



# TECNOVENT

Safety & Control



03. TANK  
& VESSEL  
EQUIPMENT



02. EXPLOSION  
PROTECTION



01. SAFETY



04. INDUSTRIAL  
VALVES



05. INSTRUMENTATION



06. SPECIAL EQUIPMENT



07. ADD-ON SERVICES

Leading Safe Processes since 1992

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**Tecnovent, S.L.** is a global leader in industrial safety and process protection, with 30+ years of experience in the market.

Since 1992 we have supported sectors such as pharmaceuticals, chemicals & petrochemicals, food processing and others, providing reliable solutions for managing overpressure, vacuum and explosions.

Throughout our history we have established ourselves as a trusted partner for Engineering companies and industries seeking to comply with the most demanding regulations.

On our 25th anniversary we reinforced our specialization in safety components and high-efficiency relief systems.

Today, we continue to evolve. We offer advanced **ATEX solutions**, technical consultancy and a wide range product portfolio in **Control, Isolation and Instrumentation**.

Our Engineering team provide expert support to ensure a comprehensive protection of people, processes and facilities.





## Our Mission Statement

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To provide comprehensive industrial security and control solutions that enable our customers to protect people, assets and operations through reliable technology, regulatory compliance and expert Engineering service.

## Our Vision

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To be recognized as leaders in protection solutions against pressure risks, explosions and critical process control, driving innovation, quality and safety in all industrial sectors.

## Our Core Values

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**Commitment to Quality:** Technical excellence is our reason for being. We work under the strictest standards to guarantee maximum durability and reliability in every service.

**Customer Focus:** We listen to and understand the specific needs of each project, building trusting relationships based on transparency and personalized advice.

**Sustainability and Responsibility:** We act ethically and responsibly, minimizing our environmental impact and promoting practices that seek the sustainable development of our industry.

**Teamwork:** We believe in the talent of our people. We foster a collaborative, safe, and motivating environment that promotes professional growth and shared success.





## Companies for Change

COMPANIES FOR CHANGE is an initiative of **UNICEF Spanish Committee** for companies that want to change the world and achieve a better future for children.

**TECNOVENT** collaborates with **UNICEF** in the COMPANIES FOR CHANGE program, becoming an active part of this change.

Our collaboration joins that of more than 100 small and medium-sized enterprises across the country, achieving and contributing a collective impact on a large scale in all the key areas necessary to promote the survival and development of children, such as nutrition, health, education, protection, in emergencies among others, so that they grow up healthy and develop fully.





**01  
SAFETY**

Protection & prevention against overpressure, vacuum, Blanketing (Regulation, Tank Equipment and ATEX environments)



**02  
EXPLOSION PROTECTION**

Systems and Equipment for industrial plant protection to ensure safe working conditions and overall facilities integrity



**03  
TANK & VESSEL EQUIPMENT**

We specialize in the highest quality equipment for atmospheric tanks in all kind of industries (Oil & Gas, Chemical, Petrochemical, Water, Mining, etc.)



**04**

**INDUSTRIAL VALVES**

Manual and automatic valves for isolation, process control and fluid handling



**05**

**INSTRUMENTATION**

Measuring and control equipment for flow, level, pressure, temperature, etc...



**06**

**SPECIAL EQUIPMENT**

Industrial Solutions beyond the standard



**07**

**ADD-ON SERVICES**

ATEX consultancy, technical service and equipment suitable for all industrial sectors.

SAT Service & Maintenance



## Rupture Discs

**Pressure rupture discs** (or bursting discs) are mechanical devices for the sudden relief of pressure, both positive and negative (vacuum), making them an effective way to protect any process subjected to pressure (equipment, systems, tanks, etc.)

Rupture discs are sized by calculation according to **ISO 4126, API RP 520, ASME section VIII.**

Metal based manufactured (stainless steels, alloys, titanium,...) or graphite. Suitable for gases, liquids and vapors.

They can be installed with a rupture indicator.

Rupture discs are safety elements that require almost no maintenance and provide an instant response. Highly reliable and very economical, they offer full opening.



EN ISO 4126-2

## Safety Valves

A **safety valve** is an automatic mechanical device designed to protect pressurized equipment (boilers, tanks, pipes) from dangerous overpressures. It reduces excess pressure by releasing fluids (liquids or gases) when the system exceeds a pre-set safety limit, thus preventing explosions or structural failures.

A relief valve differs from a full instant opening safety valve (PSV or Pressure Safety Valve) in that, although they are often used interchangeably, safety valves are more commonly used for compressible fluids (vapor/gas) opening instantly, while relief valves (PRV or Pressure Relief Valve) are used for liquids with gradual or progressive opening.

