

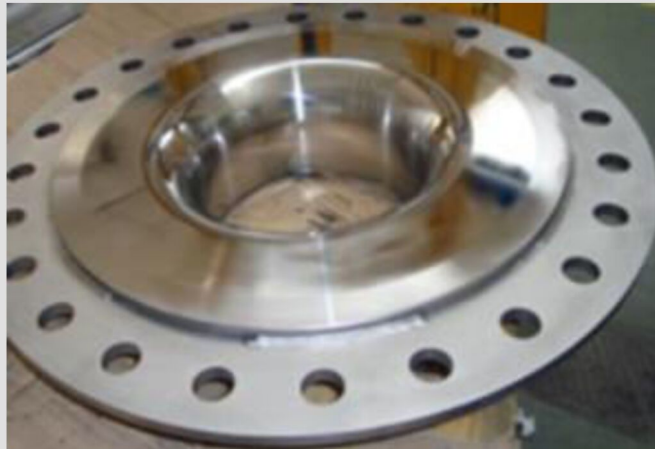
ATC SYSTEMS

www.atc-sys.com



PRIMARY INSTRUMENTS

POWER GENERATION CHEMICAL, REFINERY & LGN



INSTRUMENTS MANUFACTURED BY ATC

- 1- Temperature Measurement
- 2- Level Gauges & Level Switches
- 3- Flow Primary Elements
- 4- Single / Multi-Stage Restriction Orifice
- 5- Customized Flow Sights

1- TEMPERATURE MEASUREMENT

- Thermocouples
- Thermoresistences
- Skin Points
- Multi- thermocouples
- Multi- thermoresistances
- Thermowells



ATC manufactures complete range of process **Temperature Elements** and their accessories



Thermocouples

- Type: K, J, E, T, R, S...//Single-Double // IP-65 or IP-68
- Sheath OD: 0,3- 6,35mm // 3 or 4 wire// Single or Double
- Sheath SS-304, SS-316, Inconel ...

Thermo-resistance (Platinum)

- Class B, Class A, 1/3rd, 1/10th DIN // Single-Double
- Sheath OD: 3- 6,35mm // 3 or 4 wire// Single or Double
- Sheath SS-304, SS-316, SS-321/SS-316Ti..

Thermowell

- Flanged, Threaded, Van-Stone, Socket Weld or Butt Weld
- Straight, Stepped, Tapered// 150# - 2500# // RF- RTJ
- SS-316/L, C-276, SD- SS, SS-446, SS-347, F-11, F-91..

TEMPERATURE MEASUREMENT

ATC Reactor multi couples LNG Tank RTD

- Multi- thermoresistances
- External contact customised

External pipe



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- Thermowells Alloyed & HP type
- Isolation Forney Junction Boxes
- Skin Points & External Pipe

Cryogenic Test in ATC test bench for LNG Terminal Tank, Temperature Sensors



Cryogenic Elements are manufactured by ATC in different styles



ATC manufactures Reactor Multi Thermo-couples



- Thermocouples
- Thermoresistences
- Skin Points
- Multi- thermocouples
- Multi- thermoresistances
- Thermowells



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Calibration certificate is available from
ATC's Calibration Bench



Multi Thermo-resistances



Multi Thermo-couples



2- LEVEL GAUGES & LEVEL SWITCHES

Boiler Drum Magnetic Level Switches, manufactured by ATC

- Side / Side External Level Switches
- Side / Bottom External Level Switches

Design Code: **ASME VIII Div. 1**

- Calibration certificate is available from
ATC's Calibration Bench, if required



Magnetic Level Switches External Chamber



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MAGNETIC LEVEL SWITCHES

ATC manufactures Magnetic Level Switches in alloy material for high temperature, in boiler location.



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MAGNETIC LEVEL SWITCHES



Set Points Certificate is available from **ATC's Test Bench**

- IEC-60529, ASME B31.1
- Manufactured according to ASME or CE, DIN, IEC, PED,.....
- Flanged or Sealed
- With or w/o finned cooler
- Isolation Valves, Drain and vent
- Flanged, SW or BW Chamber Conn.



Level Switches standard configurations, by ATC

Standard or Hermetically Sealed,
Golden Contacts, High Temp.

