



PRODUCTS AND SERVICES
2021 / 2022



DCM Group has forged a name in the Oil and Gas industry in South Africa, and internationally, as forerunners in technology, and for our dedication to the highest level of quality in all our products.

Established in 1986, the company has been built on a reputation of excellence in the Process Control Instrumentation and Petro Chemical Industry in Southern Africa. With offices in Johannesburg and Durban, and a large factory we proudly offer a full supply of our own equipment with design, manufacture, test, installation, commission and maintenance solutions for the industry.

Our **Projects and Engineering Division** provides project work from technical design to management of projects on a full EPC basis from start to finish.



Our **Service Division**, with highly skilled technicians provide maintenance and support of the installation, and a SLA if required. The successes of the company are not solely due to being a supplier but also in providing a full turn key solution.

The Group consists of four main business units:

- Instrumentation Equipment
- Valves and Actuators Division
- Projects and Engineering
- Services & Support Division

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Vapor Recovery Unit Installation

Vapour recovery is the process of recapturing the vapours of gasoline or other fuels so that they do not escape into the atmosphere. DCM represents Cool Sorption, who are the world leaders in vapour recovery technology. They provide a full turnkey solution from design, supply, installation, commission and service support. A typical installation will start with civil work followed by installation of interconnecting pipe work, valves and pumps to the VRU. The next step will be to rig and install all the vessels and control skid onto the foundations. All instrumentation and electrical equipment are tested and connected. The activated carbon is then loaded by crane into the absorbent vessels. The SCADA control system is connected and a full functional test and simulation is carried out. The VRU is loaded with nitrogen and over a period of time, slowly commissioned with fuel vapour. The DCM Group provides turnkey management of the entire project inclusive of all the documentation and safety requirements.



Turnkey EPC Projects

Service Support

DCM Group offer installation and extensive after-sales service agreements for all types of vapour recovery units. Aiming at preventive maintenance, most of our vapour recovery units are protected by service agreements ensuring the required minimum emission limits; therefore, ensuring the risk of unplanned downtime is greatly reduced. The service is performed by our trained and experienced service engineers and covers the following:



- Remote monitoring for immediate fault detection
- Telephonic help and support
- 24-hour technician response support
- Valve and instrumentation repair
- Annual services, including pump service
- Preventive service checks and overhaul of hardware
- Service visit with replacement of defective parts on site



Dual Flow Meter Gantry Loading Skids

The skid is fitted with 4" Satam custody transfer flow meters, filter air eliminators, dual stage digital control valves, Scully grounding units and a Veeder Root EMR3 electronic flow computer. Skids are designed, manufactured and factory-tested ready for site commission. All electrical components and instrumentation are wired to a locally mounted junction box for ease of connection. Bypass valves are provided for in-situ custody transfer calibration.



Specialised Design Skids

A modular process skid is a self-contained process system that has been built into a frame or "module" for easy transportation and integration. Modular process skids can contain entire process systems or individual process applications. The main advantage being that skids can be made better, faster, tested and installed cheaper with less effort. Fabricating process skid packages offsite allows on-site facility upgrades to proceed concurrently without interruption. The fabrication, which is controlled in a shop environment which eliminates weather-related risks and setbacks. The concept of the skid mounted process system has many benefits and provides additional benefits on installation and commissioning.



- Mechanical, electrical and Instrumentation design
- Small vessels with level indication and controls
- Electric or pneumatic actuated control valves
- Flow, pressure and level transmitters
- Electrical and instrumentation cable Installation
- Panel work with PLC & SCADA control system
- Factory Acceptance Testing (FAT)
- Hazardous Area (ATEX) equipment and certification
- Manufactured to Petro Chemical standards
- Drawings, equipment documentation & certification

Vapor Recovery Units

The Depot Series™ vapour recovery units is a range of fully standardised units for small and medium sized installations – typically truck loading facilities. After delivery to site, the new vapour recovery unit can often be installed and commissioned in 8-10 working days.

Cool Sorption has more than over 35 years of experience and more than 320 VRUs installed worldwide.



Gas Scrubbers

Introducing the most revolutionary vapor phase adsorber on the market. The NOVAC 750 adsorber is unique in that it does not require on-site carbon removal service to eliminate spent carbon. With only a forklift, the unit can be lifted a few feet and the spent carbon can be emptied via a bottom lever valve into bulk bags (or other container) for disposal. From the time carbon is spent, the unit may be emptied and refilled and back online within 15 minutes. Furthermore, this unit has one-of-a-kind safety features such as an emergency water purge system and deep-well temperature gauges, which greatly reduce the chance of a bed fire.

Special Features:

- Safest carbon adsorber on the market today
- No carbon service required. Empty carbon on-site in less than 15 minutes
- No more downtime waiting for carbon change-out or cyclone service
- Large temperature gauge gives instant core temperature feedback
- Liquid purge valve allows customer to instantly flood unit with water if temperature exceeds safety range
- Access ladder to top manway
- Large-access manways
- Skid-mounted design





Tanker Top Loading Application

A rail tanker loading arm is a long reach, self-supported arm that is used to transfer fluids from stocking depots to road or railway tankers through the manhole on the top of the tank. The long range type allows for the maximum loading coverage, while the vapor recovery system enables vapor return via a dedicated line to the platform.

Autoload® - Automatic loading System

Autoload® is a breakthrough innovation in the world of fluid transfer: once the container – tanker, rail tank or IBC – is put in place, the operator simply pushes a button and the management system moves the loading arm ready for fluid loading. By using Autoload® the safety level is dramatically increased, reducing to “zero” the risk of falling down and of contact with toxic and corrosive substances.





LPG Tanker Loading Application

These loading arms are specially designed for loading and unloading of road or rail tankers. Special attention has been paid to the selection of materials and specific welding procedures to withstand the extremely low temperatures, while keeping the swivel dry and prevent ice formation.



