

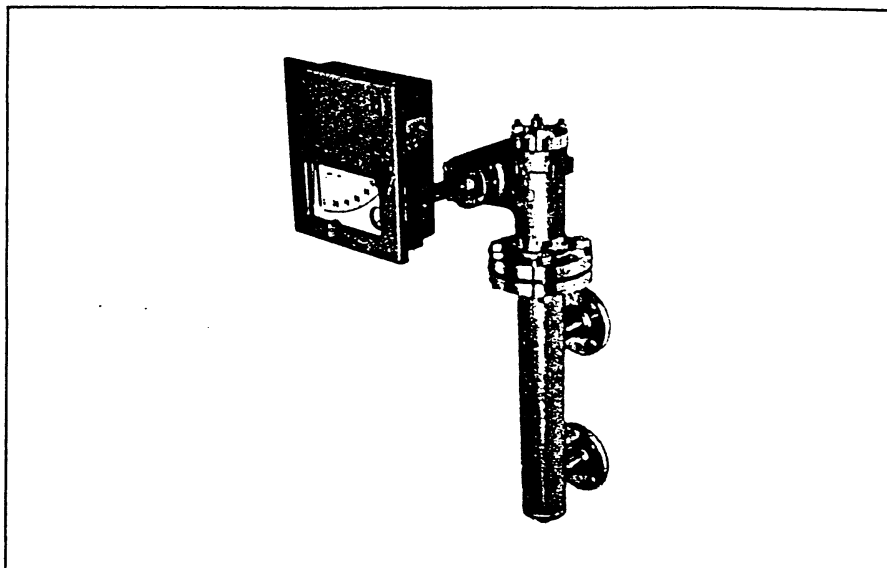
# Yamatake-Honeywell

# SPECIFICATION

## TORQUE TUBE TYPE PNEUMATIC LIQUID LEVEL INDICATING CONTROLLER MODEL:KFL

### General

Model KFL Liquid Level Indicating Controllers are field-type pneumatic instruments. They measure and control liquid levels covering ranges from 0-300mm to 0-3000mm, using a cylindrical float for liquid displacement for buoyancy for each range. They are weather resistant for field installation, provide various control functions, and are easy to operate and maintain.



### Standard Specifications

| Item                |  | Specification   |                               |  |   |
|---------------------|--|---|-------------------------------|--|---|
| Detector section    | Measuring range  | 0 ~ 300, 0 ~ 500, 0 ~ 700, 0 ~ 1000,<br>0 ~ 1500, 0 ~ 2000, 0 ~ 2500, 0 ~ 3000 (mm) |                               |  |   |
|                     | Specific gravity   | 0.1 ~ 1.6 (For details, see the following table.)                                   |                               |  |   |
|                     |  | Pressure rating   |                               |  |   |
|                     |  | Specific-gravity range  | JIS 10K, 30K<br>ANSI 150, 300 | JIS 63K<br>ANSI 600                                  |   |
|                     |  | Medium range  | 0.4 ~ 1.6                     | Applicable to all ranges except 300mm range          |   |
|                     |  |   | 0.6 ~ 1.6                     | Applicable to 300mm range only                       |   |
|                     |  | Low range   | 0.1 ~ 0.4                     | Applicable to all ranges except 300 and 500mm ranges | — |
| 0.15 ~ 0.4          | Applicable to 500mm range only   |   | —                             |  |   |
| 0.2 ~ 0.6           | Applicable to 300mm range only   |   | —                             |  |   |
| Process connections | Flange connections<br>External chamber type<br>Connecting method:<br>Side-Side flanged, Side-Bottom flanged,<br>Top-Side flanged, Top-Bottom flanged<br>Flange size: 2-or 1½-inch RF<br>(2-or 1½-inch RTJ for ANSI 600)<br><br>Internal float type<br>Connecting method:<br>Top flanged, Side flanged<br>Flange size: 4-inch RF<br>(4-inch RTJ for ANSI 600) |   |                               |  |   |

