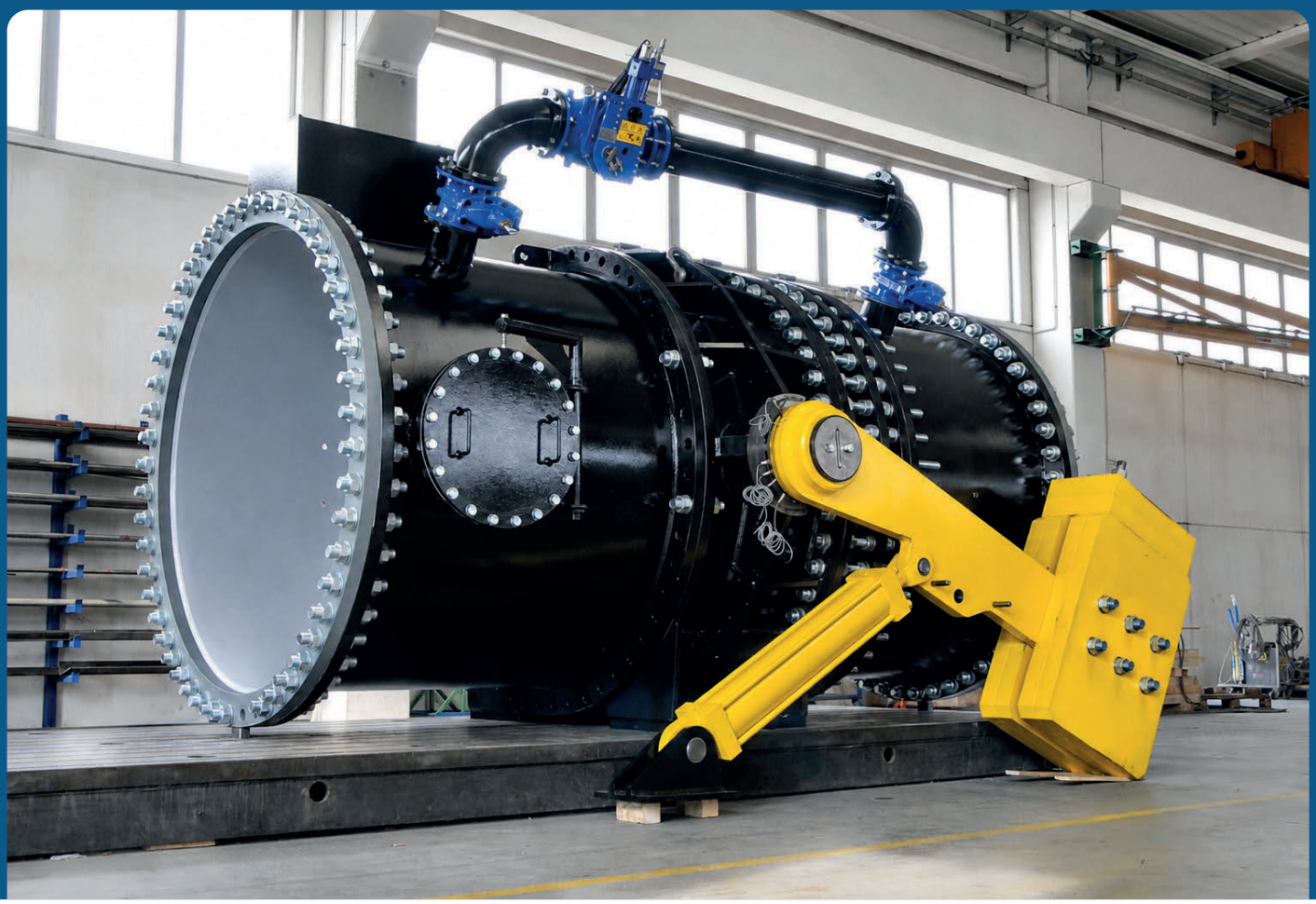
DAL BEN
Leading vision



Engineering and manufacturing of hydro equipment

dalbenspa.com



Who we are

Dal Ben S.p.A. was founded in 1987.
Since then, we have been growing continuously following the evolution of the market, while providing and demonstrating quality and expertise in our products.

We are a trusted supplier to leading global companies in sectors such as steel, hydro, nuclear, space and astrophysics. We specialise in manufacturing high-tech machinery for complex systems and scientific research.

What we do

We design and produce plants, machines, and mechanical components for a wide variety of sectors, providing tailor-made solutions even on a turnkey basis.

Our flexibility and expertise enable us to develop some of the most innovative projects in the world. Our organisational structure is designed to effectively and efficiently meet diverse customer needs.

OPERATIONAL MODEL

01 During the pre-sales stage, our sales technicians identify the customer's needs and propose the most effective technical and economic solutions.

02 Our team of engineers collaborates closely with customers to develop solutions that ensure optimal performance.

03 Project managers oversee each stage of the project, ensuring quality, on-time delivery and cost efficiency.

04 All the production phases are handled in-house, from fabrication to final inspection, creating complete, turnkey machines of the highest quality.

05 After production is complete, we handle shipping and installation and offer continuous after-sales service to ensure the machinery remains operational and functional throughout its lifecycle.

Certifications

Our commitment to excellence is demonstrated through a system of certifications that encompass every aspect of our operations. These certifications not only confirm our compliance with international standards, but also reflect our ongoing dedication to process improvement, technological innovation, and delivering high-quality, reliable and safe solutions for our customers.

SYSTEM CERTIFICATION

ISO 9001:2015

Quality Management System

ISO 45001:2018

Occupational Health and Safety Management System

ISO 14001:2015

Environmental Management System

UNI/PdR 125:2022

Guidelines for a Gender Equality Management System

SA8000:2014

Social Accountability Management System

ISO/IEC 27001:2022

Information Security Management System

PROCESS CERTIFICATION

EN 1090-1:2009 EXC4

Execution of steel and aluminium structures

ISO 3834-2:2021

Quality requirements for fusion welding of metallic materials

EN 1090-2:2018 EXC4

Requirements for steel structures (Inox, Steel, Corrosion protection)

EN 15085-2 CL1

Railway applications - Welding of railway vehicles and their components

AD2000 MERKBLATT

Requirements for pressure vessels

DIN 18800

Steel structures for nuclear applications

The company uses the most up-to-date versions.

This quality approach is strengthened by the internal qualified staff



WELDING COORDINATOR CERTIFIED IWE

International Welding Engineer



APPLICATION SPECIALISTS FOR INDUSTRIAL COATING AND LINING

Certified ANSI-NACE No. 13 SSPC-ACS-1 level 2



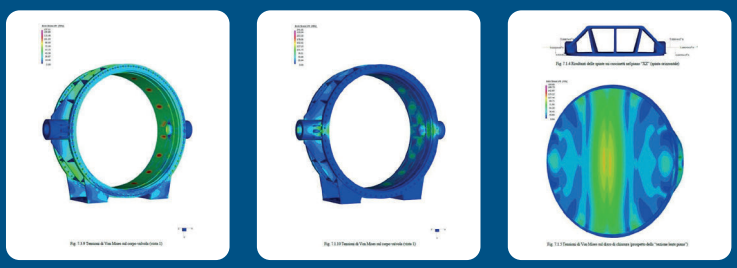
NDT SPECIALIST CERTIFIED ACCORDING TO ISO 9712 LEVEL 2

For VT, PT, MT, UT, and Leak Test (LT) with Pressure Difference and Mass Spectrometer methods

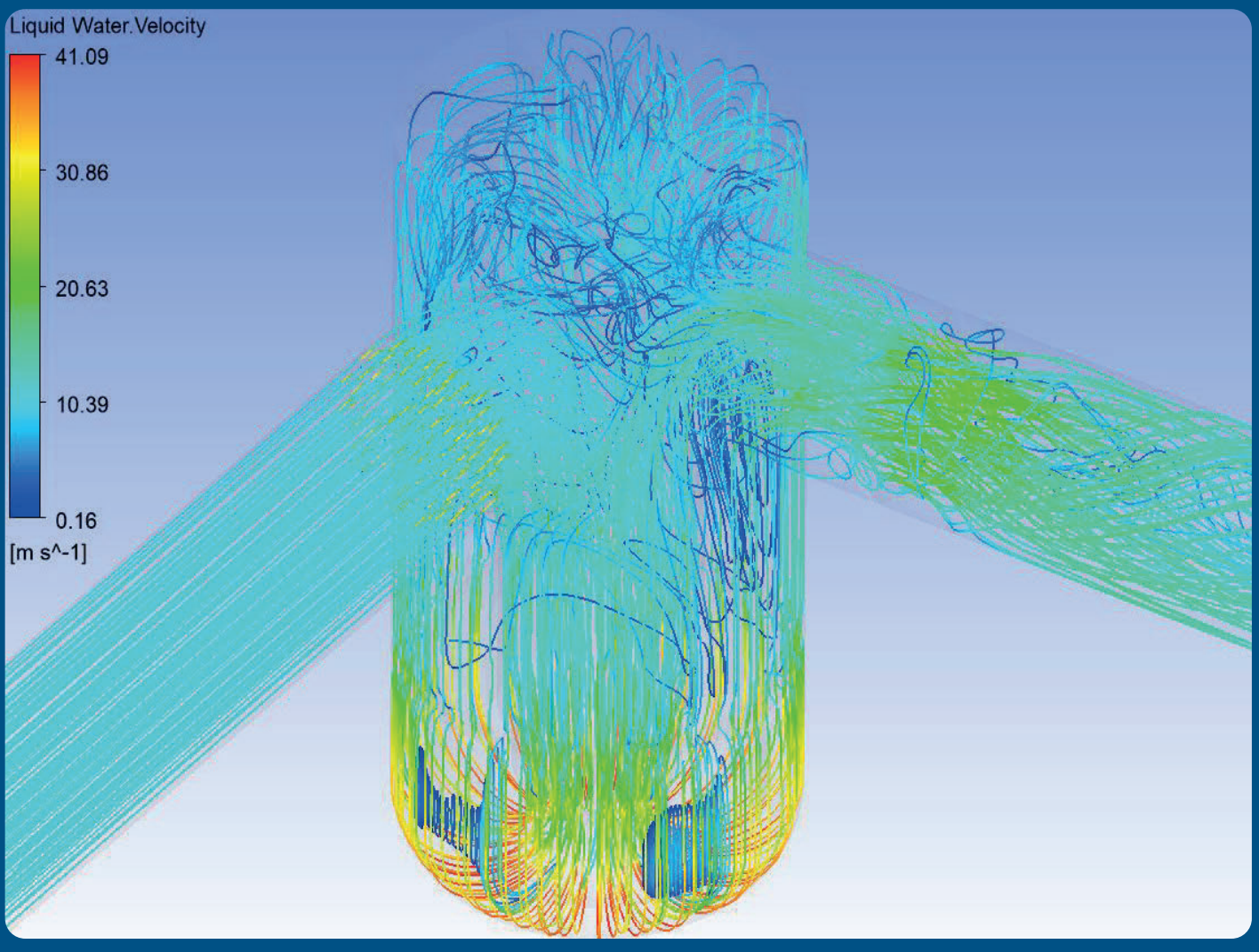
Engineering

Our engineering department develops projects, prototypes and innovative products tailored to the client's needs. The software used to create 3D drawings is SolidWorks and Autodesk Inventor, which interface with similar systems used by customers, and with CAM programs for numerical control machining.





FINITE ELEMENT ANALYSIS (FEA)



COMPUTATIONAL FLUID DYNAMICS SIMULATION

Welding

The welding department specialises in the construction and welding of metal structures in carbon steel, stainless steel, aluminium, and alloy steel and in the execution of weld cladding. Our expertise in special welding processes is supported by the numerous quality certifications we have obtained.







