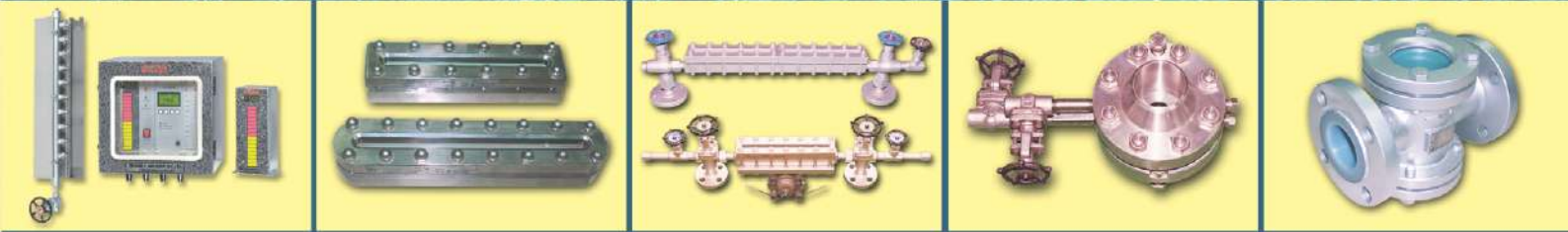
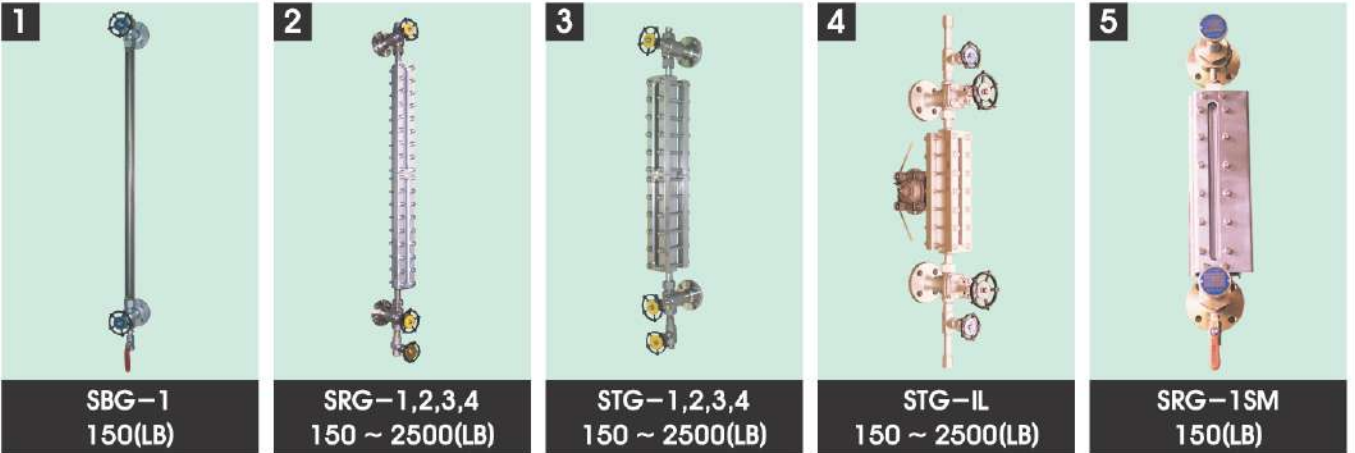




