LEVEL GAUGE

레벨게이지

JSV 정 석 밸 브

JEONG SEOK VALVE

CONTENTS

TYPE OF LIQUID LEVEL GAUGE

LIQUID LEVEL GAUGE

Liquid level gauge provides direct observation of liquid level in a tank or vessel. Rising and falling level of the liquid inside the tank or vessel can be observed through the glass assembled in the gauge.
General instruments consortium offers liquid level gauges to suit the process requirements. If you notify process conditions i.e. Service, pressure and temperature etc., General can provide optimum solution to accomplish your process requirements and economy.

▣ Tubular Level Gauge

The tubular type level gauge is the simplest shape of direct reading level apparatus for low pressure up to 5 kgf/cm²g and maximum temperature of 100 °C.
The gauge glass is built in the protective tube. Check balls inserted in the upper and lower valve to stop flow instantaneously when the glass is broken. The protector having a circular form is constructed to prevent glass breakage from external sources.
For glass tuve gauges only of center to center dimensions in excess of 2.000 mm, it is possible to manufacture any required C to C by using coupling in the middle of the gauge. Depending on the nature of the liquid, tubes made from various PFA, Acrylic or Vinyl tube are also available.

▣ Reflex Level Gauge

The principle of Reflex Level Gauges is based on the difference in the refractive indices of liquid and vapor. The liquid column is contained within the recess of the liquid chamber behind the sight glass, which is clamped to the gauge body. The sight glass has prismatic right-angled grooves on the side facing the liquid and vapor space. Light rays entering from outside the gauge are either absorbed or reflected depending upon whether they enter the liquid or vapor space. When the ray of light encounters the surface of one of the grooves in the vapor space, it is reflected to the opposite surface of the grooves and from there, totally reflected back to the direction of observation.
Thus, vapor space appears as silvery white. When the light ray encounters the surface of the grooves in the liquid space, it is totally absorbed, thereby making the liquid behind the glass appear black. These gauges are used for measuring the level in a vessel.

▣ Transparent Level Gauge

In this type of level gauge the liquid level is discriminated in the form of different transparency of the two media. This type of level gauge is mainly recommended for colourless liquids, steam-water and interface liquid level. The gauge consists of a body having machined to have a liquid chamber and one or more windows on both the sides of the gauge. On each window a transparent level glass is tightly pressed with sealing joints between the metallic covers and the body by means of Bolts and Nuts.

▣ Zig-zag Level Gauge

JSV Zig-zag gauges are characterized by alternate arrangement of gages in a double line which enables continuous liquid level observation over the whole visible range. Therefore, wide range liquid level measurement is possible.
These gages are used for equipment which requires a full range observation in addition to storage tanks for LPG, butane etc.
Also, it is used as Direct Reading Liquid Level Gages of the equipment kind to want to avoid an invisible part, too.
Both reflex and transparent types are available.

TYPE OF LIQUID LEVEL GAUGE

■ Magnetic Level Gauge

Magnetic Level Gauges provides clear, high clarity indication of liquid level. Magnetic level gauges are principally designed as an alternative to glass level gauges. Magnetic level gauges are now widely used in all industries as they avoid direct contact with indicator system; it eliminates need of glass for direct level indication and prevents chemical spillage due to breakage of glass.

■ Jacketed Level Gauge

For the purpose of heating (or cooling) the fluid in the gauge, a jacket is provided for the liquid chamber.
Steam (or cooling water) is circulated through the jacket. Outer jacketed type is standard for direct reading gauges, while inner jacketed type may be adopted according to model. Heating (or cooling) is applied for the purpose of facilitating fluidization of liquids, preventing solidification of fluids caused by temperature drop preventing deterioration caused by variation in temperature, or maintaining constant temperature. Reflex, transparent, and large chamber type are also available.

■ Large chamber Level Gauge

A large chamber pipe is provided in the liquid chamber as compared with conventional gauges and 2" or 2.1/2" steel pipes are used. Therefore, large chamber gauges are used for the purpose of preventing liquid level fluctuation caused by bubbling of boiling fluids and preventing difference between the liquid level in the vessel and the measured liquid level caused by heavy vapor condensation in the liquid chamber. Furthermore, various types of complex jacketed and non-frosting gauges are frequently used.
Reflex, transparent, non-frosting and jacketed large chamber types are available.

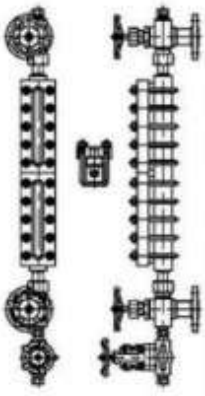
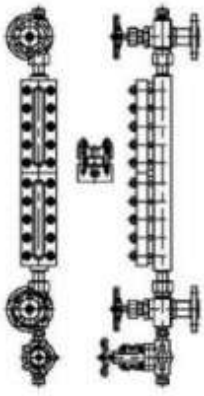
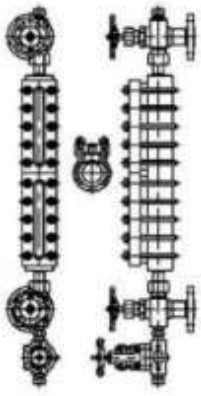
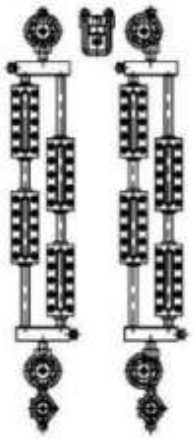
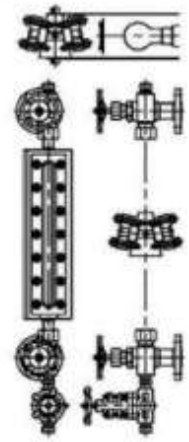
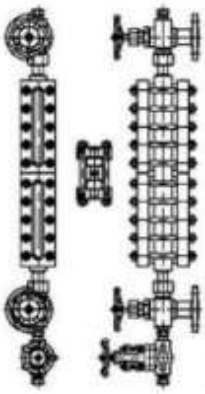
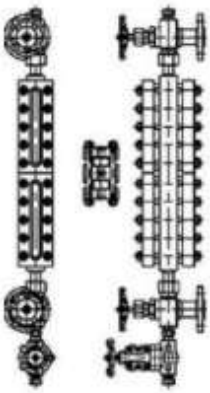
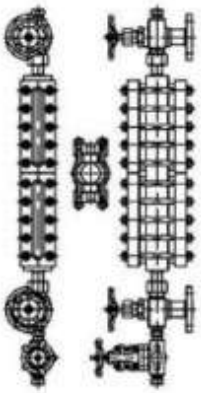
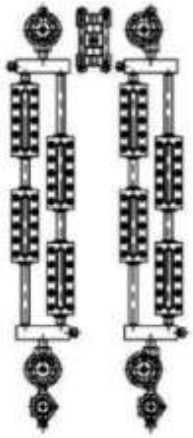
■ Two color Level Gauge

Gauge body of this type is formed of a trapezoid in its cross sectional view so as to form a prism when a clear liquid comes in contact with opposing two glasses. With this devising and with the aid of an illuminator installed at the rear of the gauge to provide with red and green lights, level of the liquid can be clearly recognized by the boundary of the two colors, that comes up with the difference of refraction caused by existence or non-existence of the liquid.
Since the gauge of this type is functional only with clear, transparent gas and liquid, it is mostly used for boiler applications which are worked with water and steam.

■ Non-frosting Level Gauge

Non-frosting gauges are mounted on towers and vessels which are covered with thermal insulation materials for cryogenic service. Acrylic extensions are attached to the gauge for the purpose of preventing the surface of glass frosting up. Therefore, icing is prevented on the surface of glass and it is possible to observe the liquid level even with thermal insulation materials in place. Cryogenic(extended bonnet) type is adopted for upper and lower gauge valves as well as the drain valve in order to operate the valves through the thermal insulation materials. After the liquid level gauge is mounted on the process equipment, thermal insulation fitting work is executed over the whole surface of the equipment except non-frosting extension as well as handwheels(and bonnets) of gauge and drain valves.
Reflex, transparent and large chamber types are available.

MODEL OF LIQUID LEVEL GAUGE

MODEL JLG-B/BS	MODEL JLG-R40/R40S	MODEL JLG-R100/R100S	MODEL JLG-RL40/RL40S	MODEL JLG-RZ40S/RZ40
				
MODEL JLG-TC40/TC40S	MODEL JLG-T40/T40S	MODEL JLG-T100/T100S	MODEL JLG-TL40/TL40S	MODEL JLG-TZ40S/TZ40
				

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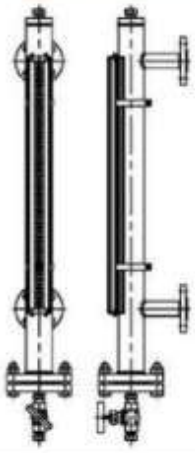	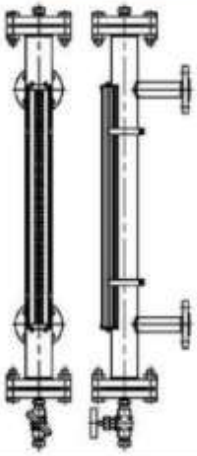	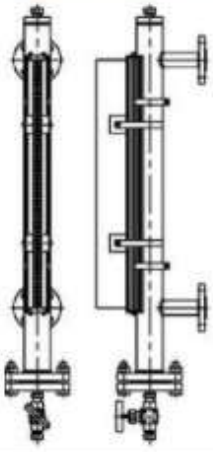	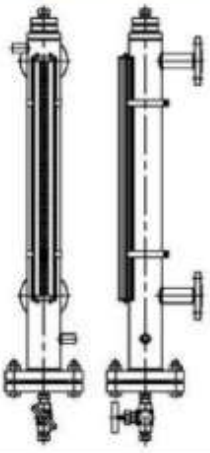

MODEL OF LIQUID LEVEL GAUGE

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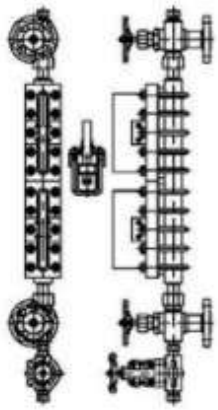	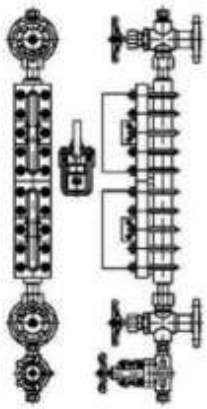	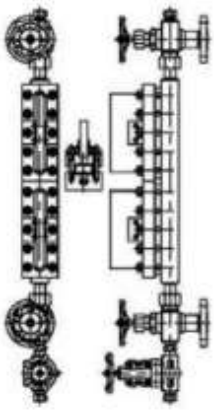	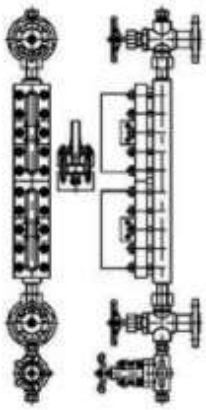	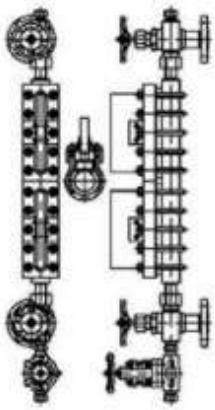
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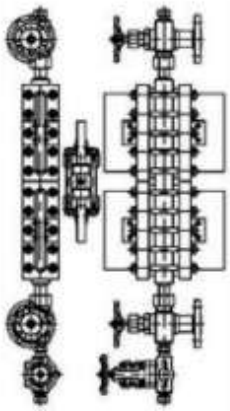	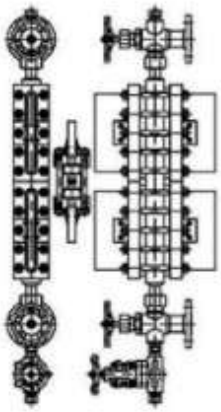	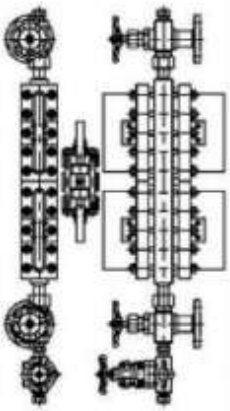	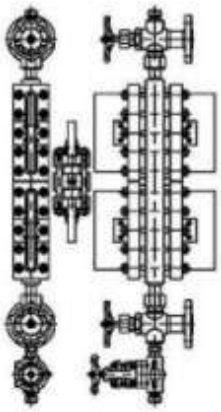	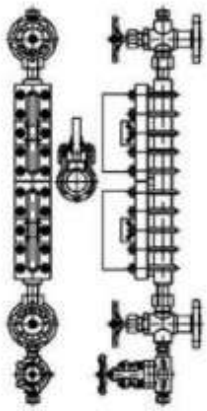

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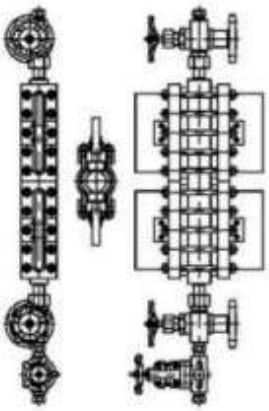
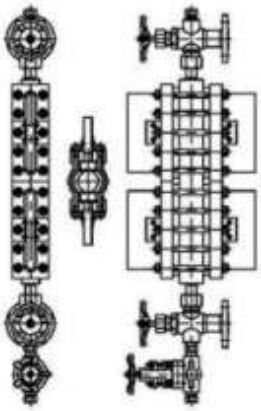
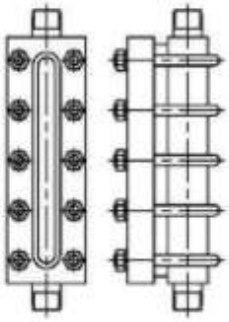
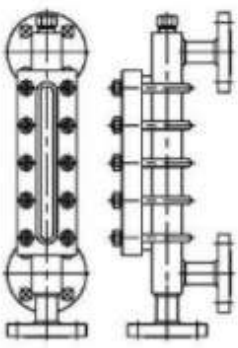
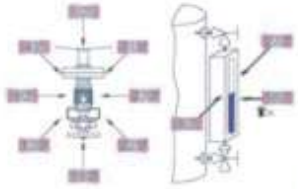
			

CODE FOR HOOK-UP

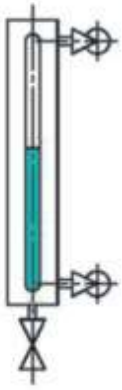
▣ Nozzle Orientations

Nozzle Orientation of Level gauges is coded every 45 ° counter-clockwise. Thus, specify the angle of direction (for example:90 °), if any specific nozzle direction is requested inevitably. Whenever its orientation not specified. Nozzle Direction of 180 ° is selected.

