NOZZLE CHECK VALVES

FluitekOrsenigoValves

specially engineered valves
for the oil and gas and power generation industries

Who we are

FLUITEK ORSENIGO VALVES started out ball valves manufacturing for the Oil and Gas industry in 1993 with the Orsenigo brand.

Friulco Spa started its own production of cast steel valves for the energy and petrochemical industry in 1990.

Their paths crossed in 2012 with the acquisition of Friulco by FLUITEK ORSENIGO VALVES.

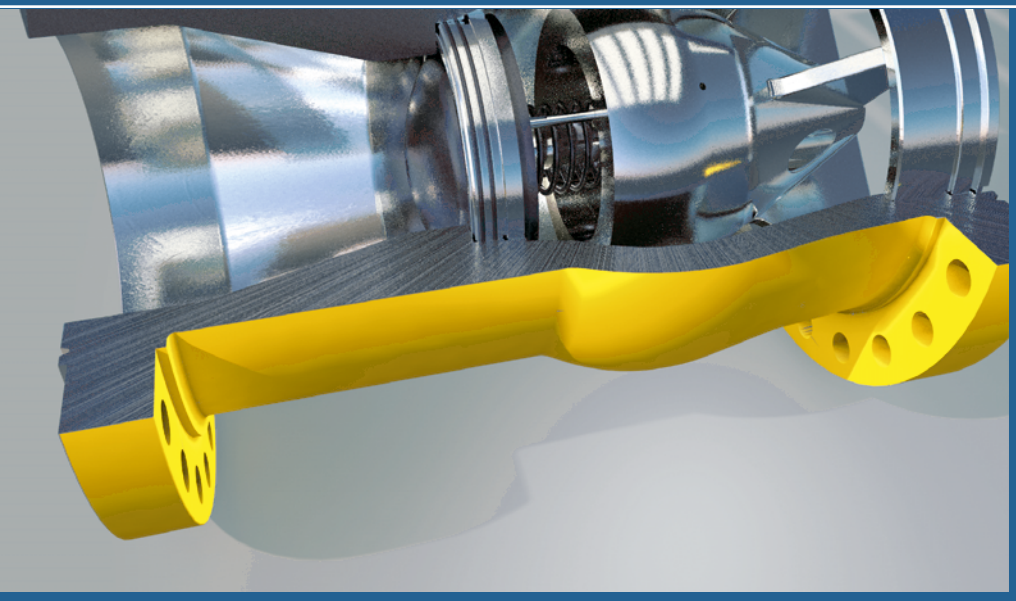
This combined wealth of experience, know-how and resources is now integrated in the new reality of FLUITEK ORSENIGO VALVES, with manufacturing facilities and headquarters located in the North of Italy.

Engineering

FLUITEK ORSENIGO VALVES mission consists in providing quick and effective answers to its customers' needs. Our problem solving approach is developed through the engineering of solutions and the product manufacturing, coupled with our knowledge and study of materials. FLUITEK ORSENIGO VALVES Engineering Organizations consists of a Product Development and the Engineering Department. The first is dedicated to research on materials and processes and the design and development of new solutions. The second is focused on product engineering with 15 people involved including engineers, designers, product specialists.

Fluidynamic computerized analysis

FLUITEK ORSENIGO VALVES can perform thermo-fluidynamic analysis on its products by means of a computerized calculation system (CFD, computational fluid dynamics). Valve design and construction details are improved with the use of virtual modeling techniques and "what-if" simulations. Data concerning pressure and velocity values, forces acting on the surfaces, temperatures and all the main physical variables can be provided to the customers. Our computer analysis included static, dynamic and thermal analysis.



Quality

The main quality controls carried out by FLUITEK ORSENIGO VALVES are:

Dimensional Inspection

All necessary equipment in house
Faro measuring arm.
Zeiss Bridge-type 3D Measuring Machine

Non Destructive Testing

MT: Magnetic particles examination
PT: Dye penetrant examination
UT: Ultrasonic examination
RT: Radiographic Examination Capability of shooting on site, x-ray films development and reading in house (ASME reference plates)

Pressure Test To

API598 - ISO 5208 - BS 6755 – API 6A – API 6D – ASME B16.34 – EN 12266 - 1
High Pressure Hydraulic Shell test
High Pressure Hydraulic Back Seat test
High Pressure Hydraulic Seat test
Low Pressure Pneumatic Seat test
Functional test

