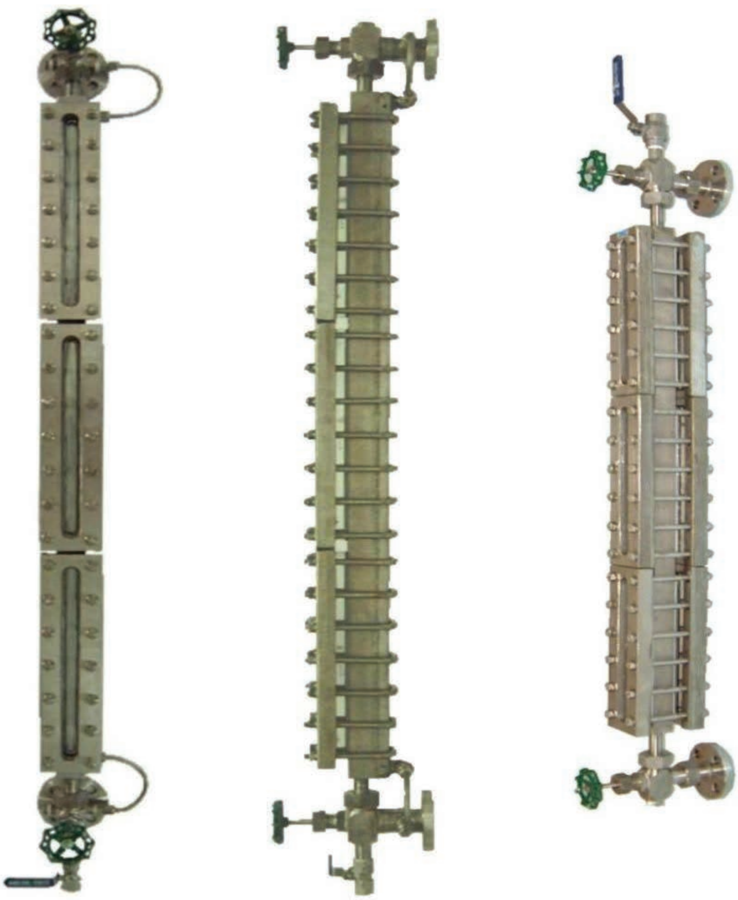
NEW-FLOW
ISO 9001
REGISTERED

NEW-FLOW

MANUFACTURE OF LIQUID LEVEL GAUGE

R_T_B_SERIES

Instruction Manual



Approvals:

ABS
TYPE APPROVED PRODUCT

BUREAU VERITAS

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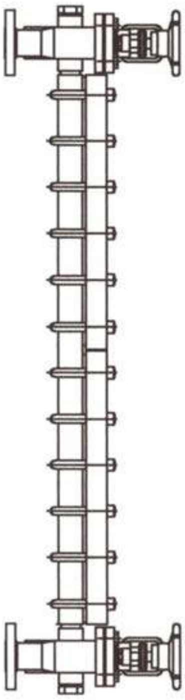
INSTALLATION

Liquid Level Gauge Type

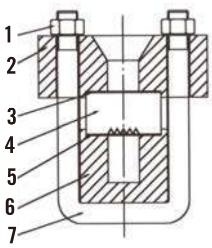
• *R Series* – Reflex Type



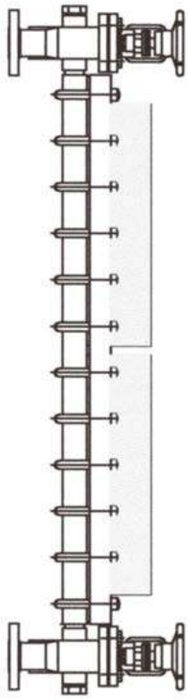
Model: R
Standard Type

•**Temperature Range:** 2°C ~ 280°C
•**Pressure Range:** up to 40 kg/cm² (standard); optoin up to 70 kg/cm² available.
•**With Gauge Valve:** Union nut or Nipple between gauge valve and vessel body.
•**Process Connection:** Thread or Flange according to JIS, ANSI and DN specification.