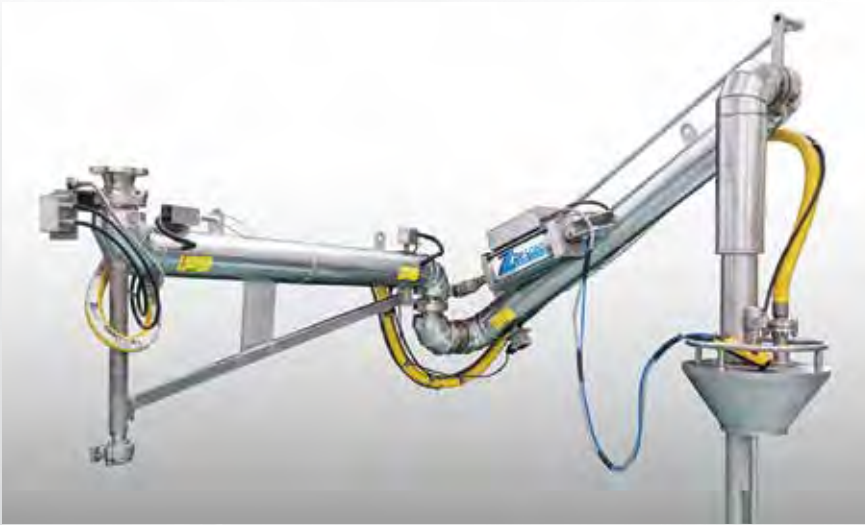
Stand Alone Fuel Bottom Loading Application

This application requires an integral pump and control system for petrol and diesel road tanker loading. A complete supporting structure is supplied for ease of installation complete with dispensing pump, flow meter, batch controller, batch control valve and tanker grounding controller.



Chemical loading Application

This is a corrosive application and all wetted parts are manufactured from 316 stainless steel, or other special materials on request. The loading arm is fitted with an E & H Coriolis mass flow meter, Electronic batch controller, batch control valve, vapor cone, vapor return line and overfill level switch.



Bitumen Loading Application

The loading arm is fitted with electrical heater tracing, thermal insulation, vapor cone, vapor return line, high level switch and pneumatic remote-control operation.

High Temperature Loading Application in a Hazardous Area

The loading arm is fitted with ATEX-approved instrumentation for use in a hazardous area. A high-accuracy mass flow meter is used in conjunction with the batching controller. Three control valves with limit switches provide batching control, safety for overfill prevention and emergency stop functions. The arm is thermally insulated, fitted with a pneumatic control, vapor cone and vapor return line.



Folding Stairs with Fall Prevention Rail



Terminal Overfill Prevention and Ground Verification System

Scully Signal Company is a leading engineering and manufacturing company that pioneered equipment for the safe and efficient storage, transportation, and fuelling operations in the petroleum industry. Since 1936, Scully has been designing and manufacturing systems for top and bottom-loading petroleum terminals, tank trailers/road tankers, railcars and storage tanks.



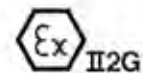
Intellitrol® 2

The most advanced terminal overfill prevention and ground verification system available.

- The only control system that offers overfill prevention, static grounding and vehicle identification all-in-one unit
- The ultimate in terminal loading safety with a patented design that continuously monitors the relay contacts - for petroleum and chemical loading racks
- Incorporates Dynacheck® Dynamic Self Checking® circuitry for overfill prevention, ensuring that every critical component is automatically and continuously checked for maximum loading safety
- The control unit constantly monitors wiring and sensor circuitry. If a fault is detected, a signal is provided to shut down the loading to prevent an overfill situation
- Over 15 years of proven performance in the field - the number one choice worldwide



IEC 61508
Certified
SIL 2



ST-47 Groundhog Static Ground Proving Control Unit

Vehicle Static Ground Verification System

- Self-proving technology based on Scully's original patented design
- Can operate in conjunction with your Scully Overfill Prevention System (ST-35® or ST-15) or as an independent ground verification unit
- Immediately shuts down the loading operation if proper static grounding is not detected



4 Year Warranty

Medium Capacity Meters

Positive Displacement Oval Gear Fuel Meter

- **Accuracy** 0,25% to 0,5% of reading
- **Flow rate** 8 to 150 LPM
- **Size** 1" Female
- **Material** Aluminium Body
- **Drive** Frictionless Magnetic
- **Technology** Positive Displacement Oval Gear
- **Calibration** Not Required



Large Capacity Meters

Integral Instruments

Options include integral LCD totalisers, flow rate totalisers and batch controllers (4-20mA, scaled pulse, alarms and batch control).

- **BT LCD 5-digit reset, 8-digit cumulative totaliser**
 - **RT 12 LCD 6-digit reset, cumulative totaliser and flow rate, analog and pulse outputs**
 - **RT40 LCD 6-digit reset, cumulative totaliser and flow rate. Backlit Display**
 - **EB LCD 6-digit 2 stage batcher and cumulative totalizer**
- M/V* = Mechanical registers (see model numbering)



- **Accuracy** 0,25% to 0,5% of reading
- **Flowrates** 10 – 660 US gal/min. (35 – 2500 litres/min.)*

- **Sizes** 3" – 4" NB (80 - 100 mm)
- **Materials** Aluminium, 316 Stainless steel or Ryton (PPS)

Insertion Flow Meters

DUALPULSE – Insertion Flowmeters

DP490 and DP525 are cost effective stainless steel flowmeters for measuring the flow of water, fuels and other low viscosity liquids in pipes of sizes 1.5" – 100" (40 – 2500mm).

Features:

- Accuracy +/- 1,5%
- IP68 (NEMA6) submersible 316SS construction
- Low cost or ownership, wide flow range
- Rugged and compact design
- Intrinsically safe hazardous area versions
- Integral or remote pre-amplifiers and flow instruments
- DP525 version suitable for "hot tap" installation
- Quadrature pulse output option and Bi-Directional Flow Measurement
- Integral 4-20mA output option



Flow Meter Solutions

The SATAM-proven technology Positive Displacement meter (PD meter) is a system with free-moving blades used to measure white petroleum products, such as fuels, bio-fuels and refined liquid hydrocarbons. Its simple design, using only two pairs of blades and one moving rotor, means the SATAM PD meter is exceptionally robust and also generates significant savings on maintenance costs as the meter boasts outstanding metering accuracy and stability.



Satam Products:

- Additive injection
- Blending
- Flow Computers
- Gravity Feed Meters
- Horizontal & Vertical Meters
- Skid design and manufacture
- Strainer and Air Eliminators
- Master Meters
- Terminal Automation System (TAS)
- Truck Meters (Compact)

Positive Displacement Meter

SATAM flow metering equipment is designed for custody transfer and fiscal metering of liquid hydrocarbons and LPGs. Metering systems have pattern approvals and many international and national accreditations and approvals, which include OIML R117, ISO 9001 and ATEX certifications for hazardous area installation. Backed by its technical know-how, SATAM is able to deliver a high accuracy PD meter that remains stable year after year with almost no need for regular adjustments. SATAM PD meters have a very simple design, using only two pairs of blades and one moving rotor. This guarantees a long life and an exceptionally robust device, which can be locally repaired if required.



