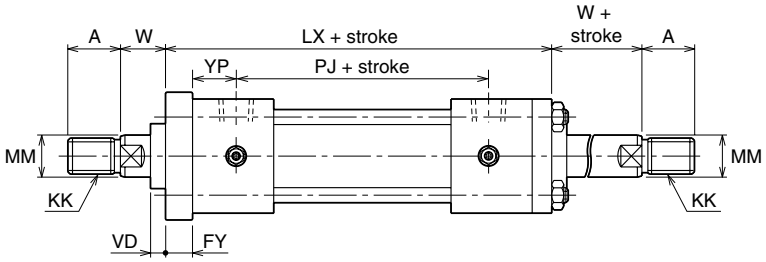


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

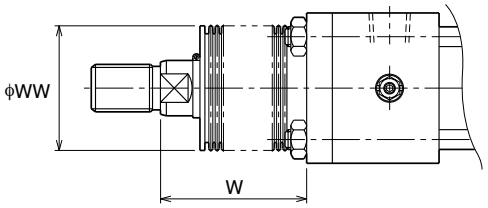
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	10
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10

Symbol / Bore	BB	E	EE	FB	FE	FY	LL	LX	LY	PJ	R	TF	UF	W	YP
ϕ32	11	□58	Rc 3/8	ϕ11	62	13	130	168	143	90	40	88	109	30	27
ϕ40	11	□65	Rc 3/8	ϕ11	69	13	130	168	143	90	46	95	118	30	27
ϕ50	11	□76	Rc 1/2	ϕ14	85	18	142	187	160	98	58	115	145	30	29
ϕ63	13	□90	Rc 1/2	ϕ18	98	20	148	199	168	102	65	132	165	35	31
ϕ80	16	□110	Rc 3/4	ϕ18	118	24	166	228	190	110	87	155	190	35	38
ϕ100	18	□135	Rc 3/4	ϕ22	150	28	172	240	200	116	109	190	230	40	38
ϕ125	21	□165	Rc 1	ϕ26	175	33	196	273	229	130	130	224	272	45	43
ϕ140	22	□185	Rc 1	ϕ26	195	37	204	287	241	138	145	250	300	50	43
ϕ150	25	□196	Rc 1	ϕ30	210	39	212	299	251	146	155	270	320	50	43
ϕ160	25	□210	Rc 1	ϕ33	225	41	222	314	263	156	170	285	345	55	43
ϕ180	27	□235	Rc 1 1/4	ϕ33	243	46	242	335	288	172	185	315	375	55	42
ϕ200	29	□262	Rc 1 1/2	ϕ36	272	51	264	368	315	184	206	355	425	55	48
ϕ224	34	□292	Rc 1 1/2	ϕ42	310	58	264	379	322	184	230	395	475	60	48
ϕ250	37	□325	Rc 2	ϕ45	335	65	300	431	365	200	250	425	515	65	60

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

70/140H-8

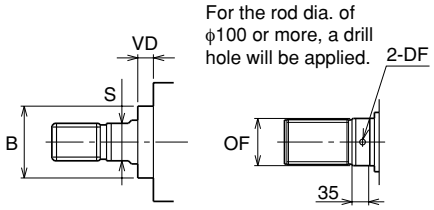
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

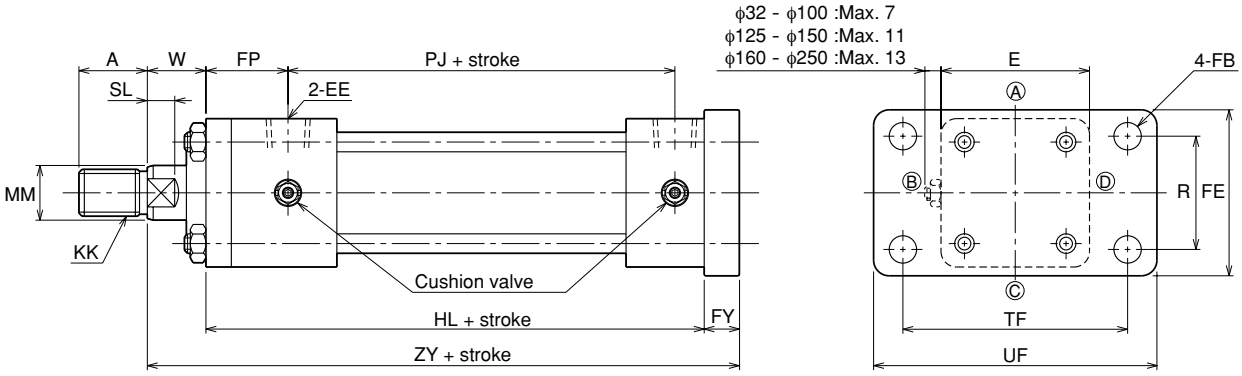
70-140H-8/TH8 Bore B.C CAD/DATA is available.

FZ

70H-8	1	FZ	Bore	B	B	Stroke	–	A	B
140H-8	1	FZ	Bore	B	B	Stroke	–	A	B

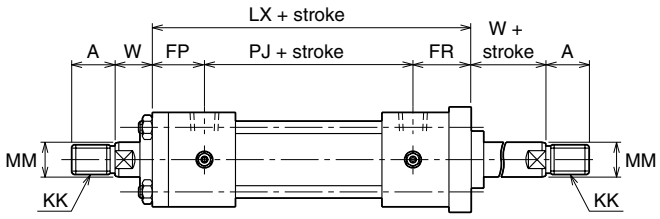


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

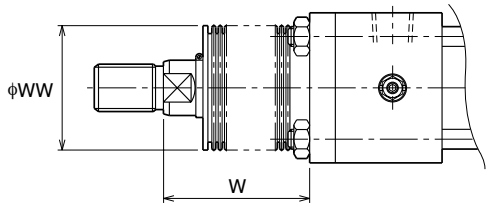
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	ϕ40	1/3.5	Stroke + X
	ϕ50 - ϕ80	1/4	Stroke + X
	ϕ100 - ϕ160	1/5	Stroke + X
Conex	ϕ40	1/2.5	Stroke + X
	ϕ50 - ϕ80	1/3	Stroke + X
	ϕ100	1/3.5	Stroke + X
	ϕ125 - ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	30	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	E	EE	FB	FE	FP	FR	FY	HL	LX	PJ	R	TF	UF	W		ZY	
														B•C	A	B•C	A
ϕ32	□58	Rc 3/8	ϕ11	62	38	40	13	141	168	90	40	88	109	30	—	184	—
ϕ40	□65	Rc 3/8	ϕ11	69	38	40	13	141	168	90	46	95	118	30	35	184	189
ϕ50	□76	Rc 1/2	ϕ14	85	42	47	18	155	187	98	58	115	145	30	41	203	214
ϕ63	□90	Rc 1/2	ϕ18	98	46	51	20	163	199	102	65	132	165	35	48	218	231
ϕ80	□110	Rc 3/4	ϕ18	118	56	62	24	184	228	110	87	155	190	35	51	243	259
ϕ100	□135	Rc 3/4	ϕ22	150	58	66	28	192	240	116	109	190	230	40	57	260	277
ϕ125	□165	Rc 1	ϕ26	175	67	76	33	220	273	130	130	224	272	45	57	298	310
ϕ140	□185	Rc 1	ϕ26	195	69	80	37	230	287	138	145	250	300	50	57	317	324
ϕ150	□196	Rc 1	ϕ30	210	71	82	39	240	299	146	155	270	320	50	57	329	336
ϕ160	□210	Rc 1	ϕ33	225	74	84	41	253	314	156	170	285	345	55	57	349	351
ϕ180	□235	Rc 1 1/4	ϕ33	243	75	88	46	275	335	172	185	315	375	55	–	376	–
ϕ200	□262	Rc 1 1/2	ϕ36	272	85	99	51	301	368	184	206	355	425	55	–	407	–
ϕ224	□292	Rc 1 1/2	ϕ42	310	89	106	58	305	379	184	230	395	475	60	–	423	–
ϕ250	□325	Rc 2	ϕ45	335	106	125	65	346	431	200	250	425	515	65	–	476	–

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol	Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	140	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

70/140H-8

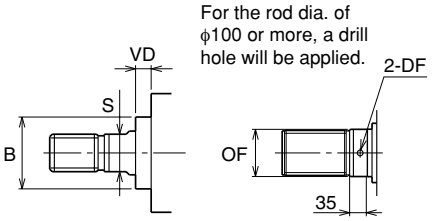
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

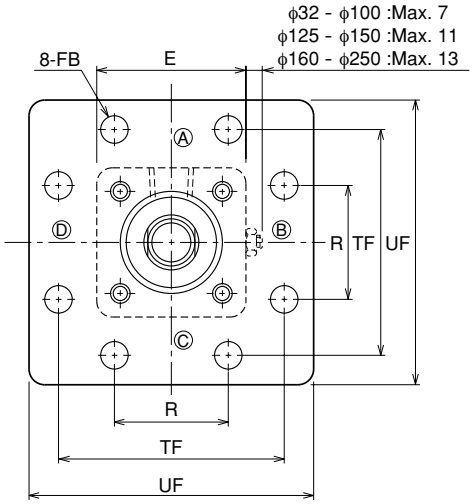
70-140H-8/TH8 Bore B CAD/DATA is available.

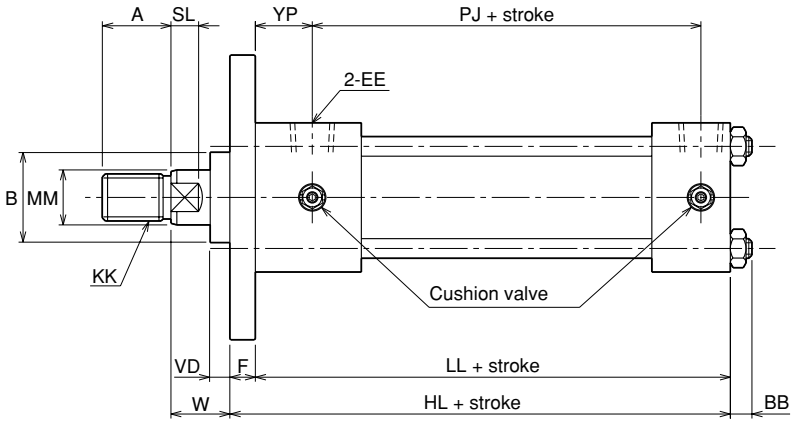
FC

70H-8	1	FC	Bore	B	B	Stroke	–	A	B
140H-8	1	FC	Bore	B	B	Stroke	–	A	B



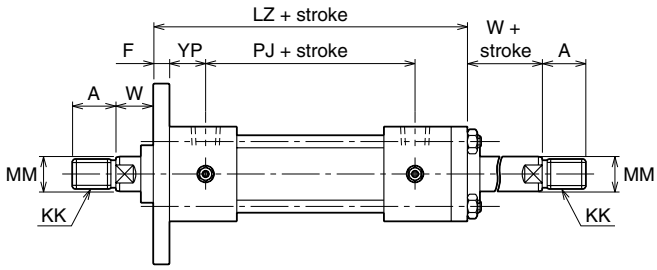
Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15





- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of “Switch set”. All the contents other than “Switch mounting dimensions” are identical.
- If the port’s sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

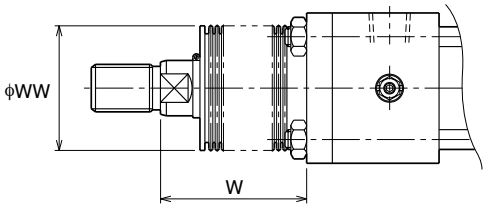
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10

Symbol / Bore	BB	E	EE	F	FB	HL	LL	LZ	PJ	R	TF	UF	W	YP
ϕ32	11	□58	Rc 3/8	11	ϕ11	141	130	166	90	40	88	109	30	27
ϕ40	11	□65	Rc 3/8	11	ϕ11	141	130	166	90	46	95	118	30	27
ϕ50	11	□76	Rc 1/2	13	ϕ14	155	142	182	98	58	115	145	30	29
ϕ63	13	□90	Rc 1/2	15	ϕ18	163	148	194	102	65	132	165	35	31
ϕ80	16	□110	Rc 3/4	18	ϕ18	184	166	222	110	87	155	190	35	38
ϕ100	18	□135	Rc 3/4	20	ϕ22	192	172	232	116	109	190	230	40	38
ϕ125	21	□165	Rc 1	24	ϕ26	220	196	264	130	130	224	272	45	43
ϕ140	22	□185	Rc 1	26	ϕ26	230	204	276	138	145	250	300	50	43
ϕ150	25	□196	Rc 1	28	ϕ30	240	212	288	146	155	270	320	50	43
ϕ160	25	□210	Rc 1	31	ϕ33	253	222	304	156	170	285	345	55	43
ϕ180	27	□235	Rc 1 1/4	33	ϕ33	275	242	322	172	185	315	375	55	42
ϕ200	29	□262	Rc 1 1/2	37	ϕ36	301	264	354	184	206	355	425	55	48
ϕ224	34	□292	Rc 1 1/2	41	ϕ42	305	264	362	184	230	395	475	60	48
ϕ250	37	□325	Rc 2	46	ϕ45	346	300	412	200	250	425	515	65	60

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

70/140H-8

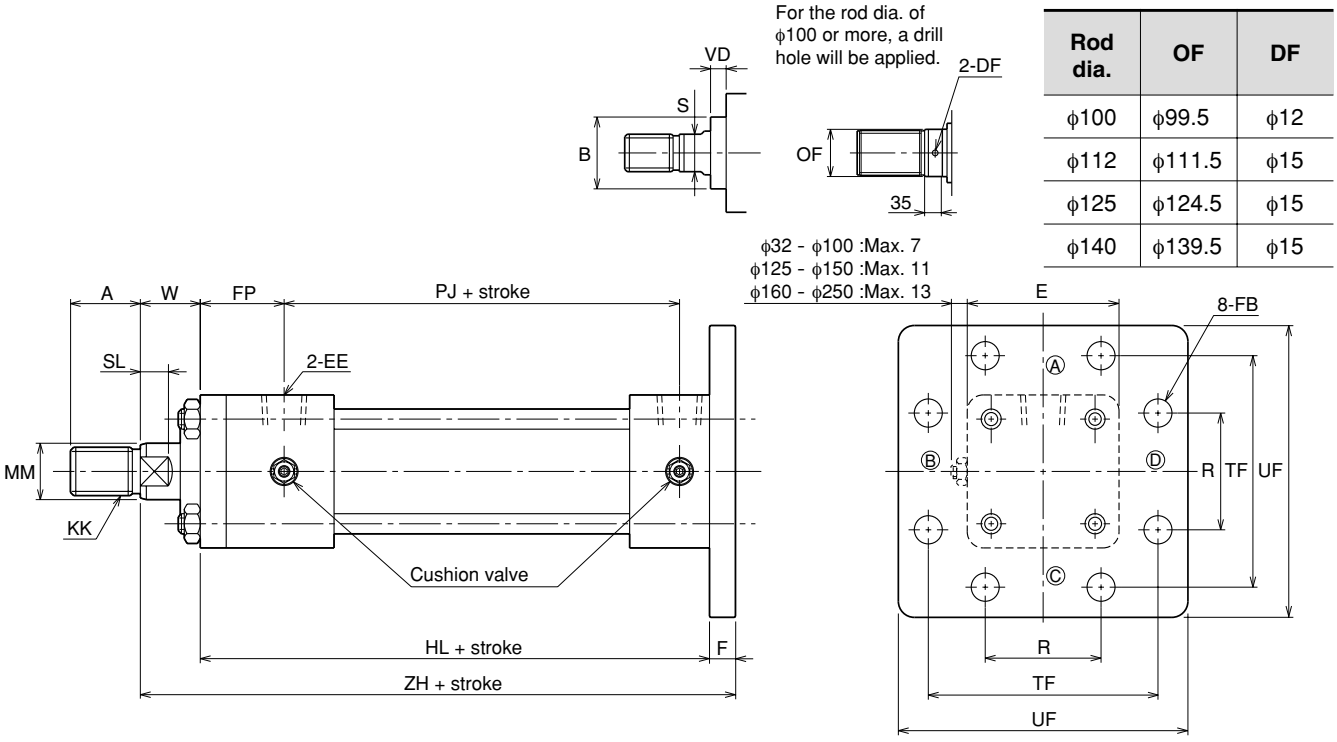
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

70-140H-8/TH8 Bore B CAD/DATA is available.