Tests equipment:

4 Hydraulic & Pneumatic horizontal testing unit for valves DN 1/2" to 16", up to class 4500#
3 Hydraulic & Pneumatic vertical testing unit for valves DN 2" to 16", up to class 600#
1 Hydraulic & Pneumatic horizontal testing unit for valves DN 10" to 48", up to class 4500#
2 Hydraulic & Pneumatic horizontal testing unit for valves DN 1/2" to 4", up to class 10000#
1 Hydraulic & Pneumatic horizontal testing unit for valves DN 2,1/2" to 20", up to class 1500#
1 Hydraulic & Pneumatic horizontal testing unit for valves DN 2,1/2" to 24", up to class 1500#
2 Hydraulic & Pneumatic horizontal testing unit for valves DN 6" to 36", up to class 2500#

Chemical Analysis

PMI: Positive material identification
Mass spectrometer 16 channels

Mechanical Tests

Hardness test
Charpy-V impact test

Micrographic analysis

Available also:

Fugitive emission test (helium/nitrogen)
Cryogenic test
Corrosion test
Cleanliness for oxygen application
Fire Safe tests
High pressure gas tests
Tensile test (including hot tensile)
Hyperbaric Test for subsea application
Torque test

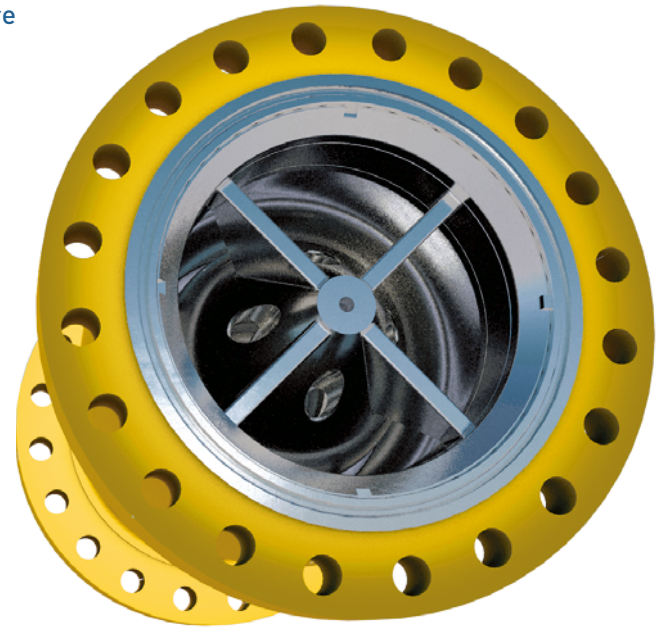
Qualified Personnel

FLUITEK ORSENIGO VALVES personnel is qualified to carry out all the above mentioned controls. In particular, for Non Destructive Tests, FLUITEK ORSENIGO VALVES staff includes fully trained qualified and certified personnel in accordance with STN-TC-1A and EN 473 requirements.

NOZZLE VALVES

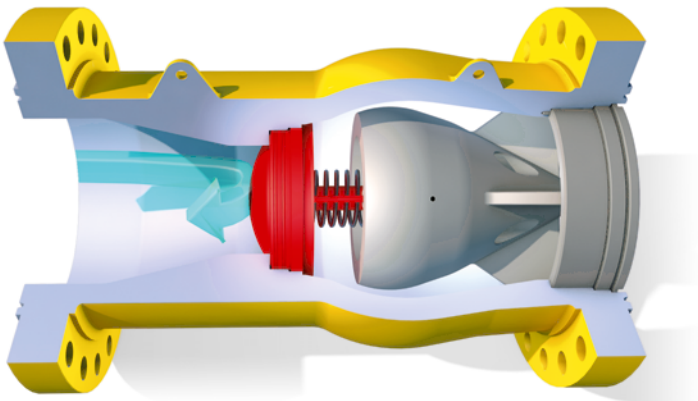
Fluitek Nozzle Check Valves for pipelines, production and process applications.