Parts List



1. Nut for U-bolt
2. Cover
3. Packing
4. Gauge Glass
5. Packing
6. Body
7. U-bolt

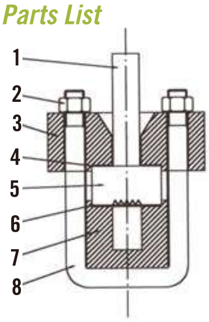


Model: RN
Non-Frosting Type

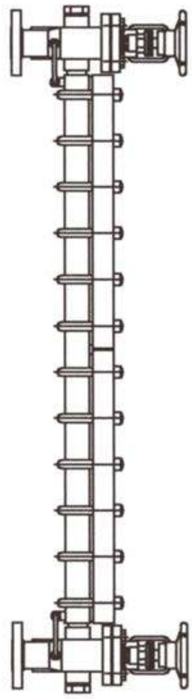
Using in low temperature application to prevent the frost build up does not obscure reading of the liquid level.

•**Temperature Range:** -10°C ~ -100°C
•**Pressure Range:** up to 20 kg/cm²

Parts List



1. Plastic Extension Plate
2. Nut for U-bolt
3. Gauge Cover
4. Gasket
5. Gauge Glass
6. Gasket
7. Gauge Body
8. U-bolt

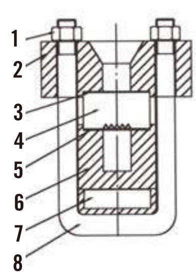


Model: RJ
Jacket Type

Jacket type– Heating or Cooling
This type is built with a jacket pass through steam or cooling water into the jacket. It can keep temperature in the vessel to avoid liquid crystallization or vaporization. So the liquid can be indicated dearly.

•**Temperature Range:** 2°C ~ 280°C
•**Pressure Range:** up to 40 kg/cm² (standard); optoin up to 70 kg/cm² available.

Parts List

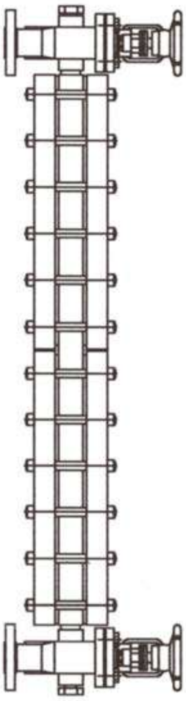


1. Nut for U-bolt
2. Cover
3. Packing
4. Gauge Glass
5. Packing
6. Body
7. Jacket
8. U-bolt

INSTALLATION

Liquid Level Gauge Type

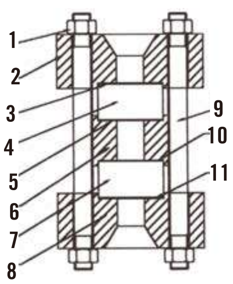
• *T Series* – Transparent Type



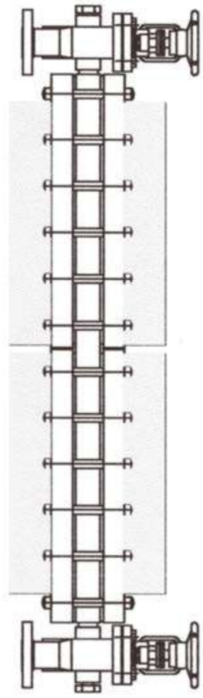
Model: T
Standard Type

- **Temperature Range:** 2°C ~ 280°C
- **Pressure Range:** up to 40 kg/cm² (standard); optoin up to 70 kg/cm² available.
- **Without Gauge Valve:** ½" or ¾"NPT
- **With Gauge Valve:** Union nut or Nipple between gauge valve and vessel body.
- **Process Connection:** Thread or Flange according to JIS, ANSI and DN specification.
- **Transparent type is not suitable for colorless liquid.**