FD

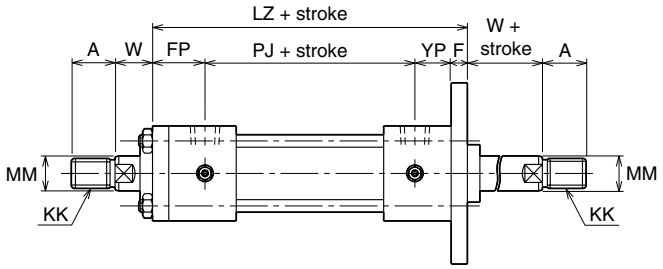
70H-8	1	FD	Bore	B	B	Stroke	–	A	B
140H-8	1	FD	Bore	B	B	Stroke	–	A	B



Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15

- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of “Switch set”. All the contents other than “Switch mounting dimensions” are identical.
- If the port’s sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

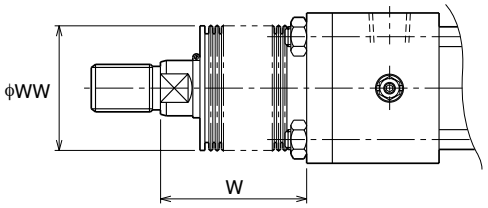
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10

Symbol / Bore	E	EE	F	FB	FP	HL	LZ	PJ	R	TF	UF	W	YP	ZH
ϕ32	□58	Rc 3/8	11	ϕ11	38	141	166	90	40	88	109	30	27	182
ϕ40	□65	Rc 3/8	11	ϕ11	38	141	166	90	46	95	118	30	27	182
ϕ50	□76	Rc 1/2	13	ϕ14	42	155	182	98	58	115	145	30	29	198
ϕ63	□90	Rc 1/2	15	ϕ18	46	163	194	102	65	132	165	35	31	213
ϕ80	□110	Rc 3/4	18	ϕ18	56	184	222	110	87	155	190	35	38	237
ϕ100	□135	Rc 3/4	20	ϕ22	58	192	232	116	109	190	230	40	38	252
ϕ125	□165	Rc 1	24	ϕ26	67	220	264	130	130	224	272	45	43	289
ϕ140	□185	Rc 1	26	ϕ26	69	230	276	138	145	250	300	50	43	306
ϕ150	□196	Rc 1	28	ϕ30	71	240	288	146	155	270	320	50	43	318
ϕ160	□210	Rc 1	31	ϕ33	74	253	304	156	170	285	345	55	43	339
ϕ180	□235	Rc 1 1/4	33	ϕ33	75	275	322	172	185	315	375	55	42	363
ϕ200	□262	Rc 1 1/2	37	ϕ36	85	301	354	184	206	355	425	55	48	393
ϕ224	□292	Rc 1 1/2	41	ϕ42	89	305	362	184	230	395	475	60	48	406
ϕ250	□325	Rc 2	46	ϕ45	106	346	412	200	250	425	515	65	60	457

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

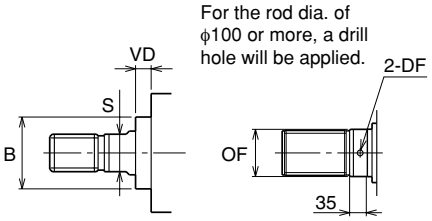
Unit: mm

70-140H-8/TH8 Bore A.C

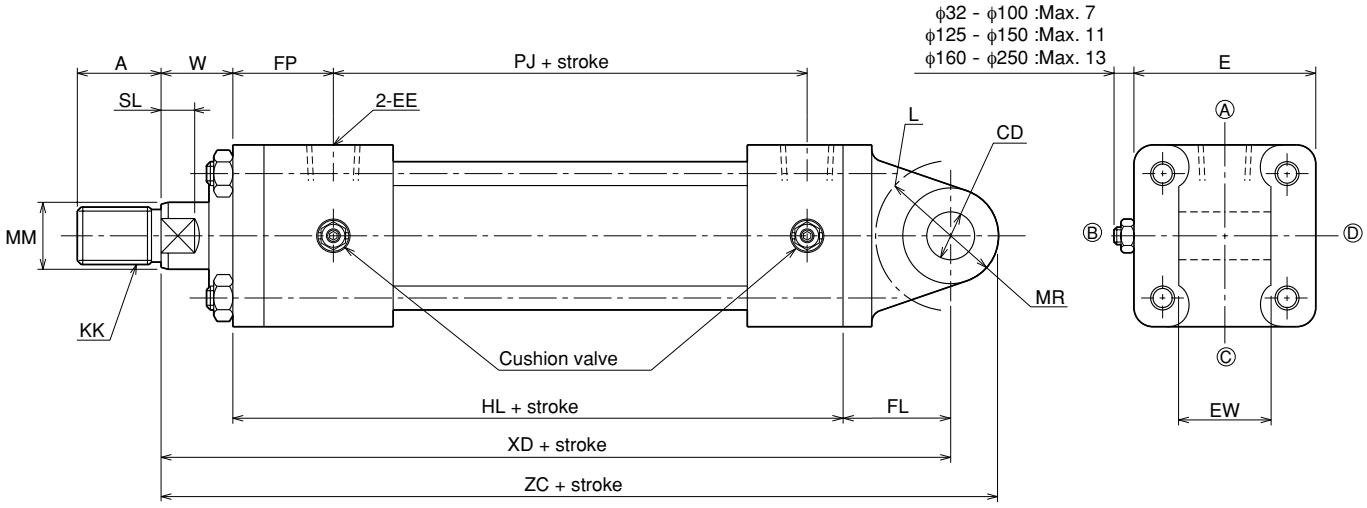
CAD/DATA is available.

CA

70H-8	1	CA	Bore	B	B	Stroke	–	A	B
140H-8	1	CA	Bore	B	B	Stroke	–	A	B



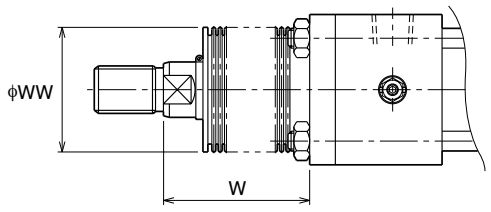
Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of “Switch set”. All the contents other than “Switch mounting dimensions” are identical.
- For the type with a bore of ϕ180 or more, the CA accessory is equipped with the gray cast iron bush.
- The CA accessory, which is attached to the type with a bore of ϕ180 or more, is made of structural rolled steel (welding type), and is equipped with the gray cast iron bush.
- If the port’s sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 - ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	ϕ40	1/3.5	Stroke + X
	ϕ50 - ϕ80	1/4	Stroke + X
	ϕ100 - ϕ125	1/5	Stroke + X
Conex	ϕ40	1/2.5	Stroke + X
	ϕ50 - ϕ80	1/3	Stroke + X
	ϕ100	1/3.5	Stroke + X
	ϕ125 - ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	30	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	CD	E	EE	EW	FL	FP	HL	L	MR	PJ	W		XD		ZC	
											B•C	A	B•C	A	B•C	A
ϕ32	ϕ16H9	□58	Rc 3/8	$25^{-0.1}_{-0.4}$	38	38	141	R20	R16	90	30	–	209	–	225	–
ϕ40	ϕ16H9	□65	Rc 3/8	$25^{-0.1}_{-0.4}$	38	38	141	R20	R16	90	30	35	209	214	225	230
ϕ50	ϕ20H9	□76	Rc 1/2	$31.5^{-0.1}_{-0.4}$	45	42	155	R25	R20	98	30	41	230	241	250	261
ϕ63	ϕ31.5H9	□90	Rc 1/2	$40^{-0.1}_{-0.4}$	63	46	163	R46	R31.5	102	35	48	261	274	292.5	305.5
ϕ80	ϕ31.5H9	□110	Rc 3/4	$40^{-0.1}_{-0.4}$	72	56	184	R52	R31.5	110	35	51	291	307	322.5	338.5
ϕ100	ϕ40H9	□135	Rc 3/4	$50^{-0.1}_{-0.4}$	84	58	192	R62	R40	116	40	57	316	333	356	373
ϕ125	ϕ50H9	□165	Rc 1	$63^{-0.1}_{-0.4}$	100	67	220	R73	R50	130	45	57	365	377	415	427
ϕ140	ϕ63H9	□185	Rc 1	$80^{-0.1}_{-0.6}$	120	69	230	R91	R63	138	50	57	400	407	463	470
ϕ150	ϕ63H9	□196	Rc 1	$80^{-0.1}_{-0.6}$	122	71	240	R91	R63	146	50	57	412	419	475	482
ϕ160	ϕ71H9	□210	Rc 1	$80^{-0.1}_{-0.6}$	137	74	253	R103	R71	156	55	57	445	447	516	518
ϕ180	ϕ80H9	□235	Rc 1¼	$100^{-0.1}_{-0.6}$	150	75	275	R100	R80	172	55	–	480	–	560	–
ϕ200	ϕ90H9	□262	Rc 1½	$125^{-0.1}_{-0.6}$	170	85	301	R115	R90	184	55	–	526	–	616	–
ϕ224	ϕ100H9	□292	Rc 1½	$125^{-0.1}_{-0.6}$	185	89	305	R125	R100	184	60	–	550	–	650	–
ϕ250	ϕ100H9	□325	Rc 2	$125^{-0.1}_{-0.6}$	185	106	346	R125	R100	200	65	–	596	–	696	–

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

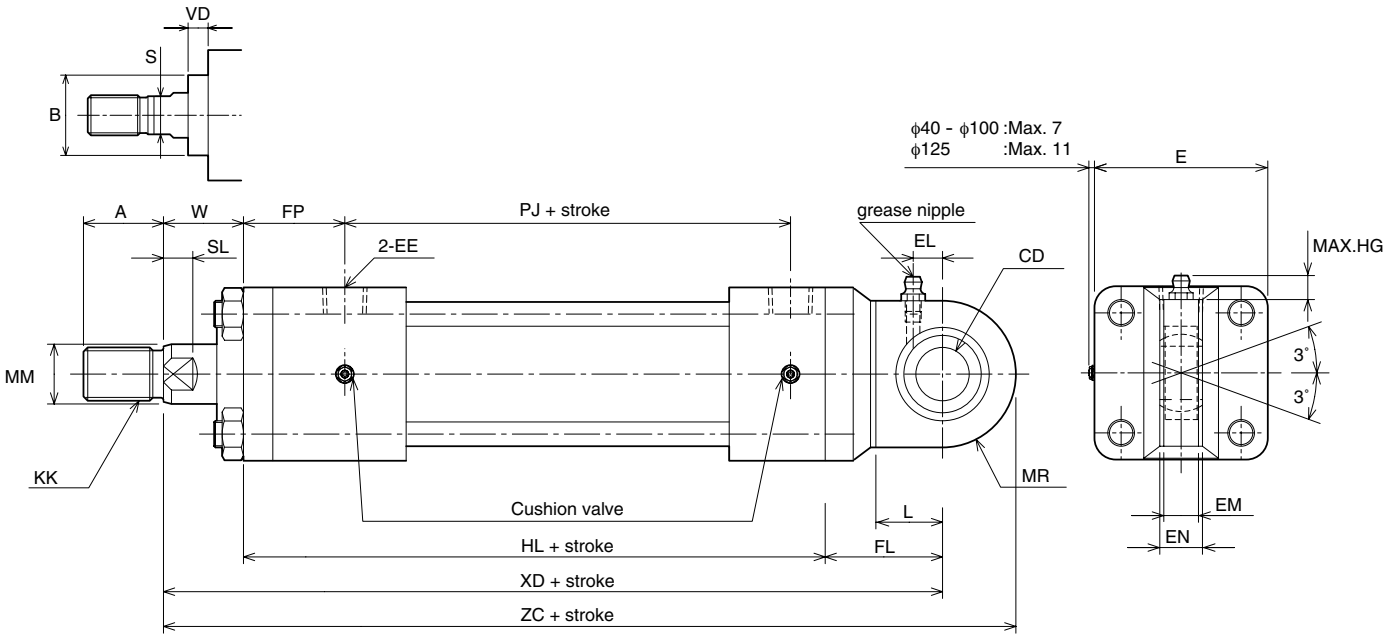
70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

CS

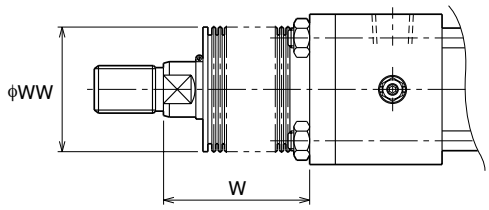
70H-8	1	CS	Bore	B	B	Stroke	–	A	B
140H-8	1	CS	Bore	B	B	Stroke	–	A	B



- The grease is not sealed at the shipment.
- Inner diameter and installation width of bearing are conformed to JIS B8367-2 MP5 type regulation. (Same standard with 160H-1 series.)
- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of “Switch set”. All the contents other than “Switch mounting dimensions” are identical.

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125	1/5	Stroke + X
Conex	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125	1/3.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	ϕ40	1/3.5	Stroke + X
	ϕ50 - ϕ80	1/4	Stroke + X
	ϕ100 • ϕ125	1/5	Stroke + X
Conex	ϕ40	1/2.5	Stroke + X
	ϕ50 - ϕ80	1/3	Stroke + X
	ϕ100	1/3.5	Stroke + X
	ϕ125	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	33	17

Symbol / Bore	CD	E	EE	EN	EM	FL	FP	HL	L	MR	PJ	W		XD		ZC		grease nipple		
												B•C	A	B•C	A	B•C	A	Code	EL	HG
ϕ40	$\phi20^{0}_{-0.012}$	□65	Rc3/8	$16^{0}_{-0.12}$	13	44	38	141	25	R27.5	90	30	35	215	220	242.5	247.5	JIS A type MT6×1	11	11
ϕ50	$\phi25^{0}_{-0.012}$	□76	Rc1/2	$20^{0}_{-0.12}$	17	53	42	155	31	R32.5	98	30	41	238	249	270.5	281.5	JIS A type MT6×1	14	11
ϕ63	$\phi30^{0}_{-0.012}$	□90	Rc1/2	$22^{0}_{-0.12}$	19	64	46	163	38	R40	102	35	48	262	275	302	315	JIS A type Rc1/8	15	15
ϕ80	$\phi40^{0}_{-0.012}$	□110	Rc3/4	$28^{0}_{-0.12}$	23	81	56	184	48	R50	110	35	51	300	316	350	366	JIS A type Rc1/8	20	15
ϕ100	$\phi50^{0}_{-0.012}$	□135	Rc3/4	$35^{0}_{-0.12}$	30	96	58	192	58	R60	116	40	57	328	345	388	405	JIS A type Rc1/8	24	15
ϕ125	$\phi60^{0}_{-0.015}$	□165	Rc1	$44^{0}_{-0.15}$	38	117	67	220	72	R75	130	45	57	382	394	457	469	JIS A type Rc1/8	28	15

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol	Bore	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
WW	**Rod B**	50	63	71	80	100	125
	Rod C	50	50	63	71	80	100
	Rod A	63	71	80	100	125	140
X	**Rod B**	45	45	55	55	55	65
	Rod C	45	45	55	55	55	65
	Rod A	45	55	55	55	65	65

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

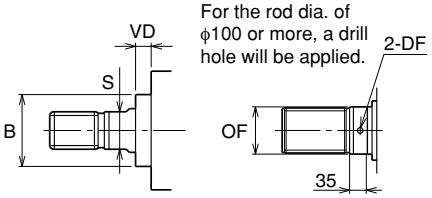
Unit: mm

70-140H-8/TH8 Bore A.C

CAD/DATA is available.

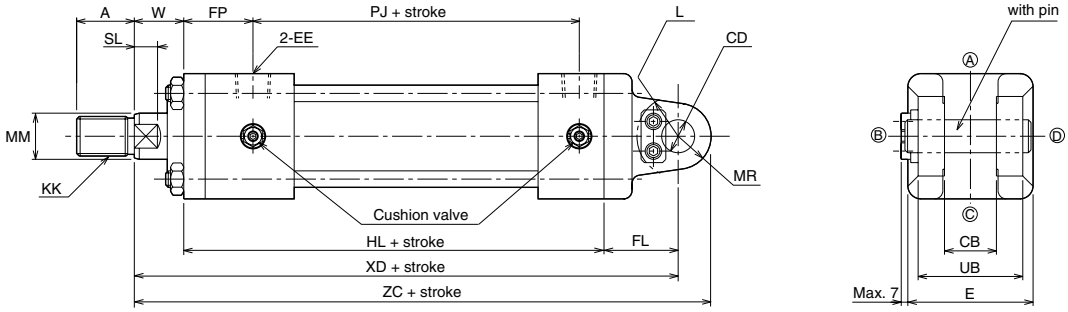
CB

70H-8	1	CB	Bore	B	B	Stroke	–	A	B
140H-8	1	CB	Bore	B	B	Stroke	–	A	B

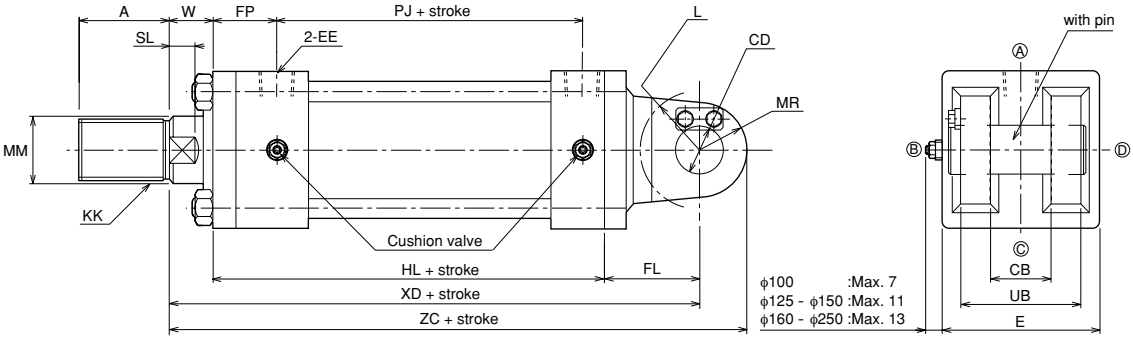


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15

● **Bore ϕ32 – ϕ80**



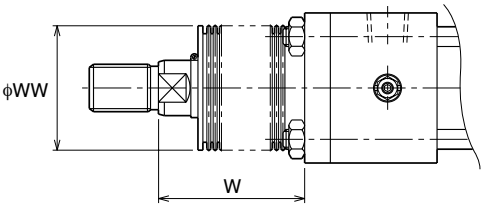
● **Bore ϕ100 – ϕ250**



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of “Switch set”. All the contents other than “Switch mounting dimensions” are identical.
- Material of CB accessory for type with a bore of ϕ32 to ϕ160: nodular graphite cast iron.
- Material of CB accessory for type with a bore of ϕ180 or more: structural rolled steel.
- If the port’s sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

