

Yamatake-Honeywell

SPECIFICATION

Specifications

Measuring range:

0-300, 0-500, 0-700, 0-1000, 0-1500, 0-2000mm

Process connections: Flanged

External chamber type;

Connecting method

- Side-Side flanged
- Side-Bottom flanged
- Top-Side flanged
- Top-Bottom flanged

Flange size 2" or 1 1/2-inch RF

Internal float type;

Connecting method

- Top-flanged
- Side-flanged

Flange size 4 inch RF

Material:

- Float; SUS316L st. st.
- Bonnet; Cast steel, SUS304 st. st., SUS316 st. st.
- Chamber; Carbon steel, SUS304 st. st., SUS316 st. st.
- Torque tube; SUS316 st. st., Inconel or K-Monel

Working pressure rating:

- Low pressure JIS 10K, ANSI 150
- High pressure JIS 30K, ANSI 300

Maximum working pressure rating:

- Low pressure 20 kg/cm² (Hydraulic pressure)
- High pressure 60 kg/cm² (Hydraulic pressure)

Operating temperature:

Maximum temperature is 350°C (cast steel main material) or 400°C (SUS316 main material).

(Remark; Cooling fins are supplied for uses exceeding 180°C.)

Specific gravity:

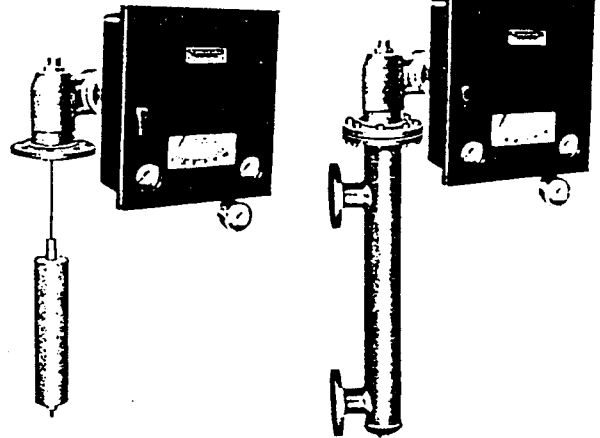
Four types of torque tubes are supplied for different specific gravities for each range. A specific gravity compensator is supplied to compensate for minute minimum level gravity changes. Floats for interface level measurement are designed upon specifications supplied by customer.

Type	Specific gravity			Torque tube No.	
	Min.	Nominal	Max.	Top-flanged or chamber type	Side-flanged type
Extra Light	0.40	0.50	0.60	No. 2*	**
Light	0.55	0.70	0.85	No. 2	No. 5
Standard	0.75	0.95	1.15	No. 3	No. 6
Heavy	1.05	1.30	1.55	No. 4	No. 7

- * Available as an option, used with torque tube No. 2.
- ** Available as an option.

DISPLACEMENT TYPE LIQUID LEVEL GAGE

MODEL : 782



Internal Float Type
(Top-Flanged)

External Chamber Type
(Side-Side Flanged)

Accuracy: ±1.5% FS (Indicating and Transmitting)

Control action:

- Air-O-Line control unit; P+I (1-150% proportional band, plus automatic reset.)
- Full-Throttlor control unit; P+I (1-150% proportional band, plus manual reset.)

Air supply: 1.4 ±0.1 kg/cm²

Output: 0.2 ~ 1.0 kg/cm²

Air consumption:

- Only transmitting or controlling; 5.7Nℓ/min.
- Transmitting plus controlling; 11.4Nℓ/min.

Pneumatic signal tubing: 6 or 8mmφ copper tube.

Finish: Acryl baking finish

(For corrosion-resistant feature, refer to the optional specifications.)

Color finish: Dark beige

Option (Accessory)

Following accessory is optionally available.

(1) **Corrosion-resistant and silver finish (Y138A ~ D)**

Corrosion-resistant (Acryl baking) finish (Y138A);
Resistance for corrosive gases.

Corrosion-proof (Epoxy baking) finish (Y138B);
Resistance for corrosive liquids.

Silver-normal (Acryl baking) finish (Y138C);

Protection for temperature rise of device caused by direct sun light, radiation heat, etc.

Silver-corrosion-resistant (Acryl baking) finish (Y138D)

Protection for above-mentioned temperature rise and resistance for corrosive gases.

(Note: Silver finish is not applicable for alkaline gases.)