Parts List



1. Nut for U-bolt
2. Cover
3. Packing
4. Gauge Glass
5. Packing
6. Body
7. Gauge Glass
8. Cover
9. Bolt
10. Packing
11. Packing

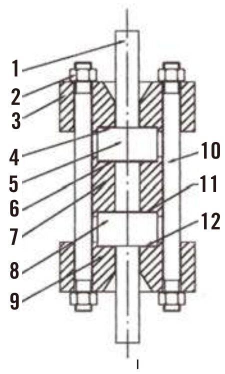


Model: TN
Non-Frosting Type

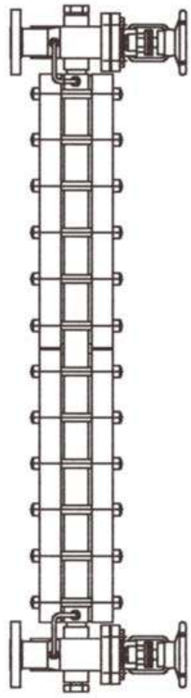
Using in low temperature application to prevent the frost build up does not obscure reading of the liquid level.

- **Temperature Range:** -10°C ~ -100°C
- **Pressure Range:** up to 20 kg/cm²

Parts List



1. Plastic Extension Plate
2. Nut for U-bolt
3. Gauge Cover
4. Gasket
5. Gauge Glass
6. Packing
7. Body
8. Gauge Glass
9. Cover
10. U-bolt
11. Packing
12. Packing

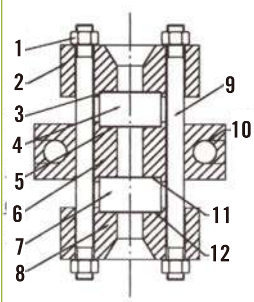


Model: TJ
Jacket Type

Jacket type– Heating or Cooling
This type is built with a jacket pass through steam or cooling water into the jacket. It can keep temperature in the vessel to avoid liquid crystallization or vaporization. So the liquid can be indicated dearly.

- **Temperature Range:** -10°C ~ 280°C
- **Pressure Range:** up to 40 kg/cm² (standard); optoin up to 70 kg/cm² available.

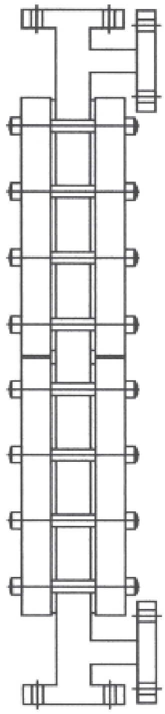
Parts List



1. Nut for U-bolt
2. Cover
3. Packing
4. Gauge Glass
5. Packing
6. Body
7. Gauge Glass
8. Cover
9. Bolt
10. Jacket Pipe
11. Packing
12. Packing

Liquid Level Gauge Type

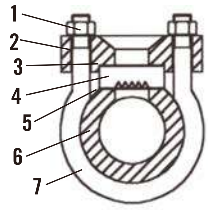
• *B Series* – Large Chamber Type



Model: BR, Standard Type

- **Temperature Range:** 2°C ~ 300°C
- **Pressure Range:** up to 40 kg/cm² (standard); optoin up to 70 kg/cm² available.
- **Process Connection:** ½" up to 2"

Parts List



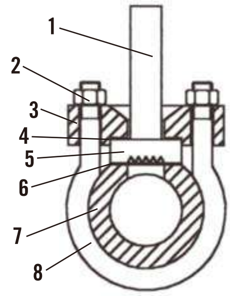
1. Nut for U-bolt
2. Gauge Cover
3. Packing
4. Gauge Glass
5. Packing
6. Body
7. U-bolt

Model: BRN, Non-Frosting Type

Using in low temperature application toprevent the frost build up does not obscure reading of the liquid level.

