



Colima Magnetic Level Indicator Viscorol-PH

Description

Magnetic level indicator Viscorol-PH is designed to control and manage fluid's level in pharmaceutical or biotechnological applications. It works based on the communicating vessels principle.

It can be fitted with electrical contacts and/or transmitter for a complete automatic management of vessels, tanks, boilers and for the control of pumps, valves, alarm systems.

Viscorol PH is a certified product, which can be supplied complete with a specific documentation pack, to guarantee material's traceability, surface electropolishing and elastomers compliance to FDA standard.

Mounting

Magnetic level indicator Viscorol-PH can be fitted on the external side of vessels or tanks.

Available layouts

LL	SIDE-SIDE process connections to vessel
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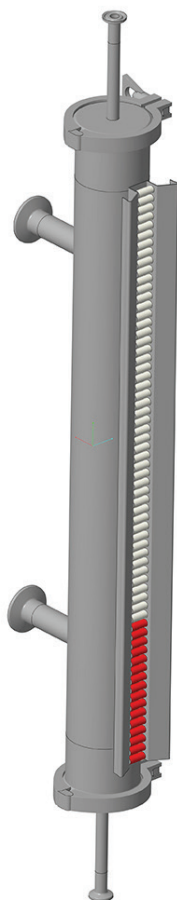


Fig. 1
SIDE-SIDE (connections A/B/C/D)
Side-side connections, vent and drain
end tubes

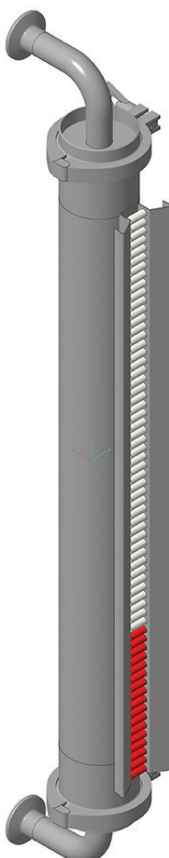


Fig. 2
TOP/E-BOTTOM/E (connections A/B)
Top Elbow-Bottom Elbow connections

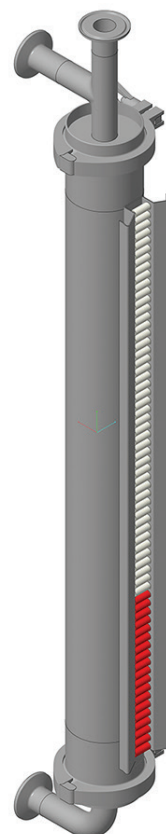


Fig. 3
TOP/T-BOTTOM/E (connections A/B/C)
Top Tee-Bottom Elbow connections

Options

Magnetic level indicator Viscorol-PH can be equipped with electrical devices, becoming a complete instrument.

Fitted with electrical contacts reed switch bistable type, placed at the required threshold alarms, Viscorol-PH can control several intervention points with one single instrument only.

Equipped with a transmitter with 4-20mA output signals, Viscorol-PH can ensure the continuous remote reading of liquid's level.

Certification and Conformity Declarations

Magnetic level indicator Viscorol-PH complies with the following European Directives and Standards:

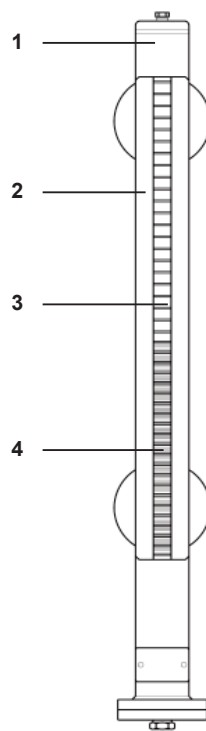
- PED 2014/68/EU (up to Class IV), plastic materials excluded
- 2014/30/UE Electromagnetic Compatibility
- 2014/35/UE Low Tension (for electrical components only).