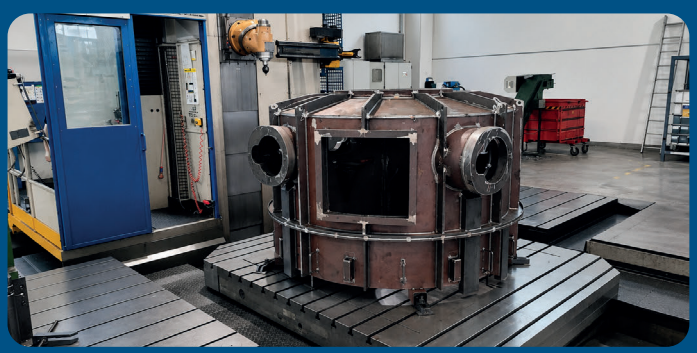
Machining

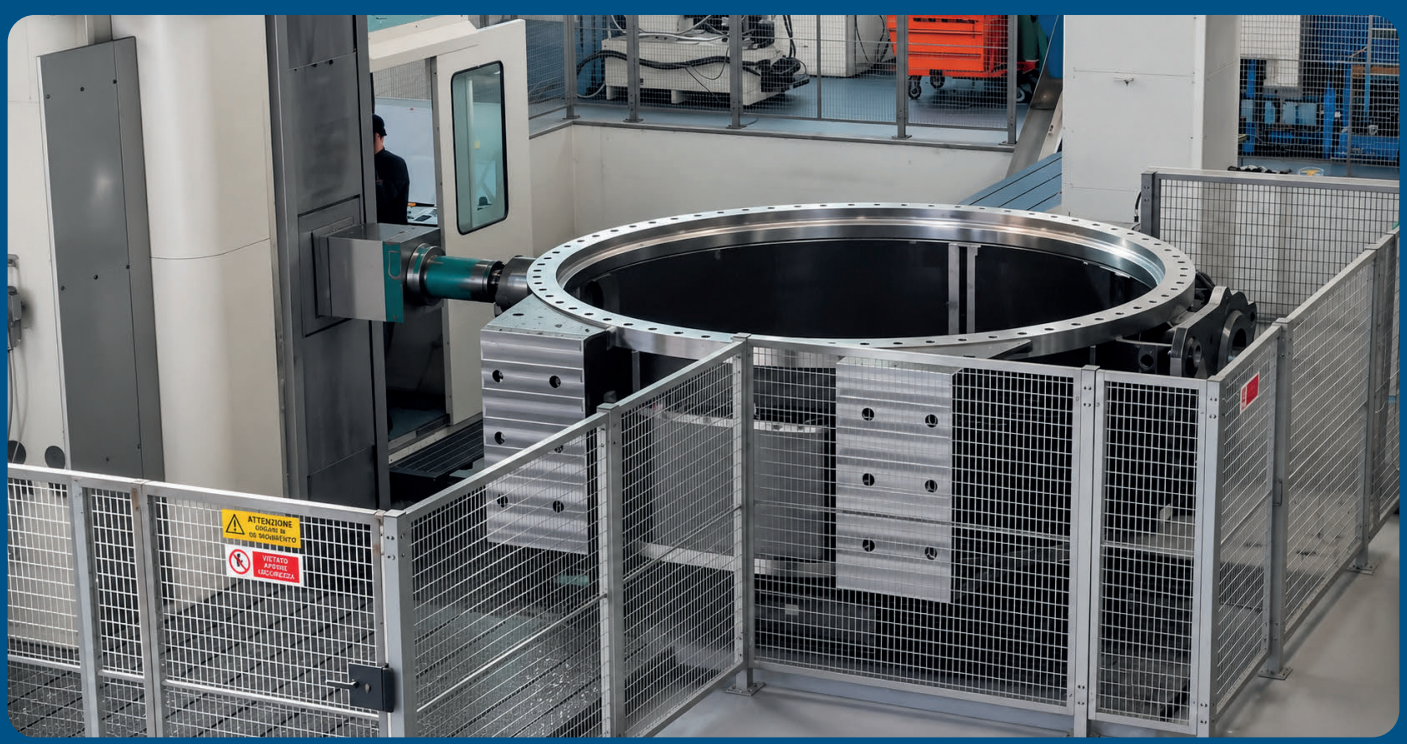
Our range of machine tools consists exclusively of numerically controlled units. We have modern machines, which guarantee high productivity and quality standards. Thanks to our wide range of machinery, we are able to execute any type of processing, starting from small parts up to large components.









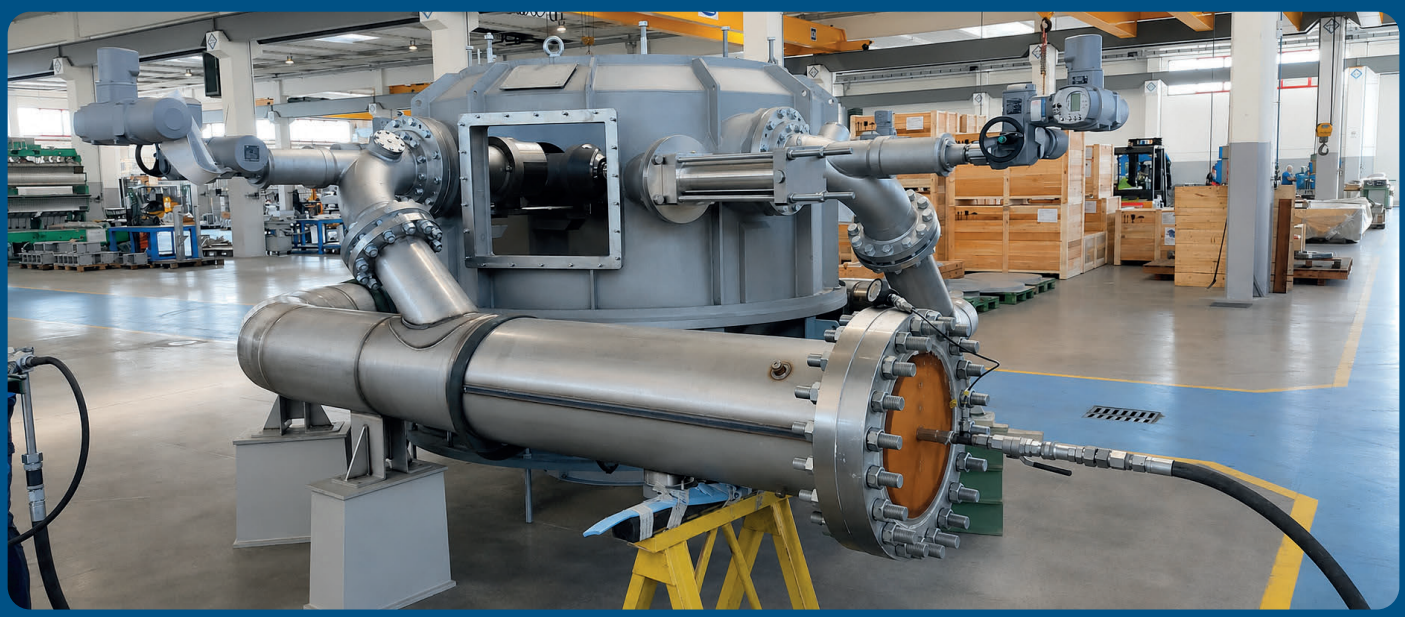


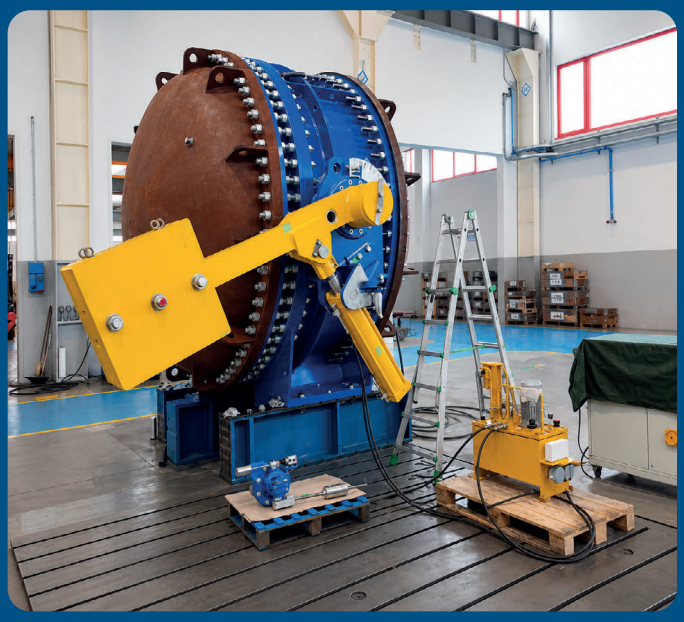
Assembly & Integration

We are equipped and qualified to perform any type of operation necessary for the assembly of any product or machine, even completed with systems: electrical, pneumatic, hydraulic, cooling, and lubrication.









Testing

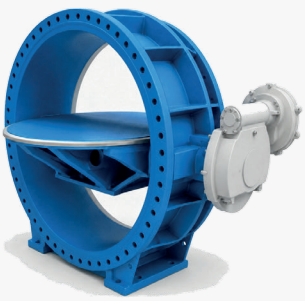
Dal Ben S.p.A. employs qualified personnel and is equipped with all the appropriate tools and instruments to verify that the required quality standards and design specifications are met in every phase.

Our main products

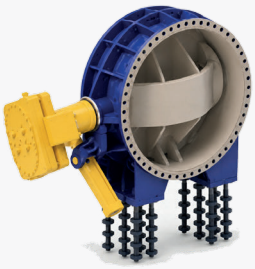
Our hydraulic equipment is designed and engineered almost entirely in-house.

Each component is developed for its specific application, according to customer requirements and project specifications.

Our products are mainly manufactured in welded carbon steel, with stainless steel components where required.