| Item                   |  | Specification  |
|------------------------|--|--|
| Detector section       | Operating pressure temperature ranges                                  | Within operating pressure temperature ranges of respective pressure ratings. (Refer to JIS specifications and JPI Specifications.)   |
|                        | Materials  | Float: SUS316L<br>Bonnet: Carbon steel, SUS304, SUS316, SUS316L<br>Chamber: Carbon steel, SUS304, SUS316, SUS316L<br>Connecting bolts: Cr-Mo alloy (SNB7), SUS304 (for -196°C to 0°C)<br>Torque tube: SUS316L, Inconel<br>Float hanger: SUS316L<br>Wet-part gasket: Sheet gasket (asbestos or teflon)<br>Semi-metallic gasket (asbestos or teflon)   |
| Performance            | Accuracy   | ±1% FS (indication), ±0.5% FS (transmission)   |
|                        | Repeatability  | 0.3% FS or better  |
|                        | Dead zone  | 0.2% FS or narrower  |
| Indicator section      | Indicating angle   | 44 degrees   |
|                        | Scale length   | 150mm  |
|                        | Pointers   | PV (red) and SP (green)  |
|                        | Output meter   | Scale: 0-2 kg/cm <sup>2</sup> Indicating accuracy: ±3% FS  |
| Setting section        | Local setting  | Internal or external setting with a setting knob   |
|                        | Remote setting   | With a pneumatic signal of 0.2-1.0 kg/cm <sup>2</sup>  |
|                        | Setting range  | 0-100% FS  |
| Controller section     | Control actions  | P + manual reset, PI, PID, PD + manual reset, PI + batch, on-off, differential gap, P + external reset, PD + external reset  |
|                        | Proportional band (P)  | 5-500% (direct or reverse action)  |
|                        | Integral time (I)  | 0.05-30 minutes  |
|                        | Derivative time (D)  | 0.05-30 minutes  |
|                        | Differential gap   | 1-100% FS, adjustable  |
|                        | Batch setting pressure   | 0.6-1.1 kg/cm <sup>2</sup> , adjustable  |
|                        | External reset pressure  | 0.2-1.0 kg/cm <sup>2</sup>   |
|                        | Manual reset   | 0-100% FS, adjustable (by pneumatic pressure setting)  |
| General specifications | Output pressure  | 0.2-1.0 kg/cm <sup>2</sup>   |
|                        | Minimum load   | ID 4 (mm) x 3 (m) + 20 (cm <sup>3</sup> )  |
|                        | Air supply pressure  | 1.4 ± 0.14 kg/cm <sup>2</sup>  |
|                        | Air consumption (when balanced at 50% output)                          | Indication and transmission: 4 Nℓ/minute<br>Indication and control: 8 Nℓ/minute<br>Indication, control, and pneumatic pressure transmission: 8 Nℓ/minute   |
|                        | Saturated air supply capacity  | Pneumatic transmission: 40 Nℓ/minute<br>Output: 40 Nℓ/minute<br>Manual loading: 30 Nℓ/minute   |
|                        | Air piping connections   | PT½ or NPT½ internal thread  |
|                        | Operating temperature ranges   | Process liquid: -196°C to +400°C<br>Controller (ambient): -30°C to +80°C   |
|                        | Humidity range   | 10-90% RH  |
|                        | Casing and door  | Casing construction: Weather-proof and dust-tight<br>JIS F8001 Class 3 splash-proof equivalent<br>NEMA 3 equivalent<br>IEC IP54 equivalent<br><br>Materials<br>Casing: Aluminum diecast<br>Door: Fiberglass-reinforced polyester resin<br>Door glass: Reinforced glass (3mm thick, JIS R3206 equivalent)<br>Casing finish: Baked acryl resin (For corrosion resistant and silver finish, refer to the optional specifications.)<br>Color of finish: Dark beige (Munsell 10YR4.7/0.5) |
|                        | Installation   | Direct mount to the process with flanges.  |
| Weight                 | 21 kg (Local PI-action controller, excluding items beyond the flanges) |  |