Level indicator body's diameter

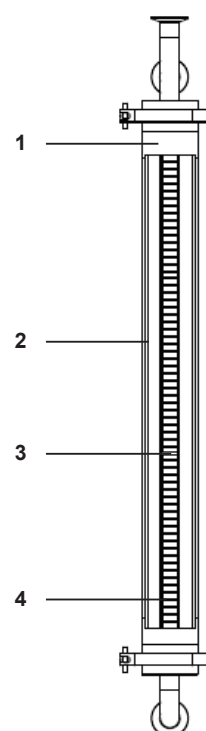
Stainless Steel material	60 tube Ø 60 mm
	70 tube Ø 76 mm

Material

No.	Part	Material
1	Vertical chamber	316L
2	Scale	Stainless Steel
3	Indicating scale tube	Polycarbonate
4	Bicolour rolling cylinders	Plastic
	Float (not shown)	316L



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PH

Maximum allowable conditions

TMA	Maximum allowable temperature	Ø 60-70	-25 +191.7 °C
PMA	Maximum allowable pressure	7 bar	191.7 °C
		10 bar	184.1 °C
Fluid Density		> 0,8 kg/l	

Process connections according to ASME-BPE, sizes

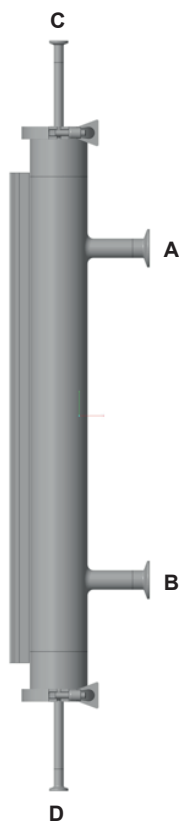


Fig. 1

SIDE-SIDE (connections A/B/C/D)
Side-side connections, vent and drain
end tubes

	Inlet/outlet	Vent	Drain
Item	A/B	C	D
Size	1/2"	1/2"	1/2"
	3/4"	3/4"	3/4"
	1"	1"	1"
	-	1 1/2"	1 1/2"

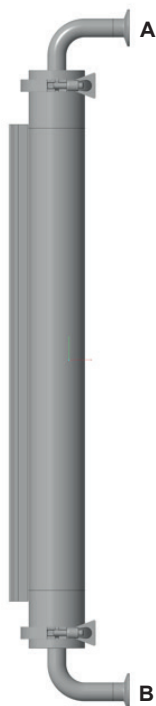


Fig. 2

TOP/E-BOTTOM/E (connections A/B)
Top Elbow-Bottom Elbow connections

	Inlet/outlet
Item	A/B
Size	1/2"
	3/4"
	1"
	1 1/2"

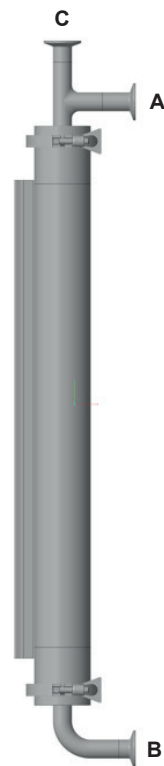


Fig. 3

TOP/T-BOTTOM/E (connections A/B/C)
Top Tee-Bottom Elbow connections

	Inlet/outlet	Vent
Item	A/B	C
Size	1/2"	1/2"
	3/4"	3/4"
	1"	1"
	1 1/2"	1 1/2"

DIN connections available on request

Dimensions (approximate) in mm

	Minimum dimension	440
A	Maximum dimension (For longer dimensions, please apply to our Engineering)	2000
B	Minimum	100
C	Based on fluid's density and on design pressure	Minimum 100
D	Based on fluid's density and on design pressure	Minimum 80