Specifications:

- Accuracy < 0,015 % - Optional < 0,1%
- Repeatability < 0,02 %
- Meter sizes 1" to 8" flanged ANSI 150#
- Flow rates 20 – 5500 LPM / 1,2 to 330 M3/Hr

Vertical Flow Metering System

Compact and reliable with proven technology

The ZCE5 vertical metering unit is designed for road and rail tanker loading stations with top or bottom loading configuration. Its space saving configuration makes for easy installation in smaller facilities and compact pipeline networks. The ZCE5 is a ready-to-use device that comes equipped with filter, air eliminator, PD meter, valve and a mechanical or digital register. The compact system is designed for road tanker and railcar loading, Bio-fuels, batch blending and additive injection control.



Master Meter

Compact and reliable

The SATAM “Master Meter” product range is dedicated to periodic calibration of custody transfer measuring equipment. The ZCM17 is a working standard that is used for metrological verification of flowmeters for product reception and truck loading meters. The compact design provides ease of use and the meter is able to move to different sites without the requirement of lifting equipment. The meter is supplied with strainer air eliminator and can be equipped with an electronic or mechanical register.



Flow Computer

Terminal and Road Tanker

The Satam Equalis batch controller is a powerful and versatile field flow computer designed for management of loading and offloading operations. It offers optimum communication with the supervision system. It meets all the safety and accuracy requirements for installation in oil depots. Custody transfer certified, it is compatible with the entire range of volumetric meters used in this industrial sector. The meter provides management of loading valves and safety interlocks.





Applications:

- Acids and Caustics
- Intermediates
- Process Gases and Compressed Air
- Polymers
- Solvents and Base Chemicals
- Water and Wastewater
- Thermal Energy
- Media Identification & Phase Separation
- Liquid and Gas
- Cryogenic

FLUXUS® measures flow rates non-intrusively with ultrasound. Clamp-on ultrasonic transducers are simply mounted on the outside of the pipe. The practical advantages are obvious: no wear and tear by the medium flowing inside the pipe, no risk of liquid leakage or fugitive gas emissions, no pressure loss and, above all, unlimited plant availability. Concentration and density can be continuously monitored online using PIOX process analysers.

Chemical Industry

Applications include Acids, Caustics, Intermediates, Process Gases, Compressed Air, Polymers, Solvents, Base Chemicals, Water, Wastewater, Thermal Energy, Media Identification and Phase Separation.



Mainstream Industry

Applications include Refineries, Tank Farms, Crude Oil Pipelines, Fuel storage terminal, Products Pipelines, NGL Pipelines and Terminals.





FLEXIM's non-intrusive ultrasonic transit-time difference measurement method is suitable for determining the volume flow rate and mass flow rate of liquids as well as gases and offers very high measuring dynamics in both flow directions.

When combined with pressure and temperature measurement, it is also suitable for determining the standard volume flow rates of gases.



Mass Flow Measurement

P10X® S721 determines mass flow rate, concentration, density and other parameters by means of clamp-on ultrasonic transducers mounted on the outside of the pipe.



Hazardous Area Application

FLUXUS® model F/G80X is ATEX / IECEx Zone 1 and FM Class I, Div. 1 approved for liquid and gas flow measurement. These flow meters are well suited for harsh environments with corrosive atmospheres and hot or dirty applications.



Four Beam Precision Metering

Unrivalled accuracy, repeatability and reliability. The FLUXUS® F/G706 combines high precision with the advantages of non-invasive ultrasonic flow measurement. With its four beams, in reflect mode providing eight paths through the fluid, the meter averages the result of up to four planes.



Reliable to SIL 2



Cryogenic Fluids

On-site Measurement Services:

- Flow Audits
- Performance Evaluation
- Consumption Analysis
- Thermal Energy Measurement
- Efficiency Determination
- Pump Monitoring
- Valve Leak Tests
- Fire Water Pump Testing
- Leak Detection
- Regulatory Compliance Metering
- Verification of Metering Systems

The DCM Group offers a flow testing service to all industry and types of applications.

Our FLEXIM ultrasonic clamp on flow meters can verify the flow rate of existing volume and mass flow meters. We also offer complete thermal energy measurement audits that can help you evaluate the performance of your heat exchangers and the proper operation of your cooling towers and chiller plants.

Our integrated temperature compensation and advanced diagnostics allow measurements at extremely hot and cold flow temperatures (-190 °C up to +580 °C).





Electromagnetic Flow Meter

The EPD magnetic flow meter has a high accuracy and holds OIML international certification.

The meter is ideal for liquid containing fibres, granules or suspended solids and is not affected by density, viscosity, temperature and pressure change.

A sanitary version is available for food and pharmaceutical industries.

Advanced electronics provide:

- Dual isolation
- Memory function
- Password protection
- Unwanted signal elimination
- Non-linear correction
- Smart self-detection diagnosis



• HIGH ACCURACY • WIDE RANGEABILITY



Features:

Accuracy:	0,5% of reading (0,2% optional)
Measuring range:	1:100 turndown ratio
Low flow:	0,1 m/s.
Display:	Local or remote back lighting
Flow direction:	Suitable for two-way measurement.
Outputs:	4-20mA, frequency, and RS485 communication.
Wireless transmission:	Optional
Enclosure:	IP67 / NEMA 4X

WIRELESS

ProGauge

Automatic Tank Gauging



MAGNETOSTRICTIVE PROBES

Filling stations
and fuel depots



Radar Level Transmitter

FMCW Radar transmitters are non-contact measuring devices designed for use in high temperature, pressure and corrosive level measurement applications. This includes the measurement of liquids and bulk solids in tanks, bins and silos. The advance electronics utilise FMCW (frequency-modulated continuous wave) radar technology, which is a proven and reliable technology.

The level transmitters are easy to install with a selection of antennas to suit each application.

Features

Accuracy	2mm with 1mm repeatability
Measuring range	0,5 to 70 m
Beam angles	3 to 10 degrees
Outputs	4-20mA, RS485, HART
Power	24VDC powered, 4 wire; 2 wire
Wetted parts	304SS, 316SS and PTFE coated
Frequency	10GHz or 26GHz
Connection	1" to 6" ANSI, DIN flange and NPT
Display	5 digits LCM - shows signal wave, height and output
Isolation	CE standards
Enclosure	IP67 / NEMA 4X



Guided Wave Radar Level Transmitter

The JTR series guided wave radar level transmitter can be used for high temperature and pressure applications to measure the levels of both liquids and solids. The device transmits electromagnetic pulses along the stainless steel wire cable or tube/rod and when the pulse encounters the surface, the pulses are reflected, and the height of liquid level can be calculated.

This transmitter has a wide range of product applications even with low dielectric constant.

