

Accessories for Pressure Gauges

OUTLINE

As various types of attaching methods for the pressure gauge exist, various types of accessories are required. We manufacture various types of accessories, in order that pressure gauge performance may be appropriately demonstrated and pressure gauges may work for a long period of time.



Gauge cock FC

This gauge cock is applied to the temporary stoppage of measuring fluid for the purposes of pressure gauge maintenance, inspection and repair.



Gauge valve FV

This gauge valve is applied to the temporary stoppage of measuring fluid for the purposes of pressure gauge maintenance, inspection and repair.



Joint FJ

These joints are applied to the connection between different thread types, different thread diameters and different pipe diameters.



Gauge saver FG

This gauge saver is applied to the case where pressure fluctuates suddenly and excessively large pressure is applied temporarily.



Dampener FD

This dampener is of variable type being able to adjust pressure amplitude and applied to the decrease in pressure pulsation.



Pipe siphon FP

This pipe siphon is applied to measuring steam pressure or the case where the temperature of measuring fluid is high.



Throttle FS

This throttle is applied to the decrease in pressure pulsation and is of constant throttling type.

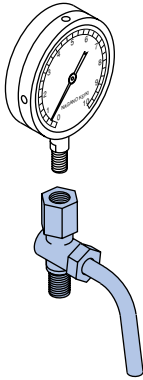


Tank siphon FT

This tank siphon is applied to the substitution of measuring fluid and the case where oil is forbidden.

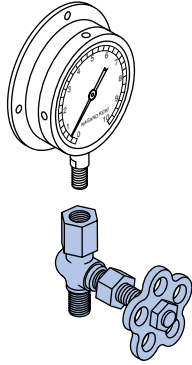
INSTALLATION METHOD

Gauge cock FC

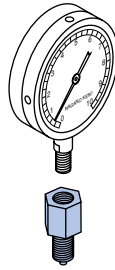


To be used for the temporary stoppage.

Gauge valve FV

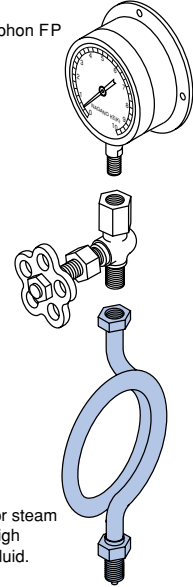


Joint FJ

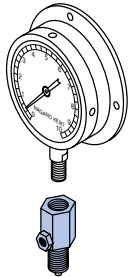


To be used for the connection between different size or different standard.

Pipe siphon FP

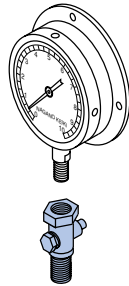


Dampener FD



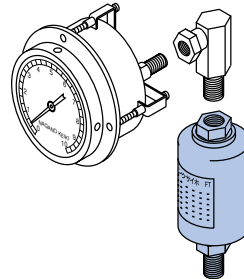
When there is pulsation, dampener (or FS throttle) is used.

Gauge saver FG



To be used for the case where pressure fluctuates suddenly and excessively large pressure applied temporarily.