With boots

70-140H-8/TH8 Bore K



Rod B • C Nylon tarpaulin Chloroprene	ϕ32	1/3	Stroke + X
	ϕ40 • ϕ50	1/3.5	Stroke + X
	ϕ63 - ϕ100	1/4	Stroke + X
	ϕ125 - ϕ200	1/5	Stroke + X
	ϕ224 • ϕ250	1/6	Stroke + X
Conex	ϕ32	1/2	Stroke + X
	ϕ40 • ϕ50	1/2.5	Stroke + X
	ϕ63 - ϕ100	1/3	Stroke + X
	ϕ125 • ϕ140	1/3.5	Stroke + X
	ϕ150 - ϕ200	1/4	Stroke + X
	ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A Nylon tarpaulin Chloroprene	ϕ40	1/3.5	Stroke + X
	ϕ50 - ϕ80	1/4	Stroke + X
	ϕ100 - ϕ160	1/5	Stroke + X
Conex	ϕ40	1/2.5	Stroke + X
	ϕ50 - ϕ80	1/3	Stroke + X
	ϕ100	1/3.5	Stroke + X
	ϕ125 - ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	33	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	CB	CD	E	EE	FL	FP	HL	L	MR	PJ	UB	W		XD		ZC	
												B•C	A	B•C	A	B•C	A
ϕ32	$25^{+0.4}_{+0.1}$	$\phi 16\frac{H9}{f8}$	□58	Rc 3/8	38	38	141	R20	R16	90	50	30	–	209	–	225	–
ϕ40	$25^{+0.4}_{+0.1}$	$\phi 16\frac{H9}{f8}$	□65	Rc 3/8	38	38	141	R20	R16	90	50	30	35	209	214	225	230
ϕ50	$31.5^{+0.4}_{+0.1}$	$\phi 20\frac{H9}{f8}$	□76	Rc 1/2	45	42	155	R25	R20	98	63.5	30	41	230	241	250	261
ϕ63	$40^{+0.4}_{+0.1}$	$\phi 31.5\frac{H9}{f8}$	□90	Rc 1/2	63	46	163	R40	R31.5	102	80	35	48	261	274	292.5	305.5
ϕ80	$40^{+0.4}_{+0.1}$	$\phi 31.5\frac{H9}{f8}$	□110	Rc 3/4	72	56	184	R40	R31.5	110	80	35	51	291	307	322.5	338.5
ϕ100	$50^{+0.4}_{+0.1}$	$\phi 40\frac{H9}{f8}$	□135	Rc 3/4	84	58	192	R50	R40	116	100	40	57	316	333	356	373
ϕ125	$63^{+0.4}_{+0.1}$	$\phi 50\frac{H9}{f8}$	□165	Rc 1	100	67	220	R62	R50	130	126	45	57	365	377	415	427
ϕ140	$80^{+0.6}_{+0.1}$	$\phi 63\frac{H9}{f8}$	□185	Rc 1	120	69	230	R79	R63	138	160	50	57	400	407	463	470
ϕ150	$80^{+0.6}_{+0.1}$	$\phi 63\frac{H9}{f8}$	□196	Rc 1	122	71	240	R82	R63	146	160	50	57	412	419	475	482
ϕ160	$80^{+0.6}_{+0.1}$	$\phi 71\frac{H9}{f8}$	□210	Rc 1	137	74	253	R89	R71	156	160	55	57	445	447	516	518
ϕ180	$100^{+0.6}_{+0.1}$	$\phi 80\frac{H9}{f8}$	□235	Rc $1^1/_4$	150	75	275	R100	R80	172	200	55	–	480	–	560	–
ϕ200	$125^{+0.6}_{+0.1}$	$\phi 90\frac{H9}{f8}$	□262	Rc $1^1/_2$	170	85	301	R115	R90	184	251	55	–	526	–	616	–
ϕ224	$125^{+0.6}_{+0.1}$	$\phi 100\frac{H9}{f8}$	□292	Rc $1^1/_2$	185	89	305	R125	R100	184	251	60	–	550	–	650	–
ϕ250	$125^{+0.6}_{+0.1}$	$\phi 100\frac{H9}{f8}$	□325	Rc 2	185	106	346	R125	R100	200	251	65	–	596	–	696	–

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	Rod B	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	Rod B	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

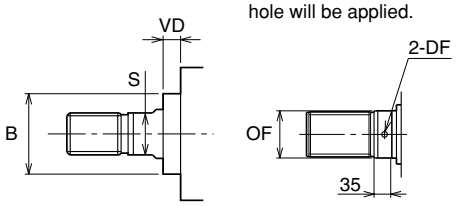
Unit: mm

70-140H-8/TH8 Bore A.C

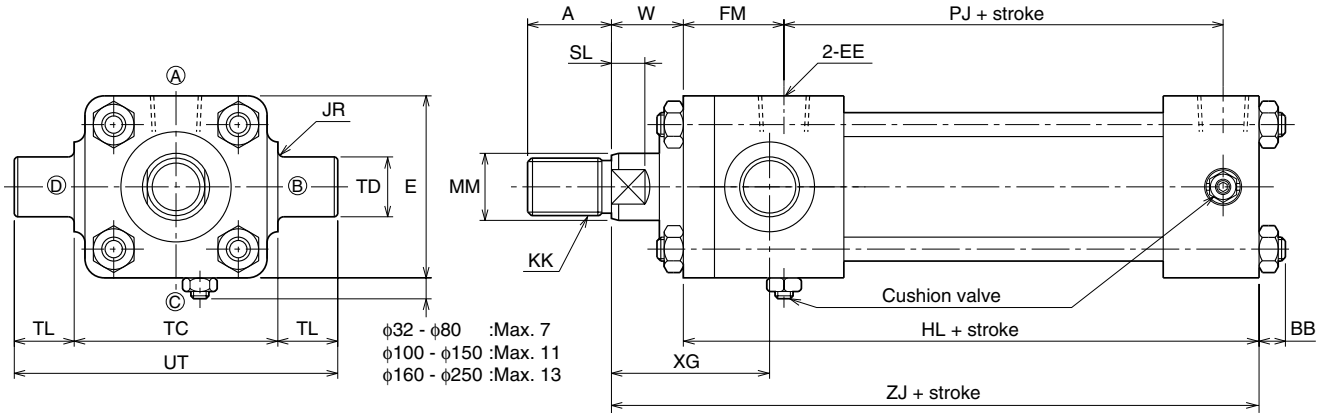
CAD/DATA is available.

TA

70H-8	1	TA	Bore	B	B	Stroke	– A C
140H-8	1	TA	Bore	B	B	Stroke	– A C

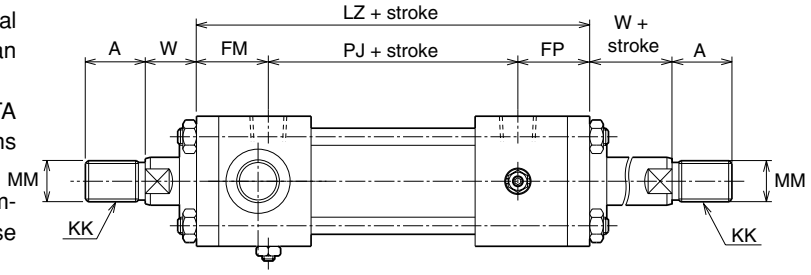


Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15



- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions" are identical.
- The cushion valve and air vent positions of the TA type are Ⓒ, on account of the structural conditions (rod cover side).
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

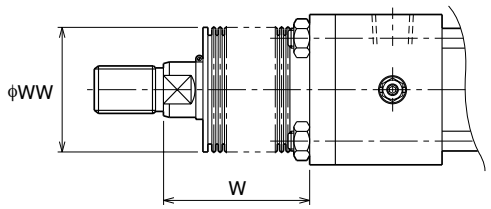
Double rod type (rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C
Nylon tarpaulin
Chloroprene

ϕ32		1/3	Stroke + X
ϕ40	• ϕ50	1/3.5	Stroke + X
ϕ63	- ϕ100	1/4	Stroke + X
ϕ125	- ϕ200	1/5	Stroke + X
ϕ224	- ϕ250	1/6	Stroke + X

Conex

ϕ32		1/2	Stroke + X
ϕ40	• ϕ50	1/2.5	Stroke + X
ϕ63	- ϕ100	1/3	Stroke + X
ϕ125	• ϕ140	1/3.5	Stroke + X
ϕ150	- ϕ200	1/4	Stroke + X
ϕ224	• ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A
Nylon tarpaulin
Chloroprene

ϕ40		1/3.5	Stroke + X
ϕ50	- ϕ80	1/4	Stroke + X
ϕ100	- ϕ160	1/5	Stroke + X

Conex

ϕ40		1/2.5	Stroke + X
ϕ50	- ϕ80	1/3	Stroke + X
ϕ100		1/3.5	Stroke + X
ϕ125	- ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	33	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	–	–	–	–	–	–	–

Symbol / Bore	BB	E	EE	FM	FP	HL	JR	LZ	PJ	TC	TD	TL	UT	W		XG		ZJ	
														B•C	A	B•C	A	B•C	A
ϕ32	11	□58	Rc3/8	38	38	141	R2	166	90	$58^{0}_{-0.3}$	ϕ20e9	20	98	30	–	62	–	171	–
ϕ40	11	□65	Rc3/8	38	38	141	R2	166	90	$69^{0}_{-0.3}$	ϕ20e9	20	109	30	35	62	67	171	176
ϕ50	11	□76	Rc1/2	42	42	155	R2.5	182	98	$85^{0}_{-0.35}$	ϕ25e9	25	135	30	41	66	77	185	196
ϕ63	13	□90	Rc1/2	46	46	163	R2.5	194	102	$98^{0}_{-0.35}$	ϕ31.5e9	31.5	161	35	48	74	87	198	211
ϕ80	16	□110	Rc3/4	56	56	184	R2.5	222	110	$118^{0}_{-0.35}$	ϕ31.5e9	31.5	181	35	51	82	98	219	235
ϕ100	18	□135	Rc3/4	58	58	192	R3	232	116	$145^{0}_{-0.4}$	ϕ40e9	40	225	40	57	89	106	232	249
ϕ125	21	□165	Rc1	67	67	220	R3	264	130	$175^{0}_{-0.4}$	ϕ50e9	50	275	45	57	103	115	265	277
ϕ140	22	□185	Rc1	69	69	230	R4	276	138	$195^{0}_{-0.46}$	ϕ63e9	63	321	50	57	112	119	280	287
ϕ150	25	□196	Rc1	71	71	240	R4	288	146	$206^{0}_{-0.46}$	ϕ63e9	63	332	50	57	112	119	290	297
ϕ160	25	□210	Rc1	74	74	253	R4	304	156	$218^{0}_{-0.46}$	ϕ71e9	71	360	55	57	126	128	308	310
ϕ180	27	□235	Rc1 1/4	106	75	275	R4	353	172	$243^{0}_{-0.46}$	ϕ80e9	80	403	55	–	136	–	361	–
ϕ200	29	□262	Rc1 1/2	116	85	301	R5	385	184	$272^{0}_{-0.52}$	ϕ90e9	90	452	55	–	145	–	387	–
ϕ224	34	□292	Rc1 1/2	129	89	305	R5	402	184	$300^{0}_{-0.52}$	ϕ100e9	100	500	60	–	160	–	405	–
ϕ250	37	□325	Rc2	126	106	346	R5	432	200	$335^{0}_{-0.57}$	ϕ100e9	100	535	65	–	170	–	431	–

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol	Bore	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	**Rod B**	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	**Rod B**	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

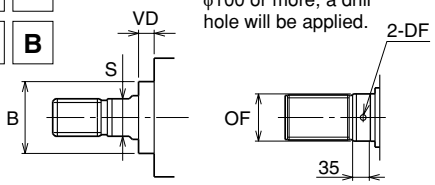
Unit: mm

70-140H-8/TH8 Bore A.C

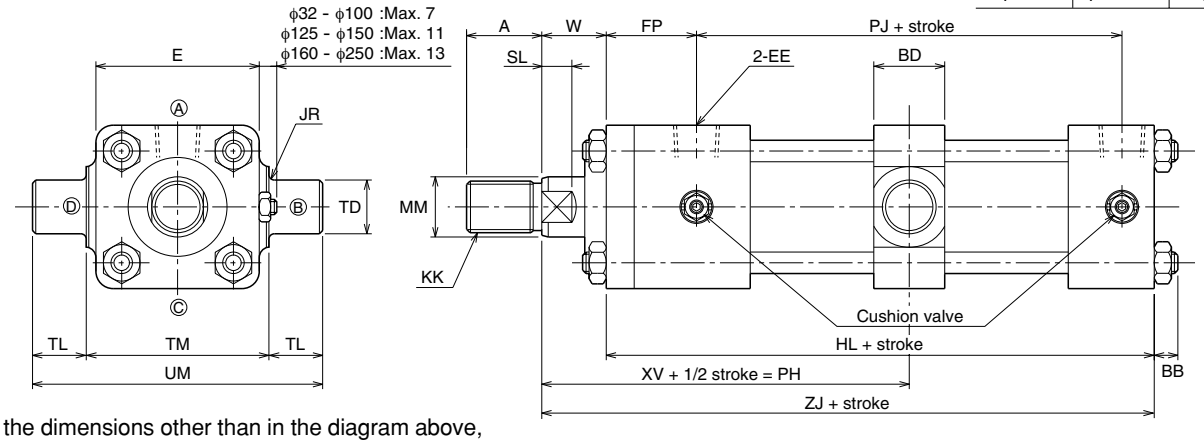
CAD/DATA is available.

TC

70H-8	1	TC	Bore	B	B	Stroke	–	A	B
140H-8	1	TC	Bore	B	B	Stroke	–	A	B



Rod dia.	OF	DF
ϕ100	ϕ99.5	ϕ12
ϕ112	ϕ111.5	ϕ15
ϕ125	ϕ124.5	ϕ15
ϕ140	ϕ139.5	ϕ15

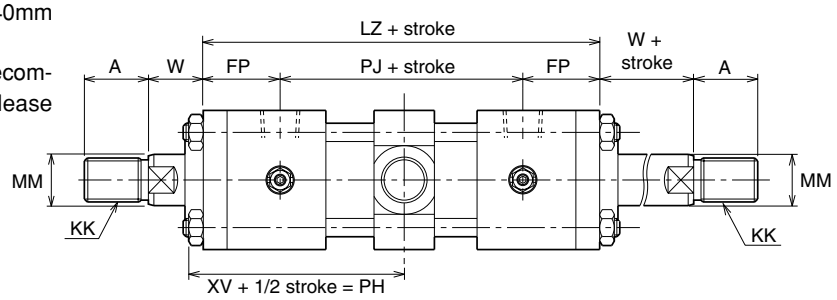


- For the dimensions other than in the diagram above, refer to the specification of the SD type (standard type).
- For the mounting of switches, refer to the dimensional drawings of "Switch set". All the contents other than "Switch mounting dimensions and minimum PN" are identical to this table.
- Please specify the PH dimension in case of TC mounting transfer.
- The minimum available stroke for each bore (140mm to 250mm) is on the table below.
- If the port's sizes are greater than 1 inch, we recommend you to order G thread or pipe flange. Please feel free to contact us. (Order made)

Minimum available strokes

Bore	Min. stroke	Bore	Min. stroke
ϕ140	6	ϕ200	18
ϕ150	0	ϕ224	27
ϕ160	8	ϕ250	27
ϕ180	12		

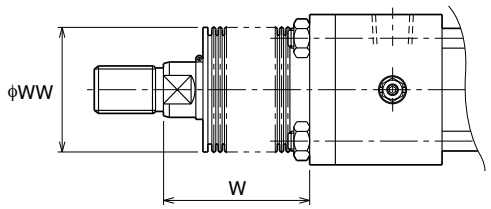
Double rod type (ϕ32 - ϕ250/rod B, C)
For both ends loaded type



- The switch set (ϕ32 - ϕ140) is also within the fabrication range.

With boots

70-140H-8/TH8 Bore K



Rod B • C
Nylon tarpaulin
Chloroprene

ϕ32	1/3	Stroke + X
ϕ40 • ϕ50	1/3.5	Stroke + X
ϕ63 - ϕ100	1/4	Stroke + X
ϕ125 - ϕ200	1/5	Stroke + X
ϕ224 • ϕ250	1/6	Stroke + X

Conex

ϕ32	1/2	Stroke + X
ϕ40 • ϕ50	1/2.5	Stroke + X
ϕ63 - ϕ100	1/3	Stroke + X
ϕ125 • ϕ140	1/3.5	Stroke + X
ϕ150 - ϕ200	1/4	Stroke + X
ϕ224 • ϕ250	1/4.5	Stroke + X

	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Resistible temperature	80°C	130°C	200°C

Notes)
- Remember that the resistible temperatures shown in the table above are for the boots, not for the cylinder.
- Conex is the registered trademark of Teijin Ltd.
- If decimals are included into the calculation results, raise them to the next whole number.
- The boots have been mounted at our factory prior to delivery.