## Optional Specifications

| Item  | Specification   |
|---|---|
| (1) External SP setting knob (for local setting)  | An SP setting knob is provided on the outside of the casing door for setting adjustment without opening the door. |
| (2) Internal manual loader (with AUTO/MAN switch) | To manually control the output signal. AUTO/MAN transfer can be made bumplessly.                                  |
| (3) Air-set                                       | To supply clean, dry air.   |

## Semi-Standard Specifications

| Item  | Specification   |
|---|---|
| (1) Half range (Y127A)                              | To measure half-ranges of standard range.<br>Accuracy: $\pm 1.25\%$ FS (Indication), $\pm 0.75\%$ FS (Transmission)   |
| (2) Stainless steel bolts (Y131J)                   | Connecting-bolts made of SUS304.<br>(In the case of metallic gasket, metallic material used for metallic gasket also is made of SUS304.)  |
| (3) Corrosion-resistant and silver finish (Y138A-D) | Corrosion-resistant finish with baked acryl (Y138A):<br>Resistant against corrosive gases.<br>Corrosion-proof finish with baked epoxy resin (Y138B):<br>Resistant against corrosive liquids.<br>Regular silver finish with baked acryl (Y138C):<br>To suppress temperature rise caused by direct sunlight or other case<br>Corrosion-resistant silver finish with baked acryl (Y138D):<br>To suppress temperature rise caused as above and to be resistant against corrosive gases.<br>(Note: Silver finish is not resistant against alkaline gases.) |
| (4) Reverse torque tube (Y177A)                     | The chamber is installed on the left-hand side as viewed from the instrument front. (Of the normal torque tube type, the chamber is located on the right-hand side.)  |