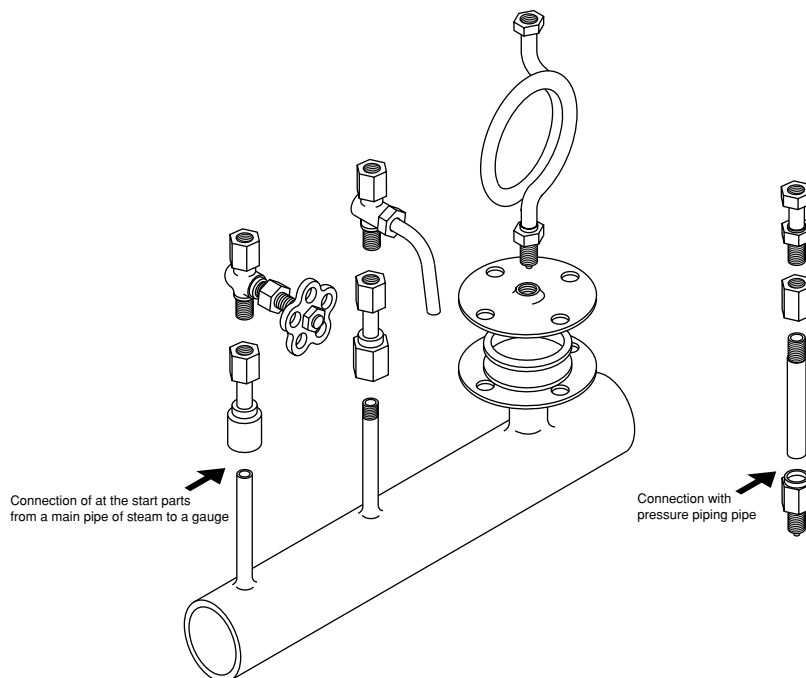
Tank siphon FT



To be used for the substitution of fluid.

To be used for steam pressure or high temperature fluid.

PIPE LAYING METHOD EXAMPLE



● Tank siphon ●

Tank siphon is used for testing of pressure gauge for "Use No Oil" which is applied to food or oxygen. To prevent flow of fluid (oil) into pressure element, pressure is transferred to pressure gauge through substitution liquid in a tank syphon.

Fluid:

Liquid

Connection type:

Female thread × Female thread

* Female thread × With Joint type (FT20, 21)

Socket welding type × Socket welding type (FT50) is also available

Max. allowable working pressure:

15MPa (150kgf/cm²)

* High pressure type for 35MPa (350kgf/cm²)

or is also available (FT11)

Test pressure:

20MPa (200kgf/cm²)

Tank capacity:

80ml

Operating temperature:

Less than 350°C

Wetted parts material:

Steel or stainless steel

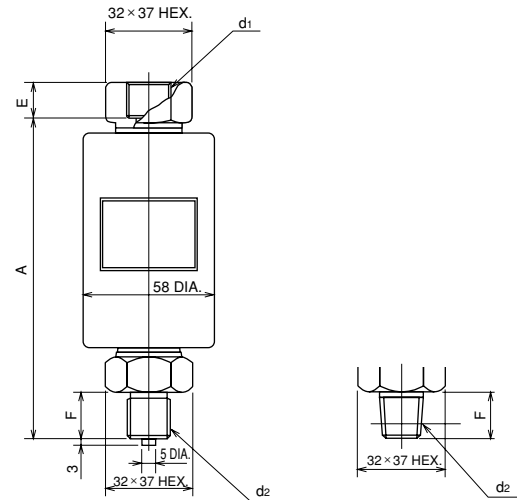
Finishing:

Steel Ni plating

Stainless steel Plain

Weight:

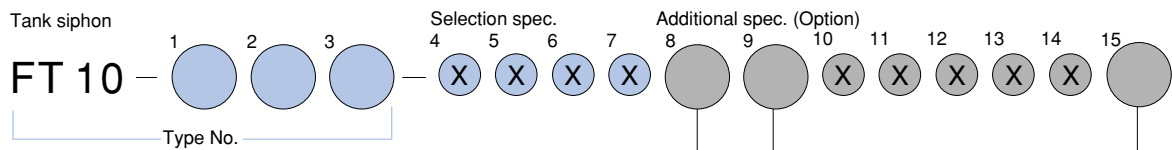
Approx.1.6kg



Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.



9 Other additional spec.

0 Nil

1 Please specify your requirement
Connection option

Type No.		d1 × d2 (Female) (Male)	A	E	F
Steel	Stainless steel				
FT10-332	FT10-333	G3/8 × G3/8B	145	16	18
FT10-442	FT10-443	G1/2 × G1/2B		18	20
FT10-382	FT10-383	G3/8 × R3/8		16	18
FT10-492	FT10-493	G1/2 × R1/2		18	28

8 Treatment

0 Nil

1 Use no oil

2 Use no water

3 Use no oil & water

15 Document

0 Nil

1 Please specify your requirement
Drawing one sheet,
Instruction manual,
Mill sheet

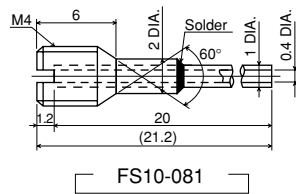
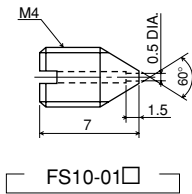
● Throttle ●

Throttle is fixed in the connection parts of P.G. and it effects to relax the pressure amplitude. Because of fixed type, the effect is different depending on the cycle or amplitude of pulsation or viscosity of fluid.