Rod A
Nylon tarpaulin
Chloroprene

ϕ40	1/3.5	Stroke + X
ϕ50 - ϕ80	1/4	Stroke + X
ϕ100 - ϕ160	1/5	Stroke + X

Conex

ϕ40	1/2.5	Stroke + X
ϕ50 - ϕ80	1/3	Stroke + X
ϕ100	1/3.5	Stroke + X
ϕ125 - ϕ160	1/4	Stroke + X

Unit: mm

Dimensional table

Symbol / Bore	Rod B							Rod C							Rod A						
	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD	A	B	KK	MM	S	SL	VD
ϕ32	25	ϕ34	M16×1.5	ϕ18	14	10	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ϕ40	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	25	ϕ36	M16×1.5	ϕ18	14	10	10	35	ϕ43	M24×1.5	ϕ28	24	14	17
ϕ50	35	ϕ46	M24×1.5	ϕ28	24	14	10	30	ϕ40	M20×1.5	ϕ22.4	19	11	10	45	ϕ50	M30×1.5	ϕ35.5	30	16	17
ϕ63	45	ϕ55	M30×1.5	ϕ35.5	30	16	10	35	ϕ46	M24×1.5	ϕ28	24	14	10	60	ϕ65	M39×1.5	ϕ45	41	20	19
ϕ80	60	ϕ65	M39×1.5	ϕ45	41	20	10	45	ϕ55	M30×1.5	ϕ35.5	30	16	9	75	ϕ80	M48×1.5	ϕ56	50	23	20
ϕ100	75	ϕ80	M48×1.5	ϕ56	50	23	10	60	ϕ65	M39×1.5	ϕ45	41	20	10	95	ϕ95	M64×2	ϕ71	65	27	23
ϕ125	95	ϕ95	M64×2	ϕ71	65	27	10	75	ϕ80	M48×1.5	ϕ56	50	23	10	120	ϕ115	M80×2	ϕ90	85	30	17
ϕ140	110	ϕ105	M72×2	ϕ80	75	31	10	80	ϕ85	M56×2	ϕ63	55	24	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	17
ϕ150	115	ϕ110	M76×2	ϕ85	80	33	10	85	ϕ90	M60×2	ϕ67	60	30	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	15
ϕ160	120	ϕ115	M80×2	ϕ90	85	33	10	95	ϕ95	M64×2	ϕ71	65	27	10	150	ϕ140	M100×2	ϕ112	–	Drill hole	16
ϕ180	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	110	ϕ105	M72×2	ϕ80	75	31	10	–	–	–	–	–	–	–
ϕ200	150	ϕ140	M100×2	ϕ112	–	Drill hole	10	120	ϕ115	M80×2	ϕ90	85	33	10	–	–	–	–	–	–	–
ϕ224	180	ϕ150	M120×2	ϕ125	–	Drill hole	10	140	ϕ125	M95×2	ϕ100	–	Drill hole	10	–	–	–	–	–	–	–
ϕ250	195	ϕ170	M130×2	ϕ140	–	Drill hole	10	150	ϕ140	M100×2	ϕ112	–	Drill hole		–	–	–	–	–	–	–

Symbol / Bore	BB	BD	E	EE	FP	HL	JR	LZ	Minimum PH		PJ	TD	TL	TM	UM	W		XV		ZJ	
									B•C	A						B•C	A	B•C	A	B•C	A
ϕ32	11	28	□58	Rc 3/8	38	141	R2	166	105	–	90	ϕ20e9	20	$58^{0}_{-0.3}$	98	30	–	113	–	171	–
ϕ40	11	28	□65	Rc 3/8	38	141	R2	166	105	110	90	ϕ20e9	20	$69^{0}_{-0.3}$	109	30	35	113	118	171	176
ϕ50	11	33	□76	Rc 1/2	42	155	R2.5	182	113.5	124.5	98	ϕ25e9	25	$85^{0}_{-0.35}$	135	30	41	121	132	185	196
ϕ63	13	43	□90	Rc 1/2	46	163	R2.5	194	127.5	140.5	102	ϕ31.5e9	31.5	$98^{0}_{-0.35}$	161	35	48	132	145	198	211
ϕ80	16	43	□110	Rc 3/4	56	184	R2.5	222	140.5	156.5	110	ϕ31.5e9	31.5	$118^{0}_{-0.35}$	181	35	51	146	162	219	235
ϕ100	18	53	□135	Rc 3/4	58	192	R3	232	152.5	169.5	116	ϕ40e9	40	$145^{0}_{-0.40}$	225	40	57	156	173	232	249
ϕ125	21	58	□165	Rc 1	67	220	R3	264	174	186	130	ϕ50e9	50	$175^{0}_{-0.40}$	275	45	57	177	189	265	277
ϕ140	22	78	□185	Rc 1	69	230	R4	276	191	198	138	ϕ63e9	63	$195^{0}_{-0.46}$	321	50	57	188	195	280	287
ϕ150	25	78	□196	Rc 1	71	240	R4	288	193	200	146	ϕ63e9	63	$206^{0}_{-0.46}$	332	50	57	194	201	290	297
ϕ160	25	88	□210	Rc 1	74	253	R4	304	211	213	156	ϕ71e9	71	$218^{0}_{-0.46}$	360	55	57	207	209	308	310
ϕ180	27	98	□235	Rc 1 1/4	75	275	R4	322	225	–	172	ϕ80e9	80	$243^{0}_{-0.46}$	403	55	–	216	–	330	–
ϕ200	29	108	□262	Rc 1 1/2	85	301	R5	354	244	–	184	ϕ90e9	90	$272^{0}_{-0.52}$	452	55	–	232	–	356	–
ϕ224	34	117	□292	Rc 1 1/2	89	305	R5	362	257.5	–	184	ϕ100e9	100	$300^{0}_{-0.52}$	500	60	–	241	–	365	–
ϕ250	37	117	□325	Rc 2	106	346	R5	412	287.5	–	200	ϕ100e9	100	$335^{0}_{-0.57}$	535	65	–	271	–	411	–

● Allowance of B is h8, allowance of MM is f8.

With boots

Symbol / Bore		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
WW	Rod B	40	50	63	71	80	100	125	125	140	140	160	180	180	200
	Rod C	–	50	50	63	71	80	100	125	125	125	125	140	160	180
	Rod A	–	63	71	80	100	125	140	160	160	180	–	–	–	–
X	Rod B	45	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod C	–	45	45	55	55	55	65	65	65	65	65	65	80	80
	Rod A	–	45	55	55	55	65	65	65	65	65	–	–	–	–

70/140H-8

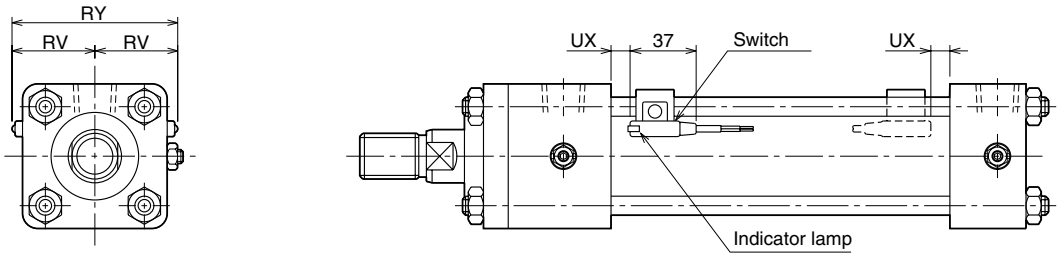
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

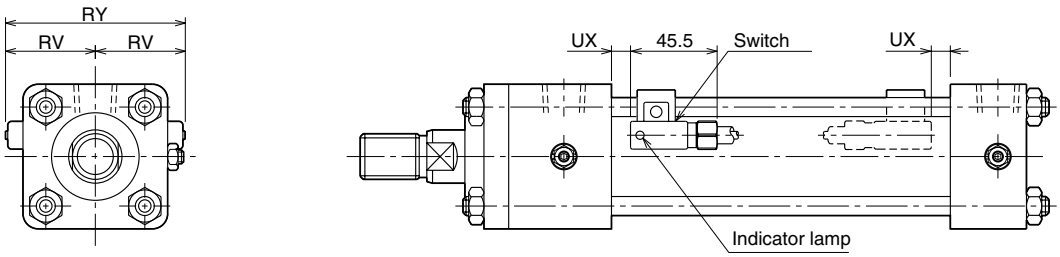
Switch set

70H-8R	2	SD	Bore	B	B	200	–	A	B	Switch symbol	Switch quantity
140H-8R	2	SD	Bore	B	B	200	–	A	B	Switch symbol	Switch quantity

AX type (contact), AX type (no contact)

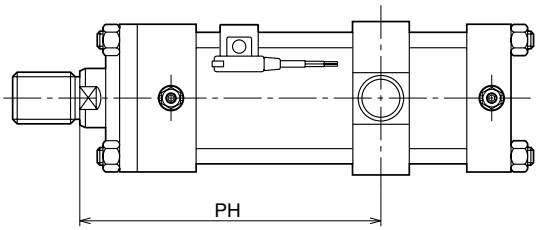


WR type (contact), WS type (no contact/2-wire, 2-LED type) (cutting fluid proof type)

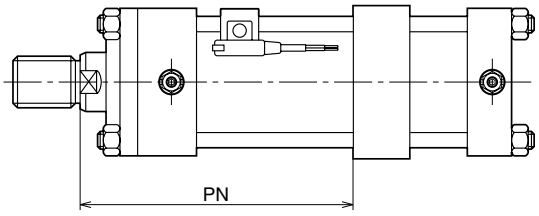


Minimum dimension PH • PN of switch set cylinder 70/140H-8R

• TC type



• FK type



● The minimum dimension PH•PN of the switch set cylinder is the dimension when the trunnion is moved toward the rod side in case that the switch is mounted to the rod side.

If the boots are equipped, the dimension W is modified. In such a case, specify the dimension PH.

Unit: mm

Dimensional table

Symbol / Bore	RV			RY			UX				The minimum dimension PH				The minimum dimension PN			
	AX type AX205W	SR type	WR•WS type	AX type AX205W	SR type	WR•WS type	AX type AX205W	SR type	WR type	WS type	AX type AX205W	SR type	WR type	WS type	AX type AX205W	SR type	WR type	WS type
ϕ32	36	40	39	72	80	78	13	6	9	12	171	181	190	193	157	167	176	179
ϕ40	40	46	43	80	92	86	14	6	9	13	171	181	190	193	157	167	176	179
ϕ50	43	50	47	86	100	94	15	7	9	14	178.5	193.5	198.5	203.5	162	177	182	187
ϕ63	50	56	53	100	112	106	17	10	13	16	196.5	211.5	216.5	218.5	175	190	195	197
ϕ80	60	64	63	120	128	126	19	11	13	17	211.5	226.5	229.5	233.5	190	205	208	212
ϕ100	70	74	72	140	148	144	21	13	14	21	224.5	239.5	242.5	249.5	198	213	216	223
ϕ125	83	89	85	166	178	170	23	17	19	23	250	265	269	273	221	236	240	244
ϕ140	91	–	–	182	–	–	26	–	–	–	280	–	–	–	241	–	–	–

Note) The dimension UX indicates the optimum switch mounting position at the detection of the stroke end.

Working range and difference

Bore mm	Contact						No contact					
	AX1**		SR type		WR type		AX2**		AX205W		WS type	
	Working range	Difference	Working range	Difference	Working range	Difference	Working range	Difference	Working range	Difference	Working range	Difference
ϕ32	4 - 14	2 or less	7 - 10	3 or less	4 - 9	2 or less	3 - 8	1 or less	9 - 12	2 or less	10-14	1 or less
ϕ40			7 - 12		6 - 12				11 - 17			
ϕ50												
ϕ63												
ϕ80											11-17	
ϕ100	11 - 18		10 - 16		10 - 17		4 - 10		17 - 21		12-18	
ϕ125	5 - 15		9 - 15		5 - 12							
ϕ140	11 - 20		–	–	–	–	6 - 13		–	–	–	–

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

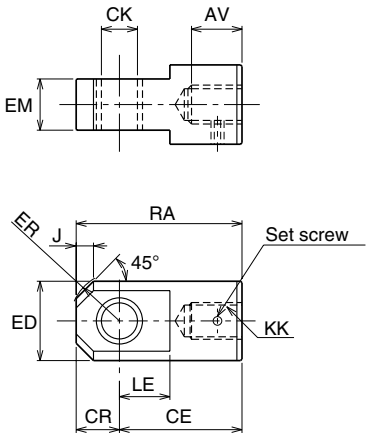
70-140H-8/TH8 Bore K

CAD/DATA is available.

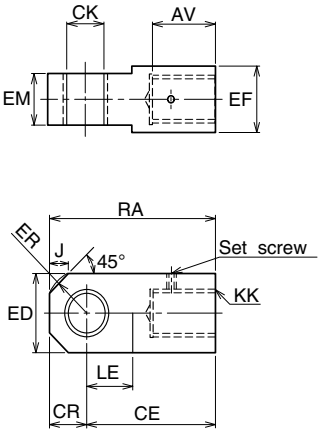
Rod end attachment

Rod end eye (T-end)

ϕ32 - ϕ160

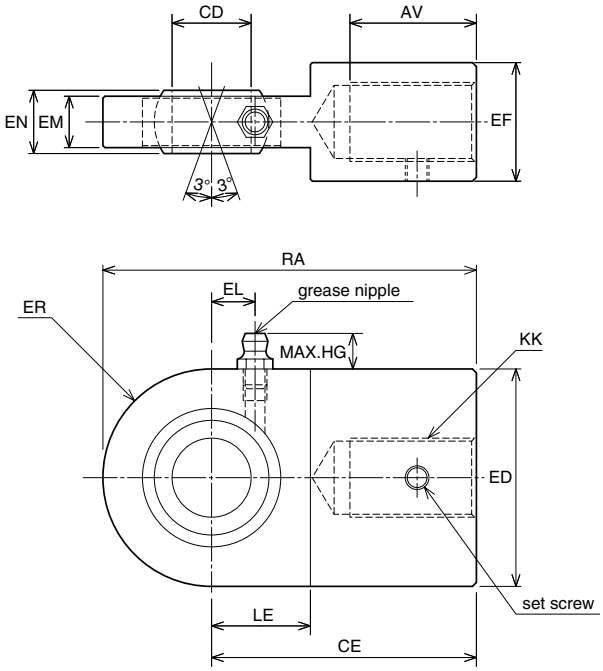


ϕ180 - ϕ250

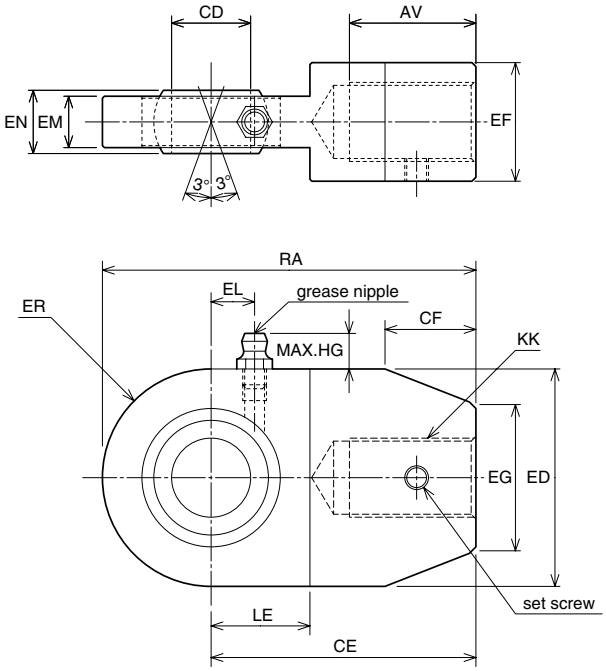


Eye joint with spherical bearing

ϕ40 - ϕ63



ϕ80 - ϕ125



Notes) ● The grease is not sealed at the shipment. Please properly lubricate the grease nipple.

● Inner diameter and installation width of bearing are conformed to JIS-B8369 regulation.