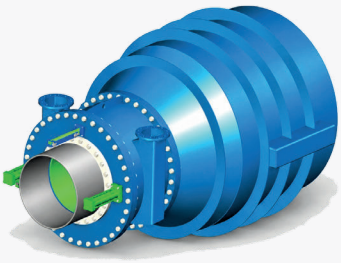
BUTTERFLY VALVES



SAFETY / OVERSPEED BUTTERFLY VALVES WITH LEVER AND COUNTERWEIGHT



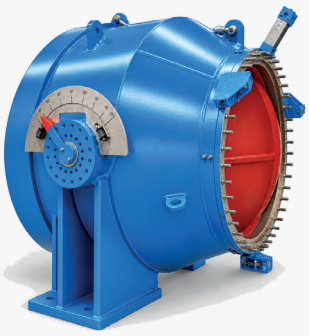
PLUNGER FLOW CONTROL VALVES



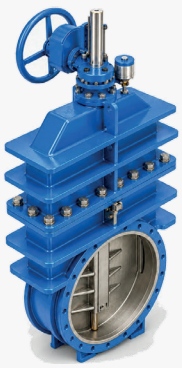
FIXED CONE VALVES



TAILOR-MADE VALVES



ROTARY VALVES

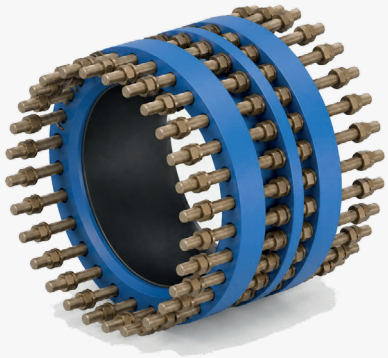


GATE VALVES

Our main products



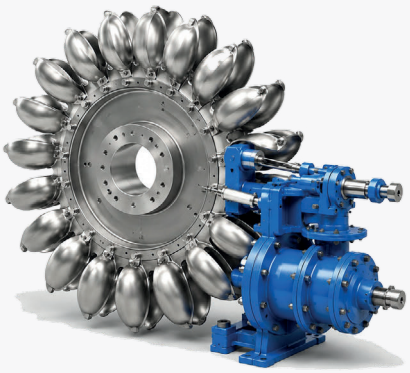
SYNCHRONOUS DISCHARGE VALVE



DISMANTLING JOINTS AND EXPANSION JOINTS



FRANCIS TURBINES



PELTON TURBINES



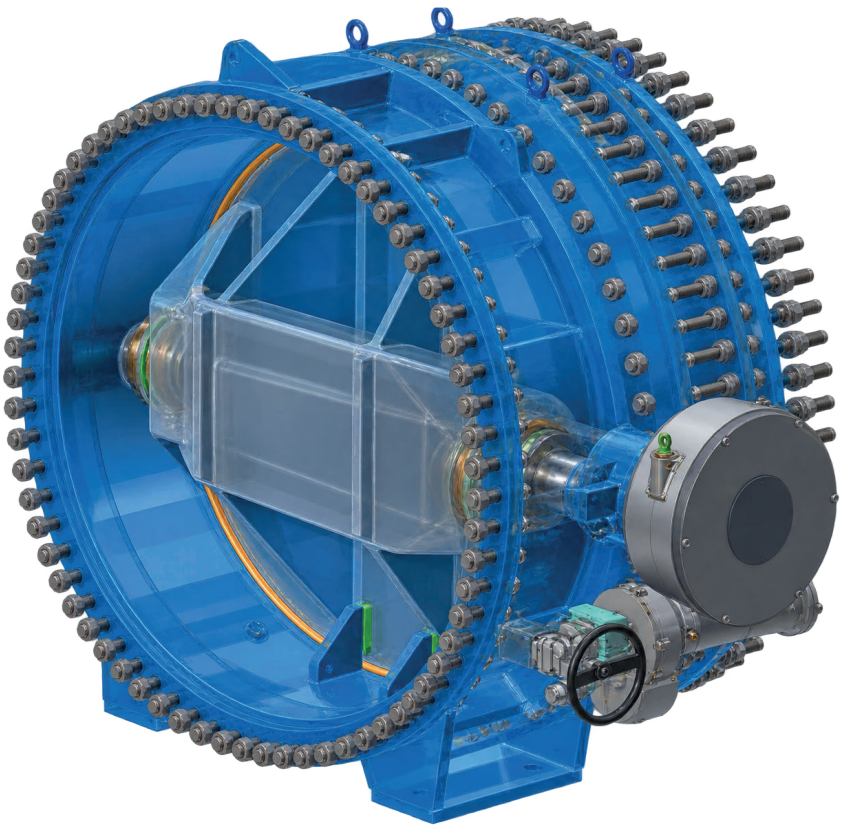
KAPLAN TURBINES



AIR-RELEASE VALVES

Motorised Butterfly Valves DN3200 PN16

Fabrication: Welded Carbon Steel
Actuation: By gearbox and electric actuator
Accessories: Dismantling Joint (3-Flange type)



3D DESIGN



WELDING



MACHINING



MOTORISED BUTTERFLY VALVES DN3200 PN16 WITH DISMANTLING JOINTS



VALVES AND JOINTS DURING HYDRAULIC TESTS



VALVES DURING ASSEMBLY



MOTORISED BUTTERFLY VALVES DN3200 PN16 WITH DISMANTLING JOINTS



MOTORISED BUTTERFLY VALVES DN3200 PN16 WITH DISMANTLING JOINTS



MOTORISED BUTTERFLY VALVES DN3200 PN16 WITH DISMANTLING JOINTS

Motorised Butterfly Valves DN2600 PN10 and DN2600 PN16

Fabrication: Welded Carbon Steel
Actuation: By gearbox and electric actuator
Accessories: Dismantling Joint (3-Flange type)



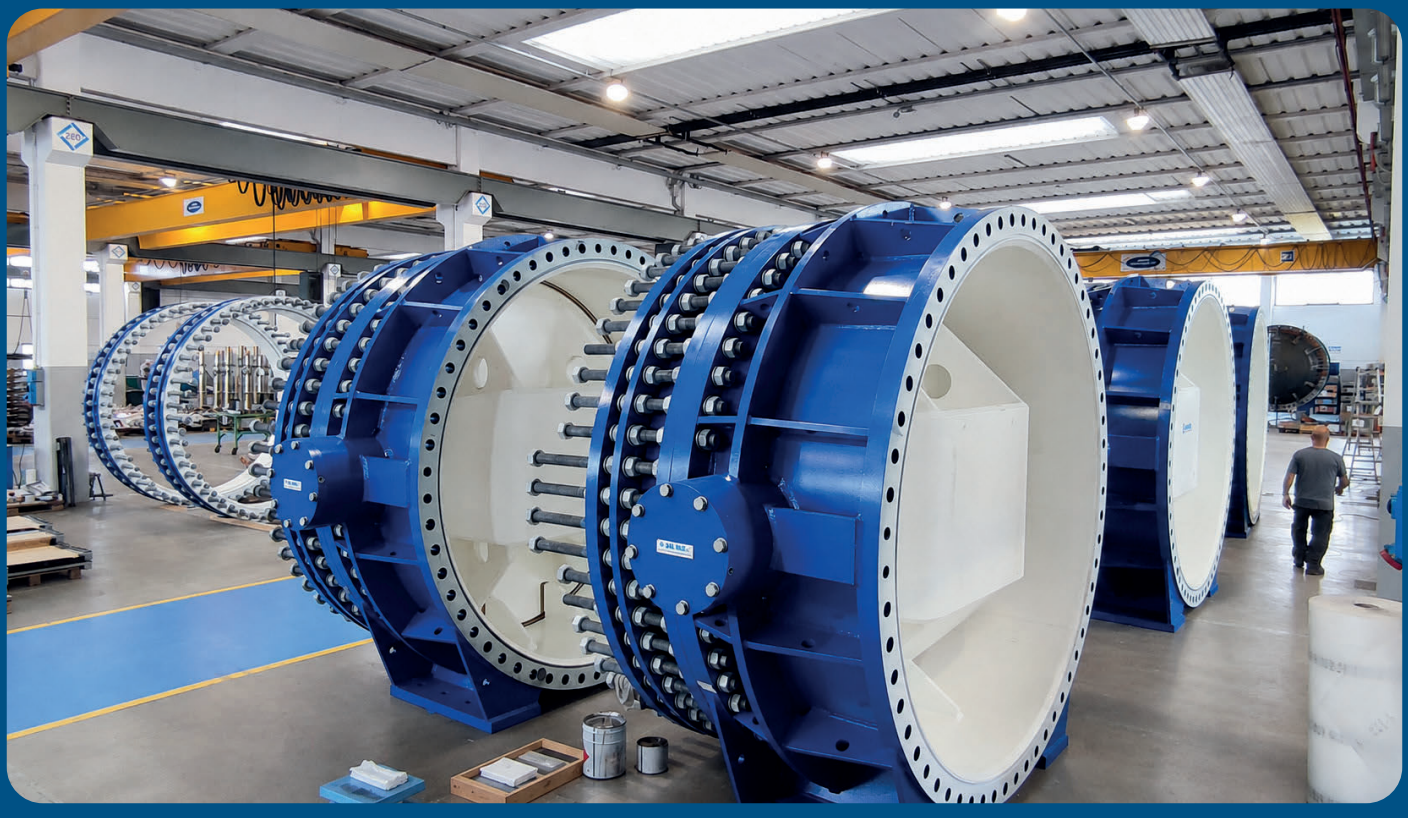
MOTORISED BUTTERFLY VALVES DN2600 PN10 AND PN16 WITH DISMANTLING JOINTS



MOTORISED BUTTERFLY VALVES DN2600 PN10 AND PN16 WITH DISMANTLING JOINTS



MOTORISED BUTTERFLY VALVES DN2600 PN10 AND PN16 WITH DISMANTLING JOINTS



MOTORISED BUTTERFLY VALVES DN2600 PN10 AND PN16 WITH DISMANTLING JOINTS



VALVES DURING ASSEMBLY



VALVES DURING WELDING

Butterfly valves DN2600 PN25 and DN2600 PN10

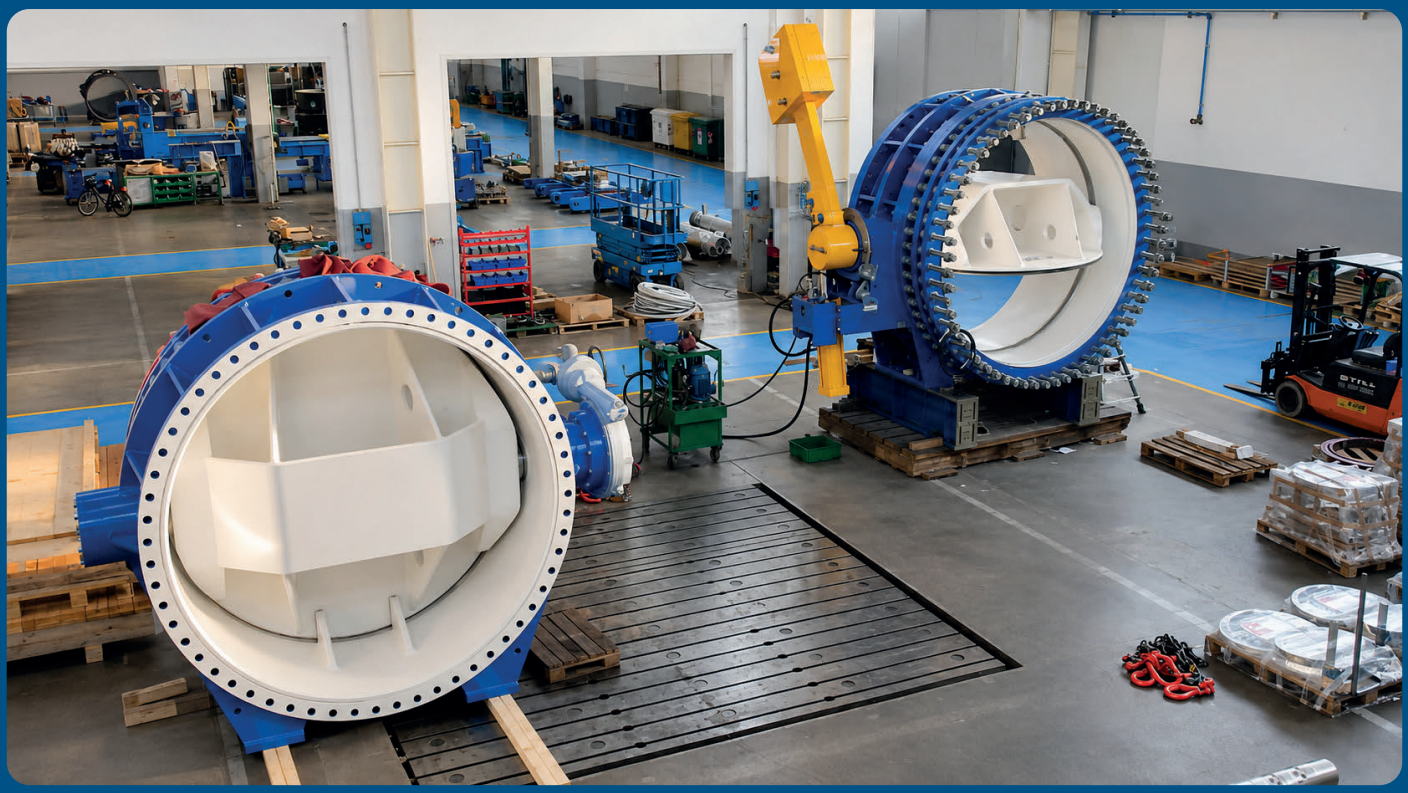
Fabrication: Welded Carbon Steel
Actuation: Some valves are opened by hydraulic cylinders and closed by levers and counterweights; others are operated by gearboxes and electric actuators
Accessories: Dismantling Joint (3-Flange type) and Mechanical speed detector