Wetted parts material:

Brass (C3604BD) or stainless steel (316st.st.)

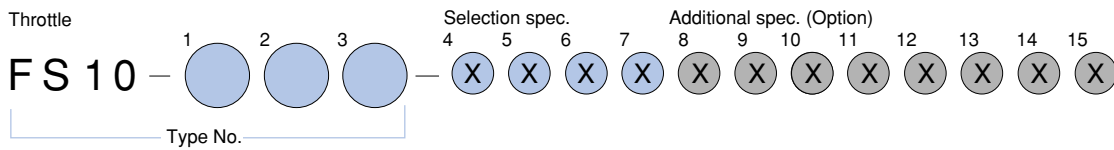
* Fluid temperature should be less than 40°C



Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.



Type No.	
Brass	Stainless steel
FS10-011	FS10-013
FS10-081 (With pipe)	—

Joint 1

These joints are applied to the connection between different thread types, different thread diameters and different pipe diameters.

Connection type:

- Female × male joint
- * Female × female joint (FJ11), male × male joint (FJ12) are available.
- Union female joint × pipe welding type
- Union female joint × socket welding type
- * Union male joint × pipe flange, ring joint (FJ25 • 26) are available.

Max. allowable working pressure: (MPa)

	Brass	Steel	stainless steel
FJ13	50	100	100
FJ20 • 21	15	22.5	22.5
FJ22	—	35	50

Wetted parts material:

Brass, steel or stainless steel

Finishing:

- Brass Plain
- Steel Ni gilt
- Stainless steel Plain

Weight:

Approx.0.1 kg ~ Approx. 0.2 kg

Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Joint

FJ 10 — 1 2 3 — 4 X 5 X 6 X 7 X 8 9 X 10 X 11 X 12 X 13 X 14 X 15

Type No.

8 Treatment

15 Document

8 Treatment
0 Nil
1 Use no oil
2 Use no water
3 Use no oil & water

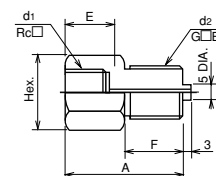
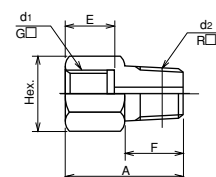
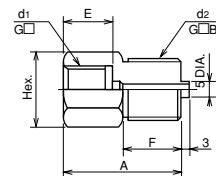
15 Document
0 Nil
1 Please specify your requirement Drawing one sheet, Instruction manual, Mill sheet

Female × male joint

Type No.			d1 × d2 (Female) (Male)	A	E	F	B × C HEX.
Brass	Steel	Stainless steel					
FJ10-231	FJ10-232	FJ10-233	G1/4 × G3/8B	36	14	18	19 × 21.9
FJ10-241	FJ10-242	FJ10-243	G1/4 × G1/2B	38		20	22 × 25.4
FJ10-321	FJ10-322	FJ10-323	G3/8 × G1/4B	36	16	16	22 × 25.4
FJ10-341	FJ10-342	FJ10-343	G3/8 × G3/8B	40		20	
FJ10-421	FJ10-422	FJ10-423	G1/2 × G1/4B	38	18	16	27 × 31.2
FJ10-431	FJ10-432	FJ10-433	G1/2 × G3/8B	40		20	

FJ10-271	FJ10-272	FJ10-273	G1/4 × R1/4	34	14	16	19 × 21.9
FJ10-281	FJ10-282	FJ10-283	G1/4 × R3/8	36		18	
FJ10-291	FJ10-292	FJ10-293	G1/4 × R1/2	38	16	20	22 × 25.4
FJ10-371	FJ10-372	FJ10-373	G3/8 × R1/4	36		16	
FJ10-381	FJ10-382	FJ10-383	G3/8 × R3/8	38	18	18	22 × 25.4
FJ10-391	FJ10-392	FJ10-393	G3/8 × R1/2	40		20	
FJ10-471	FJ10-472	FJ10-473	G1/2 × R1/4	38	18	16	27 × 31.2
FJ10-481	FJ10-482	FJ10-483	G1/2 × R3/8	40		18	
FJ10-491	FJ10-492	FJ10-493	G1/2 × R1/2	42	20	18	27 × 31.2
						20	