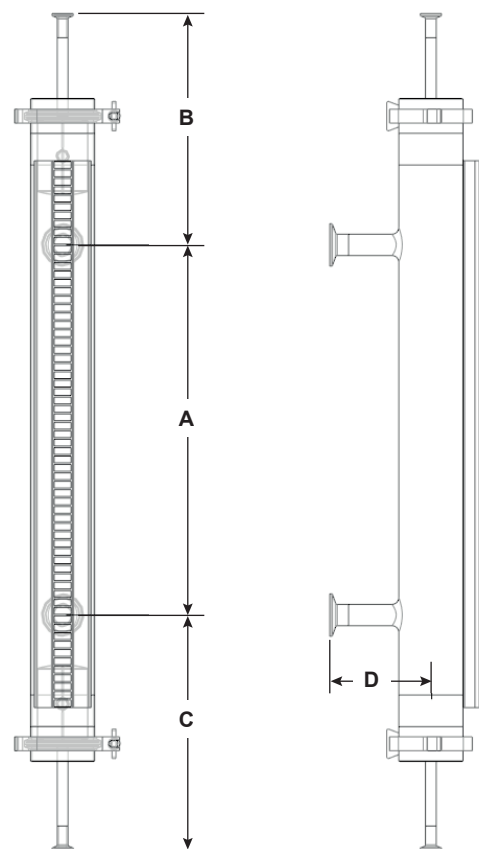


Fig. 1

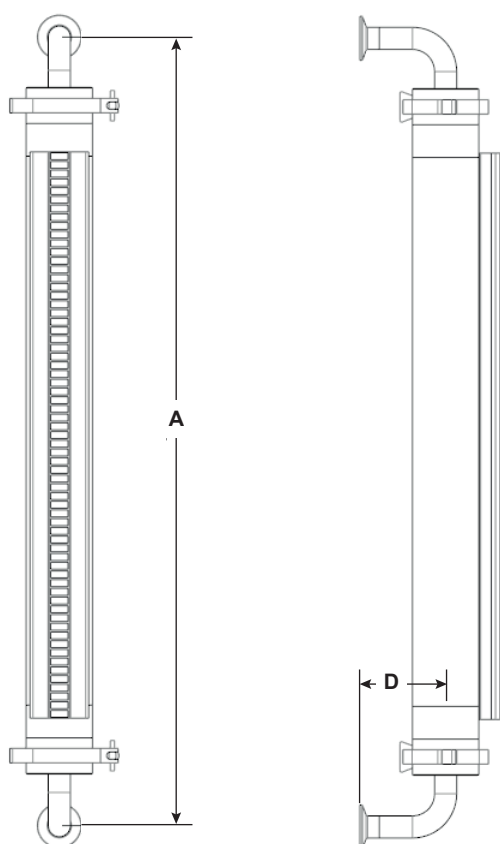


Fig. 2

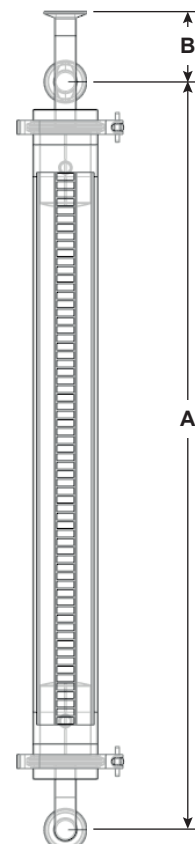


Fig. 3

Accessories

Contacts

Bistable SPDT contacts, fixed on the guide system fitted outside of level indicator body.
Enclosure IP65.
Operation points are always adjustable on site.

Contact data	Reed switch contact
	Ermetically sealed in inert gas
	Tungsten, Rhodio coated
	60 W/VA 1A 250 V
	Shock and vibration resistance : 30 g 11 ms

Transmitter

Each level indicator can be equipped with a transmitter, piezoresistive type with 5mm resolution for the direct level reading of the liquid contained into the vessel.

Handling

We recommend to handle with care subject accessories, in order to avoid any possible damage due to impact during installation and/or handling.

Piezoresistive transmitter

A potentiometer (a printed circuit board with a reed chain contact/resistances, welded on it) is placed in a seal tight vertical tube, fitted outside level indicator.

The total resistance of a known value is measured at the end poles of the potentiometer.

The float, moving up and down into the level indicator’s vertical chamber, according to the liquid’s level, activates the potentiometer’s reed chain, thanks to its magnetic field, by closing the signal locally.

The total resistance value is 100% at its maximum level and 0% at its minimum level.
The end poles of the potentiometer are connected to a converter transforming level reading into 4-20mA output.

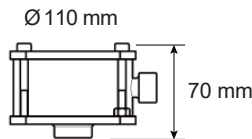
Transmitter’s characteristics

Available reading resolutions (according to the involved distance between process connections)	5 mm
Output signal	4-20 mA
Max allowable temperature	-20 °C +100 °C

Converter’s housing details

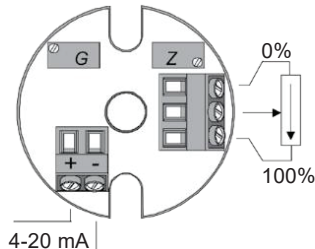
Housing

Fully in Stainless Steel material,
Enclosure IP67
Cable entries: M20.