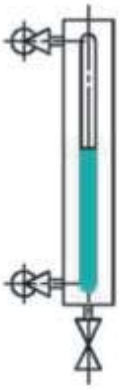


TB Standard Type Top-Bottom

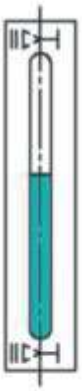
SS-L Side-Side Left connected



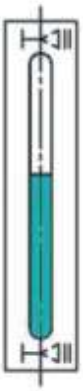
SS-R Side-Side Right connected



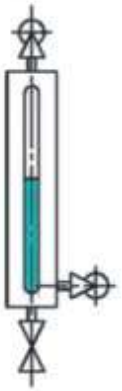
SS-CL Side-Side back & Left connected



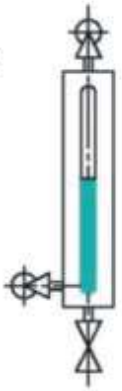
SS-CR Side-Side back & Right connected



TS-L Top-Side Left connected



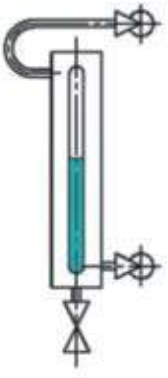
TS-R Top-Side Right connected



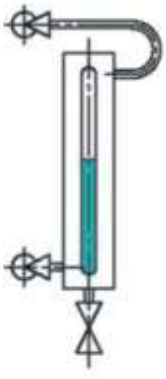
SB-L Side-Bottom Left connected

SB-R Side-Bottom Right connected

ES-L Side-Side loop Left connected

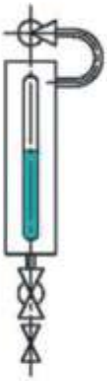


ES-R Side-Side loop Right connected



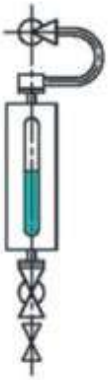
EB-L Top-Bottom loop Left connected

EB-R Top-Bottom loop Right connected



EF-L Top-Bottom Flanged loop Left connected

EF-R Top-Bottom Flanged loop Right connected



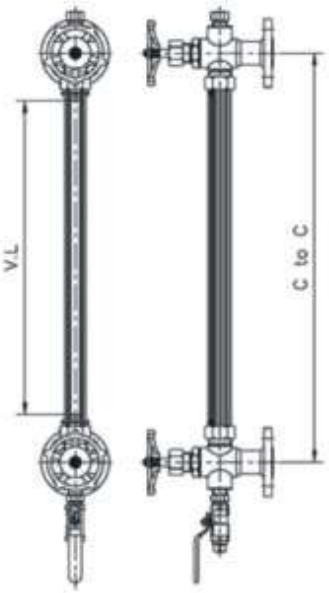
TUBULAR TYPE LEVEL GAUGE

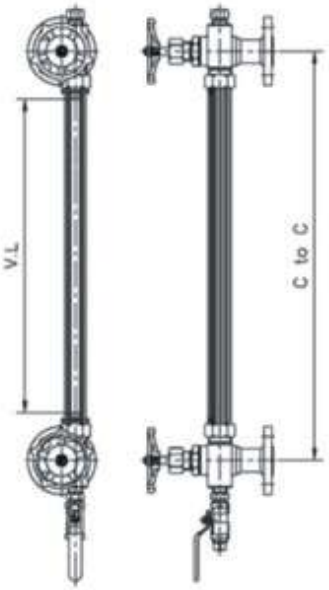
MODEL : JLG-B/BS

▣ GENERAL DESCRIPTION

The tubular type level gauge is the simplest shape of direct reading level apparatus for low pressure up to 5 kgf/cm²g and maximum temperature of 100 °C. the gauge glass is b-uilt in the protective tube. Check Balls inserted in the upper and lower valve to stop flow instantaneously when the glass is broken. the protector having a circular form is constructed to prevent glass breakage from external sources. for glass tube gauges only of center to center dimensions in excess of 2,000 mm, it's possible to manufacture any required C to C by using coupling in the middle of the gauge. Depending on nature of liquids, tubes made of various transparent PFA, Acrylic or Vinyl tube are also available.

JLG-BS : Straight Type





JLG-B : Offset Type

▣ SPECIFICATION

- ▶ Gauge Valve type : Straight (JLG-BS), Offset (JLG-B)
- ▶ Glass Tube Size : Out dia. 19 mm, In dia. 15 mm
- ▶ Standard Vessel Connection : 3/4" ASME 150# RF
- ▶ Standard Drain Connection : PT 1/2"
- ▶ Center to Center (C to C) : 300 ~ 2,000 mm
- ▶ Visible Length (V.L) : C to C - 150 mm
- ▶ Glass Length : C to C - 35 mm (Max. 2,000 mm)
- ▶ Max. Working Pressure : 5 kgf/cm²g
- ▶ Max. Working Temperature : 100°C
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Option Connection : As per customer's spec.

▣ OPTION

- ▶ TUBE
  - Teflon PFA Tube
    - Size : Out dia. 16 mm, In dia. 14 mm
    - C to C : 300 ~ 10,000 mm
- ▶ SCALE PLATE
  - Unit : centimeter(cm), liter(ℓ) as standard and others are available.
  - Gauge Valve type : Straight (JLG-BS), Offset (JLG-B)

REFLEX & TRANSPARENT GLASS

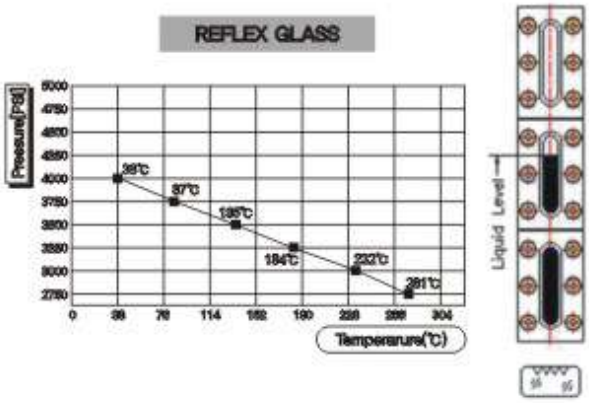
REFLEX GLASS

As the Reflex Glass is not used with mica shield, there is rather limited to use the glass according to fluid and its process conditions. When it is take account of the R-Type level gauge for any process conditions, there must make sure that an application conditions are satisfied reciprocally safety working conditions between the glass and the chamber.
For maximum working condition of the chamber, refer to each pages for gauge chamber pressure-temperature charts. This type also have a number of highly advantageous including light weight, availability of longer visible lengths and lower price than the transparent series.

▣ Reflex Glass Application Conditions

- Saturated steam or hot water in direct contact with reflex sight glass is: Max. Permissible Pressure : 500 psi(35 kgf/cm²g) at 243?
- Reflex Glasses can be used with all media except steam at service conditions up to 5800 psi (408 kgf/cm²g) or temperature up to 400?

REFLEX GLASS



※ The chart shown on the up is range of application with no technically significant glass attack.

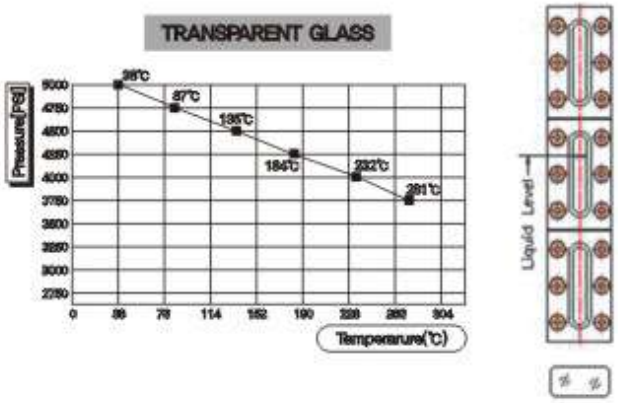
TRANSPARENT GLASS

Gauge Glasses in liquid level gauges on steam boilers are exposed to very high mechanical and chemical stresses. The interface between steam and water is continuously in motion like as water evaporates, condensate forms. In this an event, the glass is wear rapidly. For the above problem, Transparent Glasses could be protected with mica shield and if the medium is dirty, viscous on aggressive, flat transparent glasses guarantee better indication since the glass surface can be protected by mica shield against serious attack from media.

▣ Transparent Glass Application Conditions

- Saturated steam or hot water in direct contact with reflex sight glass is: Max. Permissible Pressure : 500 psi(35 kgf/cm²g) at 243?
- Saturated steam or hot water in contact with transparent sight glass protected with Mica is: Max. Permissible Pressure : 1500 psi(105 kgf/cm²g) at 320?
- Transparent Glasses can be used with all media except steam at service conditions up to 4930 psi (347 kgf/cm²g) or temperature up to 400?

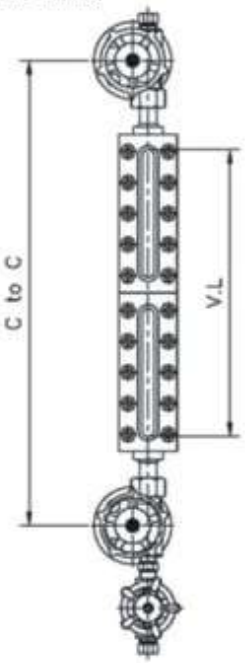
TRANSPARENT GLASS



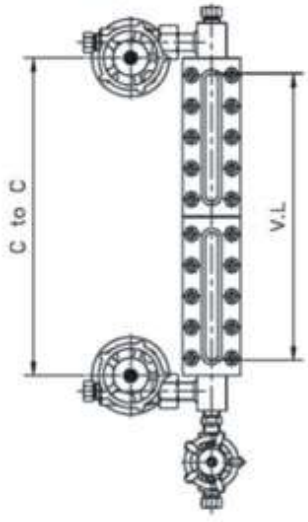
※ The chart shown on the up is range of application with no technically significant glass attack.

DIMENSIONS of Reflex & Transparent Type

■ TB Type
(TB : Top & Bottom)



■ SS Type
(SS : Side & Side)



■ Dimensions of Reflex & Transparent Glass

Length	Width	Thickness
115	34	17
140	34	17
165	34	17
190	34	17
200	34	17
220	34	17

Length	Width	Thickness
250	34	17
280	34	17
300	34	17
320	34	17
340	34	17
400	34	17

(Unit : mm)

■ Dimensions of Reflex & Transparent Type

(Unit : mm)

Standard C to C		V.L	Glass	
TB type	SS type		Size	No. of Sec.
315	140	90	115	1
340	165	115	140	1
365	190	140	165	1
390	215	165	190	1
400	225	175	200	1
420	245	195	220	1
450	275	225	250	1
480	305	255	280	1
500	325	275	300	1
520	345	295	320	1
540	365	315	340	1
600	425	375	400	1
440	270	220	115	2
490	320	270	140	2
540	370	320	165	2
590	420	370	190	2
610	440	390	200	2
650	480	430	220	2
710	540	490	250	2
770	600	550	280	2
810	640	590	300	2
850	380	630	320	2
890	720	670	340	2
1010	840	790	400	2
565	400	350	115	3
640	475	425	140	3
715	550	500	165	3
790	625	575	190	3
820	655	605	200	3
880	715	665	220	3
970	805	755	250	3
1060	895	845	280	3
1120	955	905	300	3
1180	1015	965	320	3
1240	1075	1025	340	3
1420	1255	1205	400	3
690	530	480	115	4
790	630	580	140	4
890	730	680	165	4
990	830	780	190	4
1030	870	820	200	4
1110	950	900	220	4
1230	1070	1020	250	4
1350	1190	1140	280	4
1430	1270	1220	300	4
1510	1350	1300	320	4
1590	1430	1380	340	4
1830	1670	1620	400	4
815	660	610	115	5
940	785	735	140	5
1065	910	860	165	5
1190	1035	985	190	5
1240	1085	1035	200	5
1340	1185	1135	220	5
1490	1335	1285	250	5
1640	1485	1435	280	5
1740	1585	1535	300	5
1840	1685	1635	320	5
1940	1785	1735	340	5
2240	2085	2035	400	5

Standard C to C		V.L	Glass	
TB type	SS type		Size	No. of Sec.
940	790	740	115	6
1090	940	890	140	6
1240	1090	1040	165	6
1390	1240	1190	190	6
1450	1300	1250	200	6
1570	1420	1370	220	6
1750	1600	1550	250	6
1930	1780	1730	280	6
2050	1900	850	300	6
2170	2020	1970	320	6
2290	2140	2090	340	6
2650	2500	2450	400	6
1065	920	870	115	7
1240	1095	1045	140	7
1415	1270	1220	165	7
1590	1445	1395	190	7
1660	1515	1465	200	7
1800	1655	1605	220	7
2010	1865	1815	250	7
2220	2075	2025	280	7
2360	2215	2165	300	7
2500	2355	2305	320	7
2640	2495	2445	340	7
3060	2915	2865	400	7
1190	1050	1000	115	8
1390	1250	1200	140	8
1590	1450	1400	165	8
1790	1650	1600	190	8
1870	1730	1680	200	8
2030	1830	1840	220	8
2270	2130	2080	250	8
2510	2370	2320	280	8
2670	2530	2480	300	8
2830	2690	2640	320	8
2990	2850	2800	340	8
3470	3330	3280	400	8
1360	1180	1130	115	9
1585	1405	1355	140	9
1810	1630	1580	165	9
2035	1855	1805	190	9
2125	1945	1895	200	9
2305	2125	2075	220	9
2575	2395	2345	250	9
2845	2665	2615	280	9
3025	2845	2795	300	9
3205	3025	2975	320	9
3385	3205	3155	340	9
3925	3745	3695	400	9
1490	1310	1260	115	10
1740	1560	1510	140	10
1990	1810	1760	165	10
2240	2060	2010	190	10
2340	2160	2110	200	10
2540	2360	2310	220	10
2840	2660	2610	250	10
3140	2960	2910	280	10
3340	3160	3110	300	10
3540	3360	3310	320	10
3740	3560	3510	340	10
4340	4160	4110	400	10

※The C to C can be changed by customer request.

REFLEX TYPE LEVEL GAUGE

MODEL : JLG-R40S/R40

▣ GENERAL DESCRIPTION

Reflex type liquid level gauge use the Reflex glass. One side surface of Reflex glass to use flat glass has several grooves for reflecting prism. The principle of the Reflex glass is based on the difference in the refractive indices of liquid and gas or in particular of water and steam. Liquid level shows conspicuously dark hard color for Liquid space and light white for empty space. These Reflex type are not used with the Mica shield. Thus, JSV does not recommend these series for Caustic, Hydrofluoric, Distilled Water or other liquid corrosive to glass.
The Reflex type level gauge is assembled firmly with sealing gasket, reflex glass, cushion gasket and gauge cover on the body by U-Bolts, in order.