Features

Accuracy	5mm
Measuring range	6m (rod type) 20m (cable)
Output	4-20mA output, RS485, HART
Power	24VDC powered; 4-wire; 2-wire
Wetted parts	316SS
Connection	1" to 6" ANSI, DIN flange and NPT
Display	5 digits LCM, signal wave, height and output
Waveform	Algorithms & echo wave processing
Isolation	CE standards design
Enclosure	IP67 / NEMA 4X
Ex rated	ATEX II 1G Ex ia IIC T2~T6 Ga



Magnetostrictive Level Transmitter

The EG Series level transmitter uses the advanced, highly accurate magnetostrictive principle to detect the single or dual float, which produces a 1mm accuracy.

The transmitter can provide interface level detection and has an option of a single or five point temperature sensor, which is used for temperature compensation.

Features

Accuracy	1 mm or +/-0,05% F.S
Measuring range	50 to 5 500 mm
Output	4-20mA output, RS485, HART
Power	24VDC powered; 2-wire
Wetted parts	304 SS / 316SS
Connection	1" to 6" ANSI, DIN flange and NPT
Display	5 digits LCM, signal wave, height and output
Enclosure	IP67 / NEMA 4X
Ex rated	ATEX Ex ia



Ultrasonic Level Transmitter

The ultrasonic level transmitter is a non-contact, low-cost and easy-to-install measuring device. It can be applied to most industrial applications for both solids and liquids.

The compact size level transmitter is equipped with four push buttons, multi-parameter modes and a LCD display.

Features

Accuracy	5mm with 1mm resolution
Measuring range	Max 8 or 12m
Beam angle	7 degrees
Output	4-20ma with HART
Power	7 – 30 Vdc
Material	PVDF
Frequency	50 khz
Connection	2" NPT
Display	4 line graphical
Enclosure	IP67 / NEMA 4X





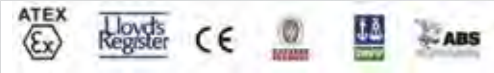
FG Series Magnetic Float Level Measurement

The FG Series magnetic float level transmitter comprises a float and a sensing guide rod. The level transmitter has a resistance output directly proportional to the float level position.

Explosion-proof, corrosion resistant and marine types available.

Features

Resolution	6 or 12 mm
Measuring range	150 mm – 30m (Flexible)
Output	4-20ma loop power
Material	304SS / 316SS / PP / PVDF
Connection	1" to 6" ANSI, DIN flange and NPT
Display	4 line graphical
Enclosure	IP67 / NEMA 4X / Explosion-proof
Ex rated	ATEX Ed IIb T6



SC Series Tuning Fork Level Switch

The SC Series tuning fork liquid level switch does not require any calibration and will operate over a wide range of applications. The tuning fork is extremely reliable and can be used on both liquids and solids. Features include failure-safe mode, sensitivity adjustment, delay, automatic calibration and self-diagnosis. Options consist of dual switch output, sanitary type, mini and extended length.

Features

Output	1 or 2 - 5 Amp SPDT Relay / SSR (MOSFET)
Material	304SS / 316SS / Teflon-coated
Connection	1" NPT – 4" flange
Enclosure	IP65 / P67 / NEMA 4X / Explosion-proof
Ex rated	ATEX Ed IIb T6
Power	12 – 30 Vdc / 220 Vac



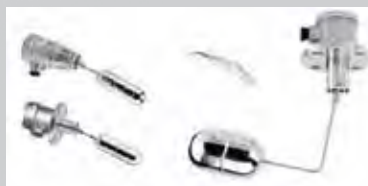
Other Products Available:



EC Pressure Transmitters



SP Thermal Flow Switches



FF Float Level Switches



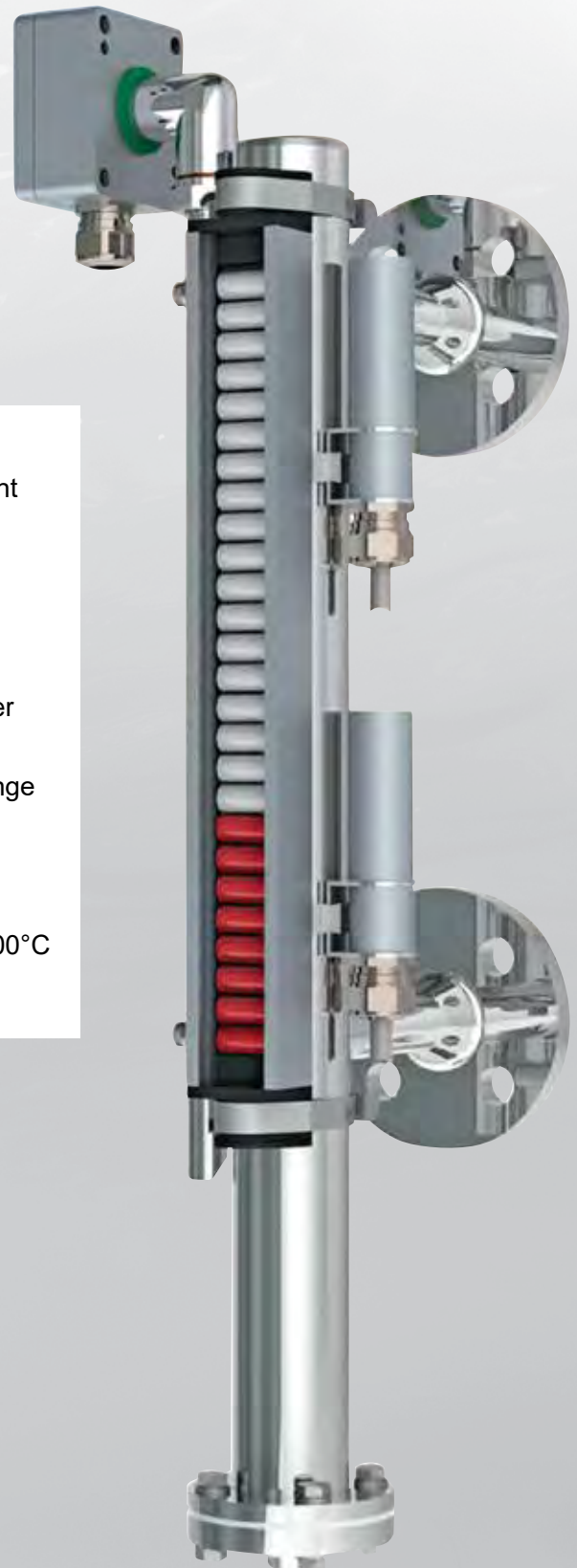
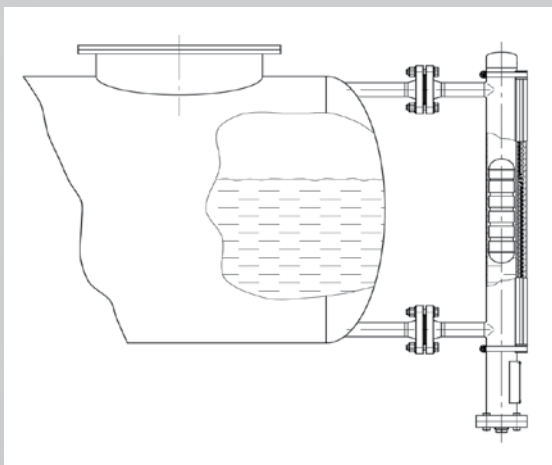
PB/PM Bar Graph and Panel Displays

