



YARWAY

Features

- The Yarway Series 2000 five probe and above alarm system represents the latest advancement in electronic level indication.
- Based on the conductivity probe technology now widely accepted in the industry, it was specially designed to meet increasing demand for a reliable, cost effective means of sensing water in various applications.
- The probes can be mounted directly to the pressure vessel or column.
- The probes are welded stainless steel HP and IP electrode with zirconia insulator (3000 psig @ saturation, up to 1200°F [207 barg @ saturation, up to 649°C]) or threaded stainless steel LP electrode with Teflon® insulator (850 psig @ 525°F [58 barg @ 274°C]).
- The Series 2000 was developed for basic detection, display and switching.
- The Series 2000 consists of three major components: the column with probes, the detection and verification unit and the remote display.
- The number of probes can be selected and spaced to indicate liquid level through a desired range.
- The column is custom manufactured to provide the most accurate indication for any application. Independent detection circuitry for each probe allows selecting relay output for alarms or trips.
- Local indication is standard within the Type 4X/IP65 D & V enclosure. Bright red and green indicator for the control room is standard.



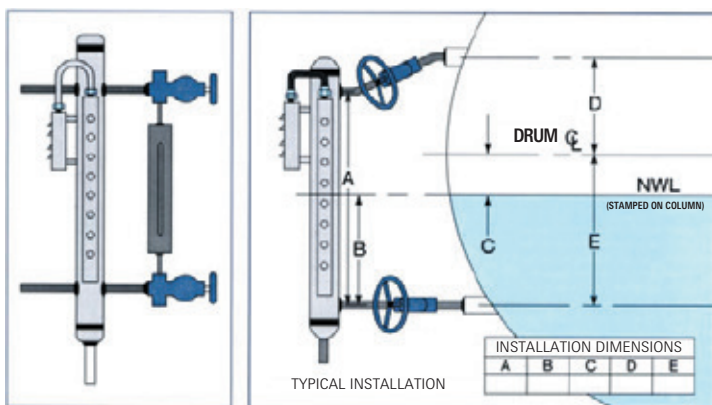
Optional Type IP65
Enclosure for Remote Shown

Note

Teflon® is a registered trademark of E.I. du Pont de Nemours & Company.

Typical applications

- Boiler Drum Level
- Equipment Drains (Desuperheaters, Control Valves, Sootblower Systems)
- Receiver Tanks (Condenser, Water Tank, Deaerator)
- Flash Tanks, Feedwater Heaters



Water Columns

Ratings

3000 psig [207 barg] @ saturation
1800 psig [124 barg] @ saturation
850 psig [58 barg] @ saturation

Materials of Construction

Seamless Pipe and 1 1/2" NPS [40 mm] vessel stub fittings 8" [200 mm] length and 3/4" NPS [20 mm] stub drain connections. Standard water column is 3" NPS [80 mm], 30" [760 mm] length. Pipe schedules: [3000 psig] Sch 160, [1800 psig] Sch 160 and [850 psig] Sch 160. Probe covers are stainless steel IP32. Each standard 30" [760 mm] comes with 36" [915 mm] HT probe wires extending from the conduit connection.

- Optional:
- Remote junction box (Type 4X/IP65).
 - Prewired column mounted junction box (Type 3R/IP22).
 - Extended length column over 36" [758 mm].
 - 2" NPS [50 mm] and 3" NPS [80 mm] vessel fittings.
 - Redundant probe level indication. (Requires 4" [100 mm] diameter column)
 - Isolation and Drain Valves.
 - 3/4" NPS [20 mm] vent connection.
 - Flanged or Female socket weld connections.
 - Insulation heat jacket.
 - Weldolet/Bossets on connections.
 - Welded support brackets.

Manufacturer's Standard Materials

SA 106 gr B UNS K03006 to $T_{max} = 1000^{\circ}\text{F}$ [538°C] EN 10210-1, S275J0H

Optional:

SA 335 gr P22 UNS K21590 to $T_{max} = 1200^{\circ}\text{F}$ [649°C] EN 10210-1, S275J0H

SA 312 TP316 UNS S31600 to $T_{max} = 1500^{\circ}\text{F}$ [816°C] DIN 17175 X5CrNiMo17-12-2/1.4401

Extended delivery time optional materials

SA 335 gr P11 UNS K11597 to $T_{max} = 1200^{\circ}\text{F}$ [649°C] DIN 17175 13CrMo 4 4 (1.7335)

SA 335 gr P91 UNS K90901 to $T_{max} = 1200^{\circ}\text{F}$ [649°C] DIN 17175 X20CrMoV 12 1 (1.4922)

SA 312 TP304 UNS S30400 to $T_{max} = 1500^{\circ}\text{F}$ [816°C] DIN 17175 X5CrNi 18-10/1.4301

T_{max} established by ASME B&PV Code Sect IID

EN/DIN material = closest equivalent

Density error correction options

1. Steam heating tube for overall span density error correction.
2. Probe placement offset for single user specified operating point error correction.

Electrodes

1. Welded Stainless steel HP and IP electrode with zirconia insulator – 3000 psig @ saturation, up to 1200°F [207 barg @ 649°C].
2. Threaded stainless steel LP electrode with Teflon® insulator – 850 psig @ 525°F [58 barg @ 274°C].

Hazardous Area Usage

Diode barrier sets for intrinsically safe protection are available for electrode/sense wire energy limiting if water column is used in a class.

Specifications

- Up to twelve level switch/indication applications per pcb, cascable to accept unlimited add-on probes.
- Provides basic detection, display and switching. No water over steam logic, no wire continuity and no redundant internal power supply.
- Independent detection circuit for each probe.
- Failure of any channel or probe does not disable system.
- Low voltage sine wave used for water detection (<17 Vac RMS nominal).
- Net integral zero current waveform. No DC = no possibility of electrolysis of water or plating.
- Every level has a relay output for alarms and trips with remote or door display Red/Green LED indication.
- D&V accepts up to 4 independently powered Red/Green LED remote displays.
- Standard LED internal D&V display.
- Enclosure: Type 4X/IP65
- Maximum sensitivity: 1µS/0.1MΩ- cm water
- Input Power: 120 Vac/240 Vac nominal, 50-60 Hz 30 VA nominal Unit incorporates MOV protection
- Relay contacts: Form C, SPDT 10A @ 120 Vac 5A @ 240 Vac 8A @ 28 VDC
- Operating Temperature: 0 - 160°F [-17°C/+71°C]

Standard Assembly

- Type 4X/IP65 Enclosure
- One Remote Red/Green LED Display
- Water Column with Probes

Optional

- 4-20mA loop output.
- Door mounted Red/Green LED display for local viewing.