- **Temperature Range:** -10°C ~ -100°C
- **Pressure Range:** up to 20 kg/cm²;
- **Process Connection:** ½" up to 2"

Parts List

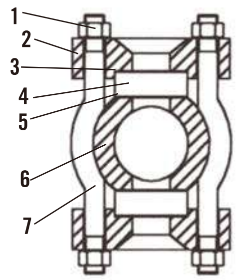


1. Plastic Extension Plate
2. Nut for U-bolt
3. Gauge Cover
4. Gasket
5. Gauge Glass
6. Gasket
7. Gauge Body
8. U-bolt

Model: BT, Standard Type

- **Temperature Range:** 2°C ~ 300°C
- **Pressure Range:** up to 40 kg/cm² (standard); optoin up to 70 kg/cm² available.
- **Process Connection:** ½" up to 2"

Parts List

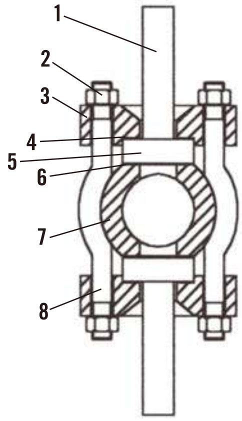


1. Nut for U-bolt
2. Gauge Cover
3. Gasket
4. Gauge Glass
5. Gasket
6. Gauge Body
7. Bolt

Model: BTN, Non-Frosting Type

- **Temperature Range:** -10°C ~ 100°C
- **Pressure Range:** up to 20 kg/cm²;
- **Process Connection:** ½" up to 2"

Parts List



1. Plastic Extension Plate
2. Nut for U-bolt
3. Gauge Cover
4. Gasket
5. Gauge Glass
6. Gasket
7. Gauge Body
8. Bolt

INSTALLATION

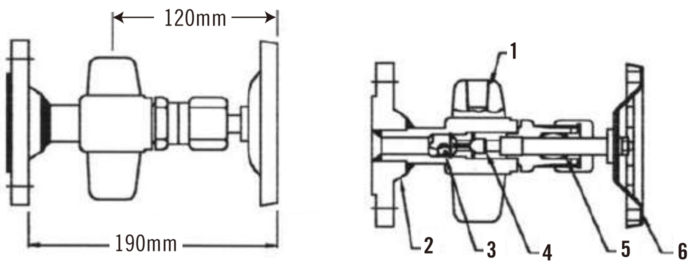
Valve Type

Standard Type Valve

Jacket Type Valve

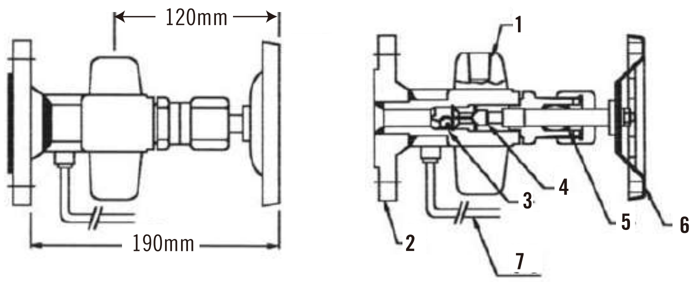
Offset Type Valve

Standard Type (**Max. Pressure:** 70 kg/cm² @ 38°C)