1x SPDT, 2x SPDT, 1-2x DPDT

Chamber Rat: 150# - 2500#

Float Mat.: SS-316/L, Titanium,

Chamber Mat.: A-106 Gr B / C, SS-304/L, SS-316/L



REFLEX, TRANSPARENT & MAGNETIC LEVEL GAUGES

ATC designs according to Code: ASME VIII Div. 1



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Manufactured according to ASME or CE:

- DIN, IEC, PED
- Flanged or Sealed
- Isolation Valves and Drain/Vent, if required
- Flanged, SW or BW Chamber Connections

Indicator type:

- Bicoloured Magnetic Flags
- Magnetic Follower
- Calibration certificate is available
from **ATC's Test Bench**

Standard Configurations :

- Float Mat.: SS-316/L, Titanium//Chamber Rat: 150#-2500#
- Chamber Mat.: SS-316/L, Alloy C- 276, SS-904L ... exotics
- Optional: Switch Hermetical, Golden Contacts ...
- Optional: Transmitter 4-20mA, Hart Protocol, Field Buses ..

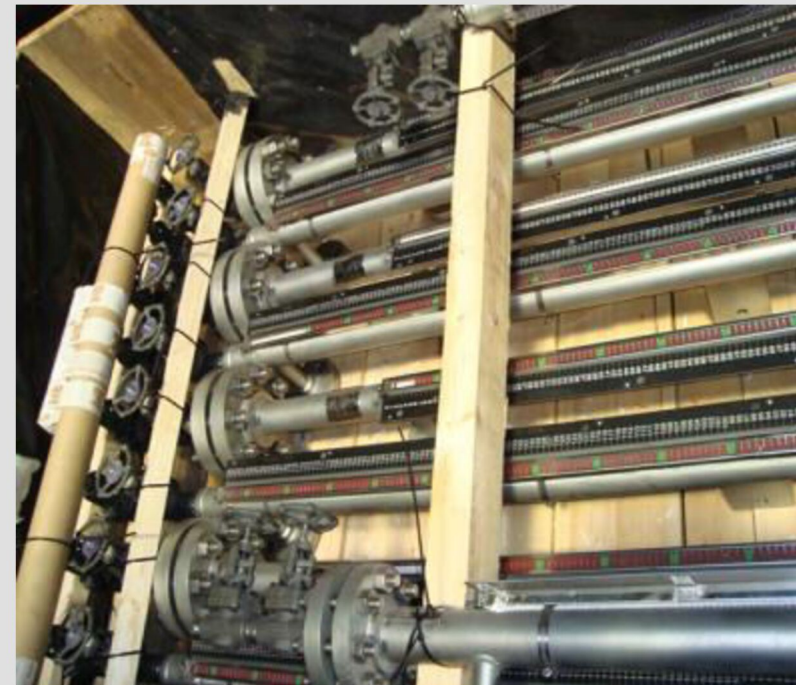


LEVEL GAUGES & LEVEL SWITCHES

ATC manufactures Reflex, Transparent and Magnetic type, Level Gauges



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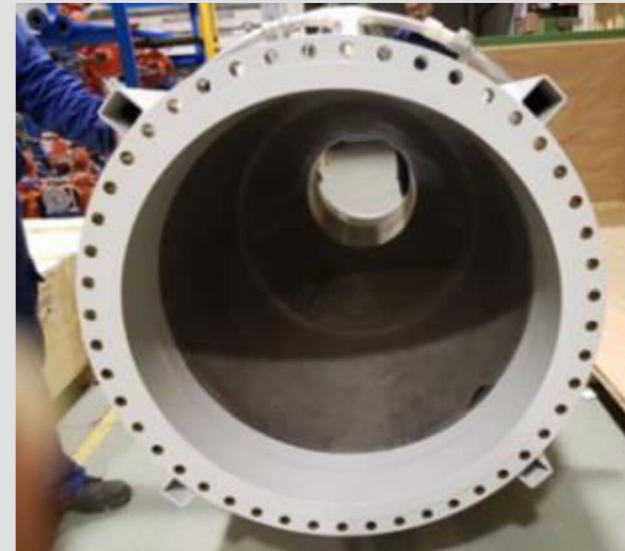
Installation:

- Side/Side Level Gauge Connections
- Side/Bottom Level Gauge Connections
- Top Level Gauge Connections

3- PRIMARY FLOWELEMENTS

ATC manufactures following Differential Pressure Flowmeters

- Flow orifice plates
- Flow piezometer rings
- Flow meter run
- Flow orifice flanged
- Average Pitot tubes
- Flow turbines
- Strainers
- Flow nozzles
- Venturi Flow Meter