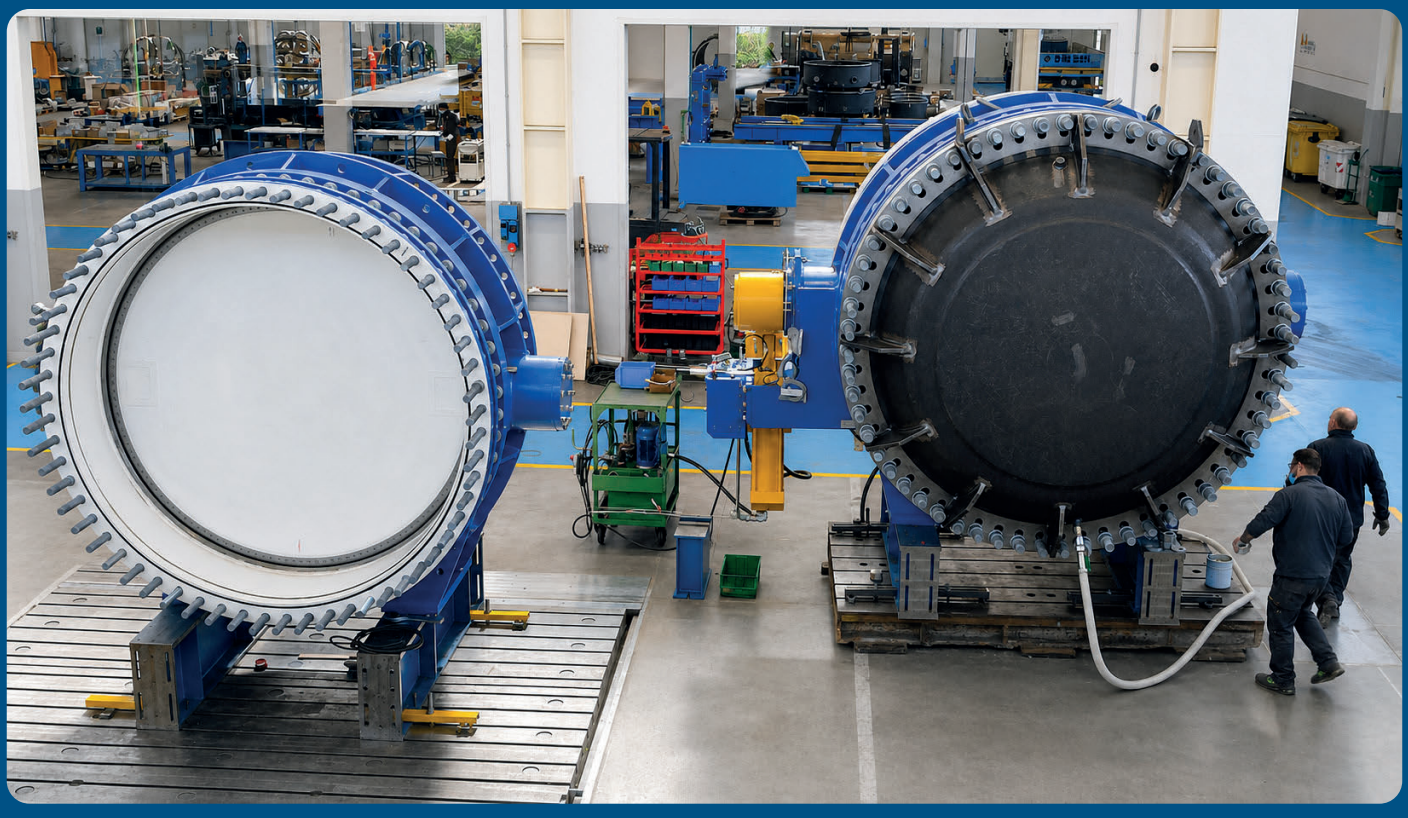
OVERSPEED BUTTERFLY VALVES DN2600 PN25 AND PN10 AND MOTORISED BUTTERFLY VALVE DN2600 PN10



FACTORY ACCEPTANCE TEST WITNESSED BY THE CLIENT



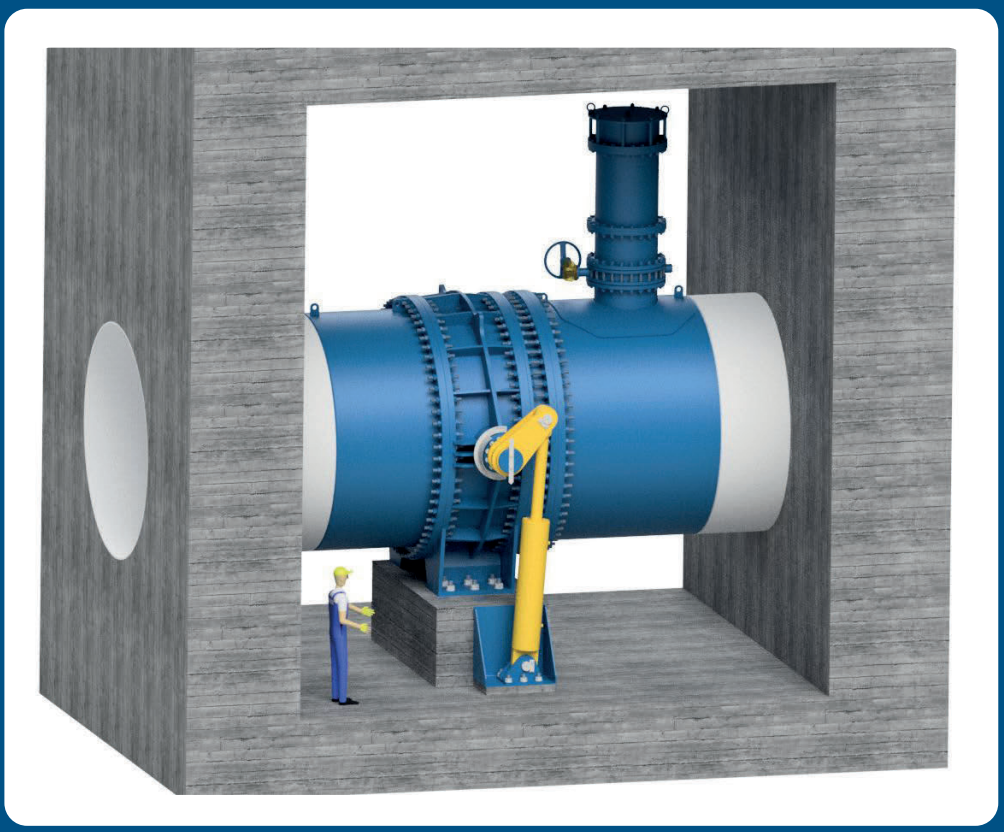
OVERSPEED BUTTERFLY VALVES DN2600 PN25 AND MOTORISED BUTTERFLY VALVE DN2600 PN10



FACTORY ACCEPTANCE TEST WITNESSED BY THE CLIENT

Butterfly valve DN3000 PN16

Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder for opening and closing operations
Accessories: Dismantling Joint, Air-Release Valve DN800 PN16, Bypass DN500 PN16, Upstream and Downstream Flanged Pipes, Manhole for Main Pipeline, Hydraulic Oil Unit, Electric Panel



3D DESIGN

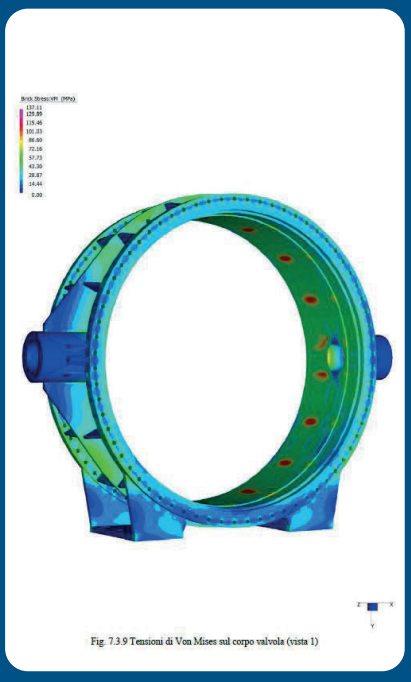


Fig. 7.3.9 Tensioni di Von Mises sul corpo valvola (vista 1)

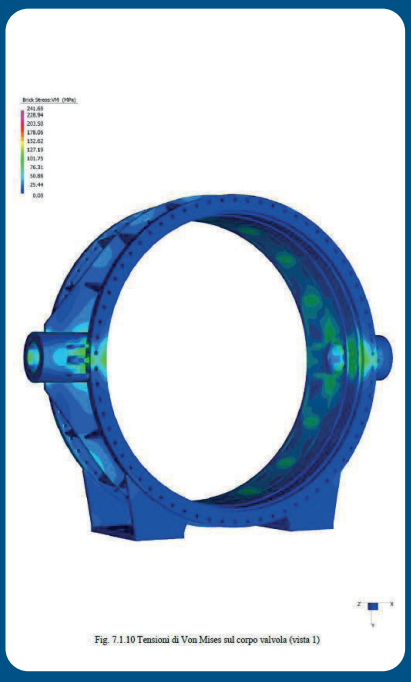


Fig. 7.1.10 Tensioni di Von Mises sul corpo valvola (vista 1)

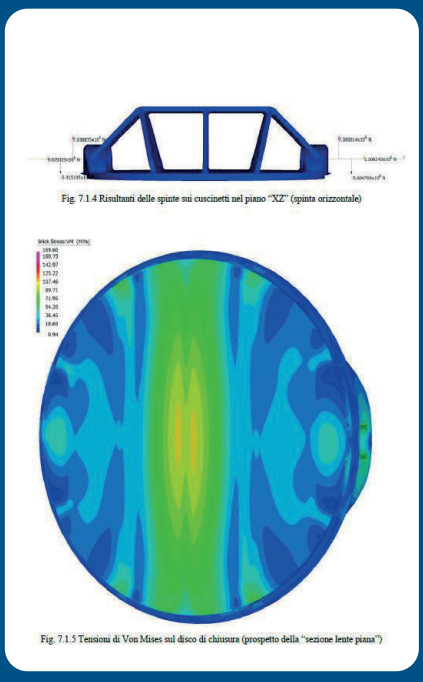


Fig. 7.1.4 Risultanti delle spinte sui cuscinetti nel piano "XZ" (spinta orizzontale)

Fig. 7.1.5 Tensioni di Von Mises sul disco di chiusura (prospetto della "sezione lente piana")

FINITE ELEMENT ANALYSIS (FEA)