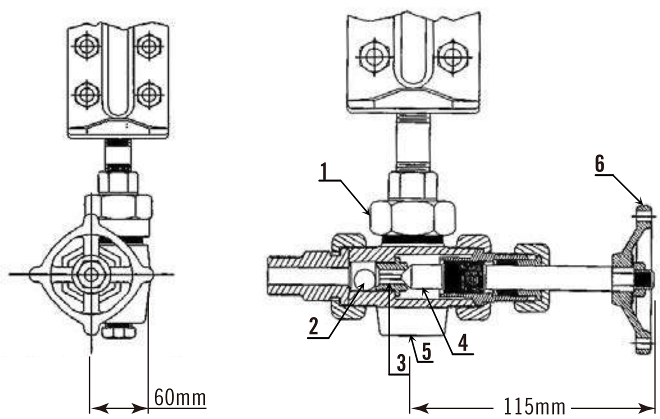
(1) Body
(2) Flange
(3) Ball Check
(4) Plug stem
(5) Packing
(6) Handle wheel

Jacket Type Valve (**Max. Pressure:** 70 kg/cm² @ 38°C)



(1) Body
(2) Flange
(3) Ball Check
(4) Plug stem
(5) Packing
(6) Handle wheel
(7) Jacket tube

Offset Valve Type (**Max. Pressure:** 3500 PSI @ 38°C)



(1) Unit-Nut
(2) Ball Check
(3) Seat
(4) Stem
(5) ½"NPT
(6) Handle Wheel

INSTALLATION

The steps of turning on the ball check gauge valve

STEP 1:

Fasten the valve of level gauge securely, and adjust the handle wheel by rotating clockwise to close the gauge valve seat. Then, install the level gauge on the vessel (tank).

請將液位計的閥門確實鎖緊，並順時針旋轉閥門手柄以關閉液位閥座。完成後，將液位計安裝至桶槽上。

STEP 2:

Confirm the Vessel or Tank has filled the liquid, and adjust the gauge valve slowly in a “semicircle” by counter clockwise. This act is for avoiding the fast flowing of fluid makes the ball moves and obstructs the entrance of valve, it will cause the fluid is unabler to influx into the body of level gauge.

請確認桶槽內已填充液體，接著將液位閥門以「半圈」的方式緩慢逆時針開啟。
此操作是為了避免液體快速流動時造成Ball Check移位並阻塞閥門入口，導致液體無法順利流入液位計本體。

STEP 3:

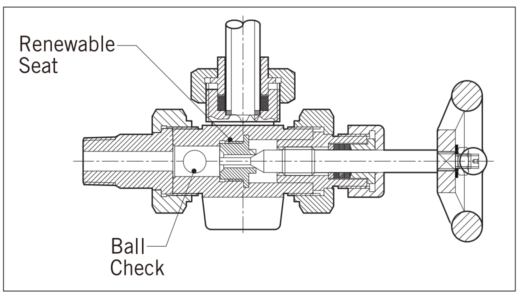
Confirm the gauge valve has been adjusted slowly in semicircle by counter clockwise. When the fluid passed through the valve, the liquid on glass gauge will ascend slowly to the level position which is the same with the level of vessel or tank. Turn on the valve completely when the fluid is stable.

請確認液位計閥門已經以半圈方式緩慢逆時針開啟。當液體通過閥門後，玻璃管中的液位將緩慢上升，
並最終穩定於與桶槽內液位相同的高度。待液位穩定後，即可將閥門完全開啟。

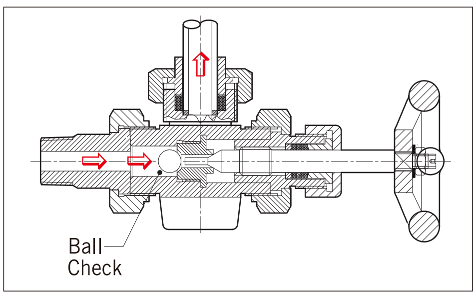
Ball Check Valve Function

- Ball check valve is into the level gauge to prevent fluid leakage in case of glass or mica breakage.
  液位計內的Ball Check球型止回閥，可在玻璃或雲母片破裂時防止液體外洩。
- Ball located under the valve seat is pushed up by fluid ΔP (above 0.5 bar), automatically sealing the valve to minimize leakage.
  閥座下方有一顆鋼球，當差壓ΔP大於 0.5 bar 時，鋼球會被液體推向閥座，自動關閉通道，以減少洩漏。
- When the valve is closed, the ball returns to its original position, ready for normal operation.
  當閥門關閉時，鋼球會回到原位，恢復正常狀態。