Yamatake-Honeywell Co. Ltd.
Process Control Division

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Model Number Table

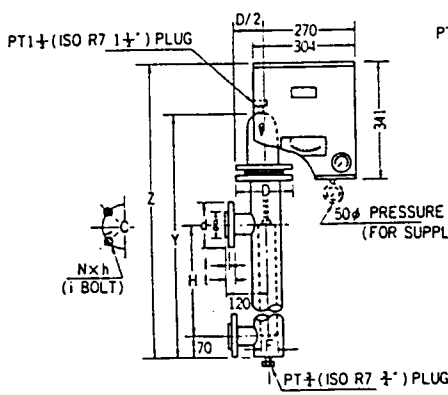
Ex: 78211-110312-11

Basic Model No.	III	IV	V	VI	VII	VIII	IX	Description
Key No. + I, II	Material	Pressure Rating	Measuring Range	Method of Flange Connection	Flange Size	Torque Tube Mat'l	Housing Type	
78211								Full-throttlor type P-mode Controller
78221								Air-O-Line type PI-mode Controller
78231								Transmitting Controller (P-mode)
78241								Transmitting Controller (PI-mode)
78251								Transmitter
78281								Only indication
	-2							Bonnet; SC Chamber; CS Float; SUS316
	-3							Bonnet: 304SS Chamber, 304SS Float; 316SS
	-4							Bonnet: 316SS Chamber; 316SS Float; 316SS
		1						JIS 10 K
		3						JIS 30 K
		5						ANSI 150
		6						ANSI 300
			03					0 ~ 300mm
			05					0 ~ 500mm
			07					0 ~ 700mm
			10					0 ~ 1,000mm
			15					0 ~ 1,500mm
			20					0 ~ 2,000mm
				1				External Float Type, Side-Side Flanged
				2				External Float Type, Side-Bottom Flanged
				3				External Float Type, Top-Bottom Flanged
				4				External Float Type, Top-Side Flanged
				5				Internal Float Type, Top Flanged
				6				Internal Float Type, Side Flanged
					2			2-inches RF (For external float type only)
					4			4-inches RF (For internal float type only)
					8			1½-inches RF (For external float type only)
						-1		SUS316 stainless steel (Below 180°C*2)
						-2		Inconel (Above 180°C*2)
						-9		Cathod corrosion-resistant SUS316SS
							1	Standard type
							2	Extension type (with radiating fin)
							4	Extension type (For low temp. application) } (w/o radiating fin)

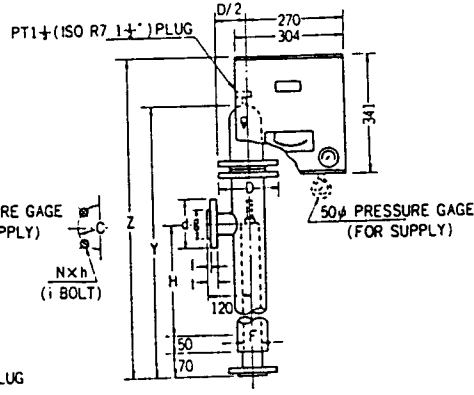
Remarks:

- 1) Material; SC ... Cast Steel, CS... Carbon Steel
- 2) *2 ... Does not comply with the temperature limit for corrosive fluid.

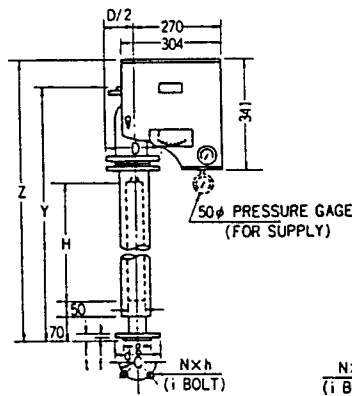
**Connections and Dimensions
(External Chamber Type)**



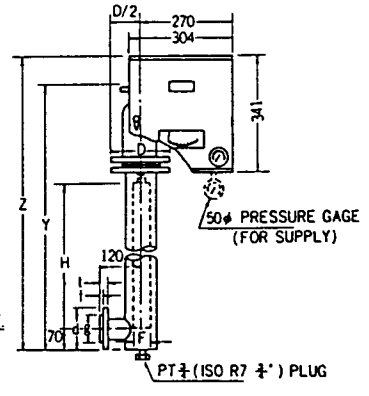
Side-Side Flanged



Side-Bottom Flanged



Top-Bottom Flanged



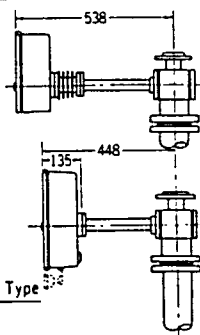
Top-Side Flanged

Dimensions

(in mm)