LEVEL GAUGES SIGHT GLASSES FLOW ELEMENT



LIQUID LEVEL GAUGE

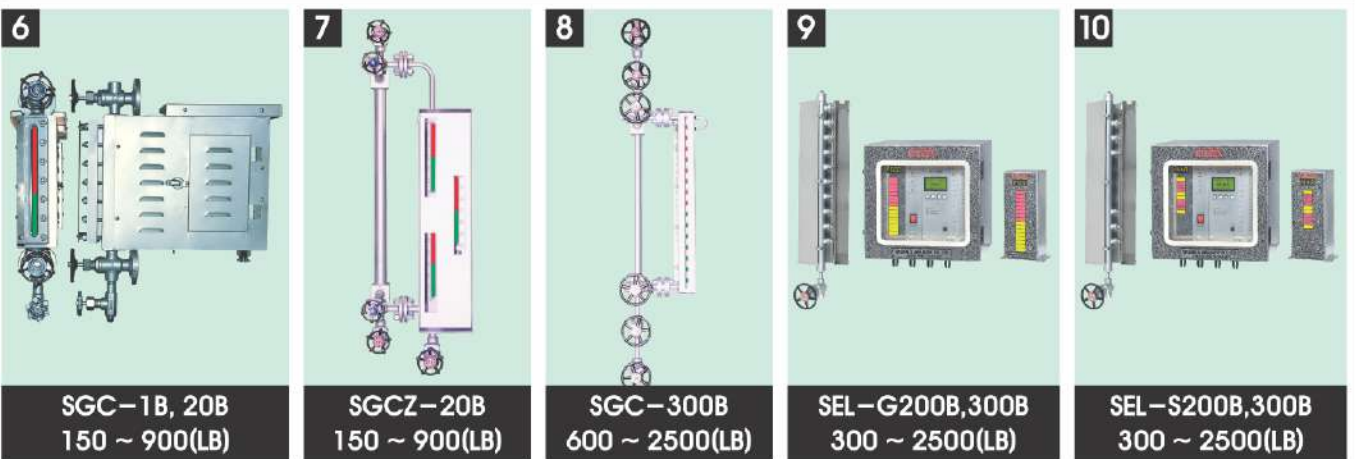


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|--|--|
| <p>1. Tubular Type Level Gauge</p> <p>2. Reflex Type Level Gauge</p> <p>3. Transparent Type Level Gauge</p> <p>4. Illuminator Type Level Gauge</p> <p>5. Flat Type Self-Closing Level Gauge For Marine</p> | <p>Used for observing the fluid level at low temperature & low pressure with to be of low price.</p> <p>Used for observing the level of various liquids by using reflection of light and for high pressure, high temperature excepting steam line.</p> <p>Used for observing the fluid level in high pressure & high temperature (Including Steam) and especially for steam line through transmission of light.</p> <p>Used for observing the fluid level in a dim place or at night by using an explosion-proof or weather-proof. (Explosion-Proof : KOSHA / Exd IIB + H2 T5 & CENELEC / EExd IIB + H2 T4, IP66 ; weather-proof).</p> <p>Used for observing the fluid level of oil tank for ship and light weight rather than level gauge for land.</p> |
|--|--|

[Note]

- 1) The material of above items available in Carbon steel, Stainless steel & Alloy steel, Titanium, PVC, Teflon etc, And others are available on request by customers.
- 2) Other items manufactured by SAMIL are Large Chamber (SRLG, STLG) suitable for high viscosity & high specific gravity, Non-frosting (SRNG, STNG) used for below 0°C, Jacket Type for heating & cooling (SRJG, STJG) used observing the fluid level by changing it into state of liquid after heating & cooling it through jacket as per features of fluid, Zig-Zag (SRZG, STZG) used for observing the overall fluid level by covering the invisible section (dead band).
- 3) The certificate of explosion-proof for Illuminator type level gauge (SRG-IL, STG-IL) is FM approved Division 1,2 and Class I : Group B,C,D & Class II : Group E,F,G & Class III : Type 4.
- 4) The certificate of U · L is available on Class I : Groups C,D Temp. Code T4A ; Division 1
Class I : Group B Temp. Code T2A ; Division 2.
- 5) For Models not shown in this brochure as available, see our detail catalogue.

