



HERMETIX
INSIDE

THE NATURAL CHOICE

High end valves for the natural gas value chain

Inspired By Challenge

01 NATURAL GAS SOURCES

For drilling platforms, FPSO (Floating, Production, Storage and Offloading) and FSRUs (Floating Storage and Regasification Units), Habonim's highly efficient products excel wherever small-footprint, light-weight, and low-torque valves are essential.

This unique high pressure valve specially designed for the gas extraction process includes an integral bypass, which equalizes the pressure over the valve prior to opening the main line. In this way, Habonim's solution avoids the valve stem torsion and the pipe overstressing that can be caused when rapidly opening a large bore valve under high differential pressure.

High pressure valve with integral bypass

- Increased site safety
- Low valve torque
- Gradual pressure build-up
- Less piping overstress



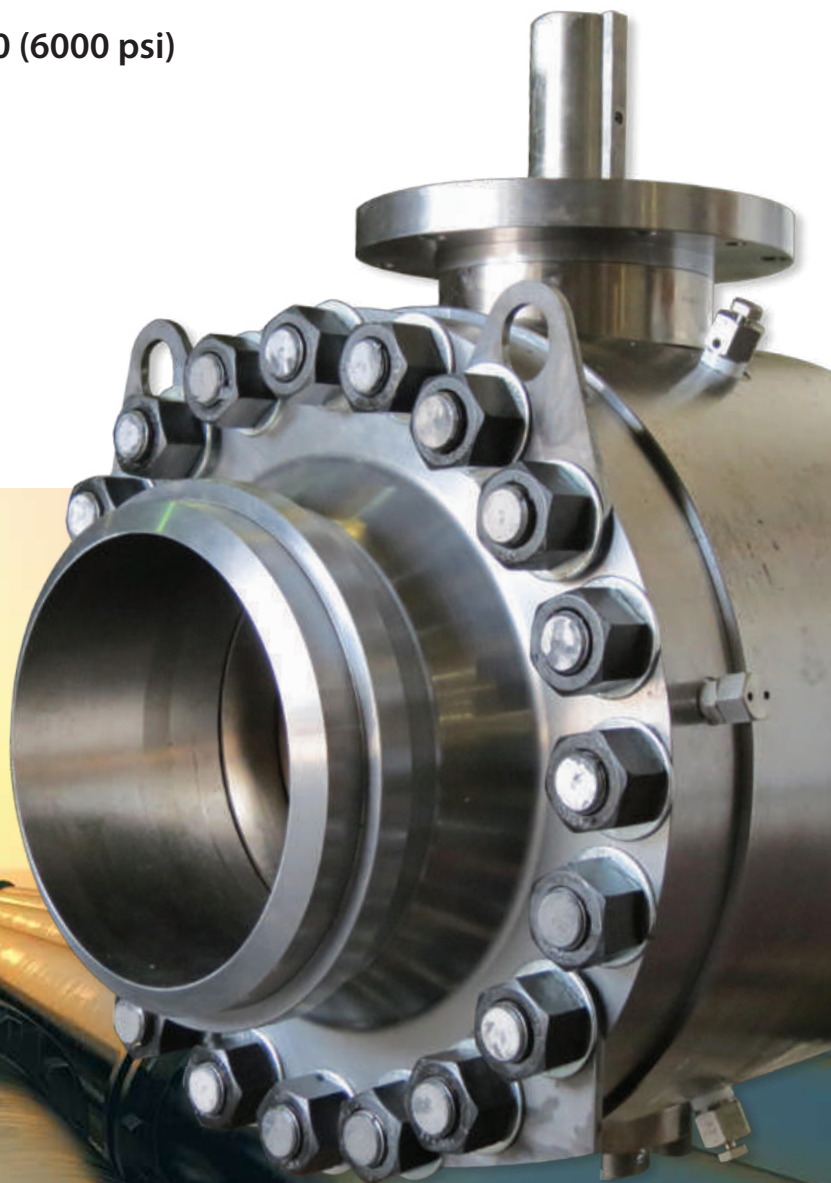
02 NATURAL GAS PIPELINE

The Habonim trunnion mounted valve series is specially designed to withstand the extreme working environments of the gas industry -- enduring temperatures as low as -60°C (-76°F) and gas line pressures of up to class 2500, both under- and above-ground. A robust, maintenance-free valve design tolerates the heavy load on the valve trim caused by the combination of large valve bore, high pressure and dynamic temperature cycles.

Trunnion mounted valve

- Up to 16" (DN400) and up to class 2500 (6000 psi)
- Temperature -196°C - 650°C
- Wide range of exotic materials
- API 6D certified

Habonim's trunnion valve series is API 6D certified and the valve wall thickness is ANSI B16.34 compliant. The complete line is designed to be fire safe according to API 607, ISO10497 and API 6FA.