FJ10-731	FJ10-732	FJ10-733	Rc1/4 × G3/8B	36	12	18	19 × 21.9
FJ10-741	FJ10-742	FJ10-743	Rc1/4 × G1/2B	38		20	
FJ10-831	FJ10-832	FJ10-833	Rc3/8 × G3/8B	38	14	18	22 × 25.4
FJ10-841	FJ10-842	FJ10-843	Rc3/8 × G1/2B	40		20	
FJ10-931	FJ10-932	FJ10-933	Rc1/2 × G3/8B	40	17	18	27 × 31.2
FJ10-941	FJ10-942	FJ10-943	Rc1/2 × G1/2B	42		20	



Gauge valve

This gauge valve is applied to the temporary stoppage of measuring fluid for the purposes of pressure gauge maintenance, inspection and repair.

Fluid:

- Liquid
- * For gas (FV15) or for high pressure (FV30) is also available.

Connection type:

- Turnbuckle type × male thread
- * Turnbuckle type × socket welding type (FV20) or socket welding type (FV21) is also available.

Max. allowable working pressure:

20MPa (200kgf/cm²)

Test pressure:

30MPa (300kgf/cm²)

Operating temperature:

Less than 200°C

Wetted parts material:

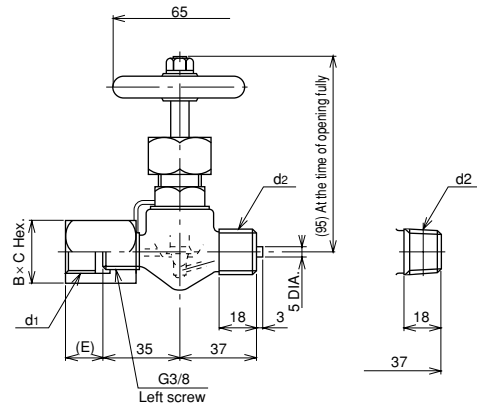
- Steel Steel, PTFE, 316st.st., Asbestos
- Stainless steel 316st.st., PTFE, Asbestos

Finishing:

- Steel: Ni plating
- Stainless steel: Plain

Weight:

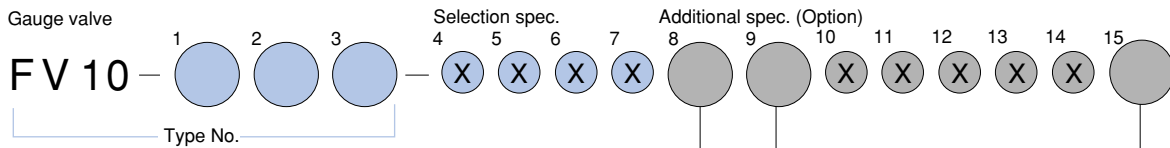
Approx.0.6kg



Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.



9 Other additional spec.

0 Nil

1 Please specify your requirement
Connection option

8 Treatment

0 Nil

1 Use no oil

2 Use no water

3 Use no oil & water

Type No.		d1 × d2	E	B × C Hex.
Steel	Stainless steel			
FV10-332	FV10-333	G3/8 × G3/8B	13	22 × 25.4
FV10-442	FV10-443	G1/2 × G1/2B	15	27 × 31.2
FV10-382	FV10-383	G3/8 × R3/8	13	22 × 25.4
FV10-492	FV10-493	G1/2 × R1/2	15	27 × 31.2

15 Document

0 Nil

1 Please specify your requirement
Drawing one sheet,
Instruction manual,
Mill sheet

Gauge saver

If the over-pressure is added to the pressure gauge, the life of gauge is extremely shorten and also gauge is damaged or dangerous to cause an unexpected disaster. Gauge saver is used for protection of pressure gauge when pressure changes suddenly and over-pressure is added to gauge temporarily.