Bypass - Level Indicators

The bypass level indicator forms an integral part of a pressure vessel. A chamber is mounted on the side of a tank or container by means of two process connections. This direct connection ensures that the level in the chamber corresponds precisely to the level of the liquid in the tank or container (communicating pipes). Inside the bypass chamber is a cylindrical float with a built-in magnetic system. The concentrated magnetic field produced by the permanent magnet gives a precise reading for the level of liquid in the chamber. A signal is transmitted by the magnetic field through the wall of the chamber to an externally mounted indicator, as well as to recording and switchgear elements.

Technical advantages

- Simple, robust and unbreakable design
- Pressure and gas-proof separation between the measurement and the indicator chambers
- Detection and indication of the filling levels of aggressive, combustible, poisonous, hot, turbulent and severely contaminated media
- Guaranteed operation of the magnetic roller indicator without requiring an auxiliary power source, even in the case of power system failures
- Usable in all fields of industry, thanks to the use of a wide range of corrosion-proof materials
- Designs available for pressure ranges from a vacuum up to 400 bar
- Designs available for temperature ranges from -160°C to +400°C
- Designs available for density as of 350 kg/m³



Overfill Prevention Liquid Monitoring System

Scully liquid detection and transfer products are in use in some 80+ countries, and their customers include private and state oil companies, airlines, refineries and petrochemical companies such as Exxon/Mobil, Shell Oil, AGIP, Indian Oil, BP Oil, Kuwait National Petroleum, PEMEX, Saudi Aramco, Kinder Morgan, Chevron, Buckeye Pipeline, Sasol, Engen Petronas, Vopak, Total, Puma Energy, Vivo Energy and thousands of other major and independent oil companies.

ST-15 WX Tank Overfill Control Unit

- The system incorporates Dynamic Self-Checking® circuitry, which monitors the controller, wiring, connections and sensors for faults, 30 times per second for maximum safety
- Sounds an audible alarm and/or controls pumps and valves for automatic shutdown when the sensors detect a fault or liquid in the system
- As a high-level warning and emergency shut-down system, it operates independently from your gauging system to ensure that inventory inaccuracies do not compromise the safety of your operation
- The sensors are wired to the control unit and can provide up to 3 high-level detection points. This system has a wide variety of level detection applications and is well suited for hazardous areas, chemicals, aviation, oil and gas industry
- IEC 61508 Certified, SIL2 HFT=0 and SIL3 HFT=1



ST-35 Overfill Prevention Control unit

- Interfaces with Scully-proven technology five-wire optic sensors
- Typically used for bottom and top loading on road and rail tankers
- The controller accepts multiple inputs and can be used on catch pots and small vessels
- Level sensors can be top, bottom and side-mounted for multiple-point level detection
- The controller can be mounted at the loading rack/gantry and connects to the vehicle via the Scully plug
- The ST-35 features Dynacheck® circuitry for automatic and continuous self-checking of the system
- This unit does not provide grounding/earth verification and a Groundhog Self-Proving System is to be used

Float and Tape Gauges

Simple, Safe and Reliable Inventory-Grade Level Measurement

Float and tape gauges, also known as “automatic tank gauges”, have been in the marketplace for over 90 years. This tried-and-true method works by using a large float inside the tank attached to a negator spring via a perforated tape. The negator spring provides constant tension, which balances the float on the liquid. The liquid level in the tank is displayed on the gauge counter or indicated on the gauge board.

2500 Level Gauge

The Varec 2500 Gauge meets API regulations and is ATEX-approved for use in potentially explosive atmospheres.

The measured level is displayed at the tank side using a dial and counter built into the gauge head. Varec pioneered the technology 90 years ago and it has proven itself ever since due to its simplicity and reliability.

- Low cost, continuous measurement with 4mm accuracy
- Measures level, floating roof, interface and stilling well applications
- Meets API Chapter 3.1B regulations for inventory control
- Wide variety of installation kits for all types of tanks available
- ATEX-approved for use in hazardous areas



Optional Level Transmitter

If electronic transmission of level data is required then the gauge can be fitted with a tank gauging transmitter. Varec’s new 2920 FTT offers tank side viewing and configuration using a touch screen display.



6700 Board Level Indicator

The 6700 Liquid Level Indicator (LLI) is a tank side device that uses a target and gauge board to indicate product level in a bulk storage tank. This simple and reliable float and tape-based product has been used for managing inventory in the oil and gas industry for more than 80 years.

ONE Source for ALL your Rupture Disc Needs:

- Holders and Gaskets
- Burst Sensors and Alarm Monitoring Systems
- Transportation and Sanitary Discs
- Explosion Vent Panels
- Extruder Barrels
- Specialist Applications



Above: FAH "Pre-Torque" Holder

**SPEED SERVICE
AVAILABLE**



Pressure / Vacuum Tank Breather Valve

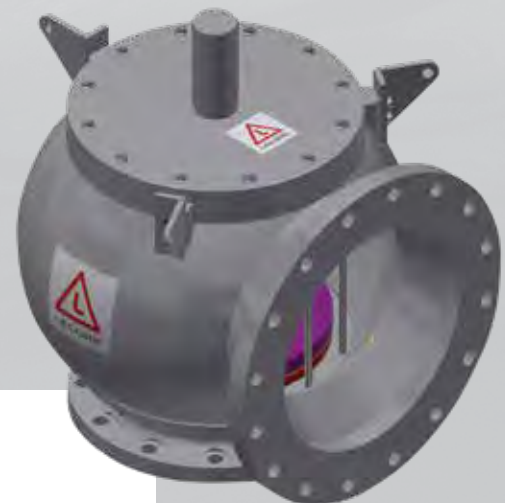
The Lecore range of Pressure and Vacuum Breather Valves minimises vapour loss from storage tanks during operations, whilst preventing internal pressure and vacuum conditions from exceeding the tank design limits. This provides protection for the tank and product whilst eliminating excess vapours into the environment. The “open-vented” design allows vapours to vent directly into the atmosphere with minimal pressure drop and increased flow.