Unit: mm

Dimensional table/rod end eye (T-end)

Symbol / Bore	Part code		AV		CE	CK	CR	ED	EF	EM	ER	J	KK		LE	RA
	Rod B	Rod C	Rod B	Rod C									Rod B	Rod C		
ϕ32	RTH-16-H	–	27	–	60	ϕ16H10	20	ϕ39	–	$25^{-0.1}_{-0.4}$	R23	8	M16×1.5	–	23	80
ϕ40	RTH-20-H	RTH-16-H	32	27	60	ϕ16H10	20	ϕ39	–	$25^{-0.1}_{-0.4}$	R23	8	M20×1.5	M16×1.5	23	80
ϕ50	RTH-24-H	RTH-20-1-H	37	32	70	ϕ20H10	25	ϕ49	–	$31.5^{-0.1}_{-0.4}$	R29	10	M24×1.5	M20×1.5	28	95
ϕ63	RTH-30-H	RTH-24-1-H	47	37	115	ϕ31.5H10	35	ϕ62	–	$40^{-0.1}_{-0.4}$	R39	15	M30×1.5	M24×1.5	43	150
ϕ80	RTH-39-H	RTH-30-H	62	47	115	ϕ31.5H10	35	ϕ62	–	$40^{-0.1}_{-0.4}$	R39	15	M39×1.5	M30×1.5	43	150
ϕ100	RTH-48-H	RTH-39-1-H	77	62	145	ϕ40H10	40	ϕ79	–	$50^{-0.1}_{-0.4}$	R45	20	M48×1.5	M39×1.5	55	185
ϕ125	RTH-64-H	RTH-48-1-H	97	77	180	ϕ50H10	50	ϕ100	–	$63^{-0.1}_{-0.4}$	R54	30	M64×2	M48×1.5	65	230
ϕ140	RTH-72-H	RTH-56-H	112	82	225	ϕ63H10	65	ϕ130	–	$80^{-0.1}_{-0.6}$	R74	30	M72×2	M56×2	85	290
ϕ150	RTH-76-H	RTH-60-H	117	87	225	ϕ63H10	65	ϕ130	–	$80^{-0.1}_{-0.6}$	R74	30	M76×2	M60×2	85	290
ϕ160	RTH-80-H	RTH-64-1-H	122	97	240	ϕ71H10	70	ϕ140	–	$80^{-0.1}_{-0.6}$	R77	40	M80×2	M64×2	90	310
ϕ180	RTH-95-H	RTH-72-1-H	142	112	280	ϕ80H10	80	160	130	$100^{-0.1}_{-0.6}$	R90	40	M95×2	M72×2	100	360
ϕ200	RTH-100-H	RTH-80-1-H	152	122	310	ϕ90H10	90	180	140	$125^{-0.1}_{-0.6}$	R99	50	M100×2	M80×2	120	400
ϕ224	RTH-120-H	RTH-95-1-H	182	142	370	ϕ100H10	100	200	170	$125^{-0.1}_{-0.6}$	R112	50	M120×2	M95×2	130	470
ϕ250	RTH-130-H	RTH-100-1-H	197	152	370	ϕ100H10	100	200	180	$125^{-0.1}_{-0.6}$	R112	50	M130×2	M100×2	130	470

Dimensional table/Eye joint with spherical bearing

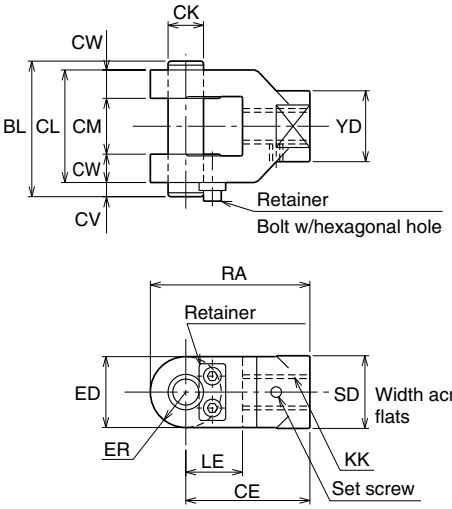
Symbol / Bore	Part code		AV		CD	CE	CF	ED	EF	EG	EM	EN	ER	KK		LE	RA
	Rod B	Rod C	Rod B	Rod C										Rod B	Rod C		
ϕ40	RSH-20	RSH-16	32	27	$20^{0}_{-0.012}$	67	–	55	30	–	13	$16^{0}_{-0.12}$	R27.5	M20×1.5	M16×1.5	25	94.5
ϕ50	RSH-24	RSH-20-1	37	32	$25^{0}_{-0.012}$	78	–	65	35	–	17	$20^{0}_{-0.12}$	R32.5	M24×1.5	M20×1.5	31	110.5
ϕ63	RSH-30	RSH-24-1	47	37	$30^{0}_{-0.012}$	98	–	80	45	–	19	$22^{0}_{-0.12}$	R40	M30×1.5	M24×1.5	38	138
ϕ80	RSH-39	RSH-30-1	62	47	$40^{0}_{-0.012}$	125	60	100	55	69	23	$28^{0}_{-0.12}$	R50	M39×1.5	M30×1.5	48	175
ϕ100	RSH-48	RSH-39-1	77	62	$50^{0}_{-0.012}$	152	50	120	70	93	30	$35^{0}_{-0.12}$	R60	M48×1.5	M39×1.5	58	212
ϕ125	RSH-64	RSH-48-1	97	77	$60^{0}_{-0.015}$	187	72	150	90	105	38	$44^{0}_{-0.15}$	R75	M64×2	M48×1.5	72	262

Dimensional table/grease nipple

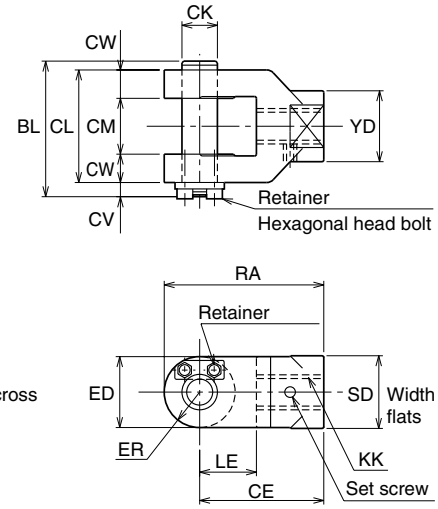
Symbol / Bore	Rod B			Rod C		
	grease nipple model	EL	HG	grease nipple model	EL	HG
ϕ40	JIS A type MT6×1	11	11	JIS A type MT6×1	11	11
ϕ50	JIS A type MT6×1	14	11	JIS A type MT6×1	14	11
ϕ63	JIS A type Rc1/8	15	15	JIS A type Rc1/8	15	15
ϕ80	JIS A type Rc1/8	20	15	JIS A type Rc1/8	20	15
ϕ100	JIS A type Rc1/8	24	15	JIS A type Rc1/8	24	15
ϕ125	JIS A type Rc1/8	28	15	JIS A type Rc1/8	28	15

Rod end clevis (Y-end) with pin

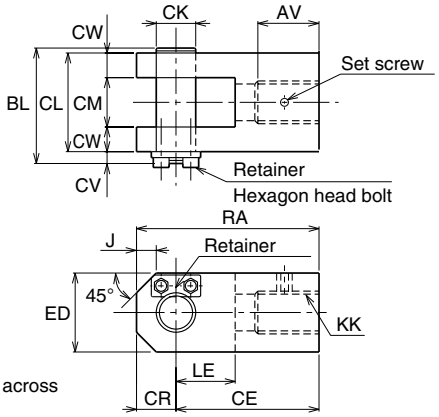
ϕ32 - ϕ80



ϕ100



ϕ125 - ϕ250

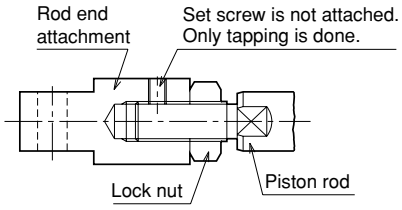


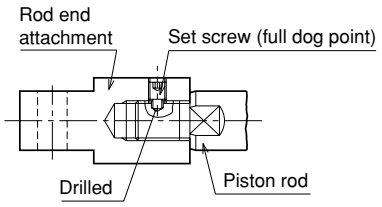
● Delivery of rod end attachment (T-end, Y-end)

(1) In the case that 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 the position of the rod end attachment is adjusted. No set screw is included.

(2) In the case that 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 a drill hole is unnecessary, advise us.



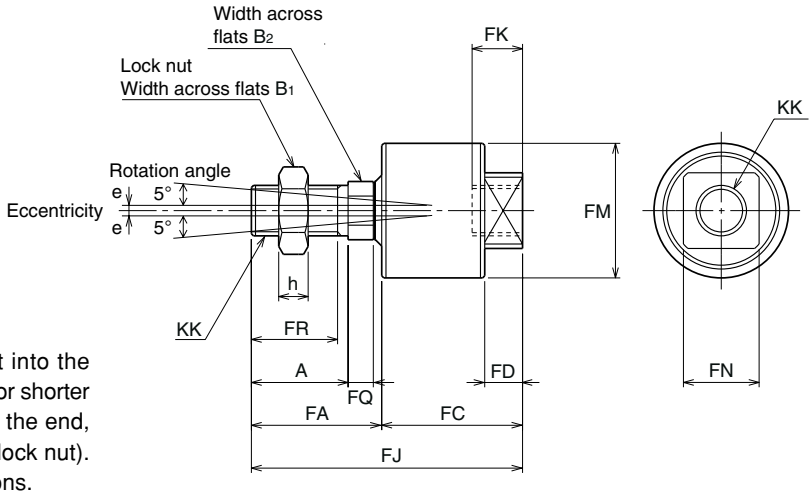


Floating joint (F-end)

Note) only 70H-8 series

Applicable series

- 70H-8
- 70H-8R
- 70H-8D
- 70H-8RD



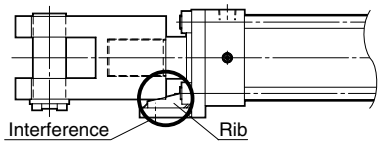
Notes)
- The inserted distance of the floating joint into the socket must be the same as the screw dia. or shorter (screw the joint in, and after it attaches to the end, return it one or two turns, and fix with the lock nut). Excessive insertion may lead to malfunctions.
- DO NOT use together with the CA, CS, CB, TA, TC and TC accessories.
- The lock nut is indispensable in using Floating-joint.
- Please don't miss to order the lock nut with Floating-joint.

Unit: mm

Dimensional table/rod end clevis (Y-end) with pin

Symbol / Bore	Part code		AV		BL	CE	CK	CL	CM	CR	CV	CW	ED	ER	J	KK		LE	RA	SD	YD
	Rod B	Rod C	Rod B	Rod C												Rod B	Rod C				
ϕ32	RYH-16-H	–	–	–	62	60	$\phi16\frac{H10}{f8}$	50	$25^{+0.4}_{+0.1}$	–	7	12.5	32	R16	–	M16×1.5	–	27	76	32	32
ϕ40	RYH-20-H	RYH-16-H	–	–	62	60	$\phi16\frac{H10}{f8}$	50	$25^{+0.4}_{+0.1}$	–	7	12.5	32	R16	–	M20×1.5	M16×1.5	27	76	32	32
ϕ50	RYH-24-H	RYH-20-1-H	–	–	76.5	70	$\phi20\frac{H10}{f8}$	63.5	$31.5^{+0.4}_{+0.1}$	–	8	16	40	R20	–	M24×1.5	M20×1.5	32	90	41	40
ϕ63	RYH-30-H	RYH-24-1-H	–	–	93	115	$\phi31.5\frac{H10}{f8}$	80	$40^{+0.4}_{+0.1}$	–	8	20	60	R30	–	M30×1.5	M24×1.5	50	145	60	60
ϕ80	RYH-39-H	RYH-30-H	–	–	93	115	$\phi31.5\frac{H10}{f8}$	80	$40^{+0.4}_{+0.1}$	–	8	20	60	R30	–	M39×1.5	M30×1.5	50	145	60	60
ϕ100	RYH-48-H	RYH-39-1-H	–	–	117	145	$\phi40\frac{H10}{f8}$	100	$50^{+0.4}_{+0.1}$	–	12	25	80	R40	–	M48×1.5	M39×1.5	60	185	80	80
ϕ125	RYH-64-H	RYH-48-1-H	97	77	143	180	$\phi50\frac{H10}{f8}$	126	$63^{+0.4}_{+0.1}$	50	12	31.5	100	R54	30	M64×2	M48×1.5	70	230	–	–
ϕ140	RYH-72-H	RYH-56-H	112	82	183	225	$\phi63\frac{H10}{f8}$	160	$80^{+0.6}_{+0.1}$	65	18	40	120	R72	30	M72×2	M56×2	90	290	–	–
ϕ150	RYH-76-H	RYH-60-H	117	87	183	225	$\phi63\frac{H10}{f8}$	160	$80^{+0.6}_{+0.1}$	65	18	40	120	R72	30	M76×2	M60×2	90	290	–	–
ϕ160	RYH-80-H	RYH-64-1-H	122	97	183	240	$\phi71\frac{H10}{f8}$	160	$80^{+0.6}_{+0.1}$	70	18	40	140	R77	40	M80×2	M64×2	100	310	–	–
ϕ180	RYH-95-H	RYH-72-1-H	142	112	210	280	$\phi80\frac{H10}{f8}$	180	$100^{+0.6}_{+0.1}$	80	24	40	160	R90	40	M95×2	M72×2	110	360	–	–
ϕ200	RYH-100-H	RYH-80-1-H	152	122	260	310	$\phi90\frac{H10}{f8}$	230	$125^{+0.6}_{+0.1}$	90	24	52.5	180	R99	50	M100×2	M80×2	130	400	–	–
ϕ224	RYH-120-H	RYH-95-1-H	182	142	280	370	$\phi100\frac{H10}{f8}$	250	$125^{+0.6}_{+0.1}$	100	24	62.5	200	R112	50	M120×2	M95×2	140	470	–	–
ϕ250	RYH-130-H	RYH-100-1-H	197	152	280	370	$\phi100\frac{H10}{f8}$	250	$125^{+0.6}_{+0.1}$	100	24	62.5	200	R112	50	M130×2	M100×2	140	470	–	–

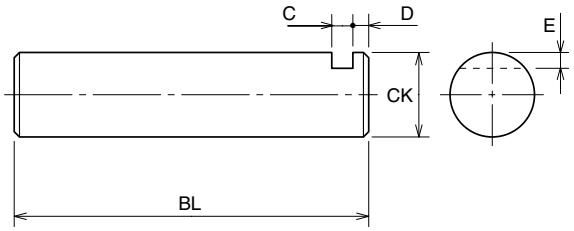
Note) If you vertically fix the Rod end clevis (Y-end) with pin in LC mounting, it will cause interference with the rib of the LC mounting. Please feel free to contact us for the solution.



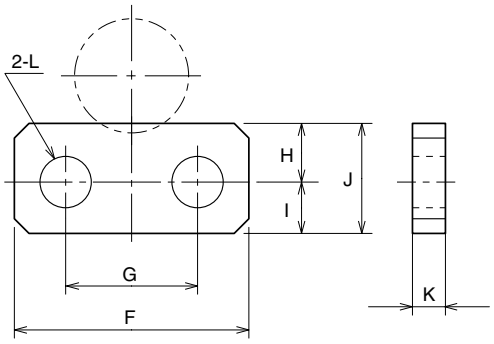
Dimensional table/floating joint (F-end)

Applicable bore		Part code	A	B_1	B_2	e	FA	FC	FD	FJ	FK	FM	FN	FQ	FR	h	KK
Rod B	Rod C																
ϕ32	ϕ40	RFH-16	32	22	17	1.5	43	46	13	89	16	ϕ40	24	8	28	10	M16×1.5
ϕ40	ϕ50	RFH-20	40	27	22	2	53	57	15	110	22	ϕ50	30	9	35	12	M20×1.5
ϕ50	ϕ63	RFH-24	46	32	24	2.5	62	67	18	129	24	ϕ64	36	12	41	14	M24×1.5
ϕ63	ϕ80	RFH-30	58	41	32	2.5	78	83	21	161	30	ϕ76	46	14	52	17	M30×1.5

Parallel pin



Keeper plate



Unit: mm

Dimensional table/Parallel pin

Symbol / Bore	BL	C	CK	D	E
ϕ32	62	4	ϕ16	3	3
ϕ40	62	4	ϕ16	3	3
ϕ50	76.5	5	ϕ20	3	3
ϕ63	93	5	ϕ31.5	3	4.75
ϕ80	93	5	ϕ31.5	3	4.75
ϕ100	117	7	ϕ40	5	5
ϕ125	143	7	ϕ50	5	5
ϕ140	183	10	ϕ63	8	8
ϕ150	183	10	ϕ63	8	8
ϕ160	183	10	ϕ71	8	8

- Allowance of CK is f8.

Dimensional table/Keeper plate

Symbol / Bore	F	G	H	I	J	K	L	Volt size
ϕ32	25	14	7	6	13	3	ϕ6.5	M6
ϕ40	25	14	7	6	13	3	ϕ6.5	M6
ϕ50	32	18	8	7	15	4.5	ϕ7	M6
ϕ63	32	18	8	7	15	4.5	ϕ7	M6
ϕ80	32	18	8	7	15	4.5	ϕ7	M6
ϕ100	50	30	10	8	18	6	ϕ10	M8
ϕ125	65	40	12	10	22	6	ϕ12	M10
ϕ140	75	48	17	13	30	9	ϕ14	M12
ϕ150	75	48	17	13	30	9	ϕ14	M12
ϕ160	75	48	17	13	30	9	ϕ14	M12

70/140H-8

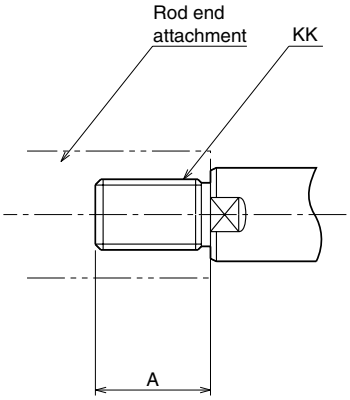
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

70-140H-8/TH8 Bore K

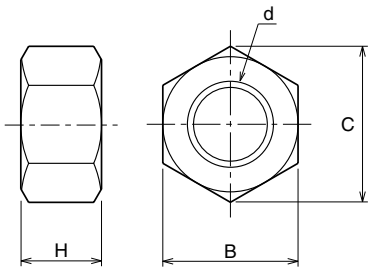
CAD/DATA is available.