BUTTERFLY VALVE DN3000 PN16 WITH DISMANTLING JOINT AND PIPES

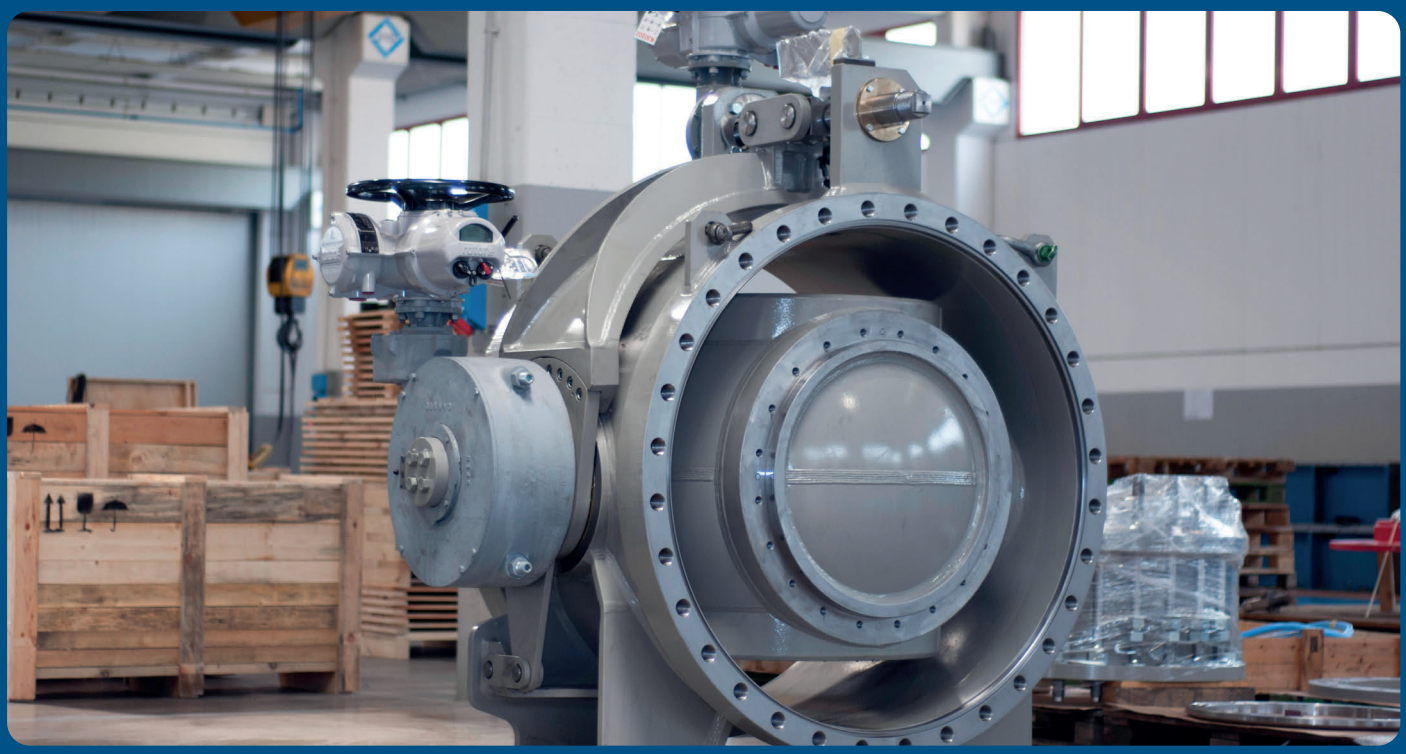


BUTTERFLY VALVE DN3000 PN16 WITH FLANGED PIPES

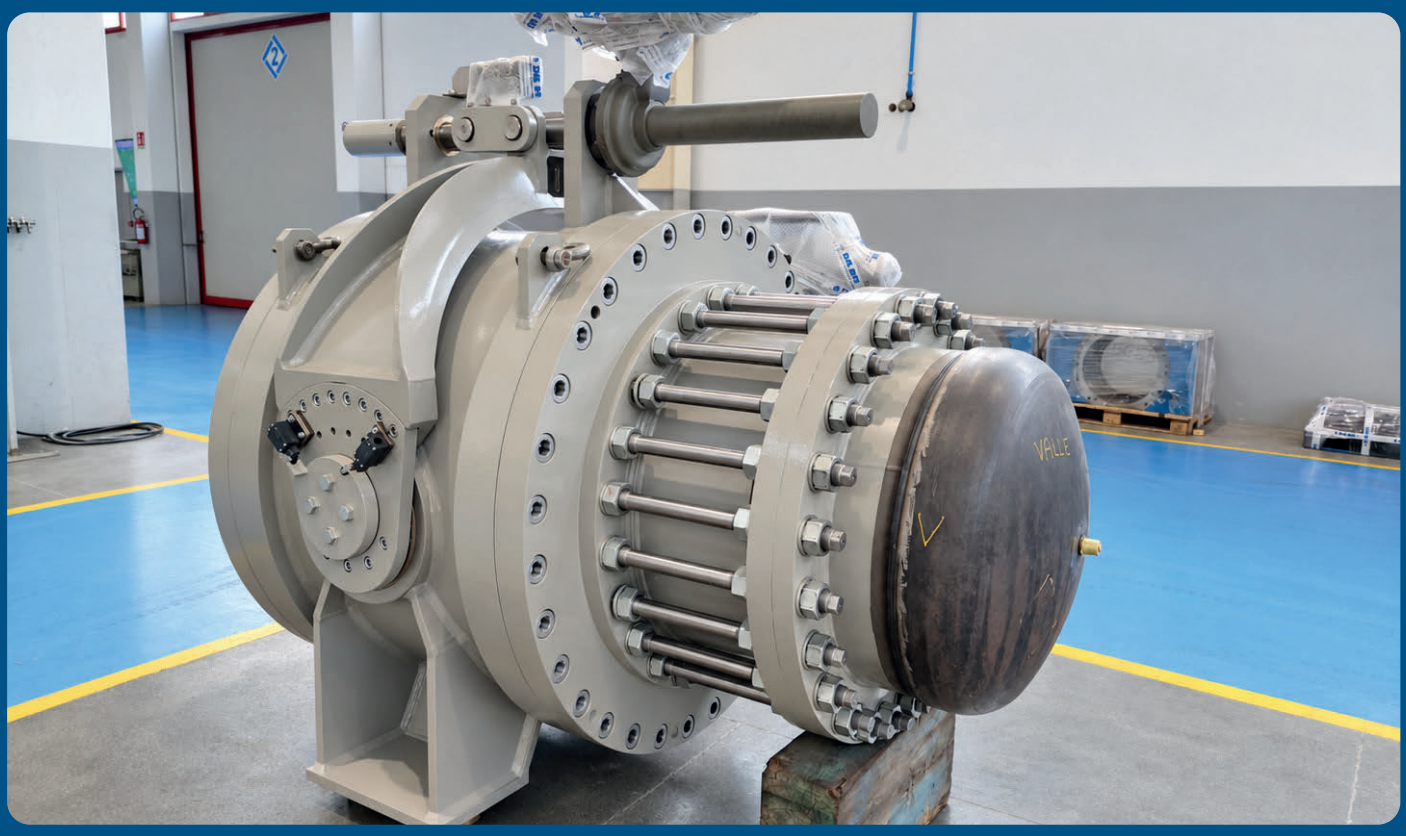
Rotary valve DN800 PN18

for a district heating plant

Fabrication: Welded Carbon Steel
Actuation: By electric actuators
Accessories: Dismantling Joint (integrated type)



MOTORISED ROTARY VALVE DN800 PN18



DURING TESTING

Butterfly valves DN2400 PN6

Fabrication: Welded Carbon Steel
Actuation: Opening by hydraulic cylinder and closing by lever and counterweight
Accessories: Dismantling Joints, Air-Release Valves DN1000 PN6 and Mechanical Speed Detectors.

Further activities in this project: Revamping of Butterfly Valves DN1500 PN16



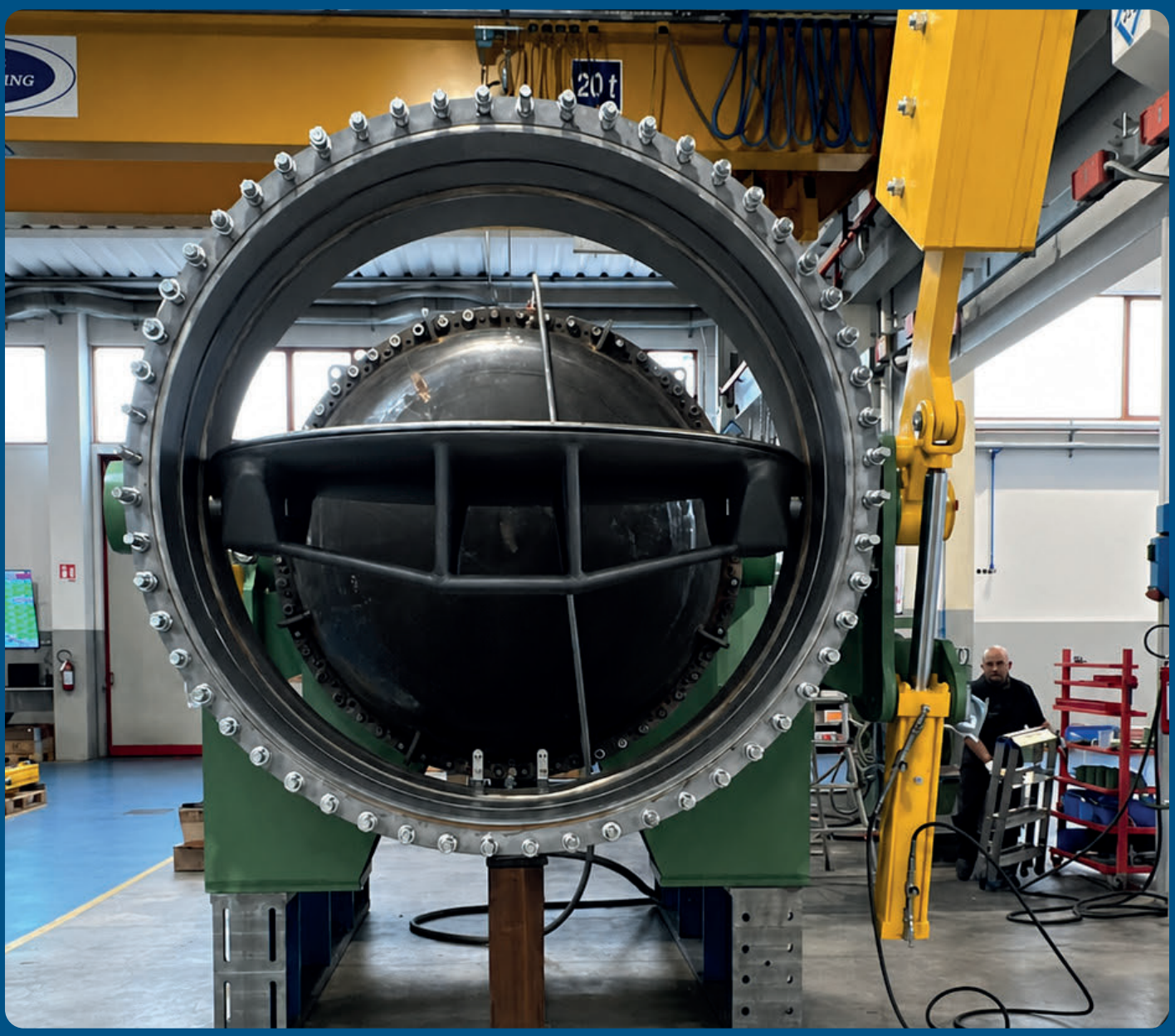
DN2400 PN6 BUTTERFLY VALVES WITH CYLINDER FOR OPENING AND LEVER AND COUNTERWEIGHT FOR CLOSING. COMPLETE WITH 3-FLANGE DISMANTLING JOINTS



AIR-RELEASE VALVES DN1000 PN6 AND REVAMPED BUTTERFLY VALVES DN1500 PN16



DN2400 PN6 BUTTERFLY VALVES WITH CYLINDER, LEVER AND COUNTERWEIGHT, DISMANTLING JOINTS, AND DN1000 PN6 AIR-RELEASE VALVES



DURING HYDRAULIC TESTING

Butterfly valves DN2300 PN6

Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder for opening and closing operations
Accessories: Upstream, downstream, and intermediate pipes in carbon steel, with stainless steel sections for the sliding of the movable flanges and for the gasket sealing surfaces, complete with manholes and flanged connections.