Venturi Flow Meter

- Long type
- Truncated

Flow Orifice Plate / Meter Run



ATC's Critical Service Flow Measurement



Orifice Plate Flow Meter

Square Edge
Segmental
Eccentric
Quadrant
Conical
Others



Flow nozzles for efficiency, test of turbine



ATC's Calibrated ASME 19.5 PTC 6 Flow Nozzle

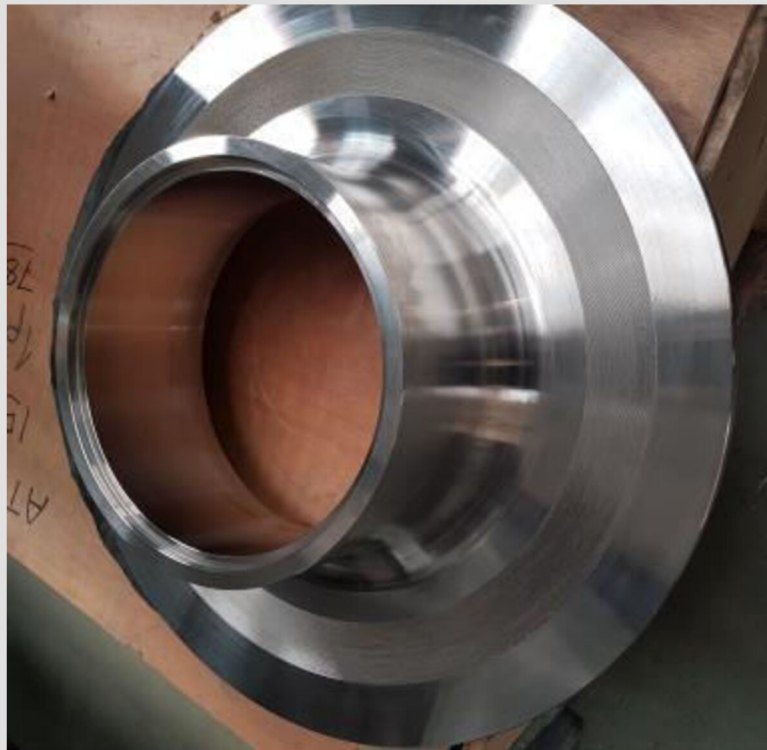


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Flow Nozzle Meter Types

- Long Radius Low Beta
- Long Radius High Beta
- ISA-1932



Flow Nozzle Construction

- Bar-stock Nozzle Flow Meter
- Flanged Set Nozzle Flow Meter
- Calibrated Section Nozzle Flowmeter



ATC Standard NDE: Hydro-test, Dye Penetrants, X-Ray, Particles, Ultrasonic Test

Flow Strainer



ATC's Venturi for Cryogenic LGN conditions, alloy material and special procedures of manufacturing.



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**Bore Calculation Primary
Flow Meter**

- ISO 5167
- BS-1042
- ASME-MFC-3M

Venturi Flow Meters



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Flow Strainer



ATC Flow Venturi Construction

- Bar-stock Herschel Venturi
- Conform Herschel Venturi
- Low Loss Venturi

Dimensional Control available from **ATC's Test Bench**

FLOW VENTURI



Venturi Flow Meter

- Long type
- Truncated

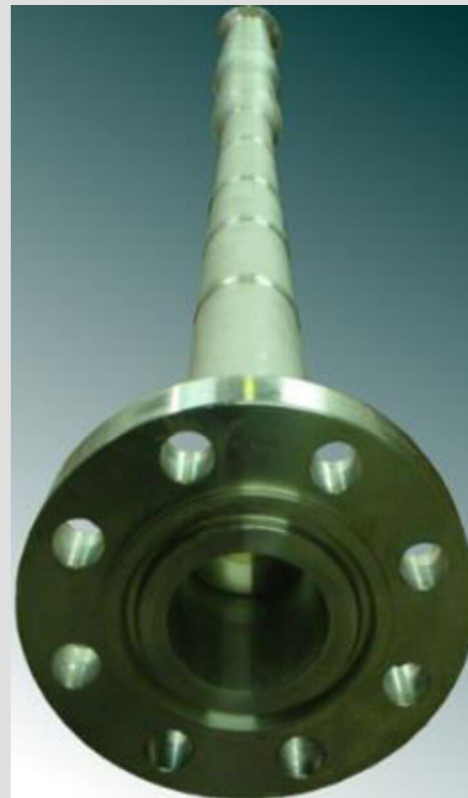
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4- RESTRICTION ORIFICE PLATE

ATC restriction multistage Orifice to protect compressor outlet by ATC:

- Single Restriction orifices
- Multi Stage restriction orifices



5- FLOW SIGHTS

ATC manufactures customized Flow Sights, to suit special requirement

Wide range of materials: SS-316/L, DSS, SS-904/L, SS-321



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No pressure lost type



ASME Flow Sight