When rod end attachment is required (rod dia. A type)



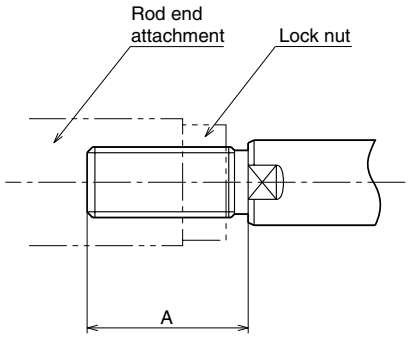
- It is recommended to modify the thread dia., dimension KK, to that of the rod B (Ex.: for 50 mm dia., M30 × 1.5→M24 × 1.5), and attach the rod end attachment for the rod B. In such a case, specify the dimensions, A and KK.

Lock nut



- The type with a bore of ϕ180 or more is also within the semi-standard fabrication range.

The guide of the fitting length of the rod end attachment and piston rod is approx. 80% of the thread dia. If the fitting length is insufficient when the lock nut is used, it is required to lengthen the thread length (dimension A) as shown in the figure below.



Unit: mm

Dimensional table

Symbol / Bore	Rod A thread part dimensions		Rod B thread part dimensions		Rod end attachment parts code in the case of the thread dimensions of rod B		
	A	KK	A	KK	Rod end eye	Rod end clevis	F-joint
ϕ40	35	M24×1.5	30	M20×1.5	RTH-20-H	RYH-20-H	RFH-20
ϕ50	45	M30×1.5	35	M24×1.5	RTH-24-H	RYH-24-H	RFH-24
ϕ63	60	M39×1.5	45	M30×1.5	RTH-30-H	RYH-30-H	RFH-30
ϕ80	75	M48×1.5	60	M39×1.5	RTH-39-H	RYH-39-H	–
ϕ100	95	M64×2	75	M48×1.5	RTH-48-H	RYH-48-H	–
ϕ125	120	M80×2	95	M64×2	RTH-64-H	RYH-64-H	–
ϕ140	140	M95×2	110	M72×2	RTH-72-H	RYH-72-H	–
ϕ150	140	M95×2	115	M76×2	RTH-76-H	RYH-76-H	–
ϕ160	150	M100×2	120	M80×2	RTH-80-H	RYH-80-H	–

Dimensional table/lock nut

Symbol / Bore	Rod B					Rod C					Rod A				
	Parts code	B	C	d	H	Parts code	B	C	d	H	Parts code	B	C	d	H
ϕ32	LNH-16F-H	22	25.4	M16×1.5	10	–	–	–	–	–	–	–	–	–	–
ϕ40	LNH-20F-H	27	31.2	M20×1.5	12	LNH-16F-H	22	25.4	M16×1.5	10	LNH-24F-H	32	37.0	M24×1.5	14
ϕ50	LNH-24F-H	32	37.0	M24×1.5	14	LNH-20F-H	27	31.2	M20×1.5	12	LNH-30F-H	41	47.3	M30×1.5	17
ϕ63	LNH-30F-H	41	47.3	M30×1.5	17	LNH-24F-H	32	37.0	M24×1.5	14	LNH-39F-H	55	63.5	M39×1.5	20
ϕ80	LNH-39F-H	55	63.5	M39×1.5	20	LNH-30F-H	41	47.3	M30×1.5	17	LNH-48F-H	70	80.8	M48×1.5	26
ϕ100	LNH-48F-H	70	80.8	M48×1.5	26	LNH-39F-H	55	63.5	M39×1.5	20	LNH-64F-H	90	104	M64×2	35
ϕ125	LNH-64F-H	90	104	M64×2	35	LNH-48F-H	70	80.8	M48×1.5	26	LNH-80F-H	110	127	M80×2	43
ϕ140	LNH-72F-H	100	115	M72×2	38	LNH-56F-H	80	92.4	M56×2	30	LNH-95F-H	130	150	M95×2	47
ϕ150	LNH-76F-H	105	121	M76×2	40	LNH-60F-H	85	98.1	M60×2	33	LNH-95F-H	130	150	M95×2	47
ϕ160	LNH-80F-H	110	127	M80×2	43	LNH-64F-H	90	104	M64×2	35	LNH-100F-H	135	156	M100×2	50
ϕ180	LNH-95F-H	130	150	M95×2	47	LNH-72F-H	100	115	M72×2	38	–	–	–	–	–
ϕ200	LNH-100F-H	135	156	M100×2	50	LNH-80F-H	110	127	M80×2	43	–	–	–	–	–
ϕ224	LNH-120F-H	165	191	M120×2	60	LNH-95F-H	130	150	M95×2	47	–	–	–	–	–
ϕ250	LNH-130F-H	180	208	M130×2	65	LNH-100F-H	135	156	M100×2	50	–	–	–	–	–

Symbol / Bore	Dimension A		
	Rod A	Rod B	Rod C
ϕ32	–	40	–
ϕ40	50	45	40
ϕ50	60	50	45
ϕ63	80	60	50
ϕ80	95	80	60
ϕ100	125	95	80
ϕ125	155	125	95
ϕ140	180	140	105
ϕ150	180	150	120
ϕ160	190	155	125
ϕ180	–	180	140
ϕ200	–	190	155
ϕ224	–	230	180
ϕ250	–	250	190

70/140H-8

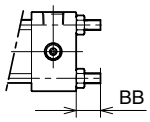
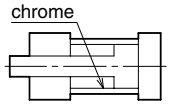
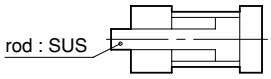
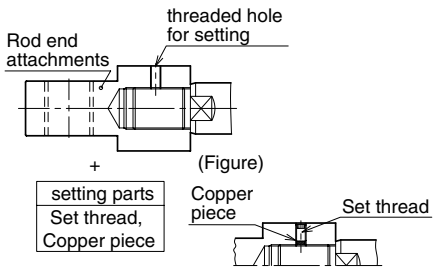
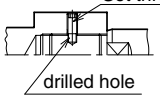
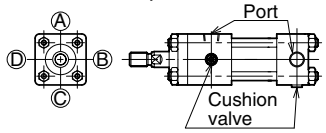
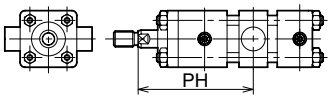
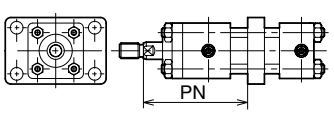
7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

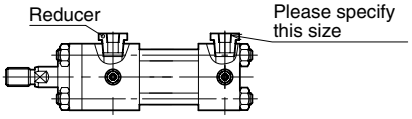
✪ Easy ordering system

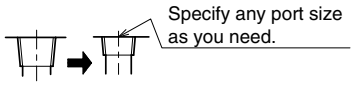
The following contents can be easily specified using the Semi-standard symbols and the (Position/Dimension/Material) symbols.

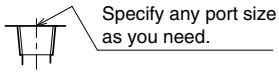
How to order | Series name | Model number – X | ① The semi-standard symbols | ②③④ Position/Dimension/Material symbols |

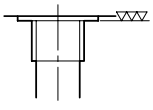
Easy order contents	① The semi-standard symbols	Position ② Symbol	Position contents	Dimension ③ Symbol	Dimension contents	Material ④ Symbol	Material contents
Tie rods extension  Note1) Tolerance of BB dimension is approximately due to tie rod's stretch. It should be consulted us in case of precise BB dimension necessary. 2) LB, LC Only 2, end side and upper, tie rods can be extended. Flange, Clevis mounting Only one side's 4 tie rods without mounting bracket can be extended.	STD	TD-RS	Head cap side	BB-□□	□□ Maximum BB for semi-standard is 70mm.	—	—
		TD-HS	End cap side				
		TD-BS	Both sides				
	ex.	In case of selecting SD mounting and tie rods extension on both sides to be 50mm. 70H-8R 2SD80BB100-ABAH2-X STD TD-BS, BB-50					
Hard chrome plated on inside of cylinder tubing (Only for carbon steel tube)  Note) Consult us for any special thickness of chrome plating except 0.02mm.	STB	—	—	BG-0.02	Thickness of chrome plating 0.02mm	—	—
	ex.	70H-8 2LB80BB100-AB-X STB BG-0.02					
Stainless steel rod (bore:40mm to 100mm)  Note) Consult us for any special requirment except material SUS304 or 0.02mm thickness of chrome plating.	SPR	—	—	—	—	PR-10	Material:SUS304 Thickness of chrome plating 0.02mm
	ex.	70H-8R 2LB80BB100-ABAH2-X SPR PR-10					
Rod end attachments (T,Y,S) with a set screw and a copper piece (bore:32mm to 160mm)  	MDC	—	—	—	—	—	—
		No need to specify Position/Dimension/Material symbols.					
	ex.	Occasion) In order to receive the cylinder and the rod end attachment separately. (Just temporary assembly) 70H-8R 2CB80BB100-ABAH2-T-X MDC Reference) Without the order of MDC, the attachment is fixed as below at shipment. After fine adjustment, please be sure to fix the attachment using a copper piece and a screw. ★Validity of the way to fix the attachment coated with adhesive might not be multirole. Please be sure to fasten it to avoid the trouble. Reference) Without the order of MDC, the attachment is fixed as below at shipment.  					
Changing the location of the port and cushion needle on the end cap side  	PPC	PC-□□	□□ Port/Cushion needle location on end cap side	—	—	—	—
	ex.	Phase changed Port/Cushion needle on both sides. 70H-8 2LA80BB100-AB-X PPC PC-BC					
Water-glycol working fluid Note1) Carbon steel tubing has hard chrome plated on inside and the water-glycol fluid is used for testing. 2) Stainless steel tubing has no chroem plated and the water-glycol fluid is used for testing.	FWF	—	—	—	—	WF-WG	WF-WG: Water-glycol working fluid
	ex.	70H-8 6LB80BB100-AB-X FWF WF-WG					
Trunion location change (PH dimension)  	MTC	—	—	TCPH-□	□ should be specified by the integral number.	—	—
	ex.	In case of 360mm PH dimension 70H-8R 2TC63BB500-AB-X MTC TCPH-360					
Intermidiate flange location change (PN dimension)  	MFK	—	—	FKPN-□	□ should be specified by the integral number.	—	—
	ex.	In case of 1100mm PN dimension 140H-8 2FK80BB1800-AB-X MFK FKPN-1100					

Unit: mm

Special order contents	① The semi-standard symbols	Position		Dimension		Material	
		② Symbol	contents	③ Symbol	contents	④ Symbol	contents
Additional bushing  Note1) Please specify the reduced port size as dimensional data. Note2) Only one or two steps reducing can be specified on this system. Any other case, please consult us.	PBS	—	—	RC-1.00 RC-2.00 RC-3.00 RC-4.00 RC-6.00 RC-8.00 RC-10.00 RC-12.00	Rc1/8 Rc1/4 Rc3/8 Rc1/2 Rc3/4 Rc1 Rc1 1/4 Rc1 1/2	—	—
	ex.	140H-8, CA mounting, bore:80mm (Standard port:Rc3/4) is goint to be Rc1/2 port. (one step reducing) 140H-8 2CA80BB300-AB-X PBS RC-4.00					

Rc port size below standard (bore:32mm to 160mm) ★ In case of port size below standard necessary without reducer  You can't use this symbol at : ● all A rod variations ● B, C rod with LA mounting Note) Consult us for any over size port necessary for check dimensions.	① The semi-standard symbols	Only dimensional data is required.		Counter-chart of cylinder bore size and optional port size(◎ : Standard port size)									
		③ Symbol	contents	32	40	50	63	80	100	125	140	150	160
	PRT	RC-1.00	Rc1/8	○	○	×	×	×	×	×	×	×	×
		RC-2.00	Rc1/4	○	○	○	○	×	×	×	×	×	×
		RC-3.00	Rc3/8	◎	◎	○	○	○	○	×	×	×	×
		RC-4.00	Rc1/2	×	×	◎	◎	○	○	○	○	○	○
		RC-6.00	Rc3/4	×	×	×	×	◎	◎	○	○	○	○
		RC-8.00	Rc1	×	×	×	×	×	×	◎	◎	◎	◎
		RC-10.00	Rc1 1/4	×	×	×	×	×	×	×	×	×	×
	ex.	bore:63mm (standard port Rc1/2), without bushing is goint to be Rc3/8 port. 70H-8R 2CA80BB100-ABAH2-X PRT RC-3.00											

Cover port size reducing (for NPT) (bore:32mm to 160mm) Note) Optional port size range is common to the Rc port.  You can't use this symbol at : ● all A rod variations ● B, C rod with LA mounting Note) Consult us for any over size port necessary for check dimensions.	① The semi-standard symbols	Only dimensional data is required.		Counter-chart of cylinder bore size and optional port size(◎ : Standard port size)									
		③ Symbol	contents	32	40	50	63	80	100	125	140	150	160
	PTN	N-1.00	NPT1/8	○	○	×	×	×	×	×	×	×	×
		N-2.00	NPT1/4	○	○	○	○	×	×	×	×	×	×
		N-3.00	NPT3/8	◎	◎	○	○	○	○	×	×	×	×
		N-4.00	NPT1/2	×	×	◎	◎	○	○	○	○	○	○
		N-6.00	NPT3/4	×	×	×	×	◎	◎	○	○	○	○
		N-8.00	NPT1	×	×	×	×	×	×	◎	◎	◎	◎
		N-10.00	NPT1 1/4	×	×	×	×	×	×	×	×	×	×
	Note	The way to order the standard port size(◎) is showed in the article below.											
	ex.	bore:50mm (standard port NPT1/2) is going to be NPT3/8 port. 70H-8 2CB50BB100-NAB-X PTN N-3.00											

G / NPT port (bore:32mm to 160mm) (Only for standard size G or NPT) 	Standard size G or NPT can be easily ordered as below. ex.) 70H-8 2LA50BB100- G A B -TL G:G screw piping port type N:NPT screw type Port position Location of cushion needle

70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

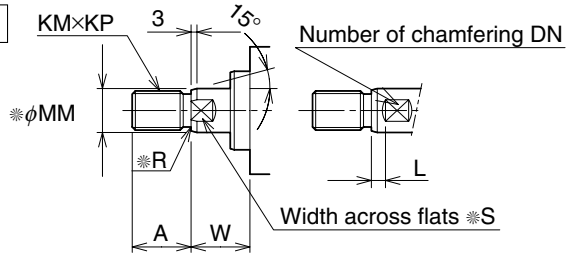
Special specification at the rod end

■ You can easily order following categolized items using the Semi-standard symbols and dimensional parameters.
(No need to specify dimensional parameters if you would apply the basic dimensions.)

How to order | Series name | Model number | – X | The semi-standard symbols | Dimensional parameters |

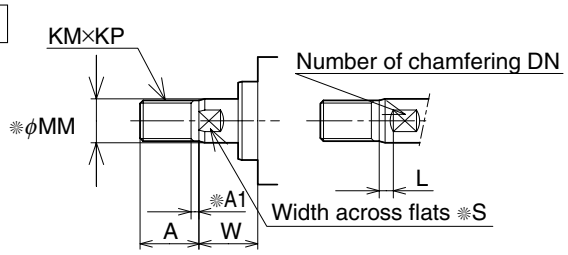
Parameter KM and KP need to be specified as a pair.

ex.1) **A53**



- ϕ63C Rod end shape A53, A=50, W=50, thread M22×1.5, Number of chamfering 2, position of flats L = 10
  70H-8 2FA63CB200-AB-X A53
  A-50, KM-22, KP-1.5, L-10, W-50

ex.2) **A54**



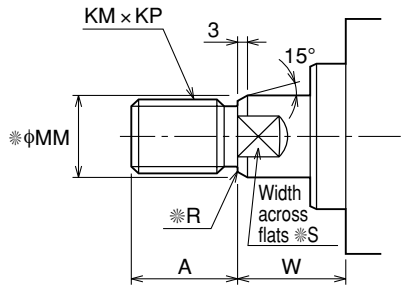
- ϕ63C Rod end shape A54, basic dimensions
  140H-8 2LA63BC500-BC-X A54

Note) For the A54 type, if the dimensions KM and KP are modified, the dimension A1 is modified as shown in the table below.