03 PRESSURE REDUCTION AND METERING SYSTEM (PRMS)

PRMS stations are used for analysing, filtering, measuring, heating and regulating the gas flow in the pipeline to the consumer's facilities. Habonim's complete valve solutions have been successfully installed by PRS & PRMS contractors around the globe.

Habonim's Emergency Shut-Down (ESD) package is certified to work in a SIL3 loop, providing reliable and rapid closure of a gas line in the case of system malfunction. At the core of the ESD package is Habonim's unique four-piston COMPACT™ actuator, with a stroke time that closes an 8" line in less than 1 second

Emergency-Shut-Down (ESD)

- Certified to work in a SIL 3 loop
- Rapid gas line closing in the case of a dangerous failure
- Reliable solution
- Long-life, maintenance-free valve solution
- Oversized actuator increases site safety



04 CUSTOMIZED SOLUTIONS FOR INTEGRATORS

Turbo Expander Generator Mounted Valve

Habonim's automated trunnion mounted valves control the flow of high pressure natural gas into the turbo-expander generator in a way that is efficient for producing electric power.

The turbo-expander generator produces electric power while reducing the high pressure of the natural gas prior to dispensing it to low pressure Gas-Distribution Points (GDP).

As critical system components, these highly reliable valves help ensure an uninterrupted and continuous power supply.

- **Cryogenic trunnion**
- **Metal seat trunnion**
- **API 6D certified**
- **DB&B trunnion**
- **Trunnion with integrated bypass**
- **High pressure**



05 SAFETY SHUT-OFF DEVICE (SSD)

The Habonim SSD solution is a mission-critical unit that stays in the open position under normal operating conditions but shuts off the gas flow automatically and completely in less than 0.5 seconds when the monitored pressure reaches a pre-set value.

The SSD protects the downstream line in the case of over pressure. Even more importantly, in the case of zero pressure due to a downstream line rupture, the SSD shuts off the flow and contains the flammable gas within the pipeline.



- Fast closing of gas feedline in the case of a pipe rupture
- Protects the factory pipe system and equipment from overpressure

- Extremely light weight
- Cost effective
- Corrosion resistance components
- Compact modular design
- Customized 'Plug-and-Play' solution



06 CNG TRANSPORTATION

The streamlined design of Habonim high pressure valves ensures rapid and total discharge of the transportable pressure vessel. The valves undergo a strict testing process that exceeds the required standards, with Habonim providing test certificates as required by the customer.



* Hybrid seat - metallic stiffness and polymeric bubble tight shut-off. (optional)

High pressure compressed gas solutions

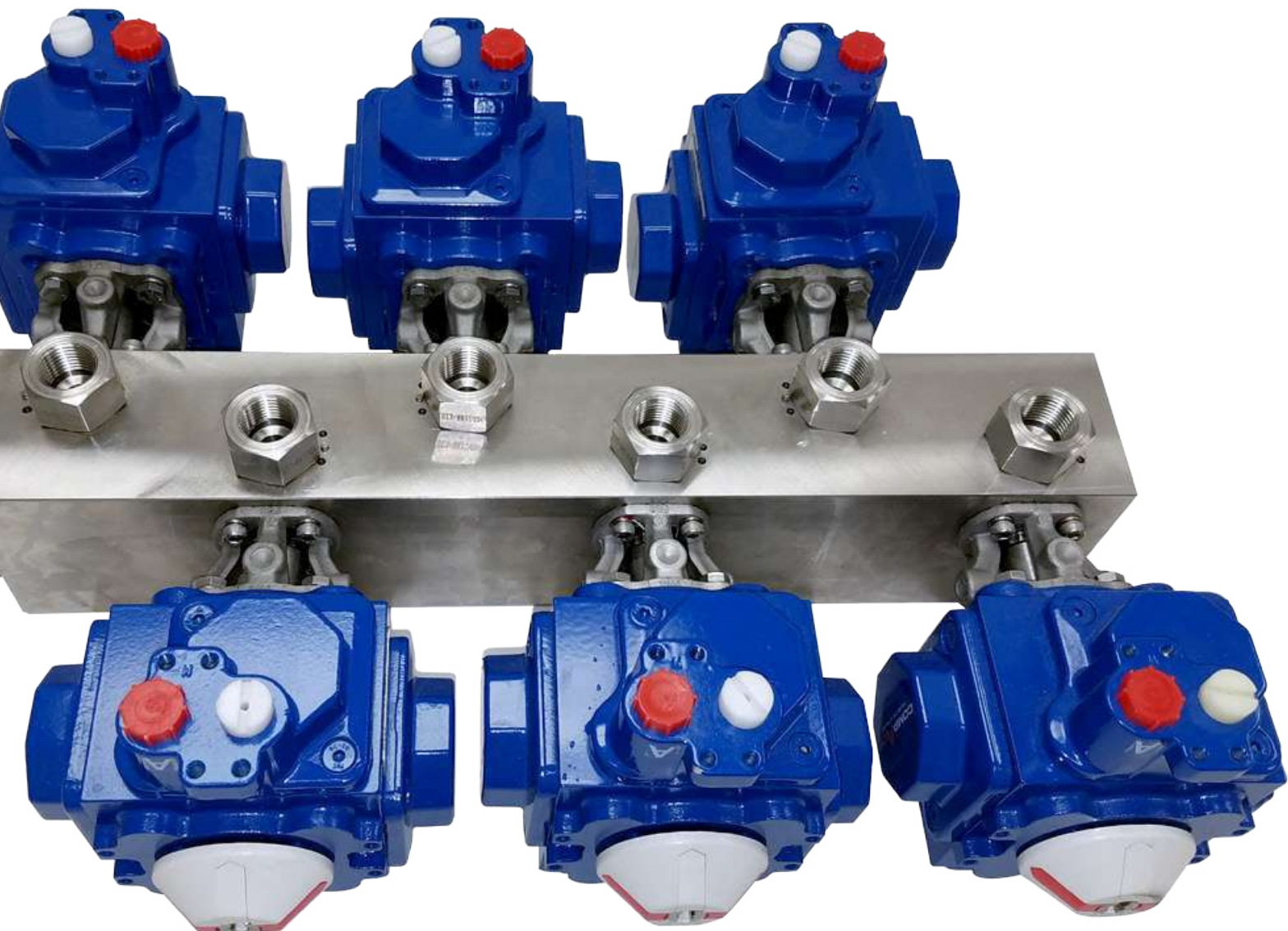
- Up to Class 2500 (6000 psi) pressure rating
- Unique seat design to handle high differential pressure
- Maintenance free up to 500K cycles
- Fire safe certified
- Fast loading / unloading of pressure vessels
- Cost effective
- Light weight
- Compact design
- Locking device prohibits misuse or unintentional operation