**Standards:** ASME VPBC Sec. I, IV & VIII / API 520 | 526 | 607 | 6FA



## Vent Silencer

**Vent silencers** are designed to reduce the noise generated when gas or steam expands from elevated pressures to atmospheric pressure. They are used to mitigate noise produced by high-velocity gas flows, such as those from steam vents, safety valve outlets, system blowdowns, and purge outlets.

Noise generation occurs due to high-speed flow through valves and turbulence created around obstacles that restrict or suddenly change the flow direction, such as valves or orifices.

Our silencers are fully customizable and fit both vertical and horizontal orientations, and are adaptable for various industries worldwide.



## Pressure-Vacuum Valves

**Pressure-vacuum valves** are safety devices designed to protect tanks or processes from positive or negative overpressures, preventing them from rupture or collapse.

By means of flaps that open and close at a certain pressure—due to weight or by means of a spring—, they allow the flow necessary to enter or leave in order to maintain the pressure of the enclosure within the pre-established limits, which must be equal to or less than the design pressure of the equipment.



## Breather Valves for solids handling

Breather valves operate on the following principle: a weight is lifted by the pressure differential and closes automatically when the pressure (from 2.5 to 500 mbar) returns to the desired level. This technique is more reliable than breather valves that operate with springs or water as a lock. The use of weights also ensures much greater accuracy. **Their main advantage lies in their special application for handling solids in storage tanks to prevent accumulation in the seat area.**

### Types and Uses:

Valves for pressure regulation in water treatment plants in cases of excessive or below-limit pressure in tanks.

Specific valves for use with biogas tanks in countries with cold climates (**ATEX version** available).

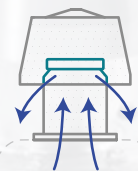
Models for use in bulk solids storage silos. Ideal for truck-based filling.

Critical services for vacuuming storage tanks and silos. Very high sealing capacity under conditions requiring strict control of atmospheric emissions.

Specific models for the discharge of hazardous gases (such as  $N_2$ ) where a high degree of sealing is required.

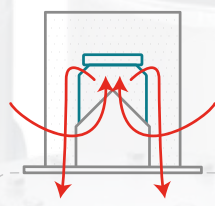


 pressure  
 vacuum



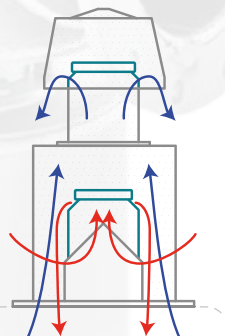
#### **PRESSURE RELIEF VALVE**

As soon as the specified pressure is reached, the weight is pushed upwards. Gas or air escapes into the atmosphere. The pressure in the tank or silo decreases, the weight descends and the valve closes automatically.



#### **VACUUM RELIEF VALVE**

Works according to the same principle. As soon as the specified pressure for the vacuum is reached, the weight is pushed upwards by the atmospheric pressure. Air flows into the silo or tank, the pressure increases and the valve closes automatically.



#### **COMBINED PRESSURE RELIEF AND VACUUM RELIEF VALVES**

The pressure relief valve is mounted on top of the vacuum relief valve. The operation of both valves is the same as described above.

## Flame Arresters for Gases

Flame arresters are devices designed to prevent the spread of flames caused by deflagrations or detonations.

Depending on their application, they are used for deflagrations or detonations, and for in-line or end-of-line installations.

The most common materials are carbon steel and stainless steel, but they can be manufactured in other materials upon request.

Suitable for Gas Groups IIA, IIB and IIC

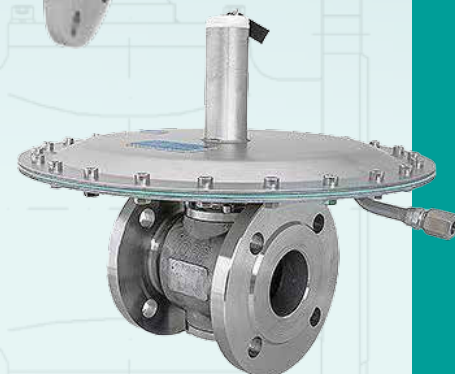


## Blanketing Valves

Pressure reducing valves used to regulate the pressure behind the valve.

When the pipeline is depressurized, the adjusting spring holds the valve cone in the open position. Fluid flows under pressure from the inlet side through the valve seat and acts on the diaphragm-spring system from the outlet side (downstream pressure). At the diaphragm, the downstream pressure to be regulated is in equilibrium with the force of the adjusting spring (set point).