- Valve design:** API 2000
- Size range:** 2” to 12” (50mm – 300mm)
- Body material:** High grade aluminium, Carbon steel, 316 Stainless steel
- End connections:** ASME Class 150 FF / PN10
- Valve Settings:** Vacuum to 20 kpa

Pressure / Vacuum Tank Breather Valve with Pipe Away Vent

The “closed-vented” PV Valve, also known as the “pipe-away” model, has a flanged outlet and is normally used when vapours are hazardous or corrosive. These vapours are connected to a closed piping system and are normally vented to a scrubber or vapour recovery system. Our outlet configurations can also be modified to suit each client’s piping layout on site.



- Valve design:** API 2000
- Inlet Size range:** 2” to 12” (50mm – 300mm)
- Outlet Size range:** 2” to 16” (50mm – 400mm)
- Body material:** High grade aluminium, Carbon steel, 316 Stainless steel
- End connections:** ASME Class 150 FF / PN10
- Valve Settings:** Vacuum to 20 kpa

Emergency Pressure Manhole Vent



The primary function of this device is protection against costly tank rupture. This manhole cover provides emergency venting for abnormal internal pressure beyond the capability of the pressure relief valve. It also provides easy access for tank inspection.

The most common cause of excessive internal pressure is fire exposure. Emergency venting capacity requirements are dependent upon the wetted surface area of the tank. The venting requirements are calculated in accordance with API standards. When the set pressure is reached, the lid will lift and relieve excess pressure. When the over-pressure has dissipated, the cover reseats tightly. The hinged mechanism prevents misalignment of the lid or seat so that a tight, leak-free seal is obtained.

Valve design:

API 2000

Size range:

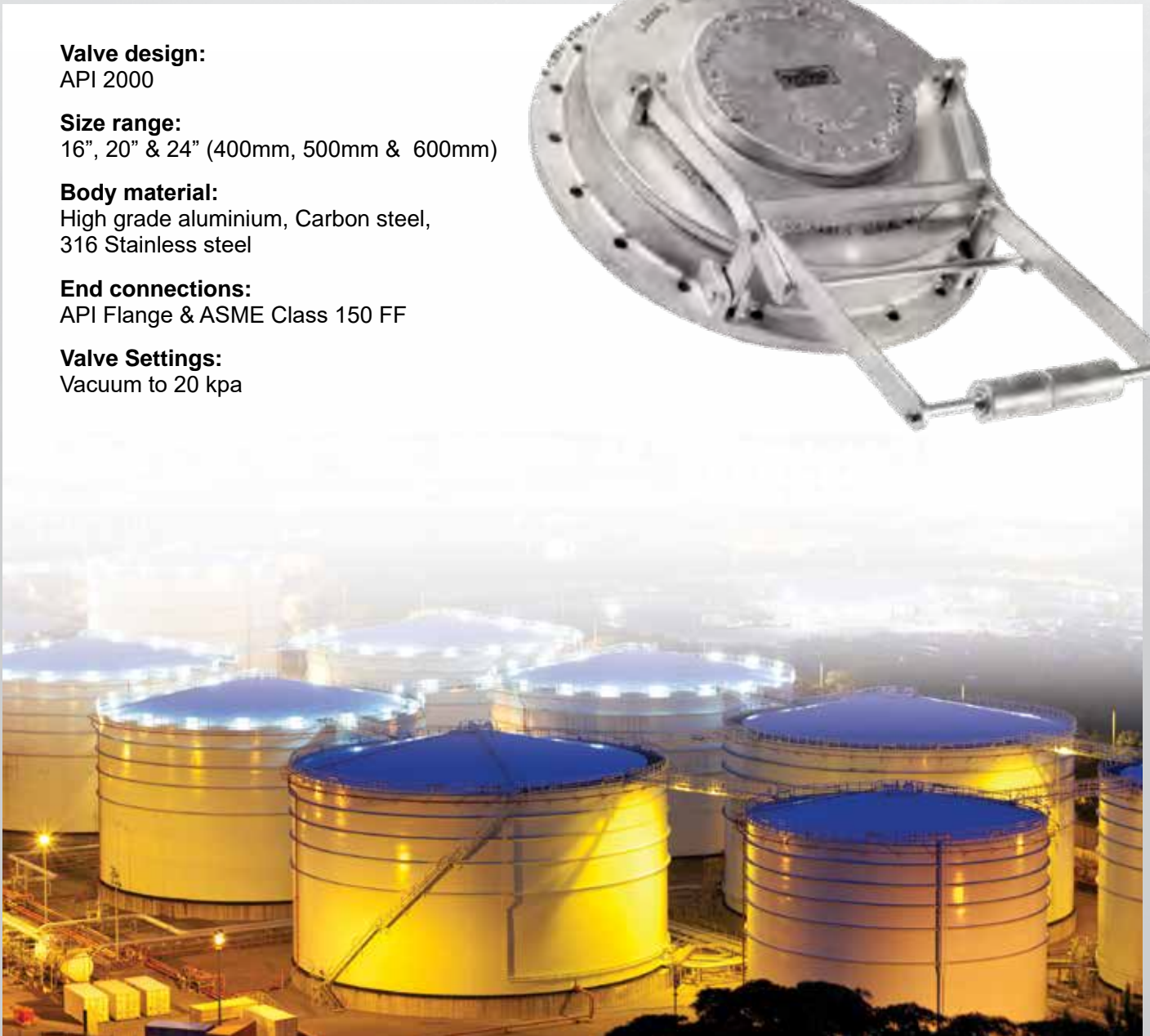
16", 20" & 24" (400mm, 500mm & 600mm)

Body material:High grade aluminium, Carbon steel,
316 Stainless steel**End connections:**

API Flange & ASME Class 150 FF

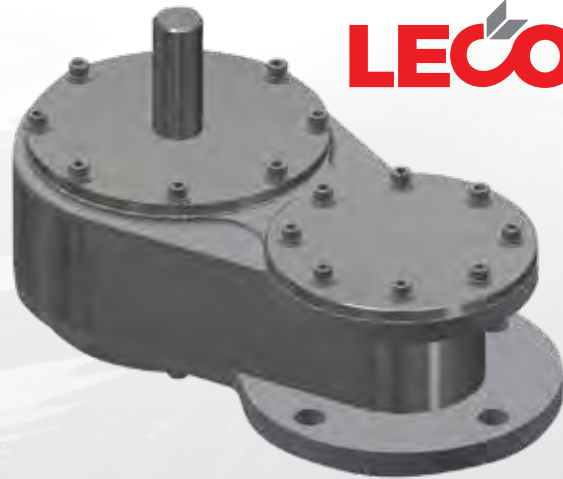
Valve Settings:

Vacuum to 20 kpa



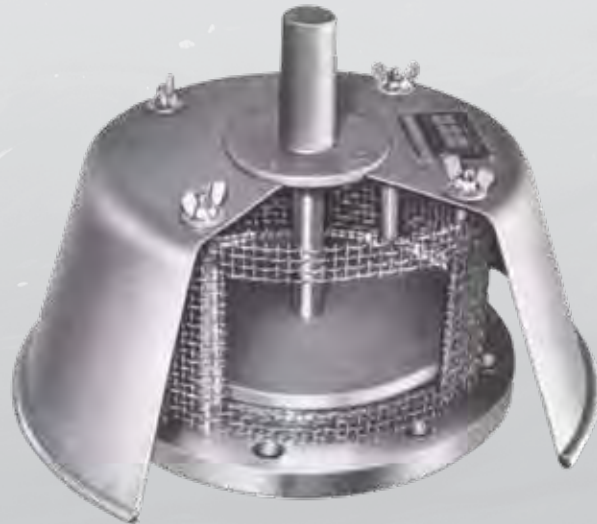
Vacuum Vent Valve

Our range of Vacuum Vent Valves are used on vessels where only vacuum relief is required, or where pressure and vacuum relief systems are required as stand-alone units. A separate Pressure Relief Vent and Vacuum Vent give the client flexibility to utilise different sizes if the inlet and outlet venting rates vary.



Pressure Vent Valve

The Lecore PRV is required when only pressure relief is required on a particular vessel. Our Pressure Relief Vents can be supplied as an open-vented valve, or as a closed-vented unit. Closed-vented valves can also be modified to suit the customer's piping configuration on site.



Lockable Gauge Hatch

The Dip hatch's main function is to allow easy access to storage tanks while controlling vapor losses. Sealing of the GHH is done by an O-ring, with a lid that can be tightened to improve the seal. Each unit is equipped with a brass (non-sparking) hand-wheel, and a stainless steel locking bolt.



End-of-Line Deflagration Arrestor

These devices help tanks that store flammable products to breathe out flammable gases and breathe in unrestricted clean air without any risk of atmospheric deflagrations entering the tank. They are called end-of-line deflagration or endurance-burning flame arresters. Each unit is equipped with a weather hood (cowl) and strainer, which prevent the penetration of rain, dirt and foreign objects.

- Certification:** ATEX and international standards
- Size range:** 1" to 12" (25mm – 300mm)
- Material:** Carbon steel or stainless steel body with 316 Stainless steel element
- End connections:** ASME Class 150 – 600 / PN10 – PN100




In-Line Detonation Arrestor

In the event of explosive gas-air mixtures igniting in a pipeline, a (stable) detonation can develop from a deflagration under certain instances. The impact of such a detonation is considerable with greatly increased pressure and flame speed; our detonation flame arresters are specifically designed for such scenarios. The flame arrester element remains functional and arrests the flame front, following the pressure wave.

- Certification:** ATEX and international standards
- Size range:** 1" to 24" (25mm – 600mm)
- Material:** Carbon steel or stainless steel body with 316 Stainless steel element
- End connections:** ASME Class 150 – 600 / PN10 – PN100



Tank-Blanketing Valves - Nitrogen Regulator

Low-pressure valves of inline and angle pattern are designed to control the inlet or outlet pressures in the mbar range. They serve to affect pressure superimposition in storage tanks, agitator tanks, centrifuges or vessels with inert gas, such as nitrogen.

- Size range:** 1½" - 2" (12mm, 50mm)
- Body material:** 316 Stainless steel
- End connections:** API Flange & ASME Class 150 FF



Historically, these valves were developed for the aviation fueling and petroleum handling systems. Now they are versatile and easily adapted for numerous other functions.



United States/Canada Joint
Certification Program (JCP)
Certification Number 0073030



Pump Discharge Control

The primary purpose of pump discharge control is to minimize pump start-up surges by opening slowly and eliminate back flow by closing quickly on pump shutdown.

Model 94-1QC:

- Opens slowly on pump start
- Closes quickly on pump shut-down



Above: Model 94-1QC

Fuel Filtration Control

Installed on a filter separator, the following products work together to ensure the primary purpose of the separator itself: the removal of water from the fuel.

Model 119-5:

- Limits flow to the rated capacity of the filter separator
- Closes to stop fuel discharge when water is present
- Available with reverse flow check feature



Above: Model 119-5

Pressure Relief / Back Pressure Control

Sensing pressure at the valve inlet, pressure relief/back pressure valves serve to maintain or limit the main line pressure.

Model 108-34:

- Installed in main line, functions as backpressure control valve in hydrant fueling systems
- Solenoid shut-off feature
- Reverse flow check feature

Model 108-2:

- Installed on bypass line, limits pressure in main line by relieving excess to storage
- Installed in main line, sustains a minimum line pressure



Above: Model 108-2

Historically, these valves were developed for the aviation fueling and petroleum handling systems. Now they are versatile and easily adapted for numerous other functions.



United States/Canada Joint Certification Program (JCP)
Certification Number 0073030



Truck / Rail Car Loading

Open and closed via electrical signals, these valves control fuel flow into tanker trucks or railroad tank cars. They are all designed to interface with preset parameters.

Model 115-3:

- Dual solenoid operation
- Multiple stage opening and closing



Above: Model 115-3

Aircraft Fueling

The following valves are designed for direct fueling of aircraft, closely controlling pressure into the aircraft and limiting pressure buildup in the event of sudden aircraft tank valve closure. Valve opening and closing is controlled by a deadman device.

Model 114-1E:

- Electrical deadman controlled
- Pressure reducing and surge control



Above: Model 114-1E

Model 114-3:

- Hydraulic deadman controlled
- Pressure reducing and surge control
- Typical on pantograph refueling systems



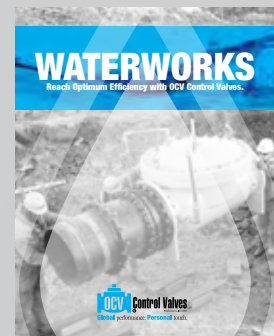
Fuel terminal valves



Fire protection valves



Mining valves



Waterworks valves

AMPO POYAM VALVES offers the widest Ball, Gate, Globe, Check, Angle, Butterfly, Lift Plug and Switch Valve solutions in the market.