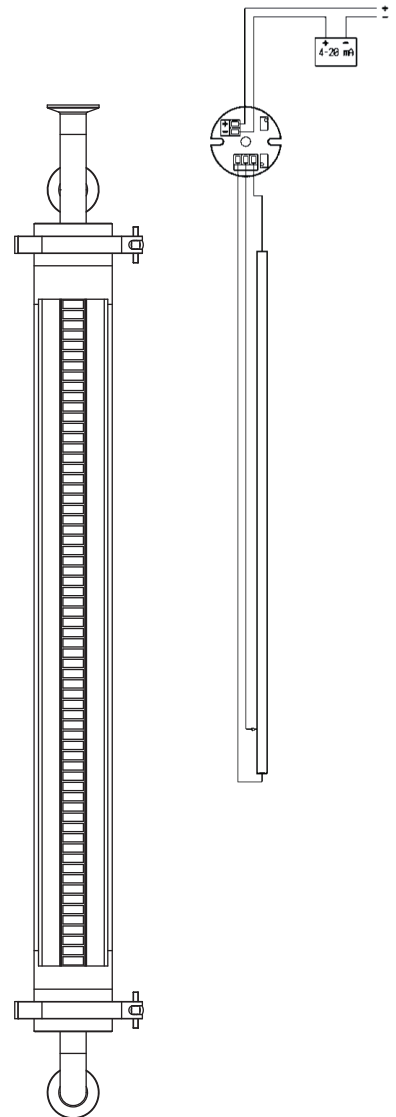


Converter

Adjustable on site model, equipped with two 10-turns trimmers for the Z (zero) setting and the G (gain) setting, without any interconnection system.