If downstream pressure exceeds the set point on the adjusting screw, the valve cone moves toward the seat. As a result, the flow rate may be restricted or the valve may even close completely. Conversely, the flow rate increases when the downstream pressure falls below the set point. Control accuracy can be improved by using an external control line.



## Vent Panel

Vent panels (also known as explosion panels) are mechanical devices for the sudden relief of overpressure caused by an explosion in an enclosed space. They are suitable for use with both gases and powdered products.

Vent panels are sized according to **ISO 4126, VDI, and NFPA standards.**

They are manufactured from stainless steel and have a standard burst pressure of 0.1 barg (other pressures are available).

They can be equipped with a burst detector.

These safety devices require minimal maintenance, provide an instantaneous and highly reliable response with full opening, and are cost-effective.



## Vent Panel with Flame Arrester

Flameless explosion venting devices effectively and safely vent explosions, preventing flames or pressure from spreading freely to the surrounding area.

Protecting production equipment with these devices is recommended when conventional venting of explosions to a safe area is not possible or when there is insufficient space to safely vent the explosion to the environment.

### Advantages and Applications

- Dust protection class St1 / St2 / St3
- Recommended for installations with metallic and non-metallic dust, including molten, fibrous, and coarse-grained dust
- Extremely low MIE/MIT values (\*)
- Effective flame and heat capture



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#### (\*) Note:

**MIE:** Minimum Ignition Energy

**MIT:** Minimum Ignition Temperature

An extremely low MIE and MIT means that **the atmosphere** (gas or dust) **is extremely sensitive and easily ignited or exploded**, requiring very rigorous ATEX protection measures

## Explosion suppression

As a general rule, if a material can burn, under the right conditions it can and will explode. Any facility that handles, stores, or processes flammable gases, liquids or solids carries some risk of explosion. Dust explosions occur regularly with a wide variety of products: **cellulose, fungicides, plastics, and resins** —to name a few— but chocolate, flour, paper, and starch also pose a risk.

The transport, processing, spraying or storage of these materials can create explosive environments, elevating the risk of fire to an explosion risk within the facility.

Explosion suppression systems are designed to detect pressure buildup during an explosion within milliseconds and discharge an explosion suppressant into the enclosed space before destructive pressures are reached. The suppressant works by interfering with the explosion reaction, removing heat from the flame front of the deflagration and thus reducing its temperature below that required to sustain combustion.

The explosion suppressor also creates a barrier between unburned combustible particles to prevent further heat transfer.



## Mechanical explosion isolation

Explosion isolation systems are designed to detect an explosion in a process vessel and create a barrier that reduces the risk of flame propagation/explosion to other interconnected equipment. The propagation of an explosion can produce more intense secondary explosions in connected vessels. To prevent these secondary explosions, the installation of these systems is necessary.

Explosion isolation can be applied to vessels protected by containment, suppression or ventilation systems.

There are three basic types of explosion isolation systems (\*)

- Chemical Isolation
- Active mechanical Isolation
- Passive mechanical Isolation



PASSIVE MECHANICAL ISOLATION



ACTIVE MECHANICAL ISOLATION



## Chemical explosion protection

The **HRD barrier** is an active system that prevents the transmission of an explosion. It is characterized by the extremely rapid introduction of an extinguishing agent into the pipeline connected to the protected technology, thus stopping the spread of an incipient explosion within the pipeline.

The HRD barrier is also ideal for use with equipment requiring high operational hygiene standards, such as that found in the **pharmaceutical or food industries**. It can be used alone or in combination with an explosion suppression system or explosion venting devices.



AISLAMIENTO QUÍMICO

### (\* ) ISOLATION TYPES

**Chemical isolation:** Discharges an explosion suppressant into the duct that will suppress the flame propagation front, reducing the likelihood of it reaching interconnected equipment or different areas of the plant.

**Active mechanical isolation:** This activates a high-speed valve release to form a mechanical barrier in the pipeline. Mechanical barriers protect against the spread of flame and pressure to connected equipment. A control panel and explosion detector are required as part of this system.

**Passive mechanical isolation:** A valve in the pipeline that closes in response to the explosion pressure wave can be used to isolate interconnected pipelines of explosion-protected process vessels. Typically, no additional controls or sensors are required.

## Spark detection / Extinguishing systems

The detection and extinguishing system is designed to reduce the risk of ignition sources entering hazardous areas—such as silos and filters—and causing dust explosions.