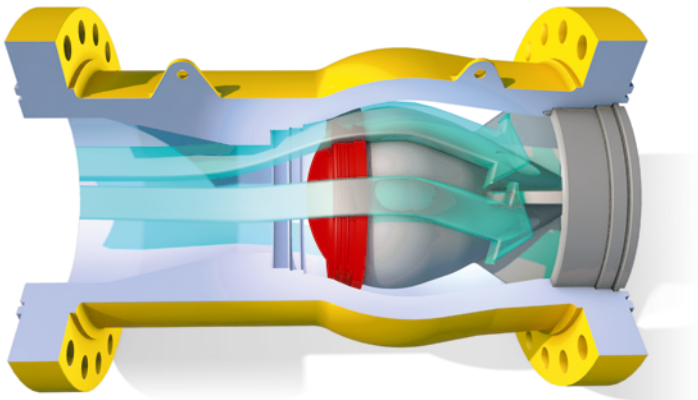
Although the valves are primarily applied in the **Gas Transmission/Compression** applications such as compressor suction/discharge/bypass, this highly engineered product is also ideal for **Water Transmission** application (pipeline and pump compressor station), **Power Generation** (feedwater, cooling water, steam), **Hydrocarbon Processing** (catalytic cracking), **Petrochemical Processing** (propylene units).
The Fluitek Nozzle Check valve is designed, manufactured, assembled and tested under the Fluitek Quality Management System according to ISO 9001: 2008 as approved by Bureau Veritas.
Finite element analysis is utilized to conduct simulation on stress analyses and confirm design integrity. Flow modeling is also applied to optimize pressure drop characteristics. Spring designs and disc weight optimization studies are used to improve the Nozzle Check valve response times.
All valves are hydrostatically tested to API Standard 598 on shell and seat. Duration and leakage rates may vary upon customer requests. Additional non-standard testing, as well as cryogenic and fire testing, can be conducted as per customer specifications.



PRODUCT LINE CHARACTERISTICS

- Sizes 2"– 48"
- Standard and short pattern
- Flanged, butt-weld ends, hubs ends and specials
- ASME B16.34 & API 6D, pressure classes 150 – 2500
- API 6A pressure classes 2000 – 10000
- Wide range of materials of construction available
- Customizable for special application requirements





MAIN BENEFITS

- PREVENTS REVERSE FLOW, PROTECTING THE ROTATING AND CRITICAL EQUIPMENT FROM ANY DAMAGES
- MINIMIZES THE EECTS OF WATER HAMMER IN FLUID SYSTEMS
- MINIMIZES THE PRESSURE LOSS IN PIPING SYSTEMS
- PROVIDES FAST NONSLAM CLOSING AND TIGHT SHUTOFF
- ENSURES LONG DESIGN LIFE MINIMIZING REGULAR MAINTENANCE

Certifications

ISO 9001:2015

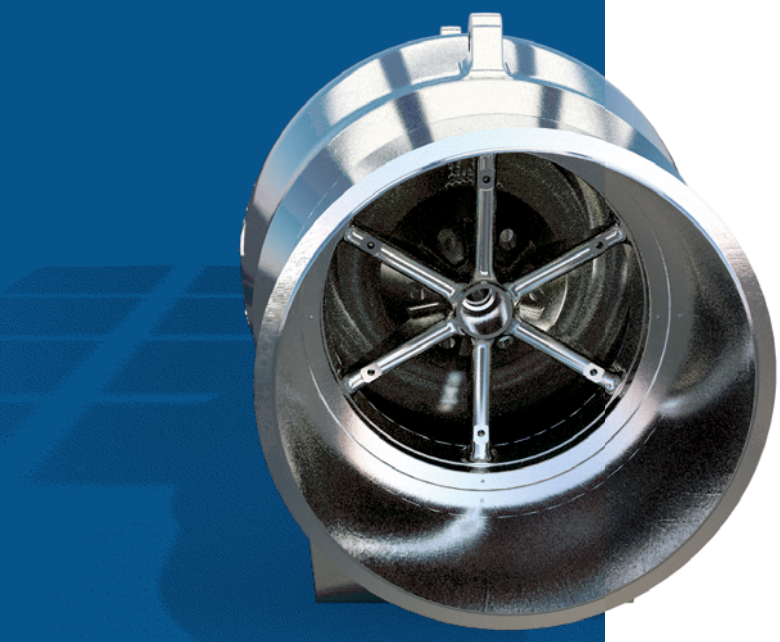
OHSAS 18001:2007

PED Directive (module H) 2014/68/UE

BV MODE II Scheme

IEC 61508-TUV

Atex Directive 2014/34/UE



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