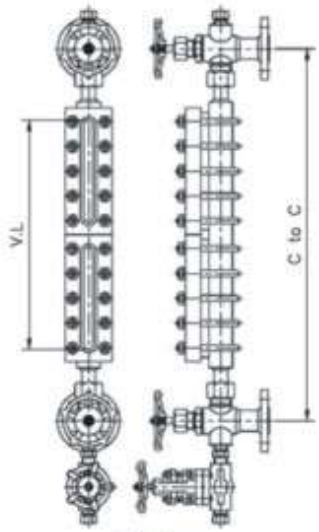
▣ SPECIFICATION

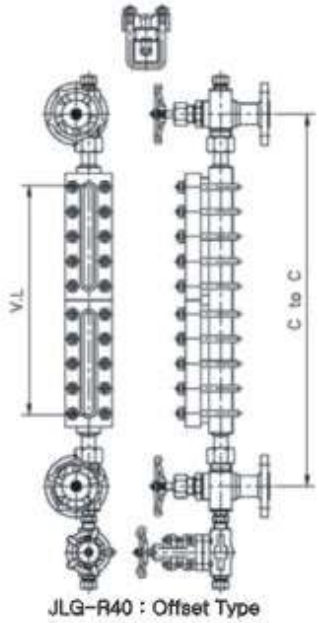
- ▶ Gauge Valve type : Straight (JLG-R40S), Offset (JLG-R40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 10 Sections
- ▶ Visible Length (V.L) : 90 ~ 4340 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 3,000 mm of C to C

JLG-R40S : Straight Type

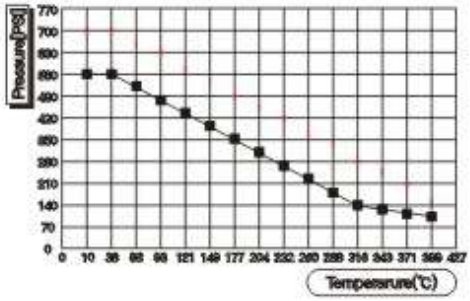




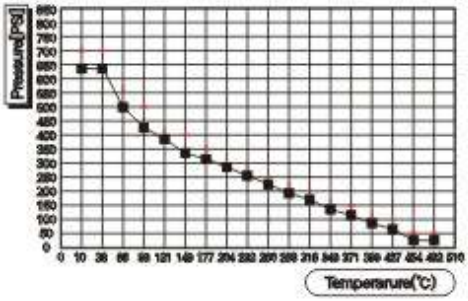
JLG-R40 : Offset Type

GAUGE CHAMBER PRESSURE - TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL



REFLEX TYPE LEVEL GAUGE

MODEL : JLG-R100S/R100

▣ GENERAL DESCRIPTION

Reflex type liquid level gauge use the Reflex glass. One side surface of Reflex glass to use flat glass has several grooves for reflecting prism. The principle of the Reflex glass is based on the difference in the refractive indices of liquid and gas or in particular of water and steam. Liquid level shows conspicuously dark hard color for Liquid space and light white for empty space. These Reflex type are not used with the Mica shield. Thus, JSV does not recommend these series for Caustic, Hydrofluoric, Distilled Water or other liquid corrosive to glass.
The Reflex type level gauge is assembled firmly with sealing gasket, reflex glass, cushion gasket and gauge cover on the body by Stud Bolts, in order.

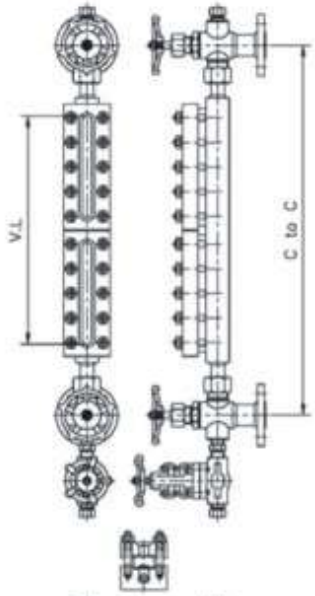
▣ SPECIFICATION

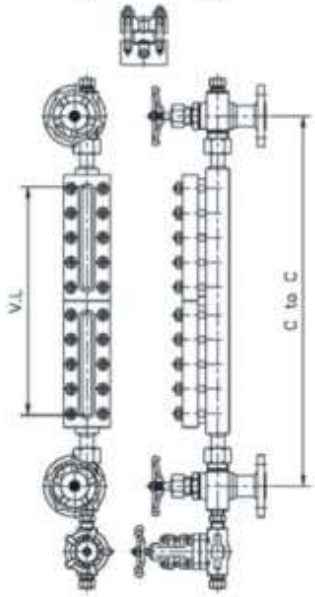
- ▶ Gauge Valve type : Straight (JLG-R100S), Offset (JLG-R100)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 900# ~ 1500#
- ▶ Max. No. of Section : 10 Sections
- ▶ Visible Length (V.L) : 90 ~ 4340 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 100 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 3,000 mm of C to C

JLG-R100S : Straight Type

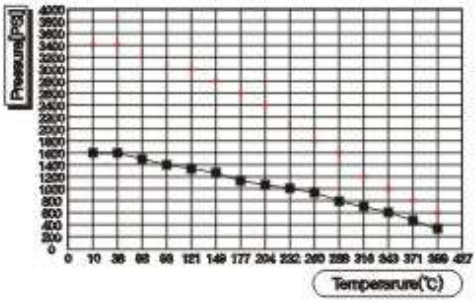




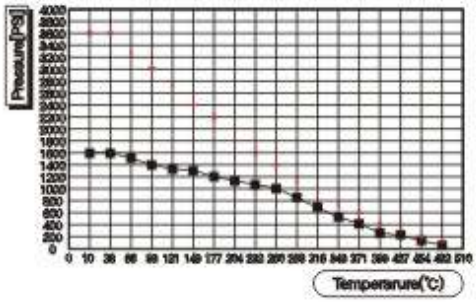
JLG-R100 : Offset Type

GAUGE CHAMBER PRESSURE – TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL



REFLEX TYPE LEVEL GAUGE

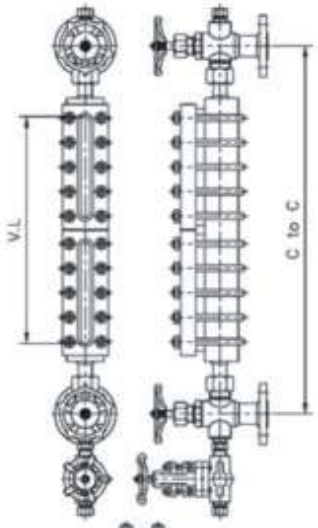
MODEL : JLG-RL40S/RL40

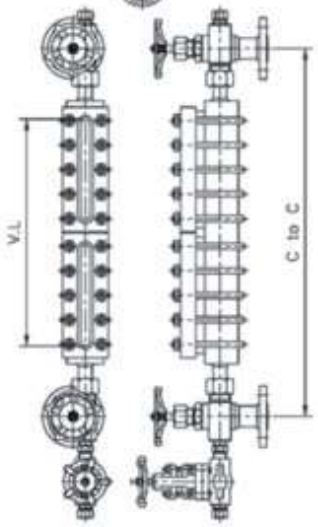
▣ GENERAL DESCRIPTION

The most advantage of this type is for easy level reading of boiling liquids. In the event of liquids boiling, its bubbling makes indistinct the surface level. In this type of gauge with the larger volume of the liquid chamber will be reduced bubbling. Thereby this type should facilitate to read its level of bubbling liquids. It has also provides highly advantages for highly dense and viscous liquid. The body is made of seamless pipe.

JSV's Large Chamber Reflex Types are classified into two(2) models, those are JLG-RL40S/RL40 according to process conditions which are max. working pressure & temperature. This type is comprised of assembling order to fasten the nuts, set the sealing gasket, reflex glass, cushion gasket, gauge cover, bolts and nuts on the large chamber, in regular sequence. This JLG-RL40 series is designed and manufactured for easy and accurate reading the liquid level of highly foamy liquids. The gauge has a relatively spacious internal area where foamy liquid is held from forming foams. Thereby providing rather more accurate level observations.

JLG-RL40S : Straight Type





JLG-RL40 : Offset Type

▣ SPECIFICATION

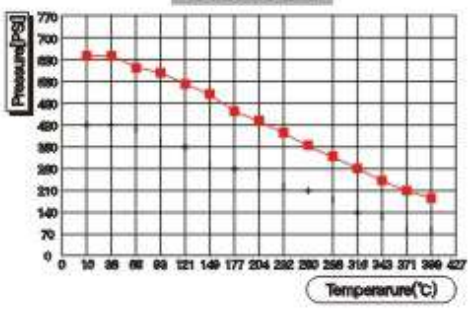
- ▶ Gauge Valve type : Straight (JLG-RL40S), Offset (JLG-RL40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 10 Sections
- ▶ Visible Length (V.L) : 90 ~ 4340 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

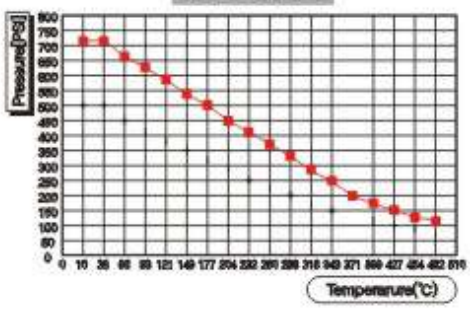
- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle/Gate/Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle/Gate/Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 3,000 mm of C to C

GAUGE CHAMBER PRESSURE - TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL



REFLEX TYPE LEVEL GAUGE

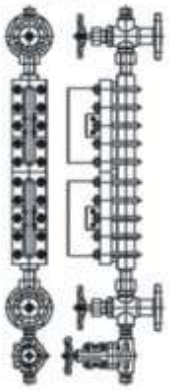
NON-FROSTING TYPE LEVEL GAUGE

MODEL : JLG-R40N/R40SN/R100N/R100SN/RL40N/RL40SN

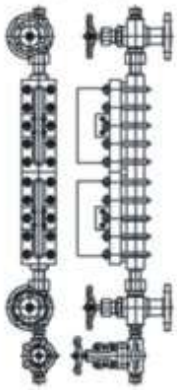
▣ GENERAL DESCRIPTION

If a conventional level gauge is used for extremely low-temperature applications, it becomes difficult to observe the level of liquid as the gauge front tends to freeze.
To get rid of this problem, the acrylic non-frosting plate window is mounted in the front of the gauge like as below and you will observe the level easily far better.
This type is comprised of assembling order to fasten the nuts, set the sealing gasket, reflex glass, cushion gasket, gauge cover, bolts and nuts on the Reflex Body, in order and then the Non-Frosting plate is mounted on it.

STRAIGHT TYPE
JLG-R40SN



OFFSET TYPE
JLG-R40N



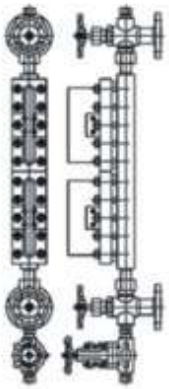
▣ SPECIFICATION

▶ Gauge Valve type
1) Straight type : JLG-R40SN/R100SN/RL40SN
2) Offset type : JLG-R40N/R100N/RL40N
▶ Material : Carbon Steel, Stainless Steel, etc
▶ Standard Vessel Connection : 3/4" or 1" ASME 150#~1500#
▶ Max. No. Of Section : 10 Sections
▶ Visible Length (V.L) : 90~4340mm
▶ Gauge body & Gauge valve Con'n : Not Rotation & 360°Rotation
▶ Max. Working Pressure
1) 40 kgf/cm²g : JLG-R40SN/R40N/RL40SN/RL40N
2) 100 kgf/cm²g : JLG-R100SN/R100N
▶ Dimension "H"

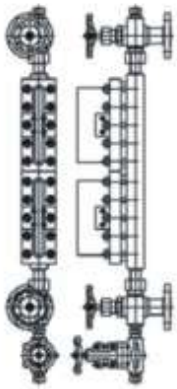
Temperatue(℃)	H
0 ~ -20	75 mm
-20 ~ -45	100 mm
-46 ~ -100	150 mm
-101 ~ -160	200 mm
-161 ~ -200	250 mm

▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
▶ Other : As per customer's spec.

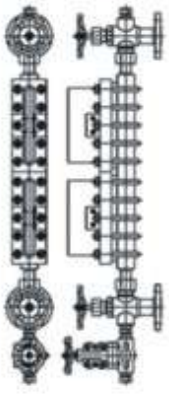
STRAIGHT TYPE
JLG-R100SN



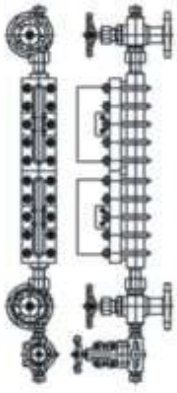
OFFSET TYPE
JLG-R100N



STRAIGHT TYPE
JLG-RL40SN



OFFSET TYPE
JLG-RL40N



▣ OPTION

▶ Scale Plate
- Unit : centimeter(cm), liter(ℓ), etc
▶ Vent : PT 1/2" or PT 3/4" (NPT available)
- Needle valve, Gate valve, Globe valve, Nipple & Plug
▶ Drain : PT 1/2" or PT 3/4" (NPT available)
- Needle valve, Gate valve, Globe valve, Nipple & Plug
▶ Bracket : Longer than 3,000mm of C to C

REFLEX TYPE LEVEL GAUGE

MODEL : JLG-RZ40S/RZ40

▣ GENERAL DESCRIPTION

JSV zig-zag level gauges are characterized by alternate arrangement of gauges in a double line which enables continuous liquid level observation over the whole visible range. Therefore, wide range liquid level measurement is possible.
Also, it is used as direct reading liquid level gauges of the equipment kind to want to avoid an invisible part, too.
This type is comprised of assembling order to fasten the nuts, set the sealing gasket, reflex glass, cushion gasket, gauge cover, bolts and nuts on the reflex body after making zig-zag formed the body.