The spark detectors are extremely reliable, fast and sensitive, designed to detect ignition sources in milliseconds and initiate water extinguishing.

The extinguishing process typically lasts 5 seconds and stops automatically.

Ideal for companies working in the **wood, bioenergy, recycling, paper, food, textile and fiber-reinforced plastics industries.**

These products are **ATEX** certified and also comply with CEA regulations.



### Operating principle of the spark detection and fire extinguishing system

1. Spark detectors respond to ignition sources in milliseconds.
2. The extinguishing unit extinguishes sparks and embers with a small amount of water.
3. The signal router guides and monitors the extinguishing process.
4. The control panel monitors the entire system and issues audible and visual alarms.
5. The fan controller stops the blowers if overheating or spark shower occurs.
6. The overheat sensor cable monitors the fan bearings and housing.
7. The pressure booster controller guides the water pump and heat tracer cables.
8. The pressure booster delivers extinguishing water at the correct pressure without air pockets.



## Explosion-Proof Lighting Solutions

High-quality **explosion-proof LED lighting systems** with cutting-edge technology and environmental awareness. Energy efficiency combined with new sustainability and environmental considerations.

Suitable for virtually all types of potentially explosive atmospheres classified as **ATEX / IECEx**.

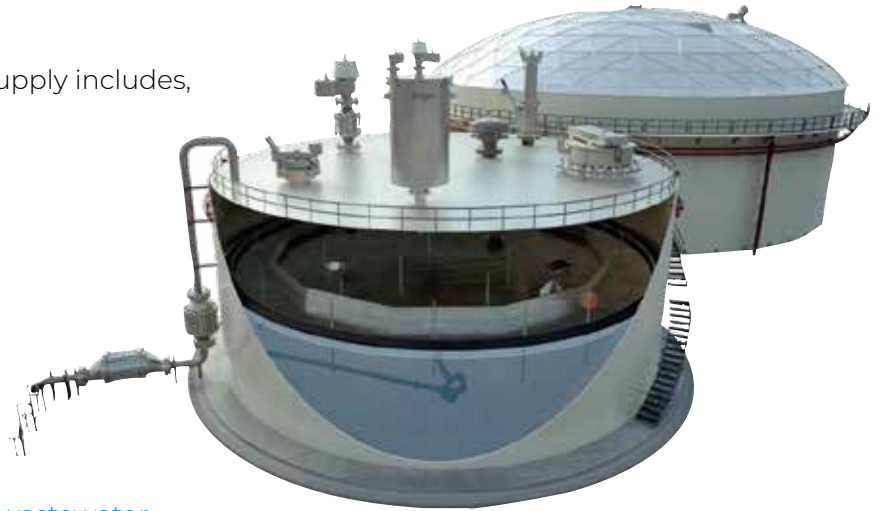


## Storage Tank Equipment

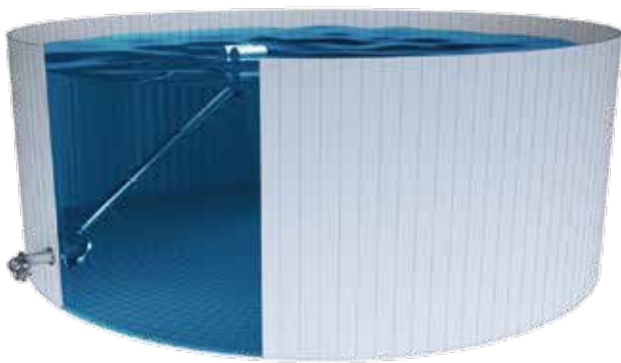
The equipment for storage tanks we supply includes, among others, the following:

- Internal Floating Roofs and Seals
- Emergency Vents
- Manhole / Gauge Hatch
- Floating Suction Units
- Oil Skimmers
- Swivel & Pivot Joints
- Sight Glasses
- Tank Liquid Level Indicators

**Industry Applications:** Tanks for fuels, wastewater, chemicals, pharmaceuticals, etc...



Internal Floating Roofs



Floating Suction Unit



Oil Skimmer

## Emergency Pressure Relief Valve

The **Emergency Pressure Relief Valve** is designed to operate in the last resort in the event that the conventional pressure-vacuum relief valve has failed to operate.

The closure lid is retained in position by a calibrated coil spring. A build up of pressure in the tank will overcome the resistance of the spring and the weight of the closure cause it to open sufficiently to allow the internal pressure to dissipate, thereby preventing the risk of tank rupture or explosion. It will close automatically when the internal pressure is reduced.