BOILER STEAM WATER LEVEL GAUGE



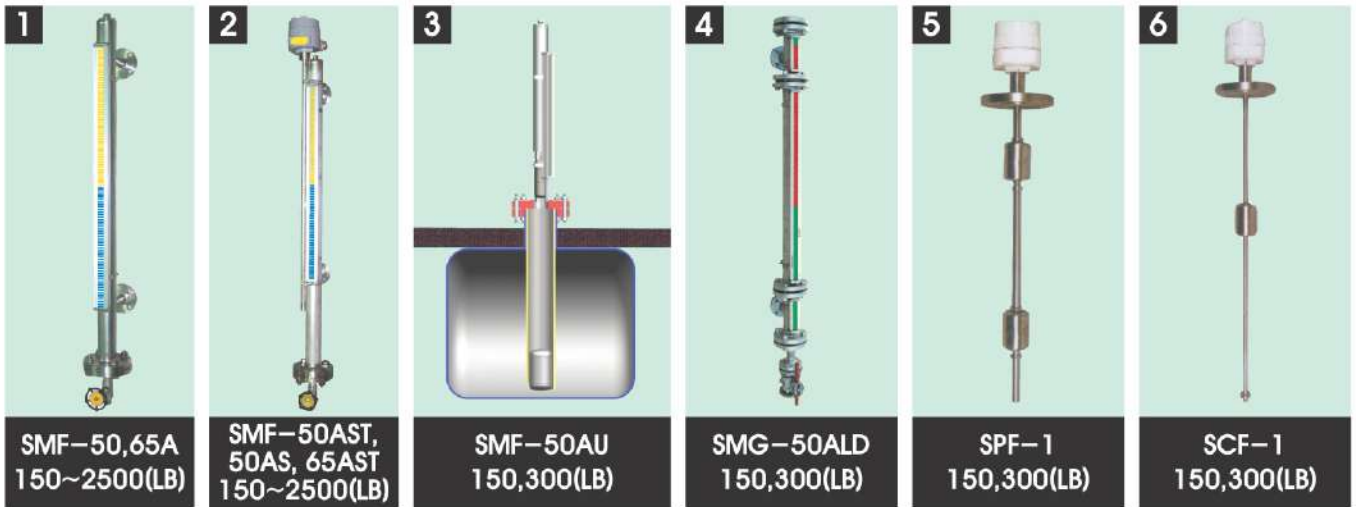
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| <p>6. Transparent Two-color Type Level Gauge</p> <p>7. Transparent Zig-Zag Type Level Gauge</p> <p>8. Two colors Multi Port Type Level Gauge</p> <p>9. Electrode type level gauge</p> <p>10. Electrode type level switch</p> | <p>Used for observing the fluid level in boiler steam line.</p> <p>Used for observing the fluid level by covering invisible section (dead band) and in case the visible length is of this gauge, larger than standard of glass.</p> <p>Used for steam line of high pressure with 5 or 7 round visual ports & keeping its outstanding safety in boiler steam line.</p> <p>SEL-G Series is Used wherever fluid level has to be monitored, indicated and controlled in a reliable way, especially high temperature and high pressure, Fluid with steam.</p> <p>1) (SEL-G300B) Used for observing the fluid level in super high pressure & super high temperature with outstanding safety & easy maintenance.</p> <p>2) (SEL-G200B) Used for low & medium temp.(up to 180°C), pres.(50kgf/cm²) with easy maintenance.</p> <p>SEL-S Series is Used detecting and remote indicating of fluid for level control systems, especially High temperature & pressure fluids.</p> <p>1) Used for alarm & control of the fluid with arranged level points.</p> <p>2) Used by attaching or by dismantling freely the level switch with outstanding safety to electrode type level gauge.</p> |
|--|--|

[Note]

- 1) The material of above items available in Carbon steel, Stainless steel, Alloy steel, etc., and others are available on request by customers.
- 2) The material of electrodes for electrode type level gauge & level switch is 316 SS/Ceramic.
- 3) The destinations which center to center and visible length for level gauges are fabricated on request by customers.



MAGNETIC FLOAT LEVEL GAUGE



1. **Magnetic Float Type Level Gauge**
Magnetic Float Type Level Gauge : Used for observing almost all fluid level which is poisonous gas or liquid tank and boiler drum with lower and higher pressure and it's have weight with outstanding safety from its damage or breakage and to be of low price.
2. **Magnetic Float Type Level Gauge with Level Switch or transmitter**
Magnetic Float Type Level Gauge with Level Switch or transmitter Suitable for alarm & control of various liquid level, any fluid level can be observed through its central control system.
3. **Magnetic Float Level Gauge For underground tank**
Magnetic Float level Gauge For underground Tank : Used for observing the fluid level in underground tank or tank under manhole.
4. **Magnetic Float Type Level Gauge with Teflon Lined**
Magnetic Float Type Level Gauge with Teflon Lined : Used for observing the corrosive fluid level effectively by lining the wetted part of this level gauge.
5. **Magnetic Float Type Level Switch**
Magnetic Float Type Level Switch : Used for observing the level of liquid as well as for outputting alarm and control a contact points of liquid requested by customer arbitrarily.(ENCLOSURE - Ex d II C(H2) T5 IP 65)
6. **Magnetic Float Type Level Transmitter**
Magnetic Float Type 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 gold & blue color.(ENCLOSURE - Ex d II C(H2) T5 IP 65)