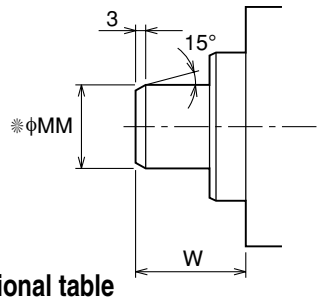
KP (pitch)	Dimension A1
1.75 or less	4
2	5
2.5 or more	KP (pitch) × 2

Special rod end shape type (rod C)

A00



A51



Basic dimensional table (standard dimensions)

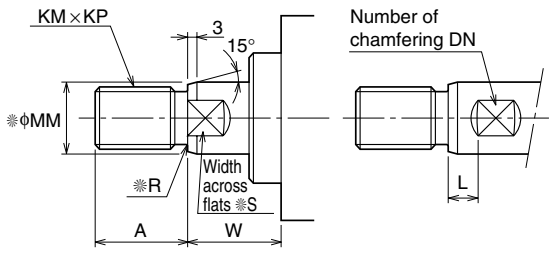
Bore	A	KM	KP	※MM	※R	※S	W
ϕ40	25	M16	1.5	ϕ18	1	14	30
ϕ50	30	M20	1.5	ϕ22.4	1	19	30
ϕ63	35	M24	1.5	ϕ28	1	24	35
ϕ80	45	M30	1.5	ϕ35.5	1.6	30	35
ϕ100	60	M39	1.5	ϕ45	1.6	41	40
ϕ125	75	M48	1.5	ϕ56	1.6	50	45
ϕ140	80	M56	2	ϕ63	2	55	50
ϕ150	85	M60	2	ϕ67	2	60	50
ϕ160	95	M64	2	ϕ71	2	65	55
ϕ180	110	M72	2	ϕ80	2	75	55
ϕ200	120	M80	2	ϕ90	2	85	55
ϕ224	140	M95	2	ϕ100	2	Drill	60
ϕ250	150	M100	2	ϕ112	2	hole	65

Basic dimensional table

Bore	※MM	W
ϕ40	ϕ18	30
ϕ50	ϕ22.4	30
ϕ63	ϕ28	35
ϕ80	ϕ35.5	35
ϕ100	ϕ45	40
ϕ125	ϕ56	45
ϕ140	ϕ63	50
ϕ150	ϕ67	50
ϕ160	ϕ71	55
ϕ180	ϕ80	55
ϕ200	ϕ90	55
ϕ224	ϕ100	60
ϕ250	ϕ112	65

- Dimensions indicated by ※ Mark are fixed as our semi-standard.
- You are requested to consult us if you would like to change fixed dimensions.

A53

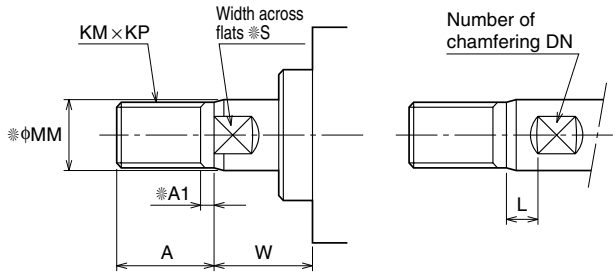


Basic dimensional table

Bore	A	DN	KM	KP	L	※MM	※R	※S	W
ϕ40	25	2	M16	1.5	0	ϕ18	1	14	30
ϕ50	30	2	M20	1.5	0	ϕ22.4	1	19	30
ϕ63	35	2	M24	1.5	0	ϕ28	1	24	35
ϕ80	45	2	M30	1.5	0	ϕ35.5	1.6	30	35
ϕ100	60	2	M39	1.5	0	ϕ45	1.6	41	40
ϕ125	75	2	M48	1.5	0	ϕ56	1.6	50	45
ϕ140	80	2	M56	2	0	ϕ63	2	55	50
ϕ150	85	2	M60	2	0	ϕ67	2	60	50
ϕ160	95	2	M64	2	0	ϕ71	2	65	55

Use this type when the width across flats S of the A00 are required to be moved.

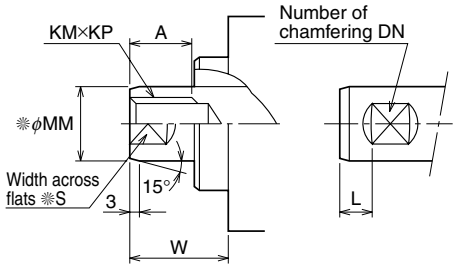
A54



Basic dimensional table

Bore	A	※A1	DN	KM	KP	L	※MM	※S	W
ϕ40	25	4	2	M16	1.5	0	ϕ18	14	30
ϕ50	30	4	2	M20	1.5	0	ϕ22.4	19	30
ϕ63	35	4	2	M24	1.5	0	ϕ28	24	35
ϕ80	45	4	2	M30	1.5	0	ϕ35.5	30	35
ϕ100	60	4	2	M39	1.5	0	ϕ45	41	40
ϕ125	75	4	2	M48	1.5	0	ϕ56	50	45
ϕ140	80	5	2	M56	2	0	ϕ63	55	50
ϕ150	85	5	2	M60	2	0	ϕ67	60	50
ϕ160	95	5	2	M64	2	0	ϕ71	65	55
ϕ180	110	5	2	M72	2	0	ϕ80	75	55
ϕ200	120	5	2	M80	2	0	ϕ90	85	55
ϕ224	140	5	Drill hole	M95	2	Drill hole	ϕ100	Drill hole	60
ϕ250	150	5		M100	2		ϕ112		65

A81



Basic dimensional table

Bore	A	DN	KM	KP	L	※MM	※S	W
ϕ40	15	2	M12	1.75	0	ϕ18	14	30
ϕ50	20	2	M16	2	0	ϕ22.4	19	30
ϕ63	24	2	M20	2.5	0	ϕ28	24	35
ϕ80	33	2	M27	3	0	ϕ35.5	30	35
ϕ100	36	2	M30	3.5	0	ϕ45	41	40
ϕ125	45	2	M39	4	0	ϕ56	50	45
ϕ140	54	2	M45	2	0	ϕ63	55	50
ϕ150	54	2	M45	2	0	ϕ67	60	50
ϕ160	58	2	M48	2	0	ϕ71	65	55

This type of shape is applicable to only the 7 MPa type.
For the 14 MPa type, contact us.

Note) ● The possible number of chamfering DN is 2 (standard) or 4 only.

● Dimensions indicated by ※ Mark are fixed as our semi-standard.
● You are requested to consult us if you would like to change fixed dimensions.

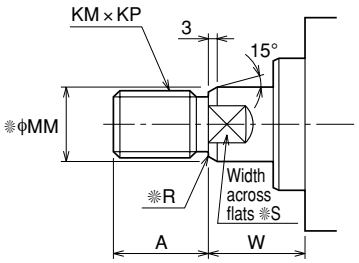
70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

Special rod end shape type (rod B)

A00

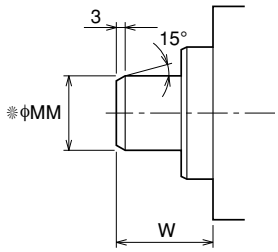


Basic dimensional table (standard dimensions)

Bore	A	KM	KP	❋MM	❋R	❋S	W
φ32	25	M16	1.5	φ18	1	14	30
φ40	30	M20	1.5	φ22.4	1	19	30
φ50	35	M24	1.5	φ28	1	24	30
φ63	45	M30	1.5	φ35.5	1.6	30	35
φ80	60	M39	1.5	φ45	1.6	41	35
φ100	75	M48	1.5	φ56	1.6	50	40
φ125	95	M64	2	φ71	2	65	45
φ140	110	M72	2	φ80	2	75	50
φ150	115	M76	2	φ85	2	80	50
φ160	120	M80	2	φ90	2	85	55
φ180	140	M95	2	φ100	2		55
φ200	150	M100	2	φ112	2	Drill	55
φ224	180	M120	2	φ125	2	hole	60
φ250	195	M130	2	φ140	2		65

Note) ● The possible number of chamfering DN is 2 (standard) or 4 only.

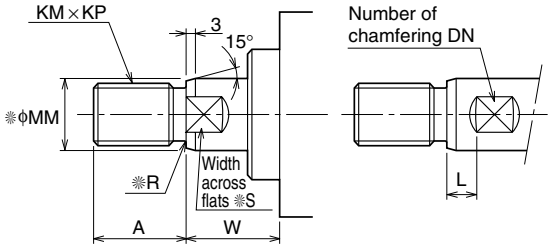
A51



Basic dimensional table

Bore	❋MM	W
φ32	φ18	30
φ40	φ22.4	30
φ50	φ28	30
φ63	φ35.5	35
φ80	φ45	35
φ100	φ56	40
φ125	φ71	45
φ140	φ80	50
φ150	φ85	50
φ160	φ90	55
φ180	φ100	55
φ200	φ112	55
φ224	φ125	60
φ250	φ140	65

A53



Basic dimensional table

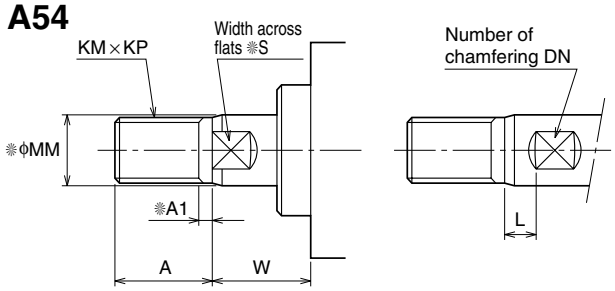
Bore	A	DN	KM	KP	L	❋MM	❋R	❋S	W
φ32	25	2	M16	1.5	0	φ18	1	14	30
φ40	30	2	M20	1.5	0	φ22.4	1	19	30
φ50	35	2	M24	1.5	0	φ28	1	24	30
φ63	45	2	M30	1.5	0	φ35.5	1.6	30	35
φ80	60	2	M39	1.5	0	φ45	1.6	41	35
φ100	75	2	M48	1.5	0	φ56	1.6	50	40
φ125	95	2	M64	2	0	φ71	2	65	45
φ140	110	2	M72	2	0	φ80	2	75	50
φ150	115	2	M76	2	0	φ85	2	80	50
φ160	120	2	M80	2	0	φ90	2	85	55

Use this type when the width across flats S of the A00 are required to be moved.

● Dimensions indicated by ❋ Mark are fixed as our semi-standard.
● You are requested to consult us if you would like to change fixed dimensions.

Unit: mm

A54

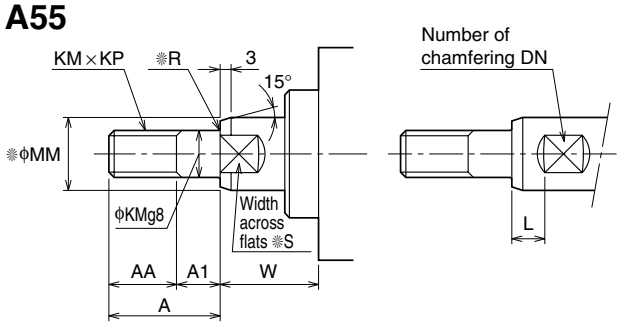


Basic dimensional table

Bore	A	※A1	DN	KM	KP	L	※MM	※S	W
φ32	25	4	2	M16	1.5	0	φ18	14	30
φ40	30	4	2	M20	1.5	0	φ22.4	19	30
φ50	35	4	2	M24	1.5	0	φ28	24	30
φ63	45	4	2	M30	1.5	0	φ35.5	30	35
φ80	60	4	2	M39	1.5	0	φ45	41	35
φ100	75	4	2	M48	1.5	0	φ56	50	40
φ125	95	5	2	M64	2	0	φ71	65	45
φ140	110	5	2	M72	2	0	φ80	75	50
φ150	115	5	2	M76	2	0	φ85	80	50
φ160	120	5	2	M80	2	0	φ90	85	55
φ180	140	5	Drill hole	M95	2	Drill hole	φ100	Drill hole	55
φ200	150	5		M100	2		φ112		55
φ224	180	5		M120	2		φ125		60
φ250	195	5		M130	2		φ140		65

Note) ● The possible number of chamfering DN is 2 (standard) or 4 only.

A55

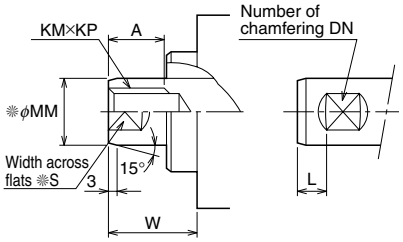


Basic dimensional table

Bore	A	AA	A1	DN	KM	KP	L	※MM	※R	※S	W
φ50	44	30	14	2	M20	1.5	0	φ28	1.6	24	30
φ63	49	35	14	2	M24	1.5	0	φ35.5	2	30	35
φ80	59	45	14	2	M30	1.5	0	φ45	2	41	35
φ100	74	60	14	2	M39	1.5	0	φ56	2	50	40
φ125	89	75	14	2	M48	1.5	0	φ71	2.5	65	45
φ140	100	80	20	2	M56	2	0	φ80	2.5	75	50
φ150	105	85	20	2	M60	2	0	φ85	2.5	80	50
φ160	115	95	20	2	M64	2	0	φ90	2.5	85	55

For the products of a bore of φ32 and φ40, basic dimensions have not been specified.
Contact us when you request for them.
When modifying the dimension A1, specify the number of 10 or more.
Specify the dimensions AA and A1 at the same time.

A81

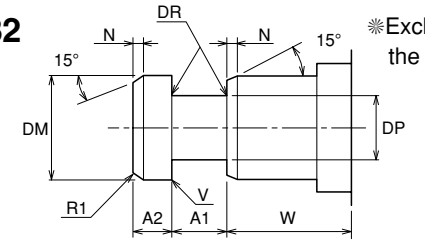


Basic dimensional table

Bore	A	DN	KM	KP	L	※MM	※S	W
φ32	15	2	M12	1.75	0	φ18	14	30
φ40	20	2	M16	2	0	φ22.4	19	30
φ50	24	2	M20	2.5	0	φ28	24	30
φ63	33	2	M27	3	0	φ35.5	30	35
φ80	36	2	M30	3.5	0	φ45	41	35
φ100	45	2	M39	4	0	φ56	50	40
φ125	58	2	M48	2	0	φ71	65	45
φ140		2			0	φ80	75	50
φ150		2			0	φ85	80	50
φ160		2			0	φ90	85	55

For the products of a bore from φ140 to φ160, basic dimensions have not been specified. When ordering them, fill the blank areas in the table above.

A82



※Exclusive M joint on the following pages

Basic dimensional table

Bore	※ $A1^{+0.5}_{+0.3}$	※ $A2^{-0.2}_{-0.3}$	※ DM	※ $DP^{-0.2}_{-0.3}$	※ DR	※ MM	※ N	※ V	W
φ32	12.5	12.5	φ18	φ13	1.0	φ18	3	C0.2	30
φ40	12.5	12.5	φ22.4	φ16	1.5	φ22.4	3	C0.2	30
φ50	12.5	12.5	φ28	φ21	1.5	φ28	3	C0.2	30
φ63	15	15	φ35.5	φ26	2.0	φ35.5	3	C0.2	35
φ80	15	15	φ45	φ31	2.0	φ45	3	C0.2	35
φ100	20	20	φ56	φ38	3.0	φ56	3	C0.2	40
φ125	25	25	φ71	φ49	3.5	φ71	3	R1	45
φ140	25	25	φ80	φ56	4.0	φ80	3	R1	50
φ150	30	30	φ85	φ58	5.0	φ85	6	R1	50
φ160	30	30	φ90	φ60	5.0	φ90	6	R1	55

MM is rod dia.

- Dimensions indicated by ※ Mark are fixed as our semi-standard.
- You are requested to consult us if you would like to change fixed dimensions.

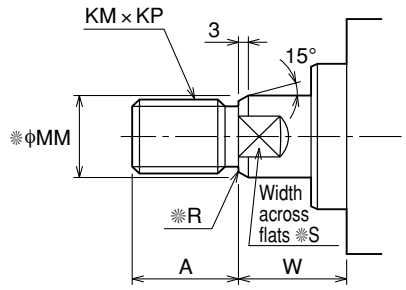
70/140H-8

7/14 MPa double acting hydraulic cylinder
Double acting single rod/double rod

Unit: mm

Special rod end shape type (rod A)

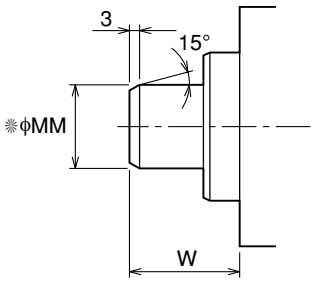
A00



Basic dimensional table (standard dimensions)

Bore	A	KM	KP	❋MM	❋R	❋S	W
ϕ40	35	M24	1.5	ϕ28	1	24	35
ϕ50	45	M30	1.5	ϕ35.5	1.6	30	41
ϕ63	60	M39	1.5	ϕ45	1.6	41	48
ϕ80	75	M48	1.5	ϕ56	1.6	50	51
ϕ100	95	M64	2	ϕ71	2	65	57
ϕ125	120	M80	2	ϕ90	2	85	57
ϕ140	140	M95	2	ϕ100	2	Drill hole	57
ϕ150	140	M95	2	ϕ100	2		57
ϕ160	150	M100	2	ϕ112	2		57

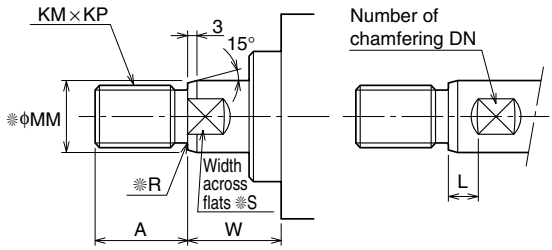
A51



Basic dimensional table

Bore	❋MM	W
ϕ40	ϕ28	35
ϕ50	ϕ35.5	41
ϕ63	ϕ45	48
ϕ80	ϕ56	51
ϕ100	ϕ71	57
ϕ125	ϕ90	57
ϕ140	ϕ100	57
ϕ150	ϕ100	57
ϕ160	ϕ112	57

A53

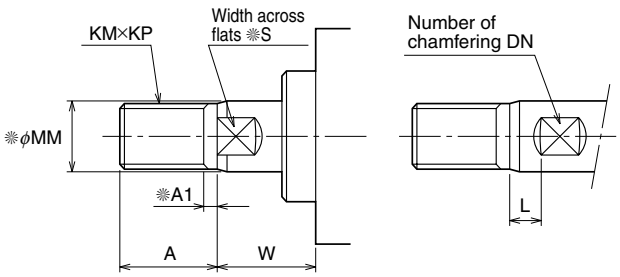


Basic dimensional table

Bore	A	DN	KM	KP	L	❋MM	❋R	❋S	W
ϕ40	35	2	M24	1.5	0	ϕ28	1	24	35
ϕ50	45	2	M30	1.5	0	ϕ35.5	1.6	30	41
ϕ63	60	2	M39	1.5	0	ϕ45	1.6	41	48
ϕ80	75	2	M48	1.5	0	ϕ56	1.6	50	51
ϕ100	95	2	M64	2	0	ϕ71	2	65	57
ϕ125	120	2	M80	2	0	ϕ90	2	85	57

Use this type when the width across flats S of the A00 are required to be moved.