## Gauge Hatch

The Non-atmospheric Sampling Gauge Hatch is engineered to uphold safety standards and environmental preservation during the management of bulk storage tanks.

**Specifically tailored for volatile and hazardous liquids**, this hatch incorporates a sophisticated chamber system aimed at minimizing product loss and mitigating vapor emissions.

Through its innovative **dual-chamber design**, comprising distinct upper and lower sections, it effectively shields the operational environment from the potentially harmful contents of the tank.

Access to the Sampling Gauge Hatch is facilitated by a secure closure mechanism, complete with a bayonet fitting, ensuring both ease of entry and a tight seal to prevent any inadvertent leaks or releases.



## CO<sub>2</sub> Storage Tank Vent Absorber

The **CO<sub>2</sub> Storage Tank Vent Absorber** is a low-pressure-drop filtering product tailored for liquid storage applications that encounter gases, dust and particles from the atmosphere during the emptying process.

The specific methods for capturing gas and particles are determined based on product requirements.

Our skilled engineering teams conduct thorough analyzes for each type of liquid, ensuring the most suitable protection is provided for your systems.

Essential technical data such as liquid type, operating temperature and pressure, total tank capacity and annual turnover rate are used to customize the product material, cartridge and filtration type, including the schedule for cartridge replacement.



## Storage Tank Vent Odour Filter

The **Storage Tank Vent Odour Filter** provides an effective solution for mitigating strong, nuisance odors emanating from evaporated gases in industrial settings. Designed for continuous odor absorption, this filter significantly enhances the quality of your environment.

It also acts to prevent the release of harmful gases into the atmosphere during tank filling operations. Equipped with Low-Pressure-Drop Filter cartridges, the system includes replaceable cartridges featuring cells and particulate filters for comprehensive gas absorption. Tailored to meet specific system requirements, odor absorption filters are custom-designed based on factors like the stored medium, ambient conditions, working pressure, temperature and equipment size, ensuring optimal compatibility and performance. The Storage Tank Vent Odour Filter achieves an impressive **98%-99% efficiency** in removing offensive odors, significantly improving the industrial environment.



## Tank Liquid Level Indicator

**Level indicator** is a simple and durable mechanical leveling system that can be used for almost any kind of liquids.

This type of level gauging system is easy to use and does not require special knowledge to meter the liquid.

It can be installed on above ground and underground storage tanks.



## Sight Glasses

A **Sight glass** is ideal for you to visually check the presence, color and condition of a liquid. It provides a quick, reliable and economical way to verify flow and monitor color and clarity in fluid lines.

Several sizes, styles and materials are available for a wide range of industrial applications.



.....  
[Ask our experts for more information related to this type of equipment to suit your needs.](#)

## Gate and Globe Valves

Linear isolation valves are those whose shaft moves vertically, from top to bottom for closing and from bottom to top for opening. They are characterized by slow opening and closing movements, actuated by a multi-turn handwheel or an actuator.

**Types:** Gate, Globe, Diaphragm, Needle / Regulation, Knife, Pinch...



## Quarter-turn Valves

Rotary isolation valves are also called quarter-turn valves. They are operated by rotating the stem 90 degrees clockwise or counterclockwise. The obturator of a quarter-turn valve rotates within the seats to open or close the flow of fluid and is actuated directly by the rotary motion of a lever—or handle—or a motorized actuator.

**Types:** Ball, Butterfly, Plug, special types...



## Check Valves

A check valve—or non-return valve—is a mechanical device that allows the flow of a liquid or gas in only one direction, automatically blocking the flow in the opposite direction.

**Types:** Swing, Piston, Disc / Double disc, Foot check valve...



## Control Valve

A **control valve** is a mechanical device used in industry to regulate the flow of liquids, gases or steam (flow rate, pressure, temperature) within a pipe, acting as the final control element.

It modifies the fluid passage area according to a signal from a controller to maintain the process at optimal levels.

**Types:** Globe (most common), Angle Globe, Diaphragm, Butterfly, Ball, other special types...



## By-pass turbine & Steam Conditioning Valves

**Mod. BVT-TB: Angle-style steam conditioning valve**, used for both process and turbine by-pass applications. It is designed to reduce temperature and pressure of steam to match downstream requirements.

**Mod. BVT-PB: Steam conditioning valve** optimized for auxiliary and process steam. The application for process steam may range from **petrochemical plants to pulp and paper**, where the valve is typically installed in parallel to a steam turbine and controls the downstream pressure and temperature.