[Note] 1) Materials of above items available in Austenitic stainless-steel, & Monel, titanium, Hastelloy, PVC, PTFE, PVDF, etc, and others are available on request by customers.
2) Other items manufactured by SAM IL are SMF-50AN(Non-Frosting) used for lower temperature below 0°C, SMF-50AJ(Jacket) used for observing the fluid by changing it into state of liquid after heating & cooling it as per features of fluid through Jacket.
3) For Models not shown in this brochure as available, see our detail catalogue.

SIGHT GLASS



1. **Flapper Type Sight Glass** : Used for observing the state of fluid flow depending on opening & closing of the flapper on fluid flow.
2. **Ball Type Sight Glass** : Used for observing the fluid flow of common flow velocity by the motion of balls within the screen.
3. **Ring ball type sight glass** : Used for observing the fluid flow with rapid flow velocity by the motion of balls within the rigid ring.
4. **Lantern Type Sight Glass** : Used for observing the state of fluid flow for all direction and it can be used as calibration port.
5. **High Pressure Type Sight Glass** : Used for high pressure & high temperature.

[Note] 1) All the above items are available in C.S, SS as standards and others are available on request by customers.
2) Other items manufactured by SAM IL are See Through Types, Wiper Types, Jacket Type, Side Types, Non-Frosting Types, Lantern Types, Calibration Pot Types, Propeller Types, etc can be available.



SIGHT GLASS



SSG-IL(Ex-proof)
150,300(LB)



SSG-WLF
150(LB)



SSG-LT
150(LB)

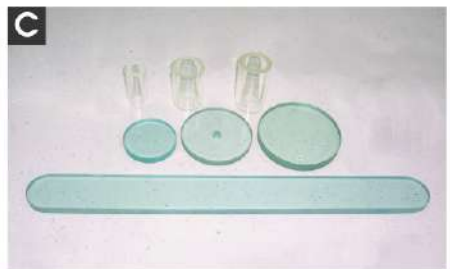


SSG-WP
150,300,600(LB)

- 6. Illuminator Type Sight Glass Used for observing the fluid in a dim place or at night where is installed with sight glass equipped an illuminator. (Explosion-Proof : Ex d IIB T3 Class I , Group C & D)
- 7. Wiper Type Sight Glass Used for observing the fluid by cleaning any slag or dust produced by flowing fluid, steam or oil, etc.
- 8. Lined Type Sight Glass Used for observing the high-corrosive fluid effectively by lining the wetted parts (ETFE, Rubber, PVC, P-P).
- 9. Welding Pad Type Used for observing the fluid by welding this to any part of vessel (SSG-WP : Circular, Elongated, Square formed is available).

[Note] 1) All the above items are available in C.S, SS as standards & other materials are available on request by customers.

Parts For Level Gauge & Sight Glass



- A. Gauge glass, Mica, Gasket for Reflex, Transparent & two color level gauges.
- B. Gasket, Mica, Packing Strip & Glass for Multi-Port Type Level Gauge.
- C. Various glass for sight glass.

[Note] 1) All the above items are available in Borosilicate glass(A), Pyrex(A), Aluminasilicate(A), Aluminasilicate(B), borosilicate glass(C), Tempered glass(C), hard Glass(C), & other materials are available on request by customers.

Vent & drain valves For Level Gauge



Needle valve
150~3,000(LB)



Ball valve
150~2,500(LB)



Globe valve
150~2,500(LB)



Gate Valve
150~2,500(LB)



Flanged Ball Valve
150~2,500(LB)

[Note] 1) All the above items are available in C.S, SS, Teflon, Teflon Lined, PVC as standards & other materials are available on request by customers.