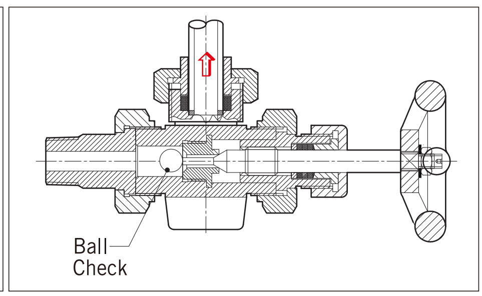
Under Normal Operation
正常運作情況下



Under Glass Break
玻璃破裂情況下

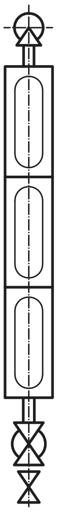
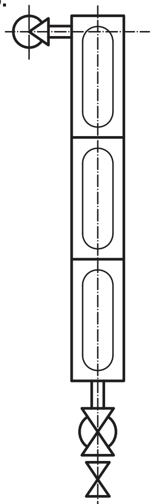
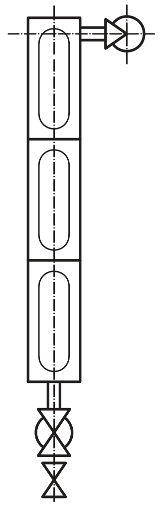
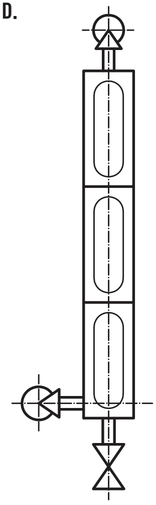
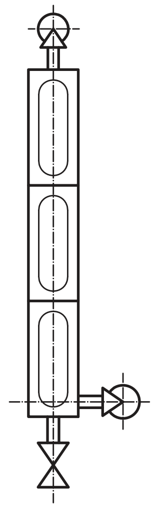


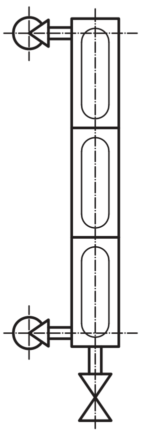
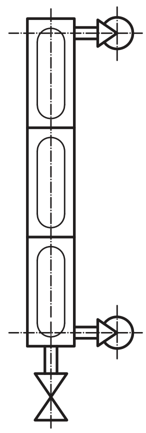
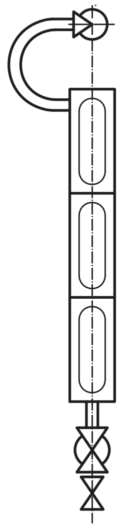
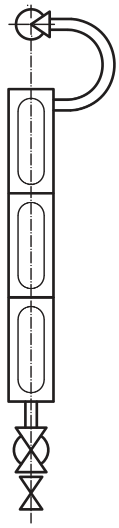
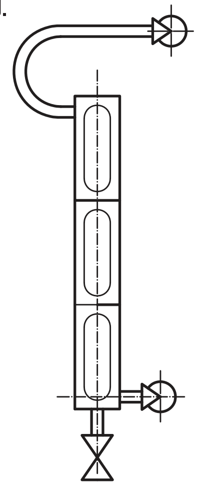
Under Commissioning
試俥階段