Model Number Table

Ex: KFL102-2118V1103A-7

| Basic Model No. |           | Selectable specifications |                          |                    |                           |                           |                 |             |                 |                        |  | Options | Description   |  |
|-----------------|-----------|---------------------------|--------------------------|--------------------|---------------------------|---------------------------|-----------------|-------------|-----------------|------------------------|--|---------|---|--|
| Model           | Functions | Control actions           | Type of detector section | Process connection | Mat'l of major components | Mat'l of other components | Pressure rating | Flange size | Measuring range | Air Piping connections |  |         |   |  |
| KFL             |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Pneumatic liquid level indicating controller  |  |
|                 | 0         |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Indicating transmitter  |  |
|                 | 1         |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Indicating controller (local type)  |  |
|                 | 2         |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Indicating transmitter and controller (local type)  |  |
|                 | 3         |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Indicating controller (cascade type)  |  |
|                 | 4         |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Indicating transmitter and controller (cascade type)  |  |
|                 | 00        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | None  |  |
|                 | 01        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | P + manual reset  |  |
|                 | 02        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | PI  |  |
|                 | 03        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | PID   |  |
|                 | 04        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | PD + manual reset   |  |
|                 | 52        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | PI + batch  |  |
|                 | 65        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | On-off control  |  |
|                 | 66        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | Differential gap  |  |
|                 | 71        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | P + external reset  |  |
|                 | 74        |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | PD + external reset   |  |
|                 |           |                           | -21                      |                    |                           |                           |                 |             |                 |                        |  |         | For medium specific-gravity (0.4-1.6, 0.6-1.6 (0-300mm range only))                             |  |
|                 |           |                           | -22                      |                    |                           |                           |                 |             |                 |                        |  |         | For low specific-gravity (0.1-0.4, 0.15-0.4 (0-500mm range only), 0.2-0.6 (0-300mm range only)) |  |
|                 |           |                           |                          | 1                  |                           |                           |                 |             |                 |                        |  |         | External chamber type, side-side flanged  |  |
|                 |           |                           |                          | 2                  |                           |                           |                 |             |                 |                        |  |         | External chamber type, side-bottom flanged  |  |
|                 |           |                           |                          | 3                  |                           |                           |                 |             |                 |                        |  |         | External chamber type, top-bottom flanged   |  |
|                 |           |                           |                          | 4                  |                           |                           |                 |             |                 |                        |  |         | External chamber type, top-side flanged   |  |
|                 |           |                           |                          | 5                  |                           |                           |                 |             |                 |                        |  |         | Internal float type, top flanged  |  |
|                 |           |                           |                          | 6                  |                           |                           |                 |             |                 |                        |  |         | Internal float type, side flanged   |  |
|                 |           |                           |                          |                    | 1                         |                           |                 |             |                 |                        |  |         | Bonnet (side flanges) and chamber: Carbon steel (See Note 3.)                                   |  |
|                 |           |                           |                          |                    | 2                         |                           |                 |             |                 |                        |  |         | Bonnet (side flanges) and chamber: SUS316   |  |
|                 |           |                           |                          |                    | 7                         |                           |                 |             |                 |                        |  |         | Bonnet (side flanges) and chamber: SUS304   |  |
|                 |           |                           |                          |                    | 8                         |                           |                 |             |                 |                        |  |         | Bonnet (side flanges) and chamber: SUS316L  |  |
|                 |           |                           |                          |                    |                           | V                         |                 |             |                 |                        |  |         | Material for operating temperature 350°C to 400°C   |  |
|                 |           |                           |                          |                    |                           | H                         |                 |             |                 |                        |  |         | Material for operating temperature 200°C to 350°C   |  |
|                 |           |                           |                          |                    |                           | N                         |                 |             |                 |                        |  |         | Material for operating temperature 0°C to 200°C   |  |
|                 |           |                           |                          |                    |                           | L                         |                 |             |                 |                        |  |         | Material for operating temperature -196°C to 0°C  |  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | See Note 4  |  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         |   |  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         |   |  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         |   |  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 1   | JIS10K   |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 2   | JIS30K   |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 3   | ANSI150  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 4   | ANSI300  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 5   | ANSI600  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 6   | JIS63K   |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 1   | 1½-inch RF flanges (external chamber type only)  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 2   | 2-inch RF flanges (external chamber type only)   |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 3   | 4-inch RF flanges (internal float type only)     |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 4   | 1½-inch RTJ flanges (external chamber type only) |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 5   | 2-inch RTJ flanges (external chamber type only)  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 6   | 4-inch RTJ flanges (internal float type only)    |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 03  | 0 ~ 300mm  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 05  | 0 ~ 500mm  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 07  | 0 ~ 700mm  |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 10  | 0 ~ 1000mm                                       |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 15  | 0 ~ 1500mm                                       |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 20  | 0 ~ 2000mm                                       |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 25  | 0 ~ 2500mm                                       |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | 30  | 0 ~ 3000mm                                       |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | A   | PT½ internal thread                              |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | B   | ½NPT internal thread                             |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | -X  | No options                                       |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | -M  | Internal manual loader (with AUTO/MAN switch)    |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | -K  | With external manual SP setting knob             |
|                 |           |                           |                          |                    |                           |                           |                 |             |                 |                        |  |         | -7  | Air set  |

Notes:

1) Measurement of specific gravity or boundary surface.

For measurement of specific gravity or boundary surface, write suffix "Z" at the end of the basic model number. (For specific gravity measurement, mention the measuring range of specific gravity. For boundary surface measurement, mention the specific gravities of upper and lower liquids.)

2) To specify a semistandard specification (Y□): Enter "Y" at the end of the basic model number and the corresponding "Y number" at the end of the model number. Example: KFL102Y-2118V1103A-7(Y127) For combinations of Y127 and Y177, consult your Yamatake-Honeywell agent.

3) Carbon steel is for use at temperatures higher than 0°C. For use at temperatures within a range of -196°C to 0°C, consult your Yamatake Honeywell agent.