FLOW ELEMENT



SOP
150 ~ 2500(LB)



SOR
150 ~ 900(LB)



SOB
150 ~ 900(LB)



SOJ
300 ~ 2500(LB)



SOF
150 ~ 2500(LB)

1. Orifice Plate

Suitable for universal flow conditions and the most popular primary device with its simple shape, easy manufacturing, low cost & high reliability.

2. Orifice plate with ring

Used for flow measurement of smaller and medium pipe size at low pressure.

3. Orifice plate with integral block

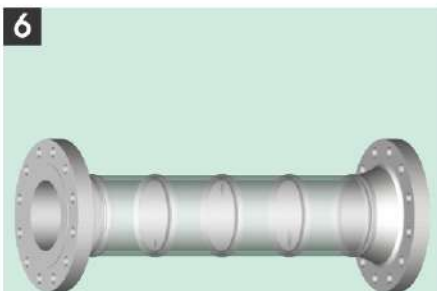
Used for high pressure and high temperature service, similar to holding ring type as cutted and shaped from one block of metal. Orifice plate easily removable and interchangeable and calibrated bore with burr free sharp edge and suitable for a fluid having high pressure & high temperature.

4. Ring joint type orifice plate

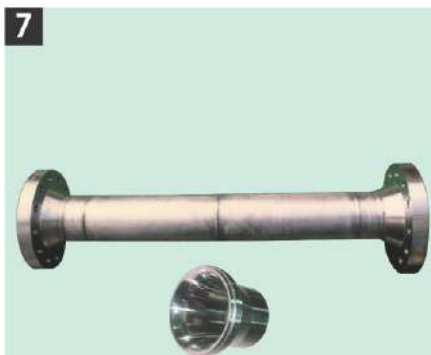
Used in conjunction with orifice plate for flow measurement and suitable for almost all fluid conditions on primary differential device.

5. Orifice Flange Assemblies

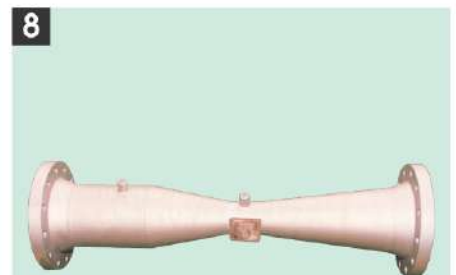
[Note] 1) All the above items are available in C.S, SS, Teflon, PVC as standards & other materials are available on request by customers.



SMO
150~2500(LB)



SFN
150~2500(LB)



SVT
150~2500(LB)

6 . Multi type Restriction Orifice

Used for reducing fluid pressure & for eliminating problems by sound pressure level or cavitation.

7 . Flow Nozzle

Suitable for determining the flow rate of fluid flowing at high pressure and temperature and is permit approximately 65% greater capacity than the orifice plate.

8 . Venturi Tube

Used for measurement of flow when is important to keep the net permanent pressure loss at a minimum. Also, this is noted for long life span.

[Note] 1) All the above items are available in C.S, SS as standards & other materials are available on request by customers.
2) Flow nozzle is classified to butt-welding & flange type mainly and other types are available on request by customers.





FLOW ELEMENT

<p>9</p>	<p>10</p>	<p>11</p>	<p>12</p>	<p>13</p>
<p>SIO 150 ~ 600 (LB)</p>	<p>STS 150 ~ 600 (LB) (For Line conn.)</p>	<p>Average Pitot Tube (Ifabar)</p>	<p>STV 150 ~ 600 (LB)</p>	<p>SCM</p>

- 9 . Integral Orifice** Suitable for measuring fluid of small bore with its high accuracy & used in combination with differential pressure transmitter, with easy installation as well as simple maintenance.
- 10. Taper Seg Tube** Suitable for a wide Reynolds range of flow measurement, especially measuring clean as well as non-clean fluids such as slurries & having shorter length of straight pipe for upstream & downstream compared to other fluid meter using differential pressure flow meter with excellent repeatability and accuracy.
- 11. Averaging Pitot tube** Suitable for measuring fluid of small bore with its high accuracy & high flow measurement, easy & simple installation due to its insertion into pipeline & economic energy cost due to its less pressure loss rather than orifices.
- 12. Tapless Venturi** Used for measuring slurry fluid, solidified liquids at low temp, or liquid vaporizing at high temperature & no pressure taps for measuring differential pressure.
- 13. Cone Venturi Flowmeter** The total new concept of flow measurement by Differential pressure theory and it eliminates all of weak points by orifice plate & Vortex flowmeter.