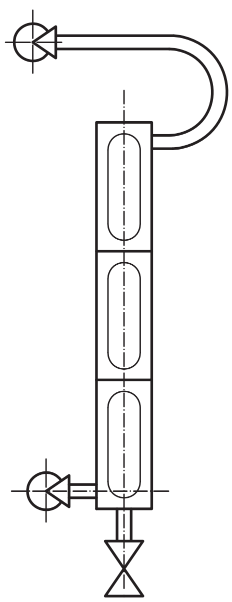
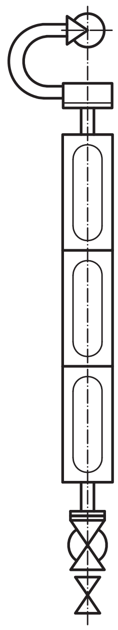
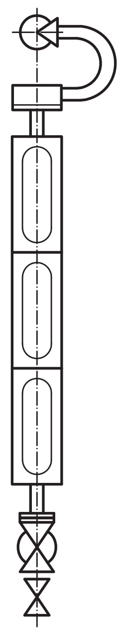


INSTALLATION

Installed Methods- Process Connection

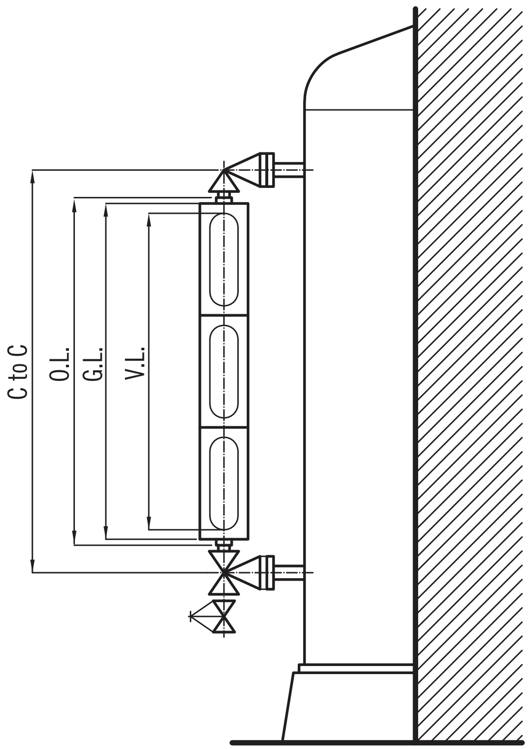
Top Bottom	Bottom-Left Side	Bottom-Right Side	Top-Left Side	Top-Right Side
A. 	B. 	C. 	D. 	E. 

Left to Left Side	Right to Right Side	Left Bend Top	Right Bend Top	Right Bend Right Side
F. 	G. 	H. 	I. 	J. 

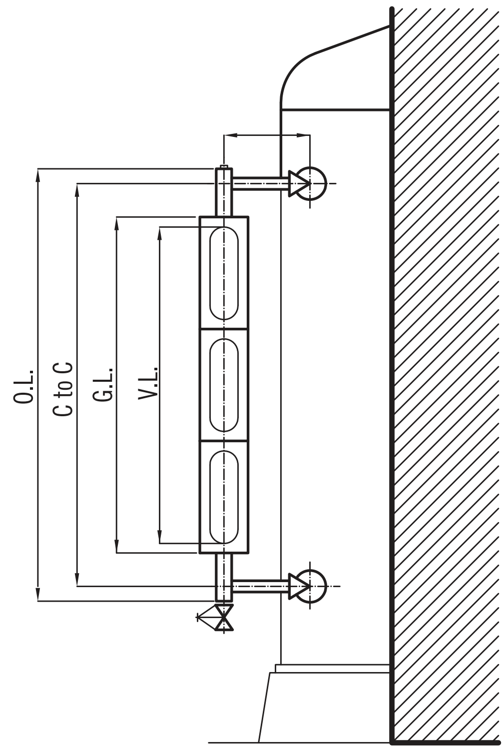
Left Bend Left Side	Bottom. Flanged Left Bend Top	Bottom. Flanged Right Bend Top
K. 	L. 	M. 

INSTALLATION

Sample Hook-Up Drawing



Top-Bottom Hook-Up



Right to Right Side Hook-Up