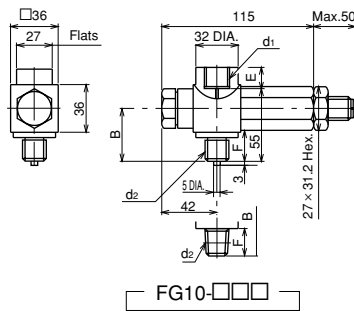
- Element:
 FG10 Piston type
 FG20・30 Bellows type
- Fluid:
 FG10・20 Gas or liquid Gas
 FG30 Gas
- Test pressure:
 FG10 30MPa (300kgf/cm²)
 FG20 1.5MPa (15kgf/cm²)
 FG30 1MPa (10kgf/cm²)

- Reproducibility:
 FG10・20 5%max.P.
 FG30 10%max.P.

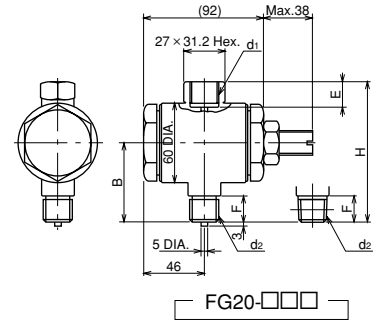
- Dead band:
 20%max.P.

- Wetted parts material:
 Brass Copper alloy (C3604BD), 316st.st., Fluorine rubber
 Stainless steel 316st.st., Fluorine rubber, PTFE

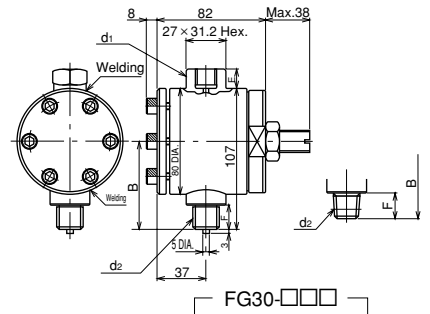
- Weight:
 FG10 Approx.1 kg
 FG20 Approx.1.8 kg
 FG30 Approx.2.5 kg



FG10-□□□



FG20-□□□



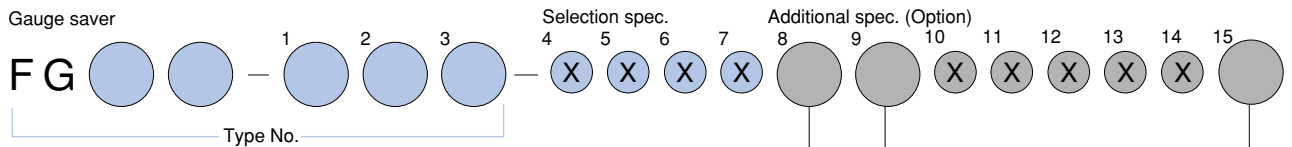
FG30-□□□

SET PRESSURE ADJUSTING RANGE

FG10 (For high pressure)	FG20 (Middle pressure use)		FG30 (Low pressure use)
0.6 ~ 2MPa (6 ~ 20kgf/cm ²)	25 ~ 40kPa (0.25 ~ 0.4kgf/cm ²)	0.08 ~ 0.2MPa (0.8 ~ 2kgf/cm ²)	5 ~ 10kPa (0.05 ~ 0.1kgf/cm ²)
1 ~ 3 (10 ~ 30)	0.03 ~ 0.06MPa (0.3 ~ 0.6kgf/cm ²)	0.15 ~ 0.3 (1.5 ~ 3)	10 ~ 25 (0.1 ~ 0.25)
2 ~ 5 (20 ~ 50)	0.04 ~ 0.08 (0.4 ~ 0.8)	0.2 ~ 0.6 (2 ~ 6)	
3 ~ 6 (30 ~ 60)	0.06 ~ 0.15 (0.6 ~ 1.5)	0.3 ~ 1 (3 ~ 10)	
5 ~ 10 (50 ~ 100)			
7 ~ 15 (70 ~ 150)			
10 ~ 20 (100 ~ 200)			

Type No. constitution

Please specify Type No., each specification and range when ordering.