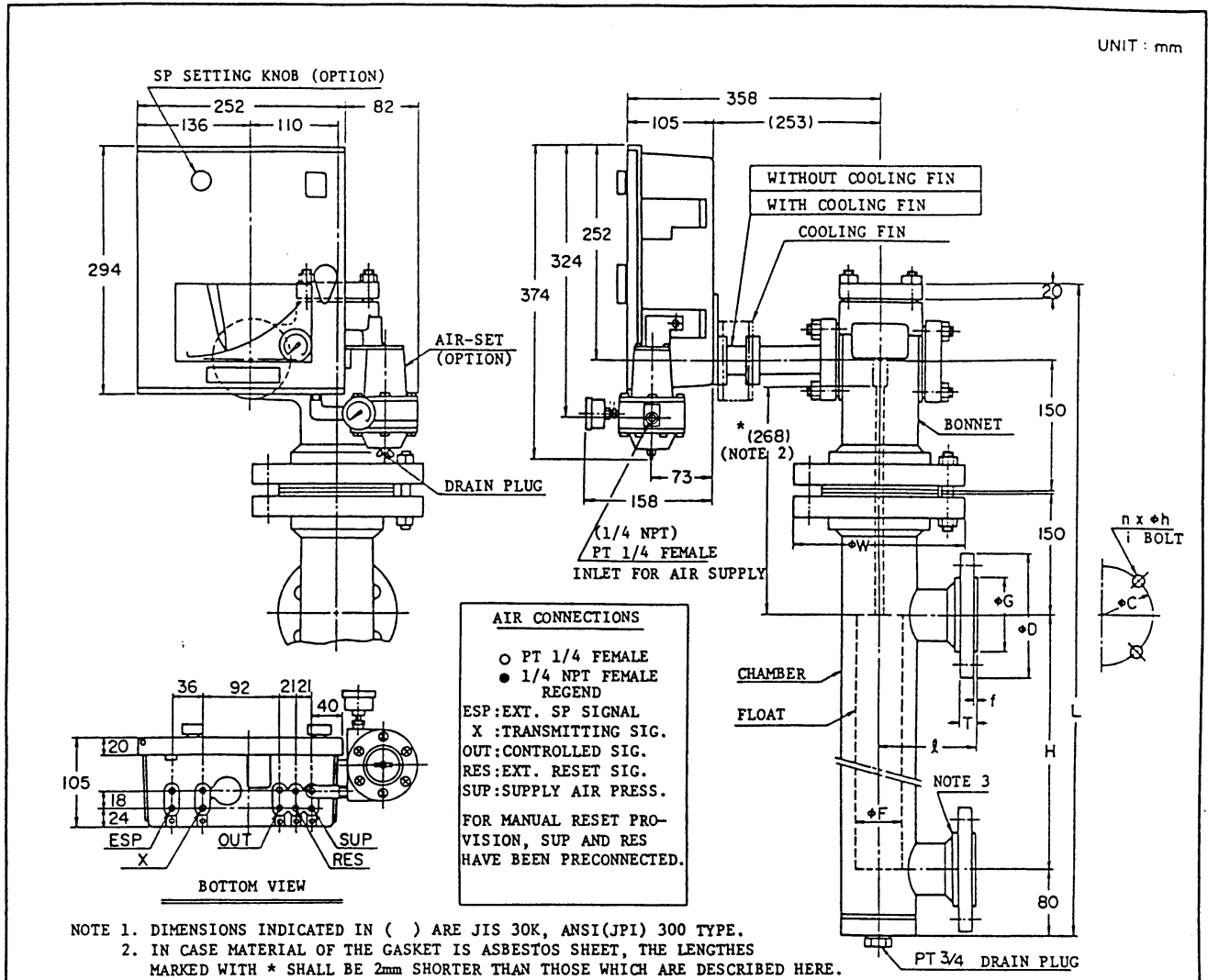
4) Materials of the torque tube, float, and gasket differ by temperature as shown in the following table. When operating temperature is higher than 200°C (Model No. V or H), cooling fins are provided as a standard provision.