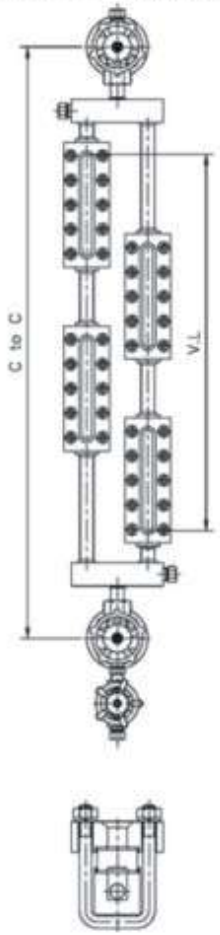
▣ SPECIFICATION

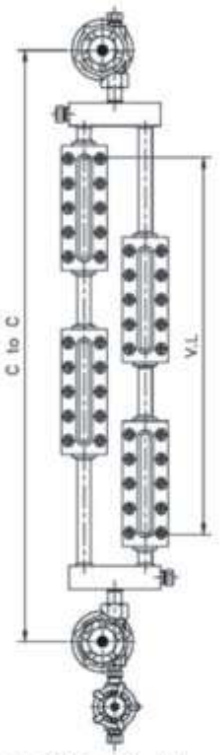
- ▶ Gauge Valve type : Straight (JLG-RZ40S), Offset (JLG-RZ40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 20 Sections
- ▶ Center to Center (C to C) : V.L + 350 mm
- ▶ Visible Length (V.L) : Max. 7215 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

- ▶ Scale Plate
  Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  Needle/Gate/Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  Needle/Gate/Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 3,000 mm of C to C

JLG-RZ40S : Straight Type

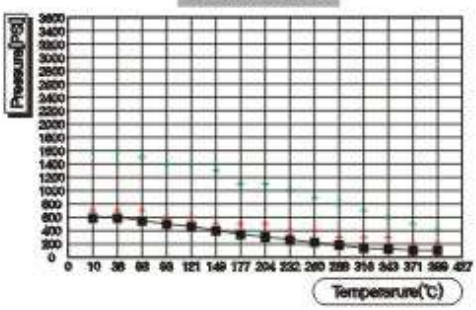




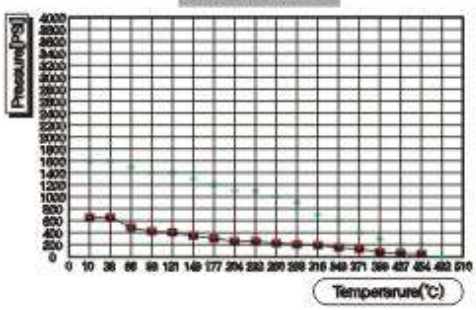
JLG-RZ40 : Offset Type

GAUGE CHAMBER PRESSURE – TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



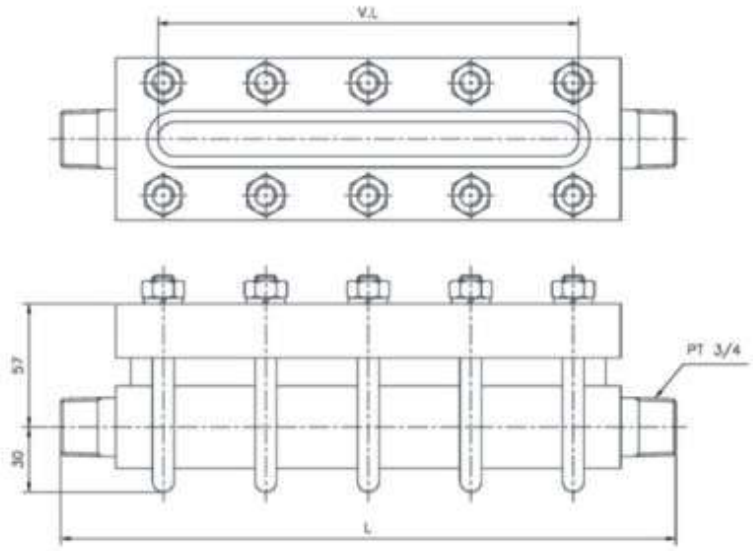
STAINLESS STEEL



REFLEX TYPE LEVEL GAUGE

LIQUID LEVEL GAUGE

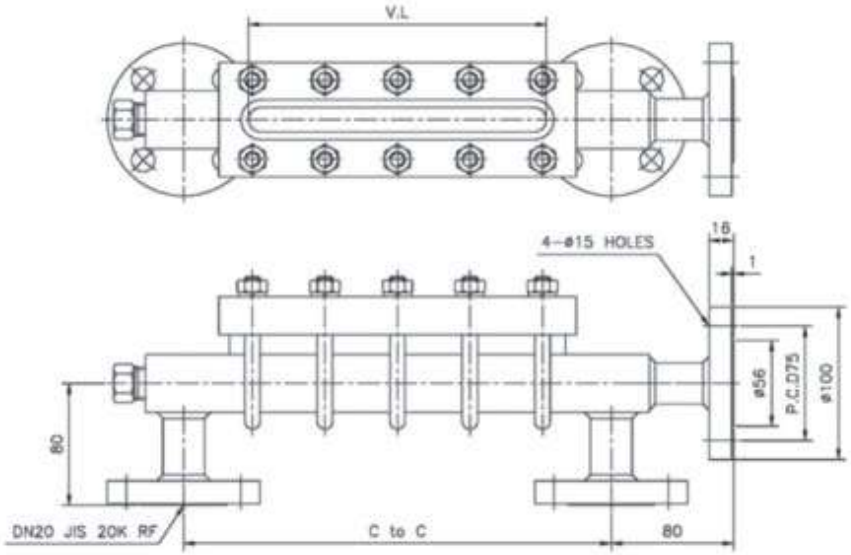
MODEL : JLG-R1
Glass type : Reflex
Connection type : Screw
Max. Working Pressure : 10 kgf/cm²g



Norminal Pressure	Connection Screw Size	Length (L)	V.L	Glass Size	Shell Test Pressure	Material		
						Body	Cover	Glass
10K	PT 3/4	285	195	220	15 kgf/cm²g	S20C	SS400	BOROSILICATE
		345	255	280				

LIQUID LEVEL GAUGE

MODEL : JLG-R2
Glass type : Reflex
Connection type : Flange
Max. Working Pressure : 20 kgf/cm²g



Norminal Pressure	Connection Flange Size	C to C	V.L	Glass Size	Shell Test Pressure	Material		
						Body	Cover	Glass
20K	DN20 JIS 20K RF	280	195	220	30 kgf/cm²g	S20C	SS400	BOROSILICATE
		340	255	280				

TRANSPARENT TYPE LEVEL GAUGE

MODEL : JLG-T40S/T40

▣ GENERAL DESCRIPTION

Transparent type liquid level gauge use Transparent glass. Designed and built for a wide range of high temperature and high pressure applications, JSV's transparent type level gauge is used to make observation of the level of corrosion-proof and chromatic liquids. These types are utilized two pieces of tempered flat gauge glasses, in front and rear of which are enclosed with a gauge cover using stud bolts. Where high temperature and corrosion are liable to occur, it can be furnished with a mica shield to prevent it from being corroded. These types are preferably used for reservoir tanks that require a relatively long visible length by constructing the supporter.

The Transparent type level gauge is assembled firmly with sealing gasket, mica shield, transparent glass, cushion gasket and gauge cover on the body by Stud-Bolts, in order.

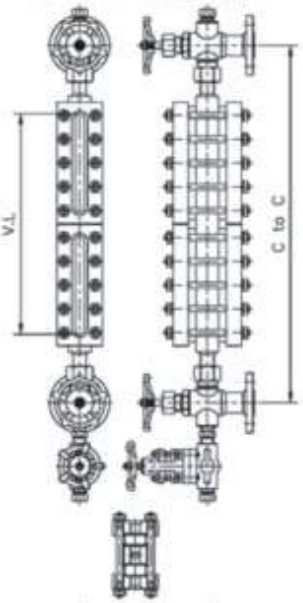
▣ SPECIFICATION

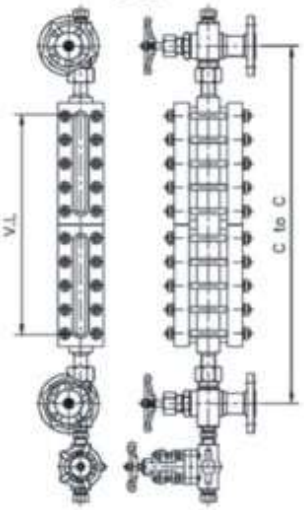
- ▶ Gauge Valve type : Straight (JLG-T40S), Offset (JLG-T40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 10 Sections
- ▶ Visible Length (V.L) : 90 ~ 4340 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 2,000 mm of C to C

JLG-T40S : Straight Type



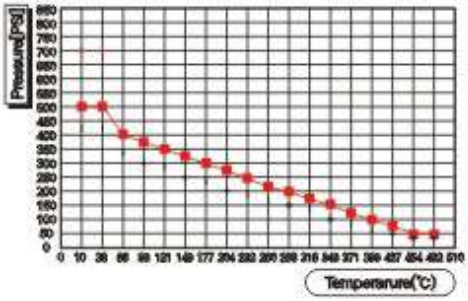


JLG-T40 : Offset Type

GAUGE CHAMBER PRESSURE - TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL

STAINLESS STEEL



TRANSPARENT TYPE LEVEL GAUGE

MODEL : JLG-T100S/T100

▣ GENERAL DESCRIPTION

Transparent type liquid level gauge use Transparent glass. Designed and built for a wide range of high temperature and high pressure applications, JSV's transparent type level gauge is used to make observation of the level of corrosion-proof and chromatic liquids. These types are utilized two pieces of tempered flat gauge glasses, in front and rear of which are enclosed with a gauge cover using stud bolts. Where high temperature and corrosion are liable to occur, it can be furnished with a mica shield to prevent it from being corroded. These types are preferably used for reservoir tanks that require a relatively long visible length by constructing the supporter.

The Transparent type level gauge is assembled firmly with sealing gasket, mica shield, transparent glass, cushion gasket and gauge cover on the body by Stud-Bolts, in order.

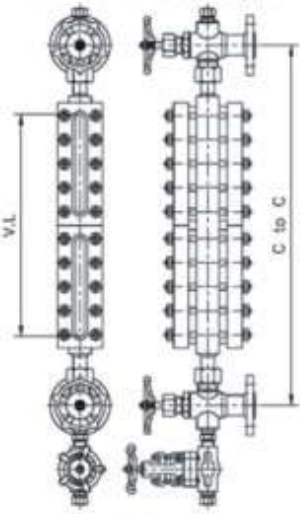
▣ SPECIFICATION

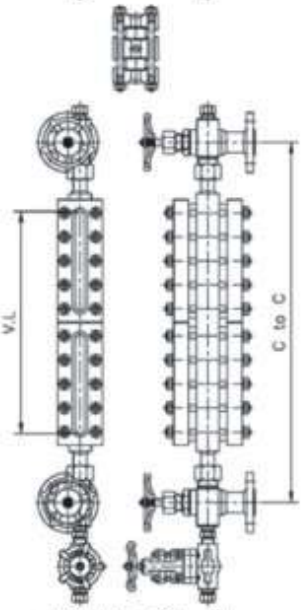
- ▶ Gauge Valve type : Straight (JLG-T100S), Offset (JLG-T100)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 900# ~ 1500#
- ▶ Max. No. of Section : 10 Sections
- ▶ Visible Length (V.L) : 90 ~ 4340 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 100 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 2,000 mm of C to C

JLG-T100S : Straight Type

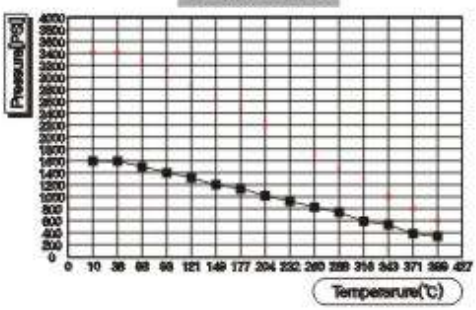




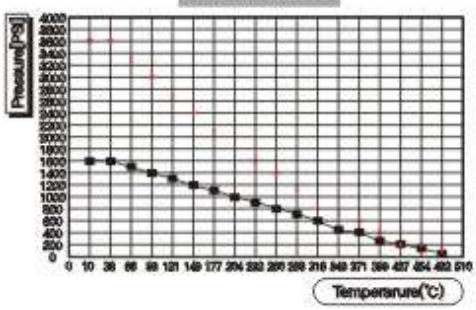
JLG-T100 : Offset Type

GAUGE CHAMBER PRESSURE - TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL



TRANSPARENT TYPE LEVEL GAUGE

MODEL : JLG-TL40S/TL40

▣ GENERAL DESCRIPTION

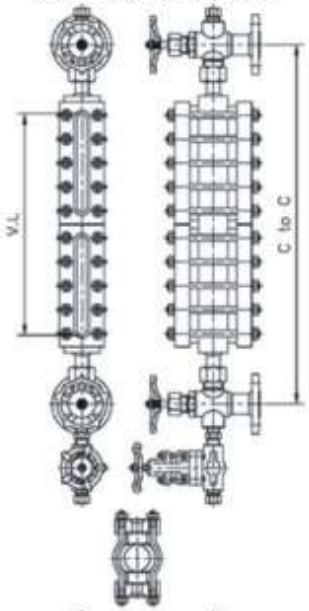
The most advantage of this type is for easy level reading of boiling liquids. In the event of liquids boiling, its bubbling makes indistinct the surface level. In this type of gauge with the larger volume of the liquid chamber will be reduced bubbling. Thereby this type should facilitate to read its level of bubbling liquids. It has also provides highly advantages for highly dense and viscous liquid. The body is made of seamless pipe.

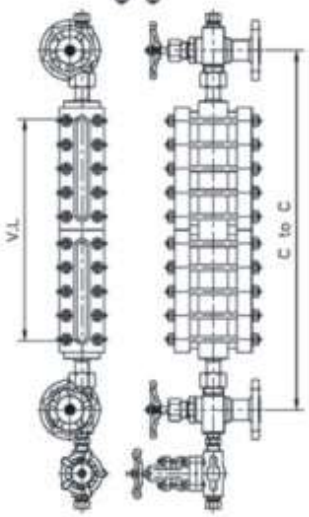
JSV's Large Chamber Transparent Types are classified into two(2) models, those are JLG-TL40S/TL40 according to process conditions which are max. working pressure & temperature.

This type is comprised of assembling order to fasten the nuts, set the sealing gasket, Transparent glass, cushion gasket, gauge cover, bolts and nuts on the large chamber, in regular sequence.

This JLG-TL40 series is designed and manufactured for easy and accurate reading the liquid level of highly foamy liquids. The gauge has a relatively spacious internal area where foamy liquid is held from forming foams. Thereby providing rather more accurate level observations.