Range	Flange dia. D		Side-Side			Side-Bottom			Top-Bottom			Top-Side		
	JIS 10K ANSI 150	JIS 30K ANSI 300	Y	Z	F ϕ	Y	Z	F ϕ	Y	Z	F ϕ	Y	Z	F ϕ
300	210	240	700	845	75.0	750	895	75.0	710	795	75.0	660	745	75
500	185	210	900	1045	57.8	950	1095	57.8	910	995	57.8	860	945	57.8
700	185	210	1100	1245	48.7	1150	1295	48.7	1110	1195	48.7	1060	1145	48.7
1000	185	210	1400	1545	40.7	1450	1595	40.7	1410	1495	40.7	1360	1445	40.7
1500	185	210	1900	2045	33.2	1950	2095	33.2	1910	1995	33.2	1860	1945	33.2
2000	185	210	2400	2545	28.7	2450	2595	28.7	2410	2495	28.7	2360	2445	28.7

Extension Type
(With Radiating Fin)



Standard Type

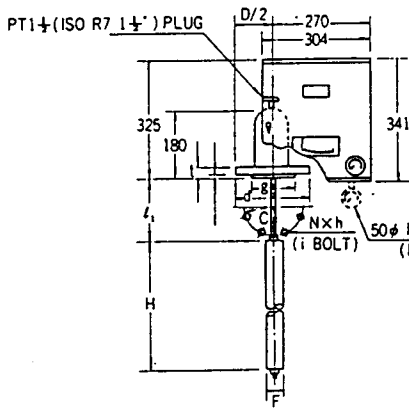
Instrument to Chamber
and Float Dimensions

Flange Dimensions

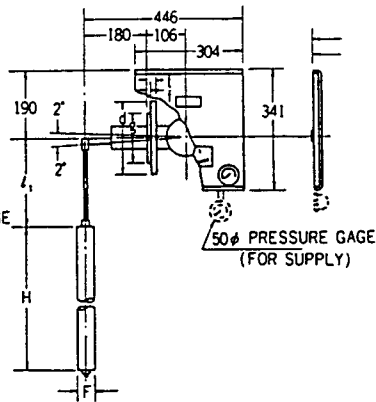
(in mm)

Flange Rating	d ϕ	g ϕ	t	f	C ϕ PC	N x h ϕ	i (Bolt)
40mm - JIS 10K	140	85	16	2	105	4 x 19	M16
40mm - JIS 30K	160	90	22	2	120	4 x 23	M20
1½" - ANSI 150	127	73	17.5	1.6	98.5	4 x 16	5/8"
1½" - ANSI 300	156	73	20.7	1.6	114.5	4 x 22	3/4"
50mm - JIS 10K	155	100	16	2	120	4 x 19	M16
50mm - JIS 30K	165	105	22	2	130	8 x 19	M16
2" - ANSI 150	152	92	19.1	1.6	120.5	4 x 19	5/8"
2" - ANSI 300	165	92	22.3	1.6	127	8 x 19	5/8"

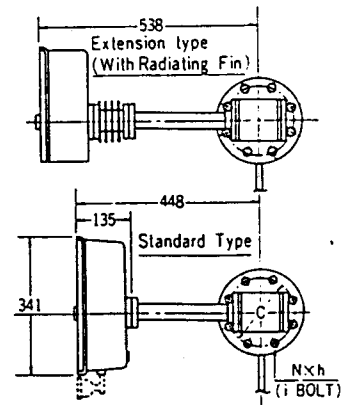
**Connections and Dimensions
(Internal Float Type)**



Top-Flanged



Side-Flanged



Instrument to Bonnet
(and Flange) Dimensions

Range and Float Diameter (in mm)

Range H	Fφ	ℓ ₁
300	75.0	
500	57.8	
700	48.7	
1000	40.7	
1500	33.2	
2000	28.7	

Flange Dimensions

(in mm)

Flange Rating	dφ	gφ	t	f	CφPC	N x hφ	i (Bolt)
100mm - JIS 10K	210	155	18	2	175	8 x 19	M16
100mm - JIS 30K	240	160	32	2	195	8 x 25	M22
4" - ANSI 150	229	157	23.9	1.6	190.5	8 x 19	5/8"
4" - ANSI 300	254	157	31.8	1.6	200	8 x 22	3/4"

Note: Dimensions of ℓ₁ is specified by user as required.

Maximum ℓ₁ ; 2000mm

Minimum ℓ₁ ; 50mm (Top-flanged)

150mm (Side-flanged)

* Specifications are subject to change without notice.

Ordering Information

When ordering, please specify:

- 1) Model no.
- 2) Range
- 3) Specific gravity, pressure and temperature of measured liquid.
- 4) Length of ℓ₁.

* Reference instruction manual FL-7801