07 CNG FUELING STATION

A class 2500 pressure rated, full port, manifold design allows swift and efficient loading and unloading of compressed natural gas. With minimum leak paths and a lightweight compact design, it is the perfect solution for a confined cabinet space.

The product is designed to withstand the cold temperatures of rapid gas expansion during unloading as well as dynamic mechanical and pressure cycles, all the while maintaining in-line bubble-tight shut-off and low operating torque.



01 LNG TERMINAL

HermetiX™ is a leak-free stem seal technology that minimizes downtime by providing up to 500,000 maintenance-free cycles decreases the hydrocarbon footprint, and increases production efficiency. The HermetiX™ is Habonim's default stem seal in all standard floating and trunnion mounted valves for the LNG industry.

Cryogenic floating ball valve

- Maintenance-free up to 500K cycles
- Complete 'in-house' solution for valves and automation
- Fire safe certified
- COMPACT™ light weight 4-piston actuator
- Extended ends for in-line welding
- Valve design in full compliance with BS6364 for cryogenic service
- Sizes up to 12" (DN300)
- Class 2500 (6000 psi) pressure rating



02 LNG STORAGE & TRANSPORTATION

Habonim cryogenic valves are used when transferring to and from LNG vessels.

The product line complies with the requirements of the European regulation for transporting dangerous goods specified in 2010/35/EU and 1999/36/EC (TPED) for ADR (European Agreement concerning the International Carriage of Dangerous Goods by Road) and RID (Regulations concerning the International Carriage of Dangerous Goods by Rail).



- Custom made cryogenic designs
- Extremely flexible, space saving designs
- Complete 'in-house' automation solution
- Cryogenic double block and bleed valves compact and safe
- Multi port and diverter cryogenic valves
- Maintenance free for 500K cycles
- Fire safe certified



03 LNG FUELING STATION

Habonim's complete LNG fuelling station unit includes automated cryogenic valves, safety valves and a Coriolis mass flow meter. This extremely compact and lightweight unit supports the use of smaller, cost effective fuelling stations.

- **Integration capabilities**
- **Complete, integrated 'in-house' solution**
- **Factory tested for fuelling station integrity**
- **Compact cabinet built to customer specifications**
- **Extended warrantee**
- **Customized 'Plug-and-Play' solution**





Demands for clean energy, a low hydrocarbon footprint, reduced energy costs along and technological advancements - are fuelling growth in the natural gas market worldwide.

Habonim offers a wide range of solutions, spanning the entire gas value chain - from the natural gas source to the end users.

Habonim is a leading manufacturer of value-add solutions that provide full coverage for all natural gas applications, including the energy and marine industries:

- 500K-cycle maintenance-free, fire-safe HermetiX™ stem seal
- Lightweight solutions
- Small footprint systems
- Minimum leak path manifolds
- Extremely low torque valves
- Rapid stroking automated packages

Habonim helps streamline processes by offering a wide and growing range of operating pressures as well as a full range of temperatures.

Product coverage:

- Sizes: from 1/4" (DN6) up to 16" (DN400), manually operated or automated
- Vacuum pressure to class 2500 rating
- Cryogenic temperatures as low as -264°C and up to +650°C

Customized products are also available to meet specialized requirements.

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