**BVT**<sup>®</sup>  
SWEDEN  
VALVE SOLUTIONS



Mod. BVT-PB

Mod. BVT-TB



## Flow Measurement

A **flow meter** measures the speed or volume of a fluid (liquid or gas) passing through a pipe, using various technologies such as electromagnetism, ultrasound, or mechanical components. It converts this physical measurement into an electrical signal to display the flow in real time or to calculate total consumption.

**Types:** Electromagnetic, Ultrasonic, Flowmeters and Differential Pressure Flow Meters, Vortex Type, Positive Displacement Meters, etc...



## Level Measurement

**Level gauges** can be direct —manual or visual reading— or indirect —continuous or fixed-point sensors—. Direct gauges rely on the variation in the material's level (liquid or granular solids) to obtain the measurement. Indirect gauges use a variable, such as pressure, that changes with material's level.

**Types:** Radar, Ultrasonic, Hydrostatic, Float (mechanical), Capacitive, Visual (glass), others...



## Pressure Measurement

Industrial pressure measurement is performed by converting the force exerted by fluids —gases or liquids— into a mechanical or electrical reading using instruments such as *Bourdon* tube gauges, diaphragms or piezoelectric sensors. This equipment allows for the measurement of gauge, absolute or differential pressure, which is crucial for safety and process control.

**Types:** Mechanical pressure gauges, differential pressure gauges, electronic sensors (transducers and transmitters), vacuum gauges, absolute pressure gauges, digital sensors, etc.



## Temperature Measurement

Temperature measurement is achieved using specialized sensors —thermocouples, RTDs, bimetallic strips— that convert thermal energy into electrical or mechanical signals (expansion) to monitor processes in real time. The main methods include contact sensors —PT100 probes, thermocouples— for high accuracy and non-contact sensors (infrared pyrometers) for moving objects or hard-to-reach areas.

**Types:** Thermocouple, RTDs —Resistive Detectors—, Bimetallic, Infrared Pyrometers



## Gas Analysis

A gas chromatograph separates the volatile components of a mixture by injecting it into a heated port, where it vaporizes and is carried by an inert gas —mobile phase— through a column —stationary phase— inside an oven. The components are separated by their affinity for the column and are detected as they exit, generating a chromatogram that indicates the composition and concentration of the sample.

**Typology based on the stationary phase:**

- **Gas-Liquid Chromatography (GLC):** The most common type, it uses a non-volatile liquid immobilized on a solid support.
- **Gas-Solid Chromatography (GSC):** Uses a solid adsorbent (such as silica or activated carbon) to separate components.



## Seamless and Welded pipe & tubing

All types of seamless and welded tubing. We offer tubing for instrumentation and control systems as well as conventional pipe, including all types of metallic materials (carbon steel, stainless steel, copper and special alloys such as Inconel, Monel, and Hastelloy) and non-metallic materials.

Precision tubing is a thin, lightweight, and often flexible tube, measured by its outside diameter (OD) and wall thickness, used for instrumentation and control applications.

Industrial pipe is rigid, thick-walled and measured by its nominal diameter (NPS/DN) for conveying large volumes of fluids at high pressure.

**Application:** Tubing is used in instrumentation, hydraulic, pneumatic and laboratory systems. Pipe is used for transporting large volumes of fluids, steam or in demanding industrial processes.



## Compression Fittings

**Double ferrule design** for metal-to-metal connection provides maximum leak-proof sealing. High design pressures, exceeding those of any other tubing.

Industry standard design for all grades in instrumentation.

**Sizes:** From 1/16" to 2" (2 mm to 50 mm). Suitable for high-pressure vacuum service in vibration-prone applications.

**Materials:** Stainless steel 316/316L, Alloys (Alloy 20, Alloy 400, Alloy 600, Inconel 625, Incoloy 825, Hastelloy C-276, Aluminum, Carbon steel, Duplex, Titanium, PTFE...)