BUTTERFLY VALVES DN2300 PN6 WITH CYLINDER FOR OPENING AND CLOSING OPERATIONS



HYDRAULIC TEST OF THE BODIES



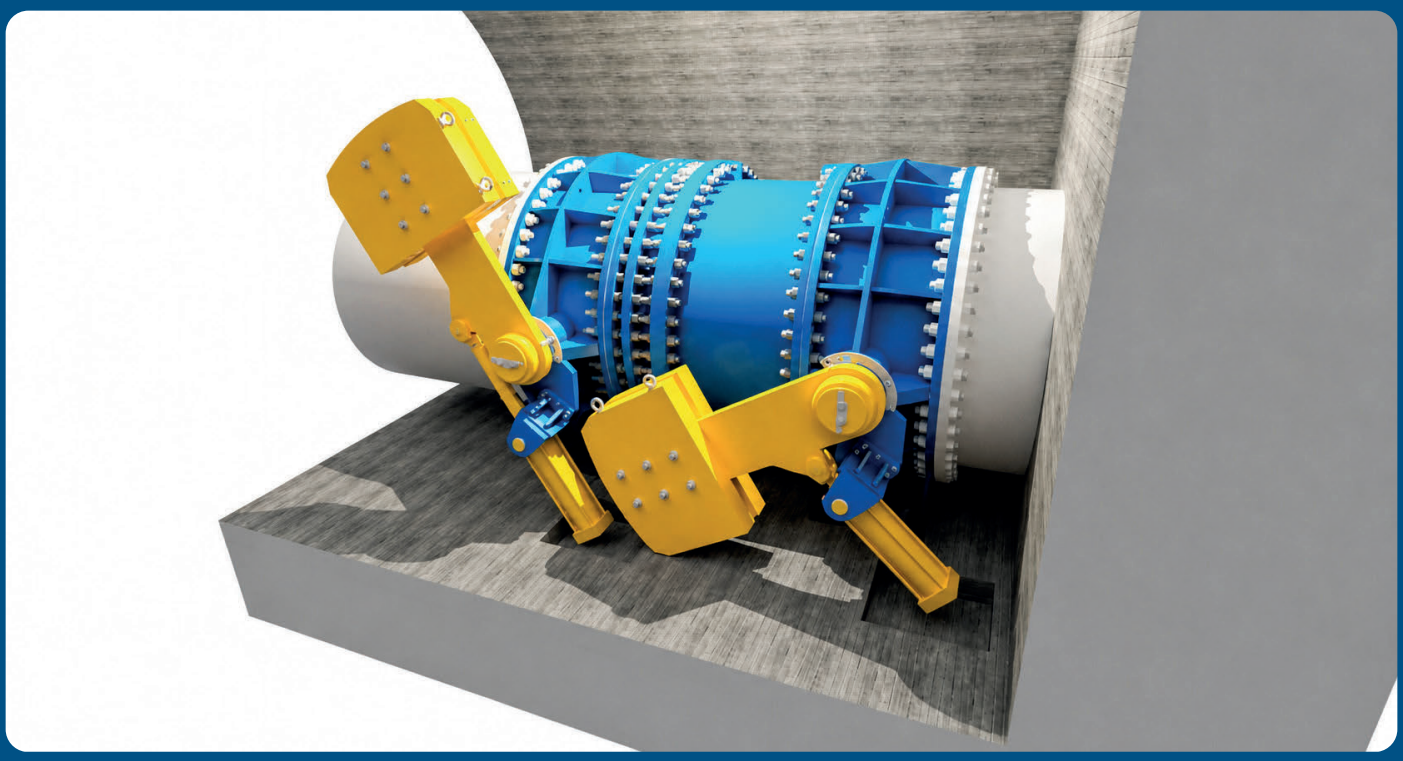
READY FOR SHIPMENT



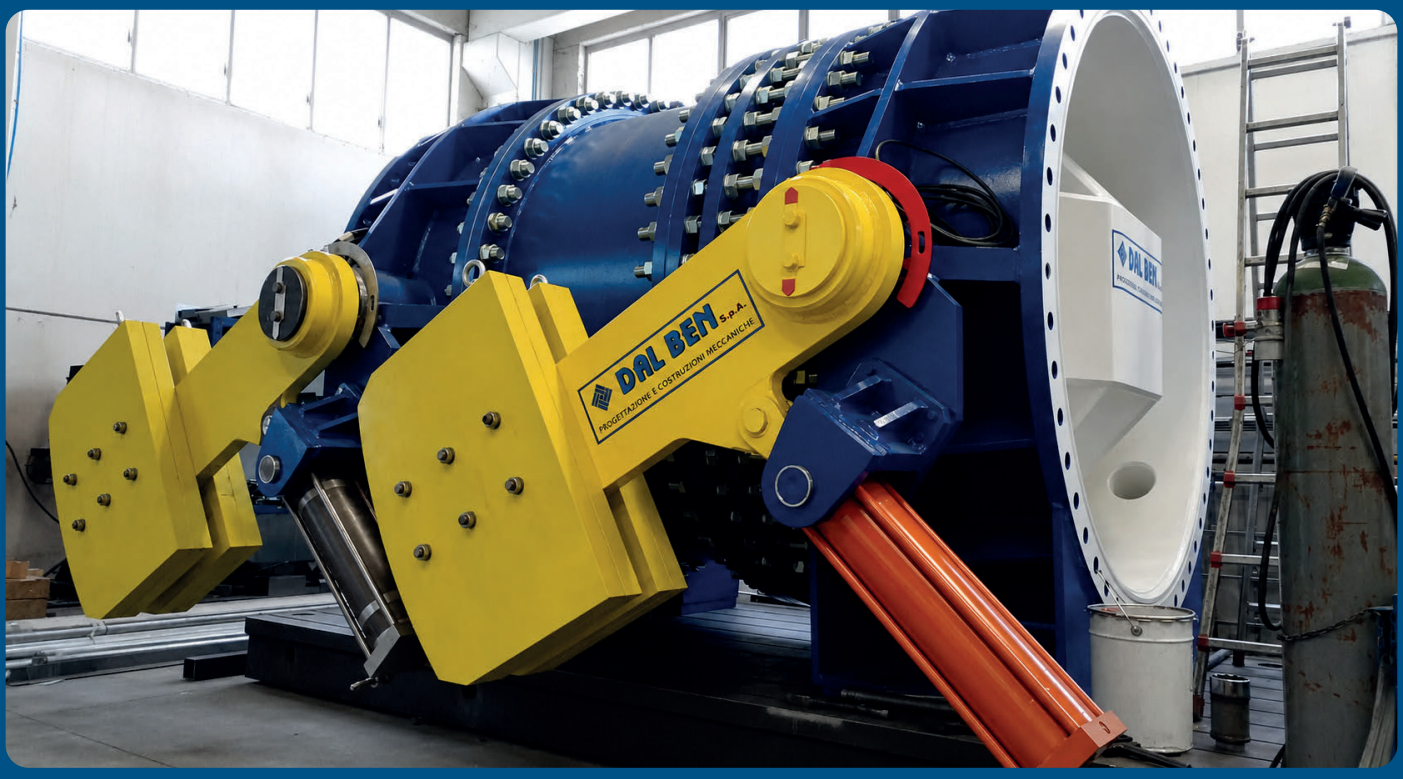
DURING THE FINAL INSTALLATION AT THE POWER PLANT

DN2200 PN10 overspeed butterfly valves with lever and counterweight

Fabrication: Welded Carbon Steel
Actuation: Opening by hydraulic cylinder and closing by lever and counterweight
Accessories: Dismantling joint, bypass, and flanged connecting pipe between the two valves



3D DESIGN



PRE-ASSEMBLY OF COMPLETE SUPPLY



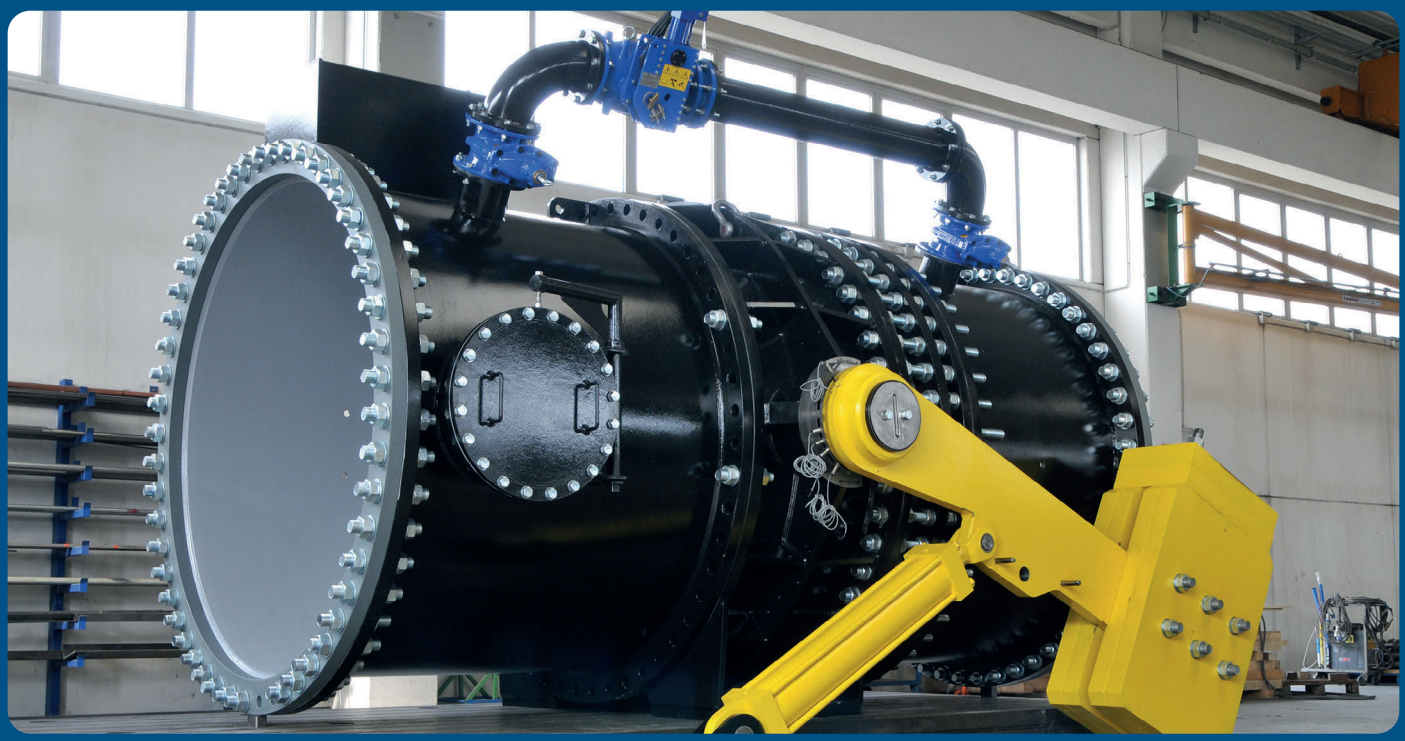
OVERSPEED BUTTERFLY VALVE DN2200 PN10



OVERSPEED BUTTERFLY VALVE DN2200 PN10

Overspeed butterfly valve DN2200 PN10, with lever and counterweight

Fabrication: Welded Carbon Steel
Actuation: Opening by hydraulic cylinder and closing by lever and counterweight
Accessories: Dismantling joint, bypass, upstream and downstream flanged pipes, hydraulic oil unit, electric panel, two manholes for the main pipeline, mechanical speed detector, Air-Release Valve