JLG-TL40S : Straight type





JLG-TL40 : Offset type

▣ SPECIFICATION

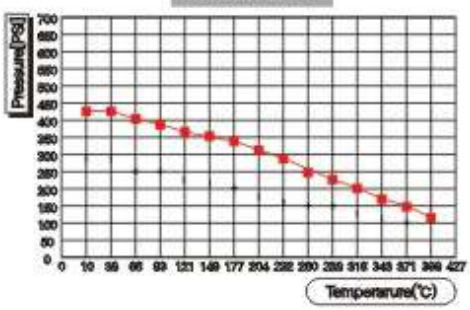
- ▶ Gauge Valve type : Straight (JLG-TL40S), Offset (JLG-TL40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 10 Sections
- ▶ Visible Length (V.L) : 90 ~ 4340 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

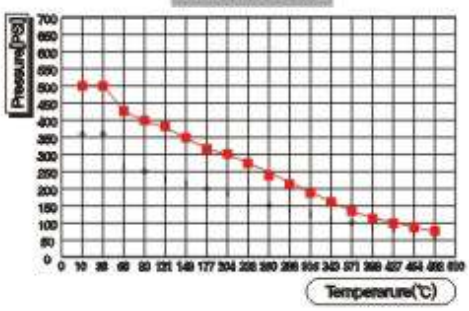
- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle/Gate/Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle/Gate/Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 3,000 mm of C to C

GAUGE CHAMBER PRESSURE - TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL



TRANSPARENT TYPE LEVEL GAUGE

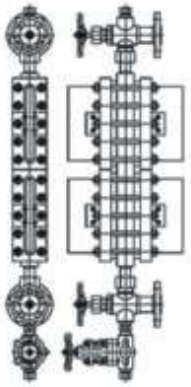
NON-FROSTING TYPE LEVEL GAUGE

MODEL : JLG-T40N/T40SN/T100N/T100SN/T40N/TL40SN

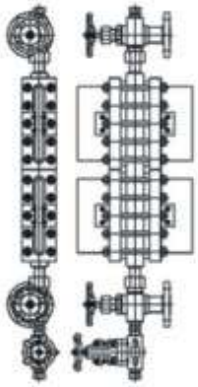
▣ GENERAL DESCRIPTION

If a conventional level gauge is used for extremely low-temperature applications, it becomes difficult to observe the level of liquid as the gauge front tends to freeze.
To get rid of this problem, the acrylic non-frosting plate window is mounted in the front of the gauge like as below and you will observe the level easily far better.
This type is comprised of assembling order to fasten the nuts, set the sealing gasket, reflex glass, cushion gasket, gauge cover, bolts and nuts on the Transparent Body, in regular sequence and then the Non-Frosting plate is mounted on it.

STRAIGHT TYPE JLG-T40SN



OFFSET TYPE JLG-T40N



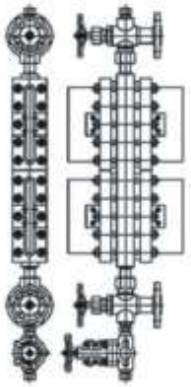
▣ SPECIFICATION

▶ Gauge Valve type
1) Straight type : JLG-T40SN/T100SN/TL40SN
2) Offset type : JLG-T40N/T100N/TL40N
▶ Material : Carbon Steel, Stainless Steel, etc
▶ Standard Vessel Connection : 3/4" or 1" ASME 150#~1500#
▶ Max. No. Of Section : 10 Sections
▶ Visible Length (V.L) : 90~4340mm
▶ Gauge body & Gauge valve Con'n : Not Rotation & 360°Rotation
▶ Max. Working Pressure
1) 40 kgf/cm²g : JLG-T40SN/T40N/TL40SN/TL40N
2) 100 kgf/cm²g : JLG-T100SN/T100N
▶ Dimension "H"

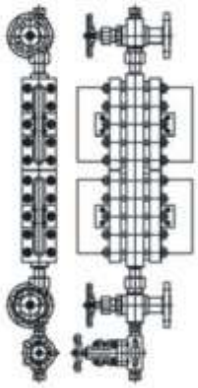
Temperatue(℃)	H
0 ~ -20	75 mm
-20 ~ -45	100 mm
-46 ~ -100	150 mm
-101 ~ -160	200 mm
-161 ~ -200	250 mm

▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
▶ Other : As per customer's spec.

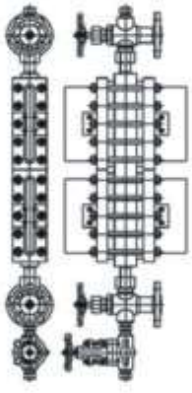
STRAIGHT TYPE JLG-T100SN



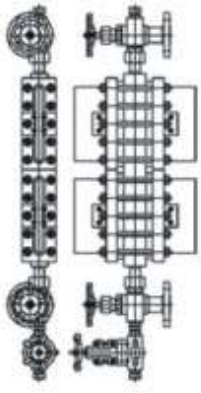
OFFSET TYPE JLG-T100N



STRAIGHT TYPE JLG-TL40SN



OFFSET TYPE JLG-TL40N



▣ OPTION

▶ Scale Plate
- Unit : centimeter(cm), liter(ℓ), etc
▶ Vent : PT 1/2" or PT 3/4" (NPT available)
- Needle valve, Gate valve, Globe valve, Nipple & Plug
▶ Drain : PT 1/2" or PT 3/4" (NPT available)
- Needle valve, Gate valve, Globe valve, Nipple & Plug
▶ Bracket : Longer than 3,000mm of C to C

TRANSPARENT TYPE LEVEL GAUGE

MODEL : JLG-TZ40S/TZ40

▣ GENERAL DESCRIPTION

JSV zig-zag level gauges are characterized by alternate arrangement of gauges in a double line which enables continuous liquid level observation over the whole visible range. Therefore, wide range liquid level measurement is possible.
Also, it is used as direct reading liquid level gauges of the equipment kind to want to avoid an invisible part, too.
This type is comprised of assembling order to fasten the nuts, set the sealing gasket, transparent glass, cushion gasket, gauge cover, bolts and nuts on the transparent body after making zig-zag formed the body.

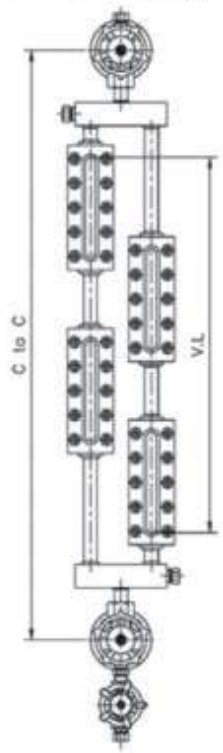
▣ SPECIFICATION

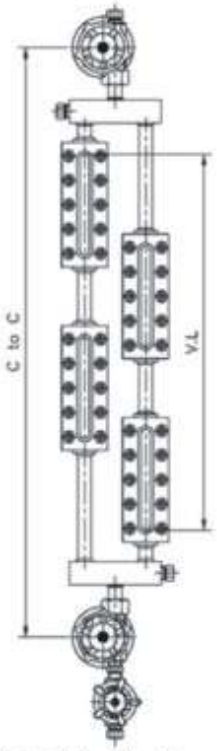
- ▶ Gauge Valve type : Straight (JLG-TZ40S), Offset (JLG-TZ40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 20 Sections
- ▶ Center to Center (C to C) : V.L + 350 mm
- ▶ Visible Length (V.L) : Max. 7215 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's spec.

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle/Gate/Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle/Gate/Globe valve, Nipple & Plug
- ▶ Bracket : Longer than 3,000 mm of C to C

JLG-TZ40S : Straight type

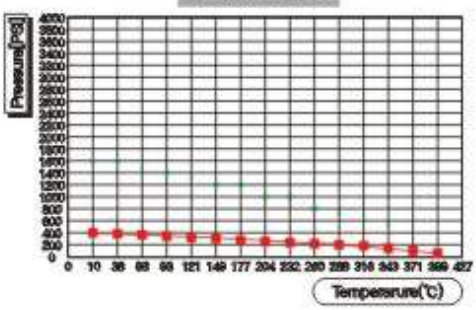




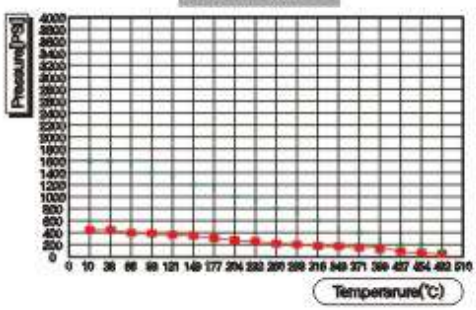
JLG-TZ40 : Offset type

GAUGE CHAMBER PRESSURE – TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL



TWO-COLOR TYPE LEVEL GAUGE

MODEL : JLG-TC40S/TC40

▣ GENERAL DESCRIPTION

Two-Color Level Gauge is apply the principle of a difference between refractive indices of light at liquid such as water in the boiler and that of steam. In this former reason, we can observe obviously the level through the two-color level gauge series because of display the level as reliable chromatic indication in which is Green Color for water portion and Red Color for steam portion. With distinguishing a light into red and green color through the colored filter and its distinguished colors enter into visible window of level gauge after traveling angle is changed a little by the wedge shaped body. In the above principle, when the gauge is filled with water, The red light beam is disappear after deflected side-wards and absorbed and is filled with steam, it pass through the steam space.

Therefore, only the red light beam appears in the steam space and the green light beam is vice versa against the above.

Two-Color Gauge Series is designed and manufactured based on the above principles.

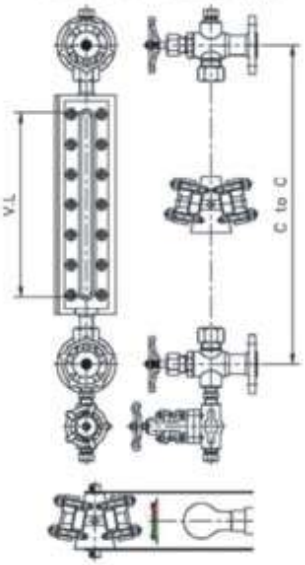
▣ SPECIFICATION

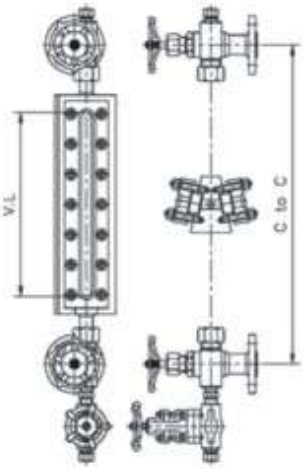
- ▶ Gauge Valve type : Straight (JLG-TC40S), Offset (JLG-TC40)
- ▶ Material : Carbon Steel, Stainless Steel, etc
- ▶ Standard Vessel Connection : 3/4" or 1" ASME 150# ~ 600#
- ▶ Max. No. of Section : 1 Section
- ▶ Visible Length (V.L) : 255 ~ 375 mm
- ▶ Gauge body & Gauge valve Con'n : Not Rotation & 360° Rotation
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : See the Graph
- ▶ Shell Test Pressure : 1.5 times at the Max. Working Pressure
- ▶ Other : As per customer's speo.

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), liter(ℓ), etc
- ▶ Vent : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Needle valve, Gate valve, Globe valve, Nipple & Plug

JLG-TC40S : Straight Type





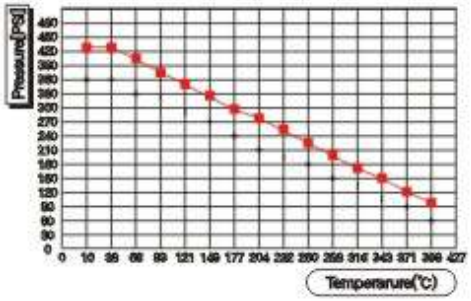
JLG-TC40 : Offset Type

▣ Dimension

C to C	V.L	Glass Size	
		Size	No. of Sec.
525	255	260	1
595	315	340	1
595	375	400	1

GAUGE CHAMBER PRESSURE - TEMPERATURE CHARTS FOR SAFETY OPERATING

CARBON STEEL



STAINLESS STEEL

MAGNETIC TYPE LEVEL GAUGE

MAGNETIC TYPE LEVEL GAUGE

▣ GENERAL DESCRIPTION

A float Assembly equipped with a magnetic rises and falls in the interior of its chamber with the liquid level of the tank. The indicator installed to the exterior of the float chamber is a series of bi-colored rotors in each a magnet. As the float assembly moves inside the chamber, magnetic forces cause the bi-colored rotors to flip to the opposite side and liquid level is visualized by means of two-color of the rotors.

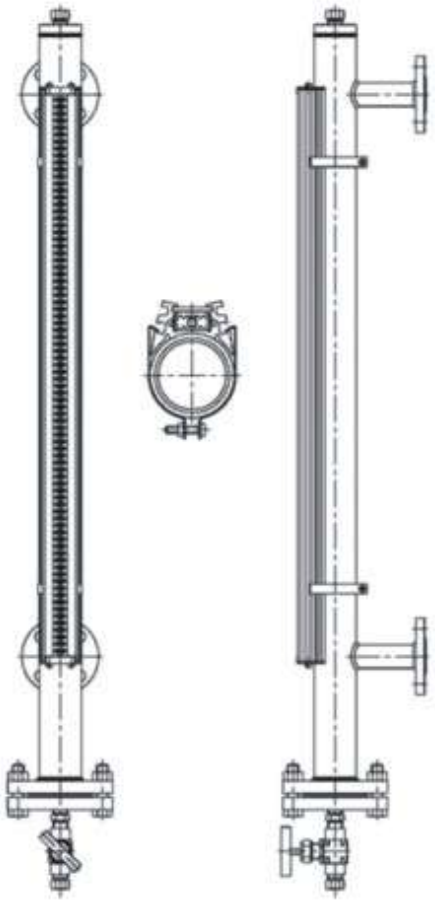
Magnetic type level gauge is no limits to inspect any height of the level and invisible part is very small. It can measure the boundary surface of two kinds liquid which have different specific gravity. Measuring Scale Plate on request any units is available as an option.

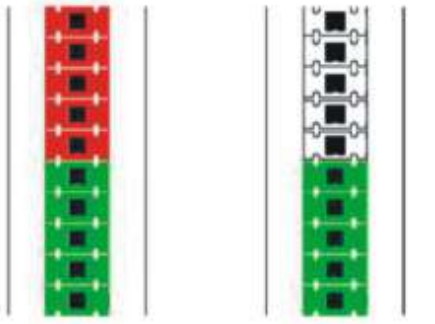
The magnetic float gauge is designed so that the fluid being measured is enclosed within a sealed chamber.
A float fitted with a permanent magnet moves freely inside the the aluminum indicator mounted on the outside of the chamber.
As the magnetic float passes each rotor with rising or falling with liquid level, the rotor rotates 180° to show the other color. Rotating rotors are installed in the Non-Magnetic Case at intervals of 10 mm or so. It doesn't fail to indicate even at the sudden change of liquid level. The liquid phases and gaseous are indicated by blue color and gold color respectively.

Magnetic Type Level Indicator is an instrument for indicating the fluid level. It has a magnetic float inside of the Non-Magnetic Chamber and an indicator outside of it.
The indicator indicates fluid level by means of magnetic force of the magnet installed inside the float. The indicator is completely separated from the chamber.
The level of liquid and gaseous phases can be distinguished clearly by the Bi-Color.