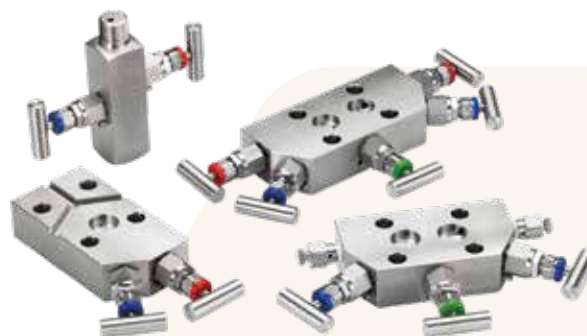
**Manufactured** from forging (ASTM A182, ASME SA182, EN 1.4401) or bar (ASTM A276, ASME SA479, EN 1.4401)

**Connections:** NPT (ASME B1.20.1, SAE AS71051), ISO/BSPT tapered thread (ISO 7-1, BS EN 10226-1, JIS B0203), ISO/BSPP concentric thread (ISO 228-1, JIS B0202), SAE (ASME B1.1), Metric (ISO 261)

**Rating:** NPT/ISO according to ASME B31.3 for ambient temperature pipe and pipe fittings



Needle valves  
for Instrumentation



Manifolds

Ask our experts for more information related to this kind of equipment to suit your needs.

## Pipeline Pigging Systems

We offer comprehensive pipe cleaning solutions tailored to the specific needs of various industries. Our systems are designed with the latest technology and the highest standards to guarantee reliability, efficiency and safety.

Our manufacturing facilities are accredited to several industry standards, including: **ASME Section VIII Division 1 and 2, API, ASTM, PED, ISO, NACE, TSE/EN, DNV GL + ABS Marine Welding Class Program**



## Air and Gas Boosters & Systems

Pressure boosters —gas booster, liquid pumps— for liquids, gases and air in a wide variety of applications and industries, being able to reach **more than 4,000 bar**, depending on the model.

**Types:** Liquid pressure boosters, gas boosters, air boosters and complete hydraulic systems.



Official Technical Service across Europe  
**SC HYDRAULIC ENG. Co.**



## Heat Exchangers

Shell and tube type heat exchanger is a highly complicated equipment that has a critical role in any industrial plant to provide the best thermal performance. The right manufacturing methods and experiences with it play important roles in design and quality. Designing and manufacturing heat exchangers require certain specialization that has to be accredited by industrial authorities.

**Types:** We design and manufacture shell and tube type heat exchangers for oil, gas, petrochemicals, food, beverage and all types of industrial applications according to globally accepted standards such as **ASME, TEMA API or PED.**



## Pump Repair & Panel Design Service

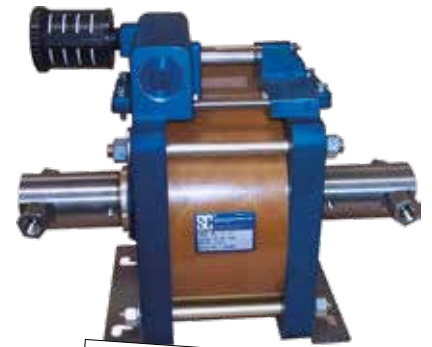
Official on site Repair, Assembly and Conditioning Service for SC Hydraulic Pumps & Boosters and in our own facilities.

We provide services for repair or reconditioning of **SC Hydraulic pumps and boosters**. Our skilled technicians can troubleshoot and repair all products we manufacture.

We can repair or rebuild any SC pump or booster back to the original factory specifications. All units are completely disassembled, inspected and quoted in writing before proceeding with the repair. There is an initial evaluation fee, however it is waived if the unit is either repaired or replaced. Upon your written approval the unit is rebuilt to the original tolerances and tested to ensure it performs like new.

We also provide customer service for those technical problems you may not have encountered before. We welcome the opportunity to guide you through sizing the correct unit, recommending additional components and troubleshooting problems that may be encountered on your high pressure liquid, air or gas systems. Our staff has many years of experience with hydraulic pumps and boosters and will gladly assist you.

Design and manufacture of custom portable panels (Power units)



## Safety Equipment Maintenance

Inspection, Repair, Maintenance and Recalibration Service for Safety Equipment (Flame Extinguishers and Relief Valves).

We offer a technical support program to address any issues regarding security-related equipment. Contact us for more information about this service.



## Solids Protection / Turnkey Projects

We provide an **ATEX Consulting service** and offer you the possibility of implementing your **Turnkey Project**.

Study and analysis, supply, installation, commissioning and certification of complete installations.



## Pressure-Vacuum Valves Maintenance Service

### Advantages

- Prevents damage and accidents
- Minimizes production downtime
- Gives you a known maintenance cost
- Minimizes unexpected costs

### Upon demand

- On site training on request
- Integrity check: interval of 3 months
- Complete overhaul: interval of 2 years



Ask our technicians for more information related to this kind of services.



## ATEX Regulations | Directive 2014/34/UE

The European Union's ATEX (**AT**mosphères **EX**plosibles) Directive regulates safety in environments with a risk of explosion, mandating the use of certified equipment and preventive measures. It is divided into two sets of regulations: [2014/34/EU](#) (for manufacturers of electrical/mechanical equipment) and [1999/92/EC](#) (for the protection of workers in hazardous areas).