| Model No. | Material<br>Operating temp.      | Mat'l of torque tube | Mat'l of float | Mat'l of gasket                                 |   | Cooling fins |
|-----------|----------------------------------|----------------------|----------------|---|---|--------------|
|           |                                  |                      |                | JIS 10, 30K<br>ANSI150, 300                     | JIS 63K<br>ANSI 800                             |              |
| V<br>H    | ( 350 ~ 400°C)<br>( 200 ~ 350°C) | Inconel              | SUS 316L       | Semi-metallic<br>(filler material:<br>asbestos) | Semi-metallic<br>(filler material:<br>asbestos) | With         |
| N         | ( 0 ~ 200°C)                     | SUS 316L             |                | Asbestos sheet                                  | Semi-metallic<br>(filler material:<br>asbestos) | Without      |
| L         | (-196 ~ 0°C)                     |                      |                | Teflon sheet<br>(with ceramic)                  | Semi-metallic<br>(filler material:<br>asbestos) |              |

5) Applicable to ANSI600 only:  
Ring joints for process connection flanges only.

Dimension Drawing (External Chamber Type, Side-Side Flanged)

UNIT : mm



- NOTE 1. DIMENSIONS INDICATED IN ( ) ARE JIS 30K, ANSI(JPI) 300 TYPE.  
 2. IN CASE MATERIAL OF THE GASKET IS ASBESTOS SHEET, THE LENGTHS MARKED WITH \* SHALL BE 2mm SHORTER THAN THOSE WHICH ARE DESCRIBED HERE.  
 3. IN CASE TH PRESSURE RATING IS JIS 10K, THE CONNECTION FLANGE SHALL BE SUPPLIED WITHOUT A HUB.  
 4. NPT SIZE AIR CONNECTIONS ARE OPTIONAL.

TABLE 1. MAIN DIMENSIONS

| ITEM | MEASURING RANGE (mm) | H    | NOTE, 2 * L | MEDIUM SPECIFIC GRAV. |           | LOWER SPECIFIC GRAV. |           |
|------|----------------------|------|-------------|-----------------------|-----------|----------------------|-----------|
|      |                      |      |             | NOTE, 1 l             | NOTE, 1 W | NOTE, 1 F            | NOTE, 1 W |
| 03   | 0~300                | 300  | 775         |                       |           | 55                   |           |
| 05   | 0~500                | 500  | 975         |                       |           | 55                   |           |
| 07   | 0~700                | 700  | 1175        | 120                   | 190 (210) | 45                   | 150       |
| 10   | 0~1000               | 1000 | 1475        |                       |           | 45                   | 140       |
| 15   | 0~1500               | 1500 | 1975        |                       |           | 30                   | 254 (275) |
| 20   | 0~2000               | 2000 | 2475        |                       |           | 30                   | 140       |
| 25   | 0~2500               | 2500 | 2975        | 120                   | 190 (210) | 23                   | 150       |
| 30   | 0~3000               | 3000 | 3475        |                       |           | 23                   | 120       |

TABLE 2. HYDRAULIC TEST PRESS. (kgf/cm<sup>2</sup>)

| PRESS. RATING | BONNET & CHAMBER | FLOAT            |
|---------------|------------------|------------------|
| JIS 10K       | 20               |                  |
|               | 31               |                  |
| JPI 150       | SUS 304 316 30   | REFER TO TABLE 1 |
| ANSI 150      | SUS 316L 25      |                  |
| JIS 30K       | 75               |                  |
|               | 79               |                  |
| JPI 300       | SUS 304 316 77   |                  |
| ANSI 300      | SUS 316L 65      |                  |