Whenever the float rises or falls with the liquid level, each rotors rotates 180° corresponding to the magnet forces and indicates its face of a contrasting color.

Rotor Color Combination	Indicating Color	Max. Operating Temperature
Red / Green (Standard)	Liquid Phase : Red Gas Phase : Green	Less than 250℃
Red / White (Heat resistant)	Liquid Phase : Red Gas Phase : White	250℃ ~ 400℃





Standard Rotor Color
Red / Green

Heat resistant Rotor Color
Red / White

MAGNETIC TYPE LEVEL GAUGE

MODEL : JLG-MF50

▣ GENERAL DESCRIPTION

JLG-MF50 is used for observing almost all fluid which is poisonous gas or liquid tank and boiler drum with low & middle pressure up to 60 kgf/cm²g and it's have weigh with outstanding safety from its damage or breakage and to be of low price.

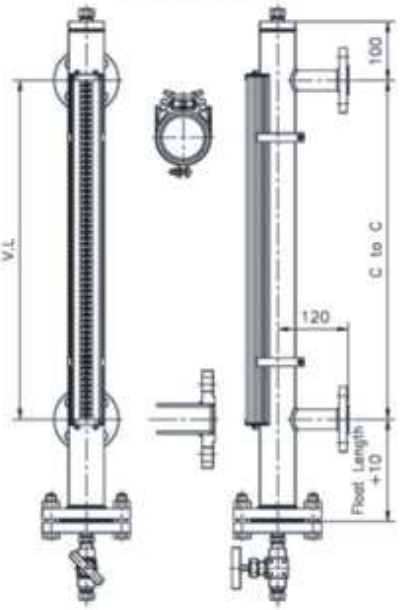
▣ SPECIFICATION

- ▶ Chamber Size : DN50
- ▶ Material : Stainless Steel, etc.
- ▶ Chamber Schedule : SCH 10S/20S/40S, etc.
- ▶ Flange Rating : 150Lbs ~ 900Lbs
- ▶ Specific Gravity : Min. 0.34
- ▶ Max. Working Pressure : 60 kgf/cm²g
- ▶ Max. Working Temperature : 300℃

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), etc.
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Gate valve, Globe valve, Plug

STANDARD TYPE



MODEL : JLG-MF50L

▣ GENERAL DESCRIPTION

JLG-MF50L is used for observing the corrosive fluid effectively by lining all the wetted part of this type.

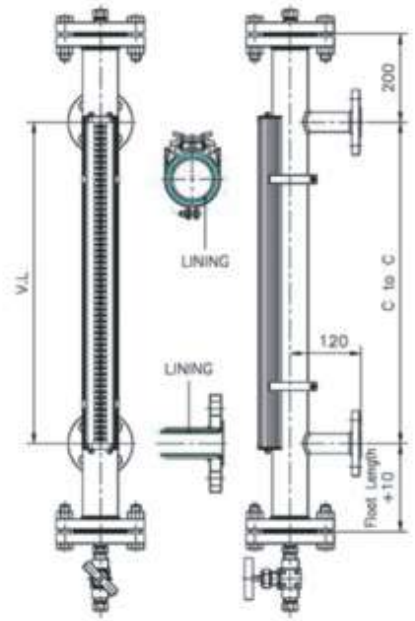
▣ SPECIFICATION

- ▶ Chamber Size : DN50
- ▶ Material : Stainless Steel, etc.
- ▶ Lining Material : Teflon
- ▶ Chamber Schedule : SCH 5S/10S, etc.
- ▶ Flange Rating : 150Lbs ~ .00Lbs
- ▶ Specific Gravity : Min. 0.34
- ▶ Max. Working Pressure : 20 kgf/cm²g
- ▶ Max. Working Temperature : 130℃

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), etc.
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Plug valve, Plug

LINING TYPE



MAGNETIC TYPE LEVEL GAUGE

MODEL : JLG-MF50N

▣ GENERAL DESCRIPTION

JLG-MF50N is used for protecting the frost at extremely low temperature applications, thereby you can obviously visible the rotor color to indicate it fluid level.

▣ SPECIFICATION

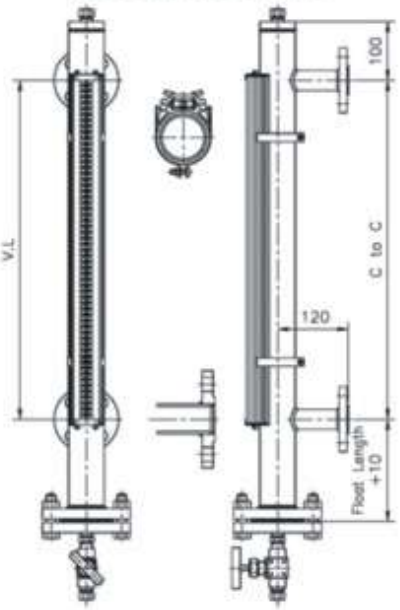
- ▶ Chamber Size : DN50
- ▶ Material : Stainless Steel, etc.
- ▶ Chamber Schedule : SCH 10S/20S/40S, etc.
- ▶ Flange Rating : 150Lbs ~ 900Lbs
- ▶ Specific Gravity : Min. 0.34
- ▶ Max. Working Pressure : 60 kgf/cm²g
- ▶ Max. Working Temperature : -200℃
- ▶ Dimension "H"

Temperatue(?)	H
0 ~ -20	75 mm
-20 ~ -45	100 mm
-46 ~ -100	150 mm
-101 ~ -200	200 mm

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), etc.
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Gate valve, Globe valve, Plug

NON-FROSTING TYPE



MODEL : JLG-MF50J

▣ GENERAL DESCRIPTION

JLG-MF50J for heating and cooling is used for observing the level of highly congealable or ebullient liquids. The principle is in flow a steam for congealable liquids and a cold water for ebullient liquids through the inside of the jacket pipe.

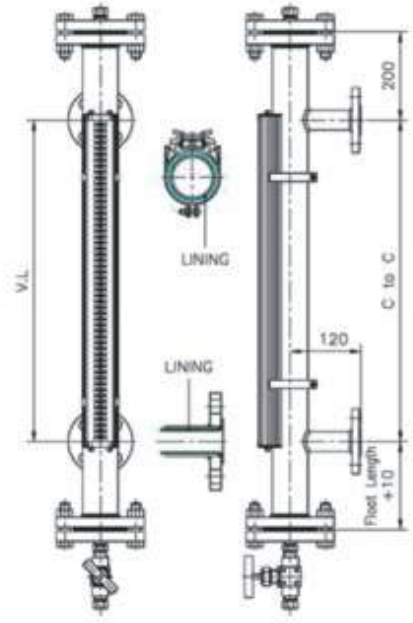
▣ SPECIFICATION

- ▶ Chamber Size : DN50
- ▶ Jacket Pipe Size : DN65
- ▶ Material : Stainless Steel, etc.
- ▶ Jacket Material : 304 Stainless Steel
- ▶ Chamber Schedule : SCH 20S/40S, etc.
- ▶ Flange Rating : 150Lbs ~ 600Lbs
- ▶ Specific Gravity : Min. 0.34
- ▶ Max. Working Pressure : 40 kgf/cm²g
- ▶ Max. Working Temperature : 300℃

▣ OPTION

- ▶ Scale Plate
  - Unit : centimeter(cm), etc.
- ▶ Drain : PT 1/2" or PT 3/4" (NPT available)
  - Gate valve, Globe valve, Plug

JACKET TYPE



MAGNETIC TYPE LEVEL GAUGE

LEVEL SWITCH & LEVEL TRANSMITTER

▣ LEVEL SWITCH

Alarm switch has the self-holding type Reed switch. That is, when the N pole of magnet float coming near, the switch will be closed (ON), after the magnetic float passed by, the switch still remain closed (ON), and when the magnet is coming back, the switch will be opened (OFF) again, and after the magnet passed away, the switch still remain open (OFF) also.

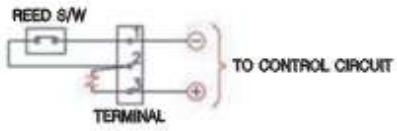
When the switch is installed in the opposite direction, the ON-OFF operation of the former will be reversed. Therefore, the operation (ON-OFF) is easy to change on the side.

▣ SPECIFICATION

- ▶ Model : SEMS-90
- ▶ Max. DC-A : 0.5A / 0.25A
- ▶ Max. AC-V : 125V / 220V
- ▶ Temp. Range : -20℃ ~ 150℃
- ▶ Conduit : PF 1/2
- ▶ Remark : Exd IIB + H2 T4

▣ FEATURE

As our switch has no polarization. There is little point in arguing about an electric circuit whether wires are connected with terminal 1 or 2.



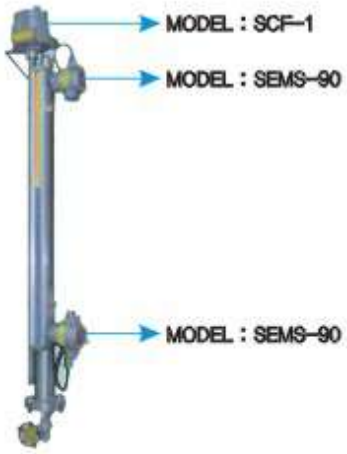
▣ LEVEL TRANSMITTER

Used for detecting the level of measuring object from various level in the vessels or tanks and for transmitting it after converting to electric output signal and direct indication can also be possible with rotor colors.

A transient changing of liquid level is continuously transmitted by converting change of resistance value of level switch installed on the chamber.

▣ SPECIFICATION

- ▶ Model : SCF-1
- ▶ Max. DC-A : 4mA ~ 20mA
- ▶ Max. AC-V : 24V
- ▶ Temp. Range : 80℃
- ▶ Conduit : PF 1/2
- ▶ Remark : Exd IIB T4, IP65



This Assembly is suitable for alarm and control of various liquid, any fluid can be observed by through its central control system.

Model name SEMS-90 is the level switch is installed on a certain place of column or magnet chamber. It operates ON-OFF control by means of magnetic force of the float when it comes up or down the exact place of switch located.

MATERIAL COMPATIBILITY TABLE

This information has been compiled from reliable sources, and may be used as a guide in considering the use of several materials with various process fluids. However, due to differences in specific requirements and operating conditions, the compatibility ratings listed must not be construed as <guarantees>.

JSV

NOTE : All ratings are fluids at ambient temperatures, except as noted.

A=Excellent B=Good C=Fair D=Not Recommended Blank=No Data Available

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Acetaldehyde	C	C	D	A	A	A	A	D	D		
Acetate Solvents	B	A	A		A	A	A	D		A	D
Acetic Acid (Aerated)	D	D	D	A	A	A	A	C	C	D	A
Acetic Acid (Air Free)	D	D	B	A	A	A	A	C	C	D	A
Acetic Acid (Crude)	C	C	C	A	A	A	A	D	C	D	A
Acetic Acid (Pure)	C	C	C	A	A	A	A	D	C	D	
Acetic Acid (10%)	C	C	C	A	A	A	A	D	C	D	A
Acetic Acid (80%)	C	C	C	A	A	A	A	D	C	D	A
Acetic Anhydride	D	D	C	B	B	A	A	C	D		D
Acetone	A	A	A	A	A	A	A	C	D	A	D
Acetylene	A	A	B	A	A	A	A	A	A	A	
Acrylonitrile	C	C	A	A	A	A	A	D	D	A	D
Air	A	A	A	A	A	A	A	A	A		
Alcohols	C	B	B	B	B	A	A	A	C	A	
Alcohol – Amyl	C	B	B	B	A	A	A	A	B	A	A
Alcohol – Butyl	C	B	B	B	A	A	A	A	A	A	A
Aluminum Chloride (Dry)	B	B	B	D	A	A	A	B	A	A	A
Aluminum Sulfate (Alums)	C	C	C	B	A	A	A	A	A	A	A
Alums	C	C	C	D	A	B	A	A	A	A	
Amines	C	B	A	B	A	A	A	D			
Ammonia, Anhydrous	B	A	D	B	A	A	A	B	A	A	
Ammonia, Aqueous	A	A	D	A	A	A	A	B	A	A	
Ammonia Solutions	B	B	D	B	A	A	A	B			
Ammonium Bicarbonate	B	C	B		B	A	A	A			
Ammonium Carbonate	B	B	B	B	B	A	A	A	A	A	
Ammonium Chloride	D	D	D	C	C	A	A	A	A	A	
Ammonium Hydroxide 28%	C	C	D	B	B	C	A	A	A	A	
Ammonium Hydroxide Conc.	C	C	D		B	C	A	A	A		A
Ammonium Monophosphate	D	D	D		B	A	A	A			
Ammonium Nitrate	D	D	D	A	A	A	A	A	B		A
Ammonium Phosphate Dibasic	D	D	C		B	A	A	A			A
Ammonium Phosphate Tribasic	D	D	C		B	A	A	A			
Ammonium Sulfate	C	C	B	C	B	A	A	A	C	A	
Amyl Acetate	C	C	C		B	A	A	D	D	A	D
Aniline	C	C	C	B	B	A	A	C	D		D
Aniline Dyes	C	C	C	A	A	A	A	B	A	A	
Anitomony Trichloride	D	D	D	D	D	A	A	C			
Apple Juice	D	D	C	B	B	A	A	A			
Arsenic Acid	D	D	D		B	A	A	A			A
Asphalt Emulsion	B	B	A	B	A	A	A	B	A	A	
Asphalt Liquid	B	B	A	B	A	A	A	C		A	
Barium Carbonate	B	B	B		B	A	A	A		A	
Barium Chloride	C	C	B	C	C	A	A	A	A	A	A
Barium Hydroxide	B	C	B	A	B	A	A	A	A	A	A
Barium Sulfate	C	C	C		B	A	A	A	A	A	A
Barium Sulfide	C	C	C		B	A	A	A	A	A	