It includes CE marking and equipment classification by safety groups and categories.

An **ATEX zone** is an area with a risk of explosion due to the presence of flammable substances, whether in the form of gases, vapors, mists or combustible dusts.







### Classification of ATEX zones according to risk level

ATEX zones are classified according to the type of flammable substance present —gases, vapors, or combustible dusts— and the level of risk associated with the frequency and duration with which an explosive atmosphere can be generated. This categorization allows for the precise identification of hazard areas within a facility and the application of appropriate protective measures. ATEX zones are grouped into two main categories, according to the type of substance that can cause an explosion:

- **ATEX zones for flammable gases, vapors, or mists**
- **ATEX zones for combustible dusts**

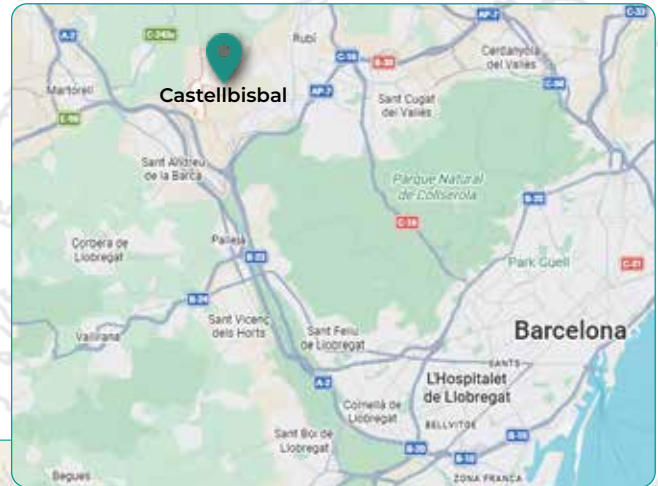
In turn, each group is divided into numbered zones —0, 1, 2 for gases and 20, 21, 22 for dusts— that indicate the degree of probability of the appearance of an explosive atmosphere.

ATEX Zone			Equipos			
Zone: A place in which an explosive atmosphere is...	ATEX Zone		Level of protection is assured in...	Category	Marking	
	Gases	Dusts				
Continually present	0	20	The event of two faults occurring independently of each other	1	Gases	Dusts
Likely to occur in normal operation occasionally	1	21	The event of one equipment fault	2	 II 1G	 II 1D
Not likely to occur in normal	2	22	Normal operation	3	 II 2G	 II 2D

Type of Environment	Group & Class		Hazardous Material in the Atmosphere						Temperature Class	
Mines	I		Firedamp	Temperatures according to coal dust accumulation on equipment (< 150°C for coal mines or < 450°C for not coal mine tunnels)						
Explosive Gases	IIA	IIB	IIC	Ammonia	Ethanol	Petrol	Acetal-de-			
				Methane	Cyclohexane	Diesel Fuel	hyde			
	Ethane	n-Butane	Fuel Oil							
				Propane		n-Hexane				
				City Gas	Ethylene	Ethyl glycol	Ethyl ether			
				Acrylic nitrile	Ethylen oxide	Carbon hydrogen				
				Hydrogen	Acetylene					Carbon disulphide
Explosive Dusts	III	A	Flammable fibers	<b>Attention:</b> this list is only a selection of possible flammable mediums and is not complete!						
		B	Non-conductive dust							
		C	Conductive dust							
			For dust explosion proof, the max. surface temperature is directly shown	T1 < 450° C						
				T2 < 300° C						
				T3 < 200° C						
				T4 < 135° C						
				T5 < 100° C						
				T6 < 85° C						



## WHERE WE ARE LOCATED



Calle Farigola, 34  
08755 Castellbisbal, Barcelona

**Location:** 24 km from  
Barcelona-El Prat "Josep  
Tarradellas" Airport and 24 km  
from the Port of Barcelona



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**OUR PRODUCTS IN THE INDUSTRY**

- CHEMICALS AND PETROCHEMICALS
- BIOGAS
- FOOD & BEVERAGE
- AUTOMOTIVE
- CRYOGENIC SERVICES
- ENERGY
- OIL & GAS
- TRANSPORT
- PHARMACY / LABORATORIES
- WOOD AND PAPER

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**OUR MAIN CUSTOMERS**




# TECNOVENT

Safety & Control

English edition 



PRODUCT  
OVERVIEW  
2026

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