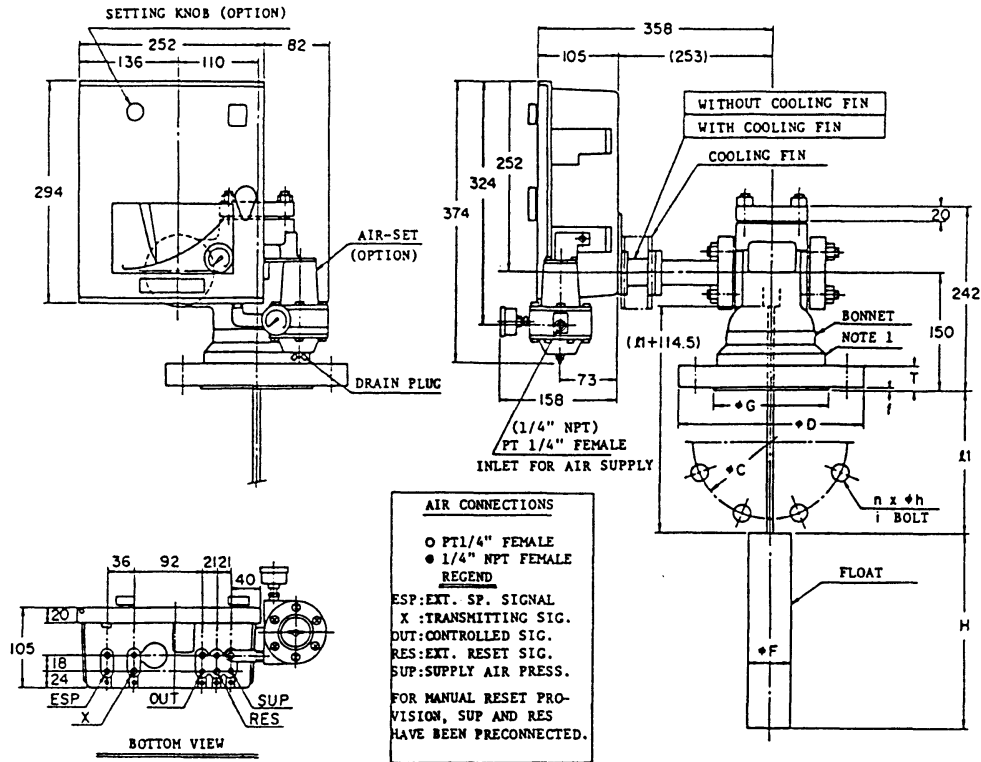
TABLE 3. CONNECTION FLANGE DIMENSIONS

| FLANGE RATING | D   | G   | T    | f   | C     | n x h  | i BOLT |
|---------------|-----|-----|------|-----|-------|--------|--------|
| 40            | 140 | 85  | 16   | 2   | 105   | 4 x 19 | M16    |
| 50            | 150 | 100 | 16   | 2   | 120   | 4 x 19 | M16    |
| 1 1/2         | 127 | 73  | 17.5 | 1.6 | 98.5  | 4 x 15 | 1/2    |
| 2             | 152 | 92  | 19.1 | 1.6 | 120.5 | 4 x 19 | 5/8    |
| 40            | 160 | 90  | 22   | 2   | 120   | 4 x 23 | M20    |
| 50            | 165 | 105 | 22   | 2   | 130   | 8 x 19 | M16    |
| 1 1/2         | 156 | 73  | 20.7 | 1.6 | 114.5 | 4 x 22 | 3/4    |
| 2             | 165 | 92  | 22.3 | 1.6 | 127   | 8 x 19 | 5/8    |

|   |  |   |
|---|--|---|
| KF SERIES TORQUE TUBE TYPE<br>DISPLACEMENT LIQUID LEVEL INDICATING CONTROLLER<br>(FOR MEDIUM/LOWER SP,GR, SIDE-SIDE FLANGED TYPE) |  | MODEL NO.<br>KFL <input type="checkbox"/> <input type="checkbox"/> - 211<br>- 221 |
| Yamatake-Honeywell Co. Ltd.<br>PROCESS CONTROL DIVISION<br>TOKYO JAPAN  |  | DATE 1982. 3. 5<br>DRAWING NO.<br>REF. 80354870<br>FK-3501                        |

# Dimension Drawing (Internal Float Type, Top-Flanged)

UNIT : mm



NOTE 1. IN CASE THE PRESSURE RATING IS JIS10K, THE CONNECTION FLANGE SHALL BE SUPPLIED WITHOUT A HUB.  
2. NPT SIZE AIR CONNECTIONS ARE OPTIONAL.