Top Entry Ball Valves

Characteristics:

Standards:	API, BS, MSS, ANSI, ASME, ASTM, DIN
Classes:	150 lbs up to 2 500 lbs
Sizes:	1/2" up to 60"
Construction:	Extended bonnet. Bolted bonnet. Floating and trunnion-mounted ball. Full and reduced bore. Flanged, butt weld ends and both. Manual and motor - operated. Fire safe. Soft and metal seats.
Temperature:	From 750°C down to -196°C (Cryogenic)



Split Body and End Entry Ball Valves

Characteristics:

Standards:	API, BS, MSS, ANSI, ASME, ASTM, DIN
Classes:	150 lbs up to 2 500 lbs
Sizes:	1/2" up to 60"
Construction:	Extended bonnet. Bolted bonnet. Fully welded. Floating and trunnion - mounted ball (2 or 3 pcs, cast or forged). Monoblock - Compact valves. Two balls - one body. Full and reduced bore. Flanged ends. Manual and motor - operated. Fire safe. Soft and metal seats.
Temperature:	From 750°C down to -196°C (Cryogenic)



Gate, Globe and Check Valves

Characteristics:

Standards:	API, BS, MSS, ANSI, ASME, ASTM
Classes:	150 lbs up to 2 500 lbs
Sizes:	1/2" up to 72"
Construction:	Extended bonnet. Bolted bonnet. Flanged and butt weld ends. Manual and motor - operated. Throttling Service Globe valves. Metal and soft seats.
Temperature:	From 750°C down to -196°C (Cryogenic)
Type:	<p>Gate: Standard Design (API600). Light Pattern Design (ASME B16.34).</p> <p>Globe: Straight Pattern, y Pattern & Stop check, Needle.</p> <p>Check: Swing Check, Lift Check, Axial flow check.</p>



Manual and Automated Ball Valve

The Series 22 ball valves feature a high-quality investment cast body and a superior leak protection patented “Pyramidal” stem seal system. This advanced system protects against wear and leakage experienced by other ordinary ball valves.

- 2-piece high-cycle design
- Available in sizes from 1/4” to 3”
- Stainless steel | Full port | Threaded ends | 1000 psi
- ISO 5211 Direct actuator mount
- Blowout-proof stem w/ Dual anti-static devices
- NACE MR0175



Firesafe Flanged Ball Valve

Triac® F90 Series Firesafe Split Body Flanged Ball Valves have successfully passed the API-607 6th edition test. These high-quality investment cast valves feature a fully machined bore. The valve has a superior live-loaded packing system and a unique primary pyramidal stem seal. This advanced sealing system provides for protection against stem leaks experienced by ordinary ball valves.



- API 607 6th Edition certified Firesafe
- Sizes 1/2” - 4”
- Available in 316SST or WCB
- Full port design
- ISO 5211 actuator mounting pad
- Blowout-proof stem w/ Dual anti-static devices

Metal Seated Ball Valves

The M Series metal seat ball valve is designed for use in severe services such as high temperature, high pressure and abrasive fluids for the Oil & Gas, Petroleum, Petrochemical, Chemical, Power Generation, Pulp & Paper and Mining industries.

- Scraper Seat Design for heavy slurries.
- Superior shutoff. (Standard Class V, Class VI).
- Blowout-proof stem
- ISO 5211 mounting pad
- Firesafe certified to ISO 10497 3rd Edition
- Spring live-loaded seats
- Hard face treatment on ball and seats





V-Port Control Ball Valves

The V Series rotary valve is a throttling control segment-ball valve that provides high flow capacity with optimum characteristics for industrial markets, including Pulp and Paper, Refinery, Chemical and Petrochemical Industries.

- 1-piece body design reduces leakage
- Ideal for liquids with solid particles
- Rotary-valve design allows the cutting of solids
- Top and bottom bearings reduces operational torque
- Selection of balls for flow characteristic

High Performance Butterfly Valves

The Power Seal high performance butterfly valves are supplied with standard body materials of 316 SST or WCB. Application specific options include alloy 20, Monel, CD3MN, Hastelloy C-276 and Inconel 625.

- Soft seat for bubble-tight shutoff
- Firesafe seat provides Class V shutoff
- Metal seat design for high temperature
- Available sizes 2"-36" and larger on request
- Blow-out proof stem design



Resilient Seated Butterfly Valves

A-T Controls Butterfly Valves cover a wide range of industries from General Purpose to Chemical, Food and Beverage, Pulp and Paper, Waste Water applications and more. The product line features many choices of seat, disc and stem materials, which enable you to address a wide variety of applications and media.

- Sizes up to 48"
- Bi-directional, bubble tight shutoff for full pressure differential
- Body material is Ductile iron (OSB) or Stainless steel (OS)
- Disc Nickel plated, 316 Stainless steel and Nylon coated
- ISO 5211 mounting pad for actuator direct mounting
- Option of encapsulated PFA lined

Rack and Pinion Pneumatic Actuators

TRIAC® pneumatic rack and pinion actuators are designed and manufactured to provide the highest cycle-life on the market.

We can accessorise them to accomplish virtually any control requirement. They are available with various mounting dimension configurations and span eleven models for appropriate torque compatibility.



- Dual travel stops are standard
- Substantial pinion bearings for high cycle life
- ISO 5211 / DIN 3337 mounting pad
- Wide base for direct mount
- Corrosion-resistant hard anodized finish
- NAMUR solenoid mounting pad

Submersible, Weather and Explosion-Proof Electric Actuators

WE Series (weather-proof) and XE Series (explosion-proof) electric actuators are specially designed for applications such as Ball valves, Butterfly valves, Plug valves, Dampers and similar valve automation applications. They are compact and light due to high grade aluminium alloy housing and have a hard anodizing finish.

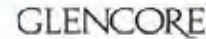
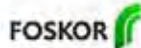
- XE Series Explosion-proof - ATEX/IECEX
- SE Series Submersible - IP68
- Torque & limit switches are standard
- Self-locking gear train
- Manual handwheel standard
- Open-close or proportional control
- Various inputs with feedback available



Positioners



- Digital Smart Positioner with Hart Protocol
- Easy and quick auto-calibration
- Compact design allows installation on small actuators
- Ability to test the actuator assembly with a fixed input signal
- Programmable characteristic curve with 17 points
- Flameproof IECEx / ATEX / KC Ex d IIC T6 / IP66
- "Fail Freeze" function optional.
- Standard NAMUR mounting
- IP66 (Intrinsically Safe option)
- Low air consumption





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