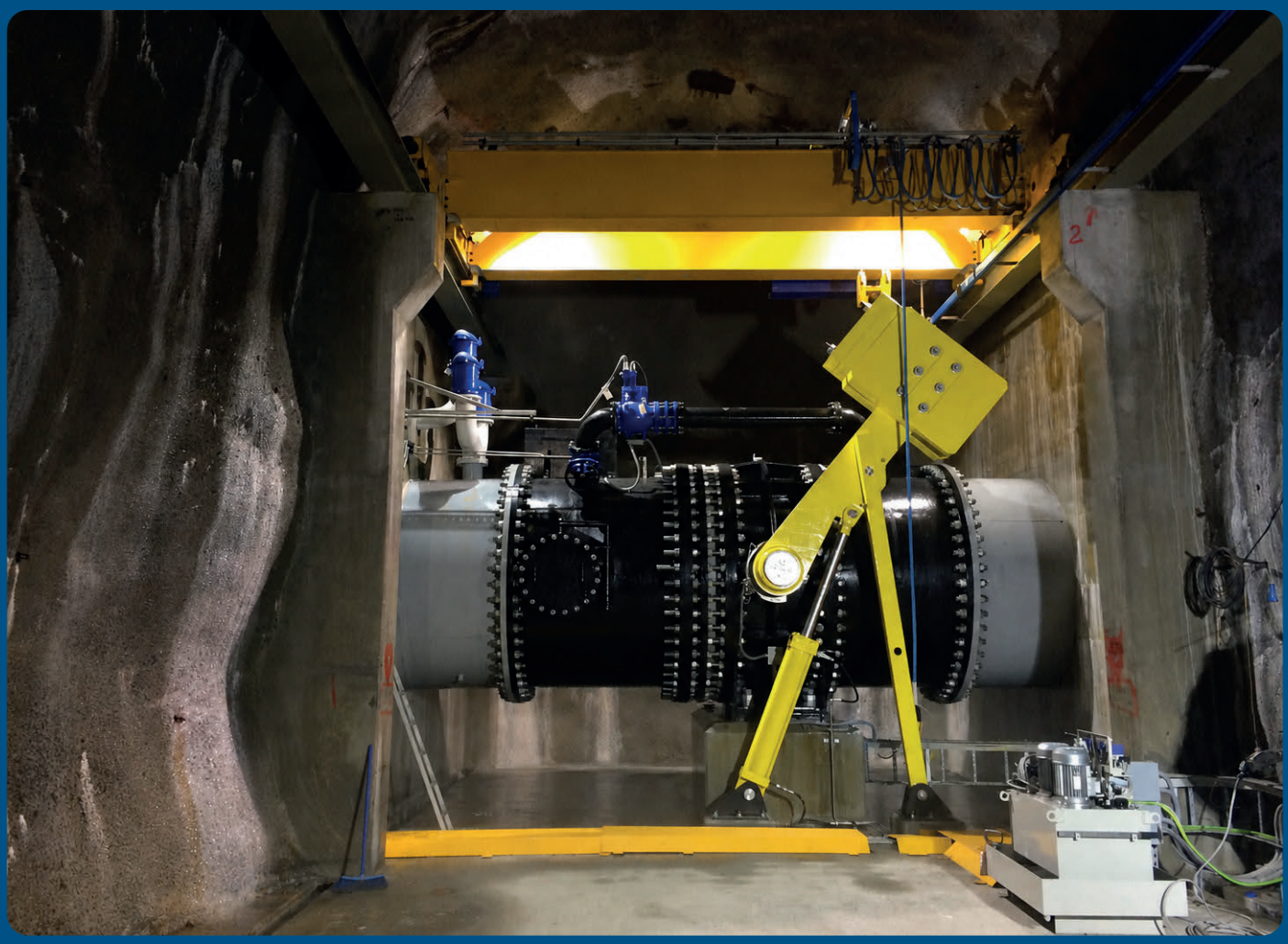
PRE-ASSEMBLY OF THE COMPLETE SCOPE OF SUPPLY



BUTTERFLY VALVE DN2200 PN10 WITH DISMANTLING JOINT AND UPSTREAM AND DOWNSTREAM FLANGED PIPES



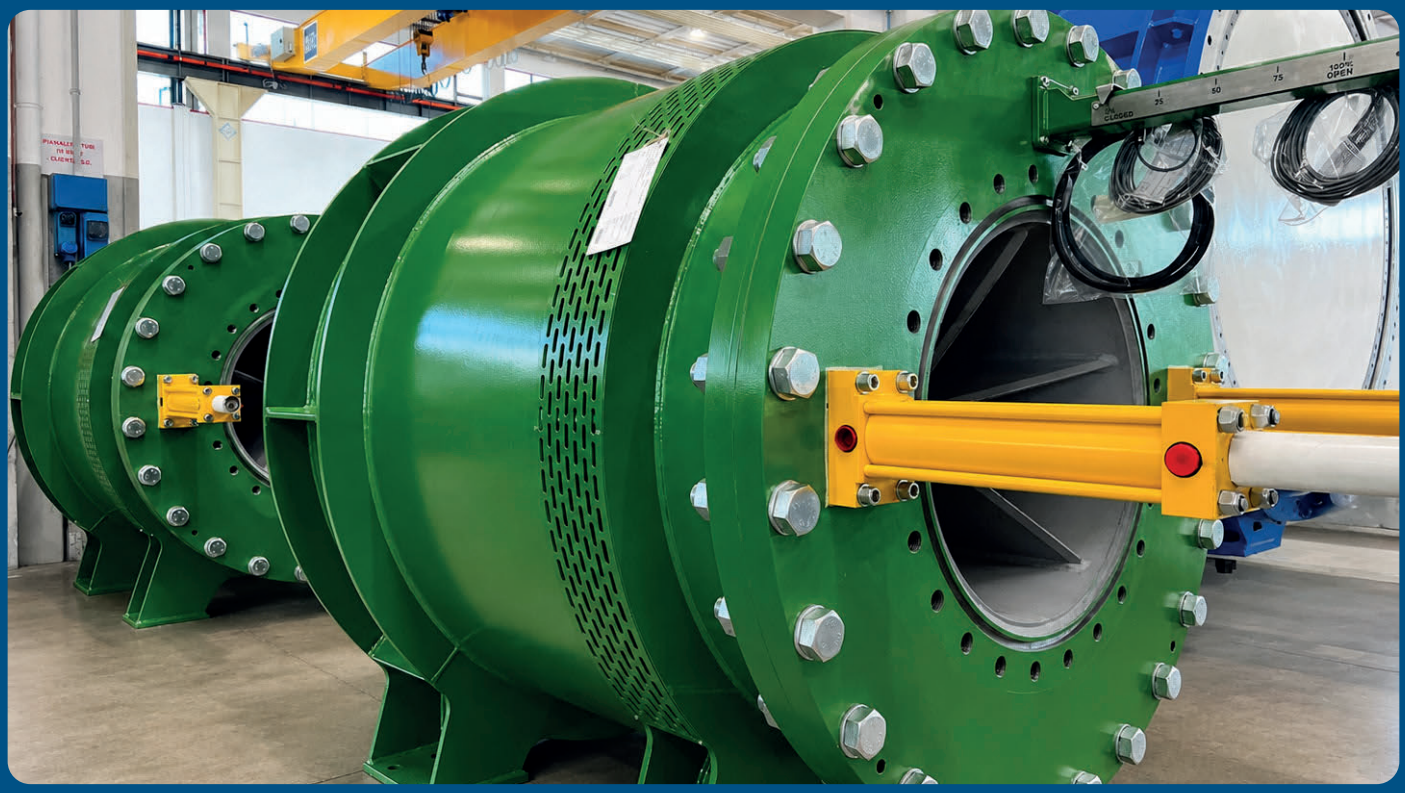
BUTTERFLY VALVE DN2200 PN10



FINAL INSTALLATION OF THE DN2200 PN10 SUPPLY

Fixed Cone Discharge Valves DN700 PN16

Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder for opening and closing operations
Note: Without hood



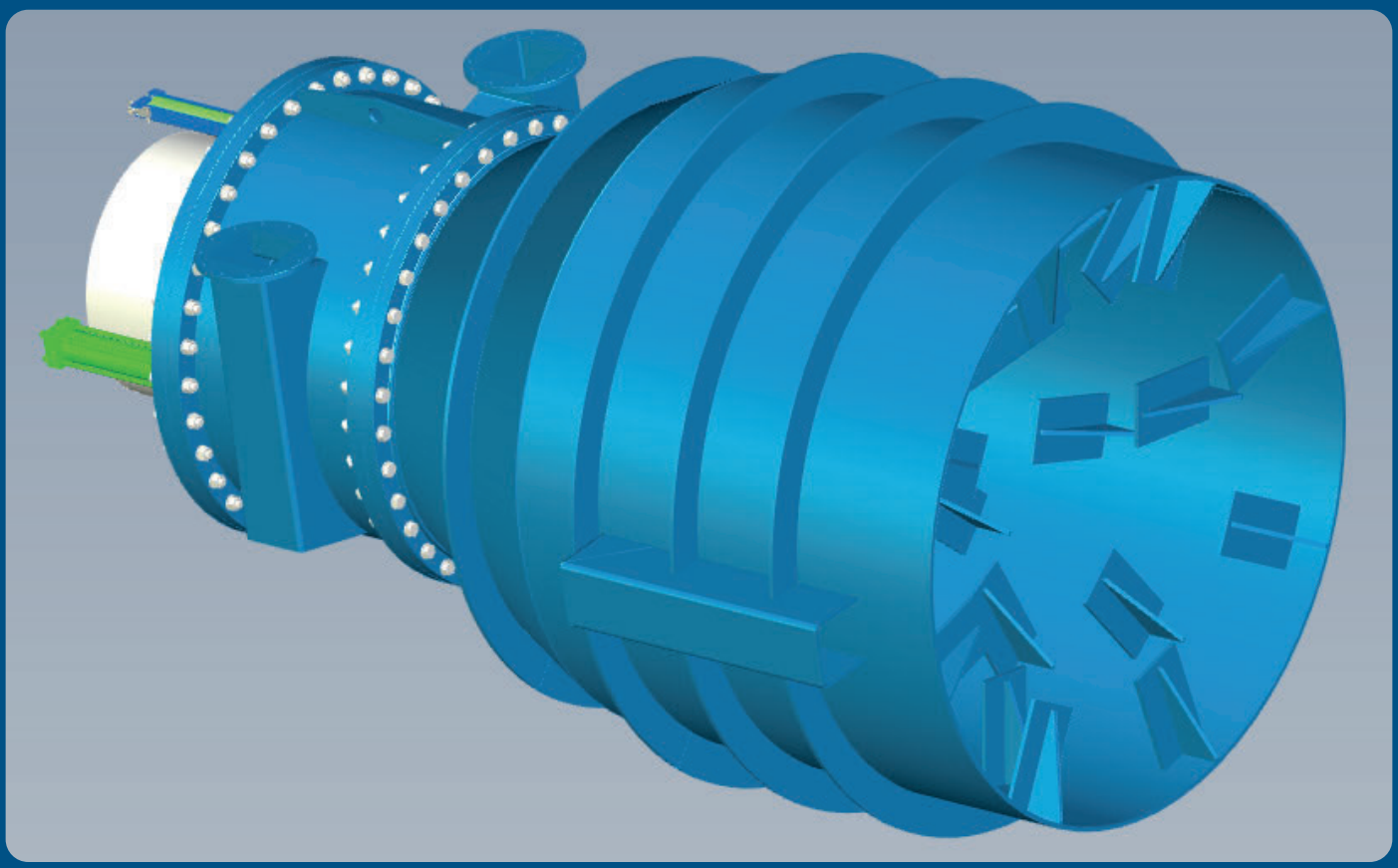
READY FOR DISPATCH



FIXED CONE DISCHARGE VALVE DN700 PN16

Fixed Cone Discharge Valve DN800 PN6

Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder for opening and closing operations
Note: With hood (diameter 2000 mm and length 2450 mm) having internal paddles