TABLE 1. MAIN DIMENSIONS

| ITEM | MEASURING RANGE (mm) | H    | TO BE SPECIFIED BY CUSTOMER | MEDIUM SP. GR. |                                | LOWER SP. GR. |                                |
|------|----------------------|------|-----------------------------|----------------|--------------------------------|---------------|--------------------------------|
|      |                      |      |                             | F              | TEST PRESS kgf/cm <sup>2</sup> | F             | TEST PRESS kgf/cm <sup>2</sup> |
| 03   | 0 ~ 300              | 300  |                             | 55             |                                | 95            | 78                             |
| 05   | 0 ~ 500              | 500  |                             |                |                                |               |                                |
| 07   | 0 ~ 700              | 700  |                             | 45             |                                | 85            | 27                             |
| 10   | 0 ~ 1000             | 1000 |                             |                | 150                            | 65            |                                |
| 15   | 0 ~ 1500             | 1500 |                             | 30             |                                | 55            | 30                             |
| 25   | 0 ~ 2500             | 2500 |                             |                |                                | 45            |                                |
| 30   | 0 ~ 3000             | 3000 |                             | 23             |                                |               |                                |

TABLE 2. HYDRAULIC TEST PRESS. (kgf/cm<sup>2</sup>)

| PRESS. RATING | BONNET     | FLOAT            |
|---------------|------------|------------------|
| JIS10K        | 20         |                  |
|               | 31         |                  |
| JPI ANSI 150  | SUS 304 30 | REFER TO TABLE 1 |
|               | SUS316L 25 |                  |
| JIS30K        | 75         |                  |
|               | 79         |                  |
| JPI ANSI 300  | SUS 304 77 |                  |
|               | SUS316L 65 |                  |

TABLE 3. CONNECTION FLANGE DIMENSIONS

| FLANGE RATING     | D   | G   | T    | f   | C     | n x h  | i BOLT |
|-------------------|-----|-----|------|-----|-------|--------|--------|
| 100 JIS10K RF     | 210 | 155 | 18   | 2   | 175   | 8 x 19 | M16    |
| 4 JPI ANSI 150 RF | 229 | 157 | 23.9 | 1.6 | 190.5 | 8 x 19 | 5/8    |
| 100 JIS30K RF     | 240 | 160 | 32   | 2   | 195   | 8 x 25 | M22    |
| 4 JPI ANSI 300 RF | 254 | 157 | 31.8 | 1.6 | 200   | 8 x 22 | 3/4    |

KF SERIES TORQUE TUBE TYPE  
DISPLACEMENT LIQUID LEVEL INDICATING CONTROLLER  
(FOR MEDIUM/LOWER SP. GR., TOP-FLANGED TYPE)

MODEL NO.  
KFL□□ - 215  
225

Yamatake-Honeywell Co. Ltd.  
PROCESS CONTROL DIVISION  
TOKYO JAPAN

DATE 1982. 3. 5  
REF. 80354882

DRAWING NO.  
FK-3505

## Ordering Information

when ordering, please specify the following:

- 1) Model No. (For specific-gravity measurement or boundary surface measurement, enter "Z" at the end of the basic model number.)
- 2) Specific gravity, pressure, and temperature of liquid
- 3) Dimension (Q1) from bottom of flange to top of float
- 4) For specific-gravity measurement: Measuring range of specific gravity
- 5) For boundary surface measurement: Specific gravities of upper and lower liquids
- 6) Option

\* Specifications are subject to change without notice.

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