A54

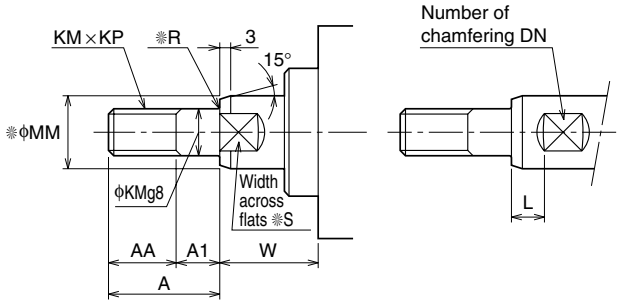


Basic dimensional table

Bore	A	❋A1	DN	KM	KP	L	❋MM	❋S	W
ϕ40	35	4	2	M24	1.5	0	ϕ28	24	35
ϕ50	45	4	2	M30	1.5	0	ϕ35.5	30	41
ϕ63	60	4	2	M39	1.5	0	ϕ45	41	48
ϕ80	75	4	2	M48	1.5	0	ϕ56	50	51
ϕ100	95	5	2	M64	2	0	ϕ71	65	57
ϕ125	120	5	2	M80	2	0	ϕ90	85	57
ϕ140	140	5	Drill hole	M95	2	Drill hole	ϕ100		57
ϕ150	140	5	↑	M95	2	↑	ϕ100	Drill hole	57
ϕ160	150	5	↑	M100	2	↑	ϕ112		57

- Dimensions indicated by ❋ Mark are fixed as our semi-standard.
- You are requested to consult us if you would like to change fixed dimensions.

A55

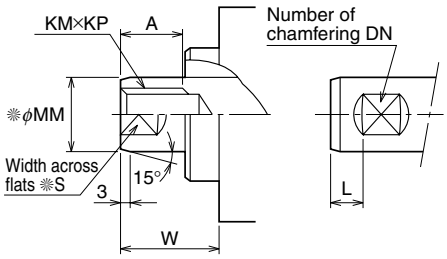


Basic dimensional table

Bore	A	AA	A1	DN	KM	KP	L	※MM	※R	※S	W
ϕ40	44	30	14	2	M20	1.5	0	ϕ28	1.6	24	35
ϕ50	49	35	14	2	M24	1.5	0	ϕ35.5	2	30	41
ϕ63	59	45	14	2	M30	1.5	0	ϕ45	2	41	48
ϕ80	74	60	14	2	M39	1.5	0	ϕ56	2	50	51
ϕ100	89	75	14	2	M48	1.5	0	ϕ71	2.5	65	57
ϕ125	115	95	20	2	M64	2	0	ϕ90	2.5	85	57

When modifying the dimension A1, specify the number of 10 or more.
Specify the dimensions AA and A1 at the same time.

A81



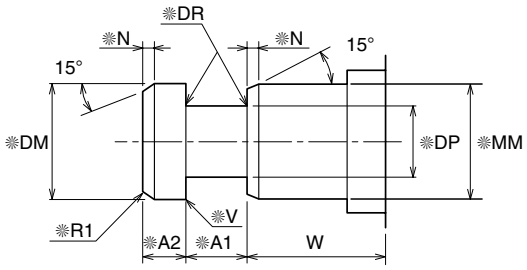
Basic dimensional table

Bore	A	DN	KM	KP	L	※MM	※S	W
ϕ40	24	2	M20	2.5	0	ϕ28	24	35
ϕ50	33	2	M27	3	0	ϕ35.5	30	41
ϕ63	36	2	M30	3.5	0	ϕ45	41	48
ϕ80	45	2	M39	4	0	ϕ56	50	51
ϕ100	58	2	M48	2	0	ϕ71	65	57

Note) ● The possible number of chamfering DN is 2 (standard) or 4 only.

A82

※Exclusive M joint on the following pages



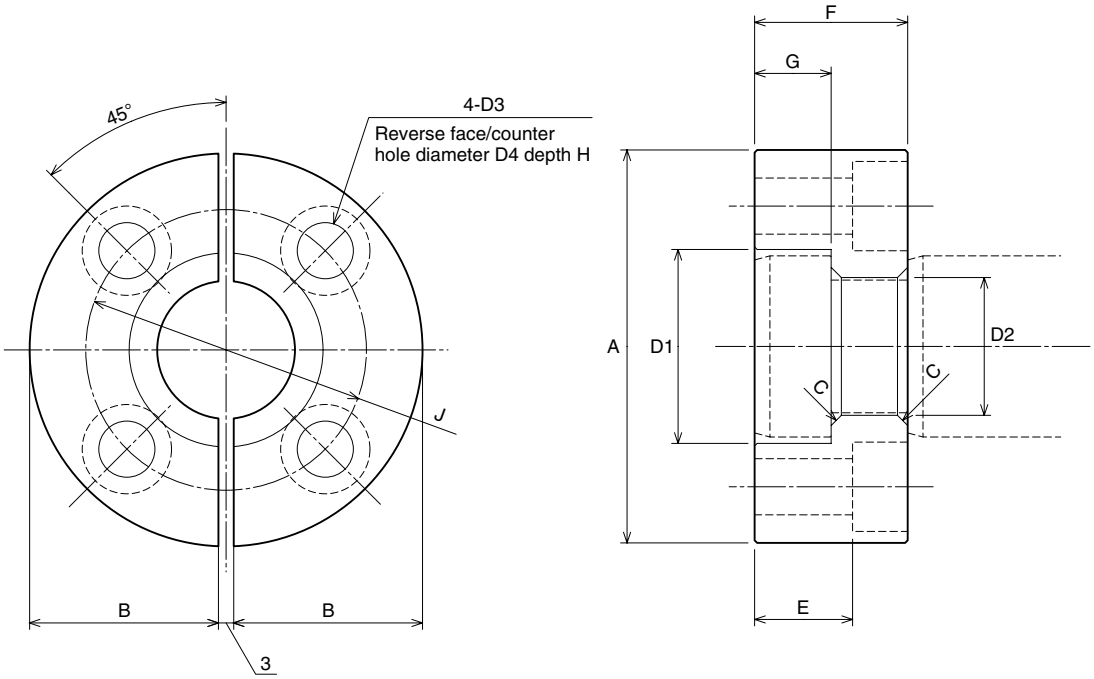
Basic dimensional table

Bore	※ A1 $^{+0.5}_{+0.3}$	※ A2 $^{-0.2}_{-0.3}$	※ DM	※ DP $^{-0.2}_{-0.3}$	※ DR	※ MM	※ N	※ V	W
ϕ40	12.5	12.5	ϕ28	ϕ21	1.5	ϕ28	3	C0.2	35
ϕ50	15	15	ϕ35.5	ϕ26	2.0	ϕ35.5	3	C0.2	41
ϕ63	15	15	ϕ45	ϕ31	2.0	ϕ45	3	C0.2	48
ϕ80	20	20	ϕ56	ϕ38	3.0	ϕ56	3	C0.2	51
ϕ100	25	25	ϕ71	ϕ49	3.5	ϕ71	3	R1	57
ϕ125	30	30	ϕ90	ϕ60	5.0	ϕ90	6	R1	57

MM is rod dia.

● Dimensions indicated by ※ Mark are fixed as our semi-standard.
● You are requested to consult us if you would like to change fixed dimensions.

Separate flange joint : Only for A82 rod end style



- Need additional order for this item. Part No. : RMH-(bore(mm))

Unit: mm

Dimensional table (rod B)

Symbol / Bore	Part code	A	B	C	D1	D2	D3	D4	E	F	G	H	J	X
ϕ32	RMH-18	ϕ49	23	1	ϕ19	ϕ13.5	ϕ6.6	ϕ11	18.5	25	12.5	6.5	ϕ34	–
ϕ40	RMH-22	ϕ57	27	1.5	ϕ23	ϕ16.5	ϕ9	ϕ14	16.4	25	12.5	8.6	ϕ40	–
ϕ50	RMH-28	ϕ71	34	1.5	ϕ29	ϕ21.5	ϕ11	ϕ17.5	14.2	25	12.5	10.8	ϕ50	–
ϕ63	RMH-36	ϕ77	37	2	ϕ38	ϕ27	ϕ11	ϕ17.5	19.2	30	15	10.8	ϕ55	–
ϕ80	RMH-45	ϕ100	48.5	2	ϕ48	ϕ33	ϕ14	ϕ20	17	30	15	13	ϕ76	16
ϕ100	RMH-56	ϕ124	60.5	3	ϕ60	ϕ41	ϕ18	ϕ26	22.5	40	20	17.5	ϕ92	7
ϕ125	RMH-70	ϕ150	73.5	3.5	ϕ74	ϕ53	ϕ22	ϕ32	28.5	50	25	21.5	ϕ112	14
ϕ140	RMH-80	ϕ174	85.5	4	ϕ84	ϕ60	ϕ26	ϕ39	24.5	50	25	25.5	ϕ129	40
ϕ150	RMH-85	ϕ180	88.5	5	ϕ90	ϕ62	ϕ26	ϕ39	34.5	60	30	25.5	ϕ135	26
ϕ160	RMH-90	ϕ193	95	5	ϕ95	ϕ64	ϕ30	ϕ43	31	60	30	29	ϕ144	9

Note) For LC mounting and B rod at A82 rod end, please add X dimension as minimum in order to avoid the interference.

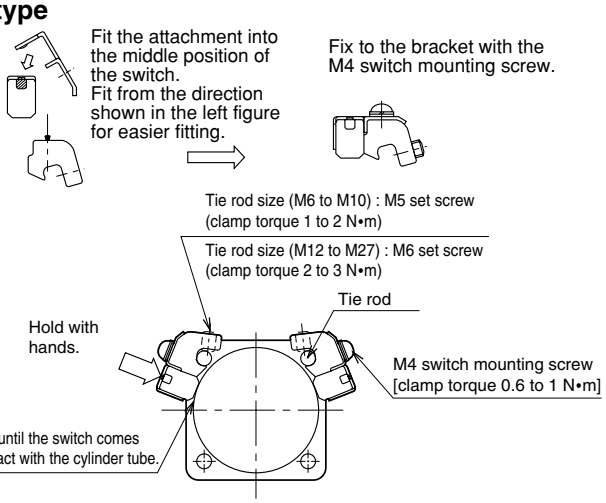
Dimensional table (rod A)

Symbol / Bore	Part code	A	B	C	D1	D2	D3	D4	E	F	G	H	J	Y
ϕ40	RMH-28	ϕ71	34	1.5	ϕ29	ϕ21.5	ϕ11	ϕ17.5	14.2	25	12.5	10.8	ϕ50	15
ϕ50	RMH-36	ϕ77	37	2	ϕ38	ϕ27	ϕ11	ϕ17.5	19.2	30	15	10.8	ϕ55	–
ϕ63	RMH-45	ϕ100	48.5	2	ϕ48	ϕ33	ϕ14	ϕ20	17	30	15	13	ϕ76	17
ϕ80	RMH-56	ϕ124	60.5	3	ϕ60	ϕ41	ϕ18	ϕ26	22.5	40	20	17.5	ϕ92	24
ϕ100	RMH-70	ϕ150	73.5	3.5	ϕ74	ϕ53	ϕ22	ϕ32	28.5	50	25	21.5	ϕ112	26
ϕ125	RMH-90	ϕ193	95	5	ϕ95	ϕ64	ϕ30	ϕ43	31	60	30	29	ϕ144	43

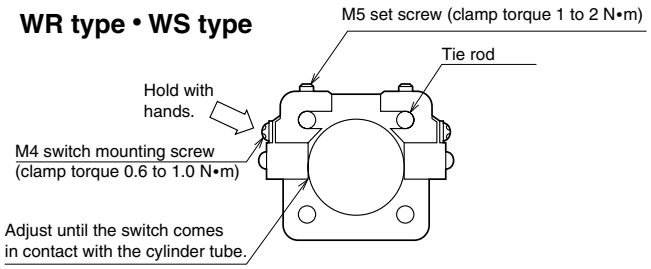
Note) For LB mounting and A rod at A82 rod end, please add Y dimension as minimum in order to avoid the interference.

Setting method of switch detecting position

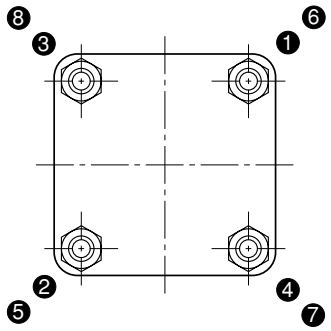
AX type



WR type • WS type



1. Loosen the two set screws with an allen wrench, and move them along with the tie rod.
2. Adjust the detecting position (for the 2-LED type, the position that the green lamp lights up) 2 to 5 mm (about half of the working range is appropriate) before the required position that the switch indicator lamp starts to light up (ON). Then, gently hold the top of the switch so that the cylinder tube contacts the detecting face of the switch, and clamp the set screw with the appropriate clamp torque.
   Note) Inappropriate clamp torque may cause the off-center of the switch position.
3. The indicator lamp lights up when the switch is set to the ON position.
4. Switches 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 switch to the most suitable position to detect the stroke end with the “Switch mounting dimension” (dimension UX).



Notes on assembly

Clamping of tie rod

- When clamping the tie rods, DO NOT clamp only one tie rod at once, but clamp them gradually in the order shown in the right diagram. The single clamping of the tie rod may cause malfunctions or cracks of cylinders.

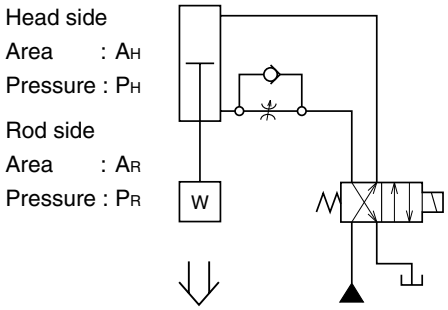
Table of specified tie rod clamp torque

Bore mm		ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125
Tie rod screw		**M10×1.25**	**M10×1.25**	**M10×1.25**	**M12×1.5**	**M16×1.5**	**M18×1.5**	**M22×1.5**
Clamp torque N•m	70H-8	20	41	41	35	87	130	240
	140H-8				70	170	250	460

Bore mm		ϕ140	ϕ150	ϕ160	ϕ180	ϕ200	ϕ224	ϕ250
Tie rod screw		**M24×1.5**	**M27×1.5**	**M27×1.5**	**M30×1.5**	**M33×1.5**	**M39×1.5**	**M42×1.5**
Clamp torque N•m	70H-8	310	450	450	630	830	1400	1800
	140H-8	610	880	880	1100	1400	2400	3000

Precautions for use

Take sufficient care to prevent the pressure in the cylinder with the rod A from exceeding the maximum allowable pressure, since the cylinder has the smaller pressurized area on the rod side, and the pressure in it tends to increase easily.



< Example >

Find the pressure on the rod side when the cylinder is moved forward (lowered) under the conditions shown below.

Cylinder : 140H-8 ϕ80 Rod A
Load : W = 1000 kg (≒10000 N)
Set pressure : P_H = 8 MPa
Installing direction : Rod facing downward
Speed control : Meter-out
The working speed is slow, and the load rate is 100%.

< Answer >

The pressure P_R, generated on the rod side is the sum of the pressure P_1, generated to balance with the load W and the pressure P_2, boosted by the supply from the head side.

- The pressure P_1, generated to balance with the load W, can be calculated with the formula below.

$$P_1 = \frac{W}{A_R} = \frac{10000\ (N)}{2564\ (mm^2)} = 3.9\ (MPa)$$

- The pressure P_2, boosted by the supply from the head side, can be calculated with the formula below.
where, $P_2A_R = P_HA_H$

$$P_2 = \frac{P_HA_H}{A_R} = \frac{8\ (MPa) \times 5027\ (mm^2)}{2564\ (mm^2)} = 15.7\ (MPa)$$

- The pressure P_R, generated on the rod side, can be calculated with the formula below.

$$P_R = P_1 + P_2 = 3.9 + 15.7 = 19.6\ (MPa)$$

∴ Therefore, the pressure in the cylinder exceeds the maximum allowable pressure of the 140H-8, rod A type, on the rod side, 18 MPa shown in the standard specifications, and the cylinder is not applicable. Modify the working conditions, and recalculate.