[Note] 1) All the above items are available in C.S, SS as standards & other materials available on request by customers.
 2) Line Connection can be available on request by customers even though 3/4" is SAM IL's standard size in integral orifice.
 3) Taper Seg Tube can be manufacture according to end user's specification.

<p>1</p>	<p>2</p>	<p>3</p>
<p>SRV</p>	<p>SCP-20, 40, 80, 160</p>	<p>SMFV</p>

- 1. Flow Conditioner(Rectifier Vane)** Used for removing or significantly reducing swirl or turbulent flow and it can product a fully developed flow profile downstream from flow obstructions.
- 2. Seal Pot (Condensating pot)** Used for providing an adequate liquid seal on top of differential pressure, transmitter & also used for steam measurement, corrosive gases, certain liquid and to avoid freezing.
- 3. 3-Way Manifold valve** Used for the protection, calibration and maintenance of differential pressure Instrument & for supplying & isolating, equalizing the process pressure between high and low pressure chamber of these instruments.

[Note] 1) Nipple available in various materials on request by customer.
 2) Line connection can be available on request by customer even though 1) is Samil's standard size in integral orifice.



COMPANY HISTORY

2006 ~

- 2006. 05 Participation of INTERMACH 2006 in Bangkok.
- 2006. 02 Began the development of LED type indicator

2004 ~ 2005

- 2005. 10 Participation of New York Exhibition.
- 2005. 06 Participation of ISA Mexico Expo Control 2005.
- 2005. 03 Participation of MEOS 2005 Exhibition in Bahrain.
- 2004. 09 Participation of MICONEX 2004 Exhibition, The 15th international Fair for Measurement, Instrumentation & Automation in China.
- 06 Participation of ICA2004, The 7th international Exhibition on Instrumentation Control & Automation Technology in

2001 ~ 2003

- 2003. 11 Participated in "Measurement and Control Show 2003 in Tokyo" in Japan.
- 10 Developed and Produced The Electrode Type Level Gauge.[Next Generation]
- 2002. 10 A Concerted Action with INTRA-AUTOMATION GmbH-Germany[Technical Cooperation].
- 2001. 09 Participation of INTERKAMA Exhibition in Germany.
- 01 Export promotion to Middle East Asia[Sole Agent Relationship with Rezayat].

1998 ~ 1999

- 1999. 11 Participation of CIA 99 Exhibition in Germany.
- 1998. 11 Developed and Produced the Electrode Type Level Gauge for high pressure and temperature.[First Generation].
- 03 Export promotion to South-East Asia countries[Thailand, Singapore & Taiwan, etc..].

1996 ~ 1997

- 1997. 08 Acquirement of ISO 9001.
- 08 Registration as a qualified supplier at Korea Electric Power Corporation.
- 05 Pass of the Quality Test for Level Gauge by the government agency, Korea Machinery, Meter and Petrochemical Test and Research Institute.
- 1996. 11 Acquired the Certificate of Electrical Apparatus for Explosive Atmospheres for Level Switches & Transmitters by Korea Industrial Safety Corporation.

1979 ~ 1991

- 1991. 11 Registered as Member of Association of Foreign Trading Agents of Korea.
- 08 Re-established & Reorganized the company structure, changing corporate name "SAM IL INDUSTRY CO.,LTD."
- 1987. 05 Began manufacturing flow elements.
- 1985. 10 Began exports of manufacture to abroad.
- 1984. 10 Installed the high pressure test equipment in the factory.
- 1982. 04 First Production of Bi-Color Type Level Gauge.
- 1980. 01 First Production of Sight Glass.
- 1979. 08 First Production of Level Gauge for High Pressure Boiler.
- 08 Foundation of SAM IL INDUSTRY CO.[Started as a manufacturing firm that developed & manufactured the level gauges.]





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