Type No.		d1 × d2 (Female) (Male)	B	E	F	H
Brass	Stainless steel					
FG10-331	FG10-333	G3/8 × G3/8B	41	16	18	
FG10-441	FG10-443	G1/2 × G1/2B	43	18	20	
FG10-381	FG10-383	G3/8 × R3/8	41	16	18	
FG10-491	FG10-493	G1/2 × R1/2	43	18	20	

Type No.		d1 × d2 (Female) (Male)	B	E	F	H
Brass	Stainless steel					
FG20-331	FG20-333	G3/8 × G3/8B	58	16	18	103
FG20-441	FG20-443	G1/2 × G1/2B	60	18	20	105
FG20-381	FG20-383	G3/8 × R3/8	58	16	18	103
FG20-491	FG20-493	G1/2 × R1/2	60	18	20	105

Type No.		d1 × d2 (Female) (Male)	B	E	F	H
Brass	Stainless steel					
FG30-331	FG30-333	G3/8 × G3/8B	68	16	18	
FG30-441	FG30-443	G1/2 × G1/2B	70	18	20	
FG30-381	FG30-383	G3/8 × R3/8	68	16	18	
FG30-491	FG30-493	G1/2 × R1/2	70	18	20	

9 Other additional spec.

- 0 Nil
- 1 Please specify your requirement
Connection option

8 Treatment

- 0 Nil
- 1 Use no oil
- 2 Use no water
- 3 Use no oil & water

15 Document

- 0 Nil
- 1 Please specify your requirement
Drawing one sheet,
Instruction manual,
Mill sheet

● Pipe siphon ●

When fluid temperature is high, pipe siphon is used to prevent from pressure gauge being exposed to a high temperature.

Fluid:

Gas or liquid

Connection type:

Female thread × male thread

* Female thread × socket welding type

Female thread × male thread, L type

L shape (EP40 • 41) or female thread × flange

(FP5□ • FP8□) is also available.

Max. allowable working pressure:

20MPa (200kgf/cm²)

* It produces high pressure type of 35MPa 350kgf/cm².
(FP11)

Test pressure:

30MPa (300kgf/cm²)

Operating temperature:

Less than 350g

Wetted parts material:

Steel Steel (SGD400-D),

316st.st. TP6TP

Stainless steel 316st.st., 316st.st.TP

Winding:

Single

* Double coil type (FP20 • 21) is available.

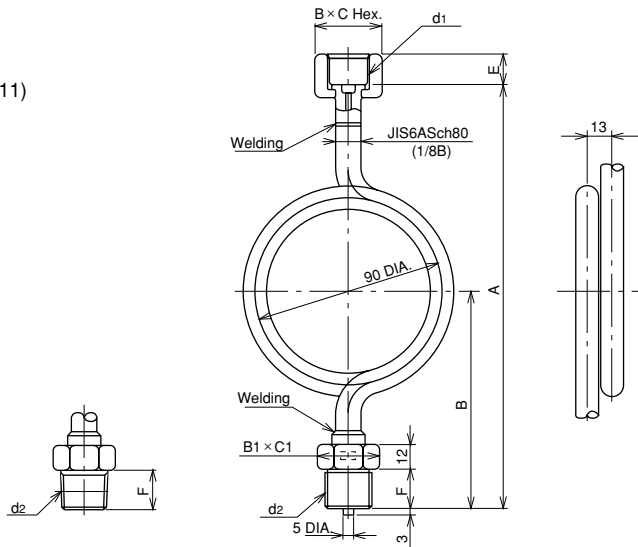
Finishing:

Steel Ni plating

Stainless steel Cloth

Weight:

Approx.0.4kg



Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Pipe siphon

FP 10 — 1 2 3 — Selection spec. 4 5 6 7 — Additional spec. (Option) 8 9 10 11 12 13 14 15

Type No. —

8 Treatment

9 Other additional spec.

15 Document

0	Nil
1	Use no oil
2	Use no water
3	Use no oil & water

0	Nil
1	Please specify your requirement Connection option

0	Nil
1	Please specify your requirement Drawing one sheet, Instruction manual, Mill sheet

Type No.		d1 × d2 (Female) (Male)	A	B	E	F	B × C	B1 × C1
FP10-332	FP10-333	G3/8 × G3/8B	215	110	13	18	22 × 25.4	19 × 21.9
FP10-442	FP10-443	G1/2 × G1/2B	217	112	15	20	27 × 31.2	22 × 25.4
FP10-382	FP10-383	G3/8 × R3/8	215	110	13	18	22 × 25.4	19 × 21.9
FP10-492	FP10-493	G1/2 × R1/2	217	112	15	20	27 × 31.2	22 × 25.4

● Gauge cock ●

This gauge cock is applied to the temporary stoppage of measuring fluid for the purposes of pressure gauge maintenance, inspection and repair.