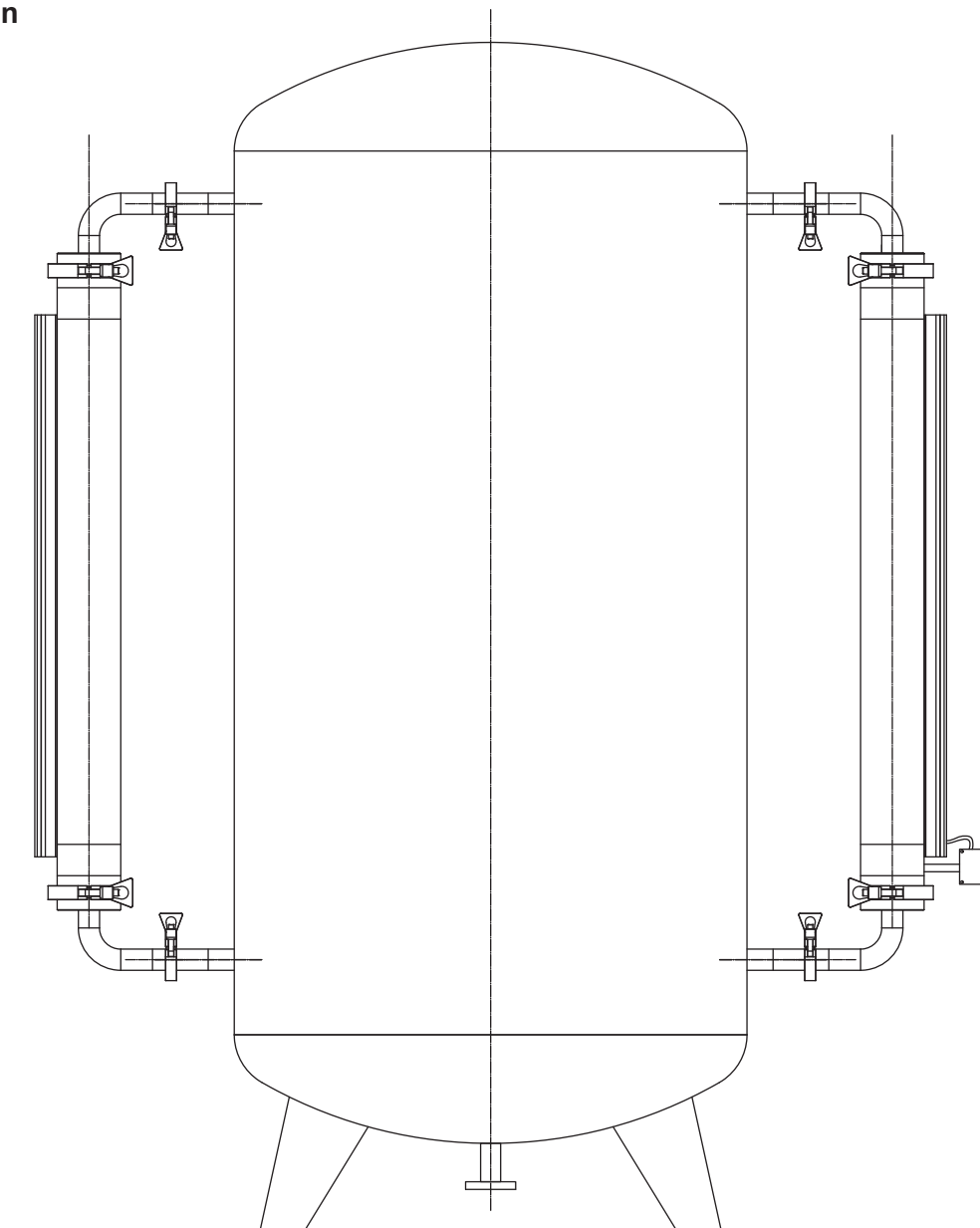


Resistance input	1 k ÷ 100 k Ohm
Output	4 ÷ 20 mA

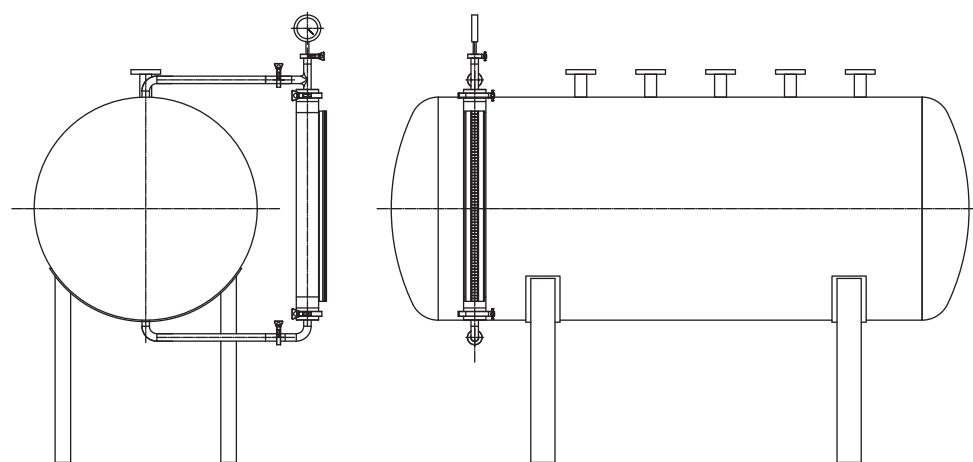


Examples of installation

Example 1
Vertical tank installation



Example 2
Horizontal tank installation



Product selection and order placement

Each level indicator is identified by one only alphanumeric code defining the manufacturing characteristics that best suites the application.

Operating pressure = _____

Density = _____

Operating pressure = _____

Design pressure = _____

Fluid viscosity = _____

Design temperature = _____

Fluid type = _____

VISCOROL PH Level Indicator - selection guide

Level Indicator		Code			Code
Conformance	ASME	A	Drain connection - Type	not required	0
		6		clamp	4
Body Diameter	60	7	Drain connection - Size	not applicable	0
	70	7		15	1
Layout	AB	B		20	2
	ABC	C		25	3
	ABCD	D		40	4
Process connection - Type	Clamp	4	Drain connection - Rating	not applicable	0
Process connection - Size	15	1	Housing enclosure	IP65	1
	20	2	SPDT Contacts (2 pieces)	No	1
	25	3		Yes	2
	40	4	Float	AISI 316	1
Process connection - Rating	not applicable	0	High Temperature	not applicable	1
Vent connection - Type	not required	0	Center to center distance (mm)	distance between connections to be specified	
	clamp	4			
Vent connection - Size	not required	0			
	15	1			
	20	2			
	25	3			
Vent connection - Rating	40	4			
	not applicable	0			

Example:

VISCOROL PH	A	6	B	4	2	0	0	0	0	0	0	0	1	1	1
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VISCOROL-PH-A-6-B-4-2-0-0-0-0-0-0-1-1-1-0

Description:

Level indicator model VISCOROL-PH,
Design according to ASME standard,
Body diameter 60mm,
Connections layout AB,
Clamp process connections size 3/4",
Without vent connection, without drain connection,
Enclosure IP65
Equipped with 2 pcs contacts SPDT type
Float material AISI 316
Center to center distance = ... (to be specified)