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Beer (Alcohol Industry)	D	D	A		A	A	A	A	A	A	
Beer (Beverage Industry)	C	C	B	A	A	A	A	B	A	A	
Beet Sugar Liquors	B	B	A	A	A	A	A	A		A	
Benzene (Benzol)	B	B	B	B	B	A	A	D	A	A	D
Benzaldehyde	B	A	A	B	A	A	A	D	D	A	D
Benzoic Acid	D	D	B	B	B	A	A	A	A		D
Black Sulfate Liquor	C	A	B	B	A	A	A	A			B
Borax Liquors	C	C	A		B	B	A	A		A	
Boric Acid	D	D	B	B	B	A	A	A		A	A
Brines	C	C	B		B	A	A	A		A	
Bromine (Dry)	D	D	A	D	D	A	A	D			
Bromine (Wet)	D	D	B	D	D	A	A	D	A		A
Bunker Oils (Fuel Oils)	B	B	B	A	A	A	A	B	A	A	
Butadiene	B	B	C	B	A	A	A	C	A	A	
Butane	B	B	A	B	B	A	A	B		A	
Butylene	A	A	A	B	A	A	A	D	A	A	
Buttermilk	D	D	D	B	A	A	A	A	A		
Butyric Acid	D	D	C		B	A	A	C		A	D
Calcium Bisulfite	D	D	B		B	A	A	A	A	A	A
Calcium Carbonate	D	D	C		B	A	A	A		A	
Calcium Chloride	C	C	B	D	B	A	A	A			A
Calcium Hydroxide	C	C	A	B	B	A	A	A	A	A	
Calcium Hypochlorite	D	D	D	D	C	A	A	B	A	D	A
Calcium Sulfate	C	C	C	B	B	A	A	A		A	A
Carbolic Acid	D	D	B	B	B	A	A	D	A		D
Carbon Bisulfide	B	B	C		B	A	A	D		A	
Carbon Dioxide	B	A	A	A	A	A	A	B		A	D
Carbonic Acid	D	D	D		B	A	A	A	A	A	A
Carbon Tetrachloride (Dry)	B	B	C	B	A	A	A	D	A		D
Carbon Tetrachloride (Wet)	D	D	D		B	A	A	D	A	A	D
Carbonated Water	B	B	B	B	A	A	A	A	A		
Castor Oil	B	B	A	A	A	A	A	B	A	A	
China Wood Oil (Tung)	C	C	C	B	A	A	A	B		A	
Chlorinated Solvents (Wet)	C	C	C		B	A	A	D		D	
Chlorine Gas (Dry)	B	B	C		B	A	A	C	A	A	
Chlorine (Wet)	D	D	D	D	D	D	A	D	A	D	D
Chloroacetic Acid	D	D	C	D	D	A	A	C		D	D
Chlorobenzene (Dry)	B	B	B	B	A	A	A	D	A	A	D
Chloroform (Dry)	B	B	B	A	A	A	A	D	A	A	D
Chlorosulphoric Acid (Dry)	B	B	B		B	A	A	D	D		D
Chlorosulphonic Acid (Wet)	D	D	D	D	D	A	A	D	D		
Chrome Alum	B	B	C	B	A	A	A	B	A		
Chrome Acid	D	D	D	D	C	A	A	D	A	D	D
Citrus Juices	D	D	B	B	B	A	A	A	A	A	B
Coconut Oil	C	C	B	B	B	A	A	B		A	
Coffee Extracts (Hot)	C	C	B	B	A	A	A				

MATERIAL COMPATIBILITY TABLE

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JSV

NOTE : All ratings are fluids at ambient temperatures, except as noted.

A=Excellent B=Good C=Fair D=Not Recommended Blank=No Data Available

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Coke Oven Gas	B	B	C	B	A	A	A	C		A	
Cooking Oil	B	B	B	B	A	A	A	B			
Copper Acetate	D	D	D	B	A	A	A			A	
Copper Chloride	D	D	D	D	C	A	A	A			
Copper Nitrate	D	D	D		B	A	A	A	A		
Copper Sulfate	D	D	D	B	B	A	A	A	A	A	A
Corn Oil	C	C	B	B	B	A	A	B		A	
Cottonseed Oil	C	C	B	B	B	A	A	B	A	A	A
Creosote Oil	B	B	B	B	B	A	A	D			
Cresylic Acid	D	C	C	B	B	A	A	D			
Crude Oil, Sweet	B	B	B	B	A	A	A	B	A	A	D
Crude Oil, Sour	C	B	C	B	A	A	A	B	A		D
Cutting Oils, Water Emulsions	B	B	A	B	A	A	A	B			
Cyclohexane	A	A	A	B	A	A	A	D	A	A	A
Diacetone Alcohol	A	A	A	B	A	A	A	C		A	
Diesel Fuels	A	A	A	B	A	A	A	C	A	A	A
Diethylamine	A	A	A	B	A	A	A	C	D		
Dowtherms	B	B	A	B	A	A	A	D		A	
Drilling Mud	B	B	B	B	A	A	A	A	A		
Drip Cocks, Gax	B	B	B	B	A	A	A	C			
Dry Cleaning Fluids	B	B	C	B	A	A	A	D			
Drying Oil	B	B	C	B	A	A	A	B			
Epsom Salt	C	C	B		B	A	A	A		A	
Ethane	B	B	A		B	A	A	B		A	
Ethers	B	B	B	B	A	A	A	C	D	A	D
Ethyl Acetate	C	C	C		B	A	A	D	D	A	A
Ethyl Acrylate	C	C	B	B	A	A	A			A	
Ethyl Alcohol	B	B	B	B	B	A	A	A	A	A	
Ethyl Chloride (Dry)	B	B	B	B	A	A	A	C	B		
Ethyl Chloride (Wet)	D	D	C	B	B	A	A	C	B	A	
Ethylene Glycol	B	B	B	B	B	A	A	A	A	A	A
Ethylene Oxide	B	B	A		B	A	A	D	D	A	
Fatty Acids	D	D	B	B	A	A	A	B	A	A	
Ferric Chiliride	D	D	D	D	D	A	A	A	A	D	
Ferric Nitrate	D	D	D		C	A	A	A	A		A
Ferric Sulfate	D	D	D		B	A	A	A	A	A	A
Ferrous Chloride	D	D	B	D	D	A	A	A		D	A
Ferrous Sulfate	D	D	B		B	A	A	A	A	A	A
Ferrous Sulfate (Sat.)	C	C	C	B	A	A	A	C			A
Fertilizer Solutions	C	B	C		B	A	A	B			
Fish Oils	B	B	B	B	A	A	A	B		A	
Fluorine (Dry)	D	D	D	D	D	A	A		A		
Fluorosilicic Acid	D	D	A		B	A	A	C			A
Food Fluids and Pastes	C	C	B	B	A	A	A	B			
Formaldehyde (Cold)	B	A	A	A	A	A	A	B			
Formaldehtyde (Hot)	D	D	B		C	A	A	B	A		A
Formic Acid (Cold)	D	D	B		B	A	A	A	D	A	A
Formic Acid (Hot)	D	D	B		B	A	A		D		
Freon (Dry)	B	B	B	B	A	A	A	C	B	A	D
Fruit Juices	D	D	B	B	A	A	A	A			
Fuel Oil	B	B	B	B	A	A	A	B	A	A	D
Furfural	B	A	A	B	A	A	A	C	D		

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Gallic Acid	D	D	C		B	A	A	A	A	A	
Gas, Manufactured	B	B	B	B	B	A	A	A	B		
Gas, Natural	B	B	B	B	A	A	A	A	B		
Gas Odorizers	B	B	A	B	B	A	A	B			
Gasoline (Leaded)	B	A	A	B	A	A	A	D	A	A	A
Gasoline (Unleaded)	B	A	A	B	A	A	A	D	A	A	A
Gasoline (Aviation)	B	A	A	B	A	A	A	D	A		
Gasoline (Motor)	B	A	A	B	A	A	A	D	A	A	
Gasoline (Sour)	B	B	B	B	A	A	A	D	A		
Gelatin	D	D	A	B	A	A	A	A		A	
Glucose	B	B	A	B	A	A	A	A	A	A	
Glue	A	A	B	B	B	A	A	A		A	
Glycerine or Glycerd	B	B	B	B	A	A	A	A	A	A	A
Glycols	B	B	B	B	B	A	A	A	A	A	A
Grease	A	A	B	B	A	A	A	B	A	A	
Heptane	B	B	A	B	A	A	A	B	A	A	A
Heptane	B	B	B		B	A	A	C	A	A	A
Hexanol, Tertiary	A	A	A	B	A	A	A			A	
Hydraulic Oil, Petroleum Base	B	A	B	B	A	A	A	B	A	A	
Hydrobromic Acid	D	D	D	D	D	A	A	C		D	A
Hydrochloric Acid (Air Free)	D	D	D	D	D	A	A	C	A	D	A
Hydrocyanic Acid	C	C	D	B	A	A	A	B			A
Hydrofluoric Acid	D	D	D	D	D	D		C	B	D	A
Hydrogen Gax (Cold)	B	B	B	B	A	A	A	B	A	A	
Hydrogen Peroxide (Dilute)	D	D	B		B	A	A	A	B	A	A
Hydrogen Peroxide (Conc.)	D	D	D		B	A	A	D		D	
Hydrogen Sulfide (Dry)	B	B	C	B	A	A	A	A	D		
Hydrogen Sulfide (Wet)	D	C	D	B	B	A	A	A	D	A	
Hydrofluosilicic Acid	D	D	A		C	A	A	A	A		
Hypo (Sodium Thiosulfate)	C	D	C	B	A	A	A	A			
Hypochlorites, Sodium	D	D	D		C	A	A	D	A	D	
Illuminating Gas	A	A	A	B	A	A	A	B			
Ink	D	D	C	B	A	A	A	A	A		
Iodine (Wet)	D	D	D	D	D	A	A	B			
Iodoform	C	B	C	A	A	A	A			A	
Iso-octane	B	A	A	B	A	A	A	C		A	A
Isopropyl Alcohol	B	B	B	B	B	A	A	C		A	
Isopropyl Ether	B	A	A	B	A	A	A	C		A	
JP-4 Fuel	A	A	A	B	A	A	A	C	A	A	A
JP-5 Fuel	A	A	A	B	A	A	A	C	A	A	A
JP-6 Fuel	A	A	A	B	A	A	A	C	A	A	
Kerosene	B	B	A	B	A	A	A	C	A	A	C
Ketchup	D	D	D	B	A	A	A	A			
Ketones	A	A	A	B	A	A	A	D			
Lacquers (and Solvents)	C	C	A	B	A	A	A	D		A	
Lactic Acid (Dilute Cold)	D	D	D	B	A	A	A	A	A	A	A
Lactic Acid (Dilute Hot)	D	D	D	B	A	A	A	C	A	A	A
Lactic Acid (Conc, Cold)	D	D	D	B	A	A	A	A	A	A	A
Lactic Acid (Conc, Hot)	D	D	D	B	B	A	A	C	A	A	A
Lard Oil	C	C	A	B	B	A	A	B	A	A	
Lead Acetate	D	D	C		B	A	A	A		A	A
Linoleic Acid	B	B	B	B	A	A	A	B		A	

MATERIAL COMPATIBILITY TABLE

This information has been compiled from reliable sources, and may be used as a guide in considering the use of several materials with various process fluids. However, due to differences in specific requirements and operating conditions, the compatibility ratings listed must not be construed as <guarantees>.

JSV

NOTE : All ratings are fluids at ambient temperatures, except as noted.

A=Excellent B=Good C=Fair D=Not Recommended Blank=No Data Available

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Linseed Oil	A	A	B	B	B	A	A	B		A	A
Liquefied Pet. Gas (LPG)	B	B	A	B	B	A	A	B	A	A	
Lubricating Oil	A	A	B	B	A	A	A	B	A	A	A
Magnesium Bisulfate	B	B	B	B	A	A	A				
Magnesium Chloride	D	C	B	D	B	A	A	A	A		A
Magnesium Hydroxide	B	B	B	B	A	A	A	A	A	A	A
Magnesium Hydroxide (Hot)	B	B	D	B	A	A	A	A	A		A
Magnesium Sulfate	B	B	B	B	B	A	A	A	A	A	A
Maleic Acid	D	B	B		B	A	A	A		A	
Malic Acid	D	D	B	B	B	A	A	A	A	A	
Mayonnaise	D	D	D	B	A	A	A	A			
Mercuric Chloride	D	D	D		C	A	A	A	A		
Mercuric Cyanide	D	D	D		A	A	A				
Mercury	A	A	D	B	A	A	A	A	A	A	
Methane	B	B	A		B	A	A	B		A	
Methyl Acetate	B	B	A	B	A	A	A	D		A	
Methyl Acetone	A	A	A	B	A	A	A	D		A	
Methyl Alcohol	B	B	B	B	B	A	A	A		A	D
Methylamine	B	B	D	B	A	A	A				
Methyl Cellosolve	B	B	A	B	A	A	A			A	
Methyl Chloride	B	B	A	B	A	A	A	C		A	D
Methyl Ethyl Ketone	A	A	A	B	A	A	A	D		A	D
Methyl Formate	C	C	A		B	A	A	B			
Methylene Chloride	B	B	A	B	A	A	A	D		A	D
Milk	D	D	A	B	A	A	A	A	A	A	
Mine Waters (Acid)	D	D	C		C	A	A	A			
Mineral Oil	B	B	B	B	A	A	A	B	A	A	A
Mineral Spirits	B	B	B		B	A	A	D		A	
Mixed Acids (Cold)	C	C	D	B	A	A	A				
Molasses, Edible	C	C	A	B	A	A	A	A	A		
Molasses, Crude	A	A	A	B	A	A	A	A	A		
Muriatic Acid	D	D	D	D	D	A	A	B		D	
Mustard	B	B	A	B	A	A	A	A			
Naphtha	B	B	B		B	A	A	C	A		
Naphthalene	B	A	B	B	B	A	A	D	A	A	
Nickel Ammonium Sulfate	D	C	D	B	A	A	A				
Nickel Chloride	D	D	D	D	B	A	A	A	A	A	A
Nickel Nitrate	D	D	D		B	A	A	A			
Nickel Sulfate	D	D	D	B	B	A	A	A	A	A	A
Nicotinic Acid	B	B	A	B	A	A	A				
Nitric Acid (10%)	D	D	D	A	A	A	A	B	A	D	C
Nitric Acid (30%)	D	D	D	A	A	A	A	C	A	D	C
Nitric Acid (80%)	D	D	D	A	A	A	A	D	A	D	D
Nitric Acid (100%)	A	A	D	A	A	A	A	D	A	D	D
Nitric Acid Anhydrous	A	A	D	B	A	A	A	D			D
Nitrobenzene	B	B	D	B	B	A	A	D	D		D
Nitrogen	A	A	A	B	A	A	A	A		A	
Nitrous Acid (10%)	D	D	D		B	A	A	A			
Notrous Gases	C	B	D	B	A	A	A		A		
Nitrous Oxide	C	B	D		B	A	A	B		A	
Oils Animal	C	C	B		B	A	A	B	A		A
Oil Cottonseed	C	C	B		B	A	A	B	A		A