Fluid:

- FC10 • 11 Liquid
- FC20 Gas

Max. allowable working pressure:

- FC10 • 11 2MPa (20kgf/cm²)
- FC20 1MPa (10kgf/cm²)

Pneumatic test pressure:

- FC10 • 11 3MPa (30kgf/cm²)
- FC20 1.5MPa (15kgf/cm²)

Use fluid temperature:

- FC10 • 11 Less than 200°C
- FC20 Less than 80°C

Finishing:

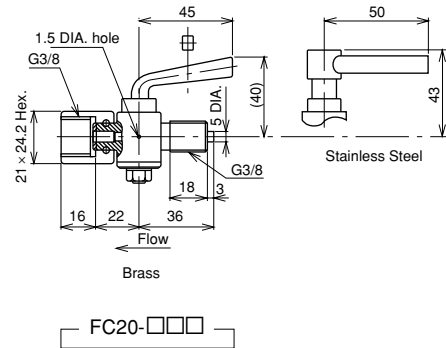
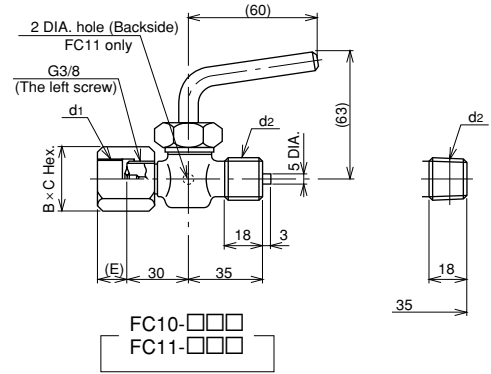
- Plain * Ni plating is available for FC10 and FC11

Weight:

Approx.0.3 kg

Wetted parts material:

	Brass	Stainless steel
FC10	YBsC3, Copper alloy	316 st.st., Asbestos
FC11	Asbestos, 316 st.st.	316 st.st., Asbestos
FC20	Copper alloy, PTFE	316 st.st., PTFE



Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Gauge cock

Selection spec.

Additional spec. (Option)

FC ● 1 ● 2 ● 3 ● 4 (X) 5 (X) 6 (X) 7 (X) 8 ● 9 (X) 10 (X) 11 (X) 12 (X) 13 (X) 14 (X) 15 ●

Type No.

10 Liquid use

11 Liquid use (With vent hall)

20 Gas use

8 Treatment

0 Nil

1 Use no oil

2 Use no water

3 Use no oil & water

15 Document

0 Nil

1 Please specify your requirement
Drawing one sheet,
Instruction manual,
Mill sheet

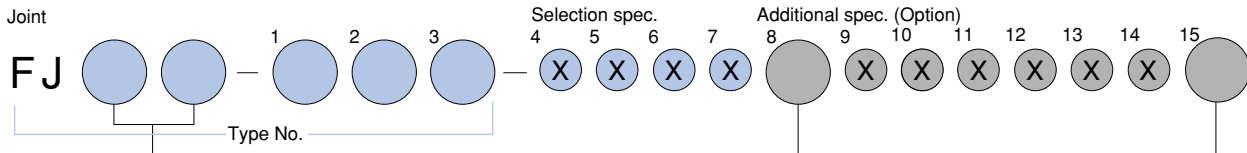
Type No.		d1 × d2	(E)	B × C Hex.
Brass	Stainless steel			
FC1□-331	FC1□-333	G3/8 × G3/8B	13	22 × 25.4
FC1□-441	FC1□-443	G1/2 × G1/2B	15	27 × 31.2
FC1□-381	FC1□-383	G3/8 × R3/8	13	22 × 25.4
FC1□-491	FC1□-493	G1/2 × R1/2	15	27 × 31.2
FC20-331	FC20-333	G3/8 × G3/8B	16	21 × 24.2
FC20-361	FC20-363	G3/8 × φ6		
FC20-371	FC20-373	G3/8 × Rc1/4		

Joint 2

Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.