3D DESIGN



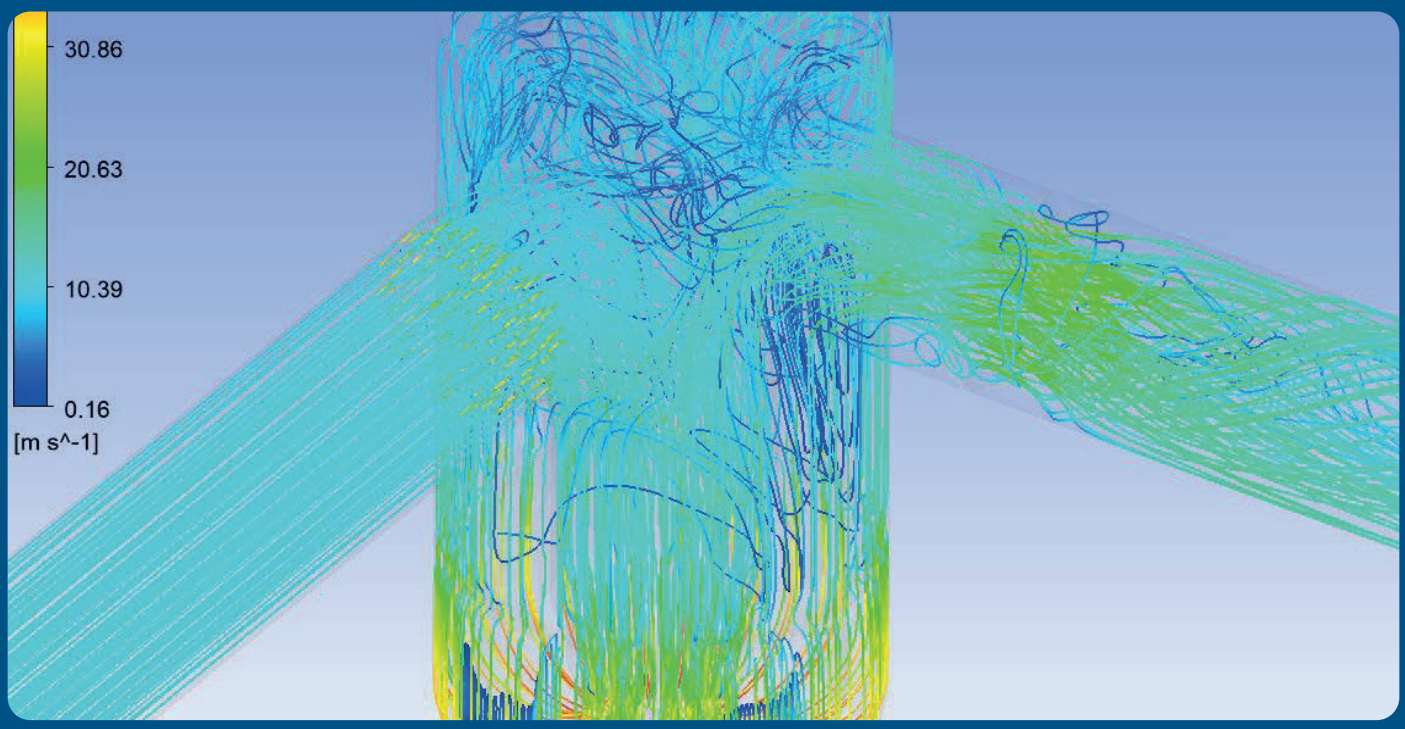
FIXED CONE DISCHARGE VALVE DN800 PN6

Dissipating valves, in-line type, special version, DN800 PN25, high-performance duty

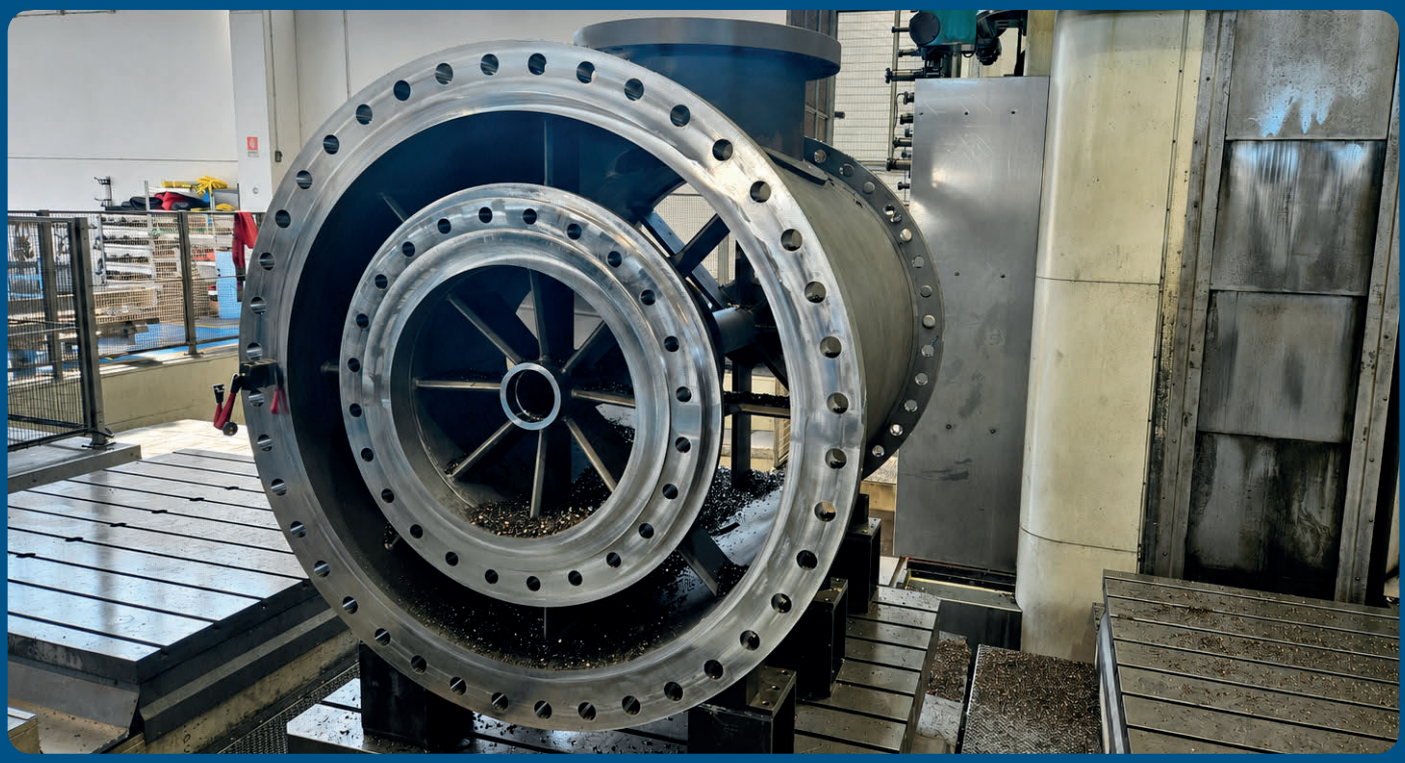
Fabrication: Duplex, Super-Duplex, and Carbon Steel

Application: Installed on the Francis turbine bypass line to dissipate the gross head, with a design flow rate of 5 m³/s and a design pressure drop of 12 bar

Actuation: Normally closed. Closing and sealing are provided by spring action, while opening is performed by a hydraulic cylinder



COMPUTATIONAL FLUID DYNAMICS SIMULATION



UNDER MACHINING



DISSIPATING VALVE DN800 PN25 DURING ASSEMBLY



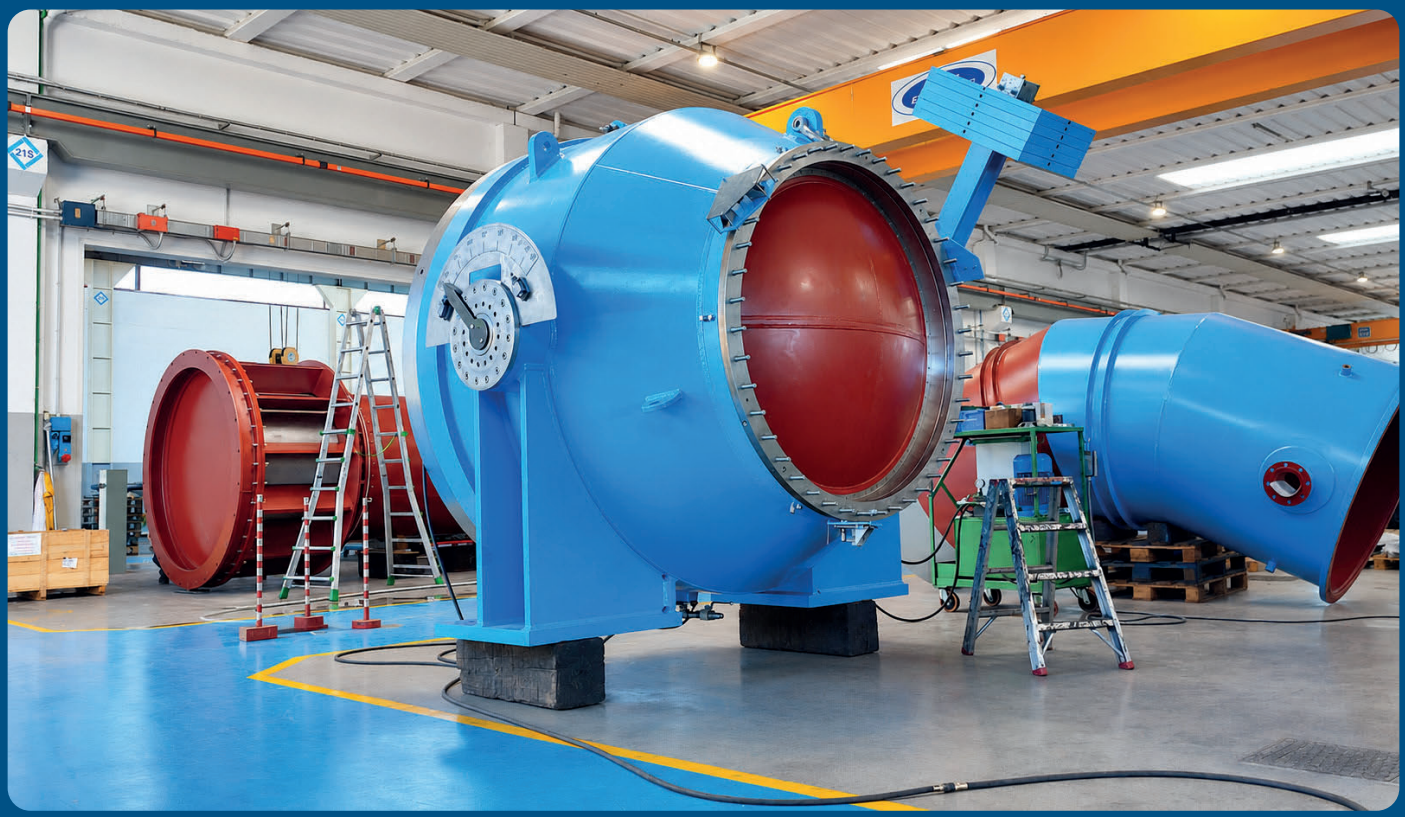
DISSIPATING VALVE DN800 PN25 WITH COIL SPRINGS



DISSIPATING VALVE DN800 PN25 WITH DISC SPRINGS

Rotary Valves, DN1600 PN6

Fabrication: Welded Carbon Steel
Actuation: Opening by hydraulic cylinder and closing by lever and counterweight



ROTARY VALVE DN1600 PN6 WITH CYLINDER, LEVER, AND COUNTERWEIGHT



ROTARY VALVE DN1600 PN6 AND REVAMPED ROTARY VALVE DN1200 PN20

Dissipating Valve DN1600 PN6

Vertical installation

Fabrication: Welded Carbon Steel and Stainless Steel
Actuation: By hydraulic cylinder for opening and closing operations
Accessories: Tee, bend, and pipes



DN1600 PN6 DISSIPATION VALVE FOR VERTICAL INSTALLATION, WITH A 15 MT VERTICAL PIPELINE AND THE ACTUATING CYLINDER LOCATED AT THE TOP, AT A HEIGHT OF 20 MT



HYDRAULIC TEST

Synchronous Discharge Valves DN1100 PN6

Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder



SYNCHRONOUS DISCHARGE VALVE



DURING ASSEMBLY



DURING TESTING

Gate Valve DN800 PN6

Fabrication: Welded Carbon Steel
Actuation: By gearbox and handwheel



GATE VALVE DN800 PN6



