DP FLOW MEASUREMENT AND RESTRICTION
Flow Measurement Experts

Solartron ISA is world renowned for the supply of differential pressure measurement systems. Our expertise is used throughout the oil, gas, process and power industries. Engineers all over the world value the technical guidance and support we offer in solving measurement challenges, from noise issues in a refinery to high pressure applications in the upstream energy industry. In addition, our Engineers support the development of international flow measurement standards that benefit the measurement community as a whole.

Solutions Philosophy

Solartron ISA's DP flow knowledge not only ensures design and manufacture of devices according to international standards but also allows us to develop solutions for specific applications. Our engineering expertise, coupled with in house manufacturing capability, allows us to respond to specific requests for design and operating requirements.

The best results come from understanding our customer requirements. The Solartron ISA team has a long established reputation for providing consultative support both prior to order and throughout the delivery process.

Total Delivery Experience

Solartron ISA's Total Delivery Experience is focused on clients, employees and the environment. Our team ensures a smooth transition through evaluation, project execution and life of field support. Our complete in house manufacturing facility ensures consistent quality with the ability to rapidly react to your requirements.

The cornerstone of our Total Delivery Experience is as follows:

- Communication
- HSE
- Quality
- Delivery
- Support

Life of Field Support

Solartron ISA offers installation, site inspection and engineering support for all of our products. Our aftermarket programs assist you 24/7 through customized service agreements.
Flow Measurement and Pressure Control Products

Orifice Plate Products
Orifice plates continue to be the most utilized device for flow applications throughout the energy and process industries. They offer a simple but effective solution to flow measurement on all single phase flow fluids. Their ease of installation in conjunction with improved functionality continues to expand their use within the industry.

Orifice Plate
- Simple, proven technology
- Variants include square edge, conical entrance, quarter circle and eccentric
- Benefit: An uncompromised, reliable, worldwide recognized measurement device

Orifice Carrier
- Can be sized to accommodate a particular envelope / flange requirement
- Variants include integral corner taps, split ring with corner or flange taps
- Benefit: Perfect choice if orifice taps are not present in the pipe-work

Orifice Flange Assembly
- Flange assembly negates the requirement for further pipe drilling
- Bespoke instrument connections can be provided per client requirements
- Benefit: A complete orifice assembly installation solution

Orifice Meter Runs
- Designed and manufactured to achieve an optimum flow metering uncertainty
- Economical and simple design used for many applications in the industry
- Benefit: Inclusion of required straight lengths to provide highest accuracy

Venturi Tubes
The Venturi is an original 'fit and forget' device, as its classical profile reduces the effects of erosion and general wear. Solartron ISA's Venturi tubes are available in a wide range of sizes, pressure class and material specifications.
- Low permanent pressure loss resulting in energy savings
- Minimal upstream length requirements
- Applications include: hydrocarbon gas and liquids, LNG trains, compression stations, process management and high accuracy custody transfer, as well as allocation flow metering

Cone Meter
- Self conditioning flow profile
- Minimal upstream length requirements
- Applications include: hydrocarbon gas and liquids, LNG trains, compression stations, process management and high accuracy custody transfer, as well as fiscal and allocation flow metering
Additional Measurement Devices

Solartron ISA also supplies the following devices for specific applications.

**ISA 1932 Flow Nozzle**
- Ideal for measuring high velocity non viscous fluids
- Connection types: flanged, butt-weld and insert type
- Applications include: hydrocarbon liquids and gas process, steam process, erosive fluids, high velocity process and process measurement

**Venturi Nozzle**
- Profile is virtually immune to any wear or erosion
- Low permanent pressure loss
- Applications include: hydrocarbon liquids and gas process, steam process, erosive fluids, high velocity process and process measurement

**Wedge Meter**
- Robust, effective solution for slurries, suspended solids processes and viscous liquids
- Bi-directional process flow measurement product
- Applications include: slurries and high viscosity corrosive and abrasive liquids

**Dall Tubes**
- The lowest permanent pressure loss primary DP device
- Variants include: flanged and insert type
- Applications include: hydrocarbon, liquid and gas process, gas transmission and process measurement

**Averaging Pitot Tubes**
- Averaging Pitot tubes offer an accurate measurement and low permanent pressure loss, typically <10% of DP – there are two measurement principles and designs available
- Pitot tubes are comparatively easy to install, typically through a single 25mm (1") pipe tapping, or flanged nipple
- Applications include: gas transmission pipelines (where significant pressure loss is not tolerated), air ducts, low permanent pressure loss applications and process measurement
Solartron ISA is the world leader in the design and production of restriction devices providing customers with best in class calculations, designs and project specific solutions. We offer a range of designs for both pressure reduction and flow control applications.

**Restriction Orifice Plate**
- Reduces line pressure and control’s flow rates by restricting flow regardless of downstream conditions
- Applications include: hydrocarbon liquids and gas process, controlled pressure reduction, blow-down service, pressure vessels and noise reduction

**Multi-hole Restriction Orifice Plate**
- Multi-hole design reduces noise levels

**Multistage Restriction Units**
- Provides a full pressure drop across a series of stages when critical (choke) flow occurs
- Eliminates cavitation
AMETEK OIL and GAS

The Oil and Gas Industry is a truly global endeavor with operations on every populated continent. As a global industry needs global support, AMETEK Oil and Gas strives to continuously grow and develop its sales and support network. AMETEK Oil and Gas maintains factory-direct customer support capabilities at its manufacturing sites and a growing number of regional offices.

Continuous product development may make it necessary to change product details without notice.

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