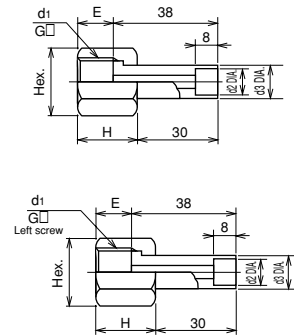
20	Union female joint-pipe
21	Union female joint (left hand thread)-pipe
22	Union female joint-socket
80	Flat packing Lens packing

8 Treatment	
0	Nil
1	Use no oil
2	Use no water
3	Use no oil & water

15 Document	
0	Nil
1	Please specify your requirement Drawing one sheet, instruction manual, mill sheet

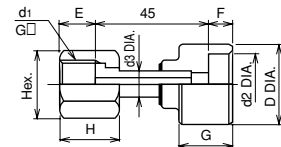
Union type pipe joint

Type No.			d1 × d2 (Female) (Pipe)	E	H	d3	B × C Hex.
Brass	Steel	Stainless steel					
FJ20-361	FJ20-362	FJ20-363	G3/8 × 6 DIA.	13	21	10.5	22 × 25.4
FJ20-381	FJ20-382	FJ20-383	G3/8 × 8 DIA.				
FJ20-301	FJ20-302	FJ20-303	G3/8 × 10 DIA.				
FJ20-311	FJ20-312	FJ20-313	G3/8 × 1/8B				
FJ20-461	FJ20-462	FJ20-463	G1/2 × 6 DIA.	15	23	10.5	27 × 31.2
FJ20-481	FJ20-482	FJ20-483	G1/2 × 8 DIA.				
FJ20-401	FJ20-402	FJ20-403	G1/2 × 10 DIA.				
FJ20-411	FJ20-412	FJ20-413	G1/2 × 1/8B				
FJ21-361	FJ21-362	FJ21-363	G3/8 left hand thread × 6 DIA.	13	21	10.5	22 × 25.4
FJ21-381	FJ21-382	FJ21-383	G3/8 left hand thread × 8 DIA.				
FJ21-301	FJ21-302	FJ21-303	G3/8 left hand thread × 10 DIA.				
FJ21-311	FJ21-312	FJ21-313	G3/8 left hand thread × 1/8B				



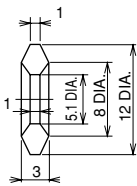
Union type pipe joint

Type No.			d1 × d2 (Female) (Socket)	D	E	F	G	H	B × C Hex.
Brass	Steel	Stainless steel							
—	FJ22-332	FJ22-333	G3/8 × 17.8	26	13	10	22	21	22 × 25.4
—	FJ22-342	FJ22-343	G3/8 × 22.2	32		13	25		
—	FJ22-362	FJ22-363	G3/8 × 27.7	40		13	25		
—	FJ22-422	FJ22-423	G1/2 × 14.3	23	15	10	22	23	27 × 31.2
—	FJ22-432	FJ22-433	G1/2 × 17.8	26					
—	FJ22-442	FJ22-443	G1/2 × 22.2	32					
—	FJ22-462	FJ22-463	G1/2 × 27.7	40					

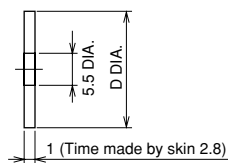


Gasket

Lens gasket



Flat gasket



Lens gasket

Type No.	Material	Screw
FJ80-001	Copper (C1100BD)	G3/8
FJ80-003	Stainless steel (316st.st.)	G1/2

Flat gasket

Type No.				D	Screw
Copper (C1100P)	Teflon (PTFE)	Asbestos	Leather		
FJ80-201	FJ80-204	FJ80-205	FJ80-206	11	G1/4
FJ80-301	FJ80-304	FJ80-305	FJ80-306	14	G3/8
FJ80-401	FJ80-404	FJ80-405	FJ80-406	18	G1/2