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Oils, Fish	B	D	C	B	B	A	A	B			
Oils, Fuel	B	B	B	B	A	A	A	B			
Oils Lube	A	A	B	B	A	A	A	B	A		
Oils, Mineral	B	B	B	B	A	A	A	B	A		
Oil, Petroleum (Refined)	B	A	B	B	A	A	A	B	A	A	
Oil, Petroleum (Sour)	C	B	C	B	A	A	A	B			
Oil Water Mixtures	B	B	A	B	A	A	A	B	A		
Oleic Acid	C	C	B		B	A	A	C	A	A	A
Oleum	C	B	B		B	A	A	C	A	D	
Olive Oil	B	B	B	B	A	A	A	B			
Oxalic Acid	D	C	B	B	B	C	A	A		D	
Oxygen	B	B	A	A	A	A	A		A	A	
Ozone (Wet)	C	C	B	B	A	A	A		C		
Ozone (Dry)	A	A	A	B	A	A	A		C		
Paints and Solvents	A	A	A	B	A	A	A	D			A
Palmitic Acid	C	C	B		B	A	A	B		A	
Palm Oil	C	C	B		B	A	A	B			
Paraffin	B	B	A	B	A	A	A	B		A	
Paraformaldeyde	B	B	B		B	A	A	B			
Pentane	B	B	A	D	A	A	A	B		A	
Perchlorethylene (Dry)	B	B	C	D	A	A	A	D		A	D
Petrolatum	C	C	B		B	A	A	B		A	
Phenol	D	D	B		B	A	A	D			
Phosphoric Acid (10%) Cold	D	D	D		B	A	A	A		D	A
Phosphoric Acid (10%) Hot	D	D	D	D	D	A	A	A		D	A
Phosphoric Acid (50%) Cold	D	D	D		B	A	A	B		D	A
Phosphoric Acid (50%) Hot	D	D	D	D	D	A	A	B		D	A
Phosphoric Acid (80%) Cold	B	B	D	B	A	A	A	B		D	A
Phosphoric Acid (80%) Hot	C	C	D	B	A	A	A	B		D	A
Phthalic Acid	C	C	B		B	A	A	C			
Phthalic Anhydride	C	C	B		B	A	A	C			
Picric Acid	D	D	B	B	B	A	A	A	A		
Pine Oil	B	B	B	B	B	A	A	C		A	
Pineapple Juice	C	C	C	B	A	A	A	A			
Potassium Bisulfite	D	D	C		B	A	A	A		A	
Potassium Bromide	D	D	C	B	A	A	A	A			A
Potassium Carbonate	B	B	B	B	B	A	A	A			A
Potassium Chlorate	B	B	B	B	B	A	A	A			A
Potassium Chloride	B	C	B	C	C	A	A	A		A	
Potassium Cyanide	B	B	D		B	A	A	A			A
Potassium Dichromate	C	C	D		B	A	A	A	A		A
Potassium Diphosphate	A	A	B	B	A	A	A	A			
Potassium Ferricyanide	C	C	D		B	A	A	A			
Potassium Ferrocyanide	C	C	B		B	A	A	A			
Potassium Hydroxide Dilute Cold	C	C	B		B	A	A	A			
Potassium Hydroxide Dilute Hot	A	A	D	B	A	A	A	A	B	D	B
Potassium Hydroxide to 70% Cold	B	A	D	B	A	A	A	A	B	D	B
Potassium Hydroxide to 70% Hot	B	A	D	B	A	A	A	B	B	D	B
Potassium Iodide	C	C	D		B	A	A	A			
Potassium Nitrate	B	B	B		B	A	A	A			A
Potassium Permanganate	B	B	B	B	B	A	A	A			A
Potassium Sulfate	C	B	B	B	B	A	A	A		A	A

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Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Potassium Sulfide	B	B	B	B	A	A	A	B		A	
Potassium Sulfite	B	B	B	B	A	A	A			A	
Producer Gax	B	B	B		B	A	A	B		A	
Propane	B	B	A	B	B	A	A	B		A	
Propyl Alchol	B	B	A	B	A	A	A	C		A	B
Propylene Glycol	B	B	B		B	A	A	A		A	
Pyrogallic Acid	B	B	B		B	A	A	A			
Quench Oil	B	B	B	B	A	A	A	B			
Resins and Rosins	C	C	A	B	A	A	A	C			
Road Tar	A	A	A	B	A	A	A	C			
Roof Pitch	A	A	A	B	A	A	A	C			
RP-1 Fuel	A	A	A	B	A	A	A	C			
Rubber Latex Emulsions	B	B	A	B	A	A	A				
Rubber Solvent	A	A	A	B	A	A	A	C			
Salad Oil	C	C	B		B	A	A	A			
Salicylic Acid	D	D	C	B	A	A	A	A		A	
Salt	C	C	B	B	B	A	A	A		A	
Sea Water	D	D	C	B	A	A	A	A		A	
Shellac (Bleached)	B	A	A	B	A	A	A	A			
Shellac (Orange)	B	A	A	B	A	A	A	A			
Silver Nitrate	D	D	D		B	A	A	C		A	A
Soap Solutions (Stearates)	B	A	A	A	A	A	A	A	A	A	A
Sodium Acetate	C	C	B	B	B	A	A	B	D	A	A
Sodium Aluminate	D	C	B	B	B	A	A	A		A	
Sodium Bicarbonate	C	C	B	B	B	A	A	A	A		A
Sodium Bisulfate(10%)	D	D	B	B	A	A	A	A		A	A
Sodium Bisulfite (10%)	D	D	B	B	A	A	A	A		A	
Sodium Borate	D	C	B		B	A	A	A		A	A
Sodium Bromide (10%)	D	C	B		B		A	A			
Sodium Carbonate	B	B	B	B	B	C	A	A	A	D	A
Sodium Chlorate	C	C	B	B	B	A	A	A			A
Sodium Chloride	C	C	B	B	B	A	A	A	A	A	A
Sodium Chromate	B	B	C	B	A	A	A	A			A
Sodium Cyanide	B	B	D		B	A	A	A			A
Sodium Fluoride	D	D	C	B	B	A	A	A			
Sodium Hydroxide (Cold) 20%	A	A	A	B	A	A	A	A	B	D	A
Sodium Hydroxide (Hot) 20%	B	B	A	B	A	C	A	B	A	D	C
Sodium Hydroxide (Cold) 50%	A	A	A	B	A	C	A	A	A	D	A
Sodium Hydroxide (Hot) 50%	B	B	A	B	A	C	A	B	A	D	C
Sodium Hydroxide (Cold) 70%	A	A	A	B	A	C	A		A	D	A
Sodium Hydroxide (Hot) 70%	B	B	A	B	A	C	A		A	D	D
Sodium Hypochloride	D	D	D	D	D	C	A	D		D	
Sodium Metaphosphate	B	B	C	B	A	A	A	A		A	
Sodium Metasilicate (Cold)	C	C	B	B	A	A	A	A			
Sodium Metasilicate (Hot)	D	D	B	B	A	A	A				
Sodium Nitrate	B	B	B	D	B	A	A	A			A
Sodium Perborate	B	B	B	B	B	A	A	A		A	
Sodium Peroxide	C	C	D	B	B	A	A	A			
Sodium Phosphate (Dibasic)	C	C	C	B	B	C	A	A		A	
Sodium Phosphate (Tribasic)	C	C	C	B	B	C	A	B		A	
Sodium Silicate	B	B	B	B	B	A	A	A	A		A
Sodium Silicate (Hot)	C	C	C	B	B	A	A		A		A

Process Fluid	CAST IRON	CARBON STEEL	BRONZE	304SS	316SS	BOROSILICATE	TFE-FEP	NEOPRENE	VITON	NON-ASBETOS	POLYSULFONE
Sodium Sulfate	B	B	B	B	A	A	A	A	A	A	
Sodium Sulfide	B	B	D	B	B	C	A	A	A	A	A
Sodium Sulfide (Hot)	C	C	D	B	B	A	A		A	A	
Sodium Thiosulfate	B	B	B	B	A	A	A	A	A	A	A
Soybean Oil	C	C	B	B	A	A	A	B		A	
Stannic Chloride	D	D	C	D	D	A	A	A	A		A
Stannous Chloride	D	D	D		C	A	A	A			
Starch	C	C	B	B	B	A	A	A			
Steam (100℃)	A	A	A	B	A	A	A	D	D	A	A
Stearic Acid	C	C	C	B	B	A	A	C		A	
Stoddard Solvent	B	B	B		B	A	A	C	A	A	
Styrene	B	A	A	B	A	A	A	D		A	
Sugar Liquids	B	B	A	A	A	A	A	A			
Sulfate, Black Liquor	C	C	C		B	A	A	A			
Sulfate, Green Liquor	C	C	C		B	A	A	A		A	
Sulfate, White Liquor	C	C	C		B	A	A	A			
Sulphur	C	C	D		B	A	A		A	A	D
Sulphur Dioxide (Dry)	B	B	B	B	A	A	A	C		A	
Sulphur Trioxide (Dry)	B	B	B	B	A	A	A	D		A	
Sulfuric Acid (0-7%)	D	D	C		B	A	A	A	A		D
Sulfuric Acid (20%)	D	D	C	D	D	A	A	B	A		
Sulfuric Acid (50%)	D	D	B	D	D	A	A	C	A	D	D
Sulfuric Acid (100%)	B	B	A	B	A	B	A	D	A	D	D
Sulfurous Acid	D	D	C		B	A	A	C			A
Synthesis Gas	B	B	B		B	A	A	B			
Tall Oil	B	B	B		B	A	A	B		A	
Tannic Acid	C	C	B		B	A	A	B	A		A
Tar and Tar Oil	A	A	A	B	A	A	A	C			
Tartaric Acid	D	D	A	B	B	A	A	A		A	A
Tetraethy Lead	C	C	B		B	A	A				
Toluene or Toluol	A	A	A	B	A	A	A	D		A	D
Tomato Juice	C	C	C	B	A	A	A	A	A		
Transformer Oil	B	A	B	B	A	A	A	B		A	
Tributyl Phosphate	A	A	A	B	A	A	A	C		A	
Trichloroethylene	C	B	B		B	A	A	D	A	A	D
Tung Oil	B	B	B	B	A	A	A	B		A	
Turpentine	B	B	B	B	B	A	A	D	A	A	A
Urea	C	C	B		B	A	A			A	D
Varnish	C	C	A	B	A	A	A	A		A	
Vegetable Oil, Edible	B	B	B	B	A	A	A	B		A	
Vegetable Oil, Non-Edible	B	B	B	B	A	A	A	B		A	
Vinegar	D	D	B	B	A	A	A	D	A	A	A
Water, Distilled (Aerated)	D	D	A	A	A	A	A	A	A	A	A
Water, Fresh	C	C	A	A	A	A	A	A	A	A	A
Water, Sea	D	D	B	B	A	A	A	A	A	A	A
Wax Emulsions	B	A	A	B	A	A	A	B			
Waxes	A	A	A	A	A	A	A	B			
Whiskey and Wine	D	D	A	B	A	A	A	A	A	A	
Xylene (Dry)	B	B	A	B	A	A	A	D	A	A	D
Zinc chiliride	C	D	D	D	D	A	A	A	A	A	A
Zinc Hydrouifite	B	A	C	B	A	A	A	A			
Zinc Sulfate	D	D	B	B	B	A	A	A	A	A	A

TEMPERATURE CONVERSION TABLE

0 °F ~ 100 °F				100 °F ~ 1000 °F				1000 °F ~ 2000 °F			
°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
0	−17.8	50	10.0	100	38	500	260	1000	538	1500	816
1	−17.2	51	10.6	110	43	510	266	1010	543	1510	821
2	−16.7	52	11.1	120	49	520	271	1020	549	1520	827
3	−16.1	53	11.7	130	54	530	277	1030	554	1530	832
4	−15.5	54	12.2	140	60	540	282	1040	560	1540	838
5	−15.0	55	12.8	150	66	550	288	1050	566	1550	843
6	−14.4	56	13.3	160	71	560	293	1060	571	1560	849
7	−13.9	57	13.9	170	77	570	299	1070	577	1570	854
8	−13.3	58	14.4	180	82	580	304	1080	582	1580	860
9	−12.8	59	15.0	190	88	590	310	1090	588	1590	866
10	−12.2	60	15.6	200	93	600	316	1100	593	1600	871
11	−11.7	61	16.1	210	99	610	321	1110	599	1610	877
12	−11.1	62	16.7	212	100	620	327	1120	604	1620	882
13	−10.6	63	17.2	220	104	630	332	1130	610	1630	888
14	−10.0	64	17.8	230	110	640	338	1140	616	1640	893
15	−9.44	65	18.3	240	116	650	343	1150	621	1650	899
16	−8.89	66	18.9	250	121	660	349	1160	627	1660	904
17	−8.33	67	19.4	260	127	670	354	1170	632	1670	910
18	−7.78	68	20.0	270	132	680	360	1180	638	1680	916
19	−7.22	69	20.6	280	138	690	366	1190	643	1690	921
20	−6.67	70	21.1	290	143	700	371	1200	649	1700	927
21	−6.11	71	21.7	300	149	710	377	1210	654	1710	932
22	−5.56	72	22.2	310	154	720	382	1220	660	1720	938
23	−5.00	73	22.8	320	160	730	388	1230	666	1730	943
24	−4.44	74	23.3	330	166	740	393	1240	671	1740	949
25	−3.89	75	23.9	340	171	750	399	1250	677	1750	954
26	−3.33	76	24.4	350	177	760	404	1260	682	1760	960
27	−2.78	77	25.0	360	182	770	410	1270	688	1770	966
28	−2.22	78	25.6	370	188	780	416	1280	693	1780	971
29	−1.67	79	26.1	380	193	790	421	1290	699	1790	977
30	−1.11	80	26.7	390	199	800	427	1300	704	1800	982
31	−0.56	81	27.2	400	204	810	432	1310	710	1810	988
32	0	82	27.8	410	210	820	438	1320	716	1820	993
33	0.56	83	28.3	420	216	830	443	1330	721	1830	999
34	1.11	84	28.9	430	221	840	449	1340	727	1840	1004
35	1.67	85	29.4	440	227	850	454	1350	732	1850	1010
36	2.22	86	30.0	450	232	860	460	1360	738	1860	1016
37	2.78	87	30.6	460	238	870	466	1370	743	1870	1021
38	3.33	88	31.1	470	243	880	471	1380	748	1880	1027
39	3.89	89	31.7	480	249	890	477	1390	754	1890	1032
40	4.44	90	32.2	490	254	900	482	1400	760	1900	1038
41	5.00	91	32.8			910	488	1410	766	1910	1043
42	5.56	92	33.3			920	493	1420	771	1920	1049
43	6.11	93	33.9			930	499	1430	777	1930	1054
44	6.67	94	34.4			940	504	1440	782	1940	1060
45	7.22	95	35.0			950	210	1450	788	1950	1066
46	7.78	96	35.6			960	516	1460	739	1960	1071
47	8.33	97	36.1			970	521	1470	799	1970	1077
48	8.89	98	36.7			980	527	1480	804	1980	1082
49	9.44	99	37.2			990	532	1490	810	1990	1088
		100	37.8			1000	538			2000	1093

$$°F = \frac{9}{5} \times °C + 32 \qquad °C = \frac{5}{9} (°F - 32)$$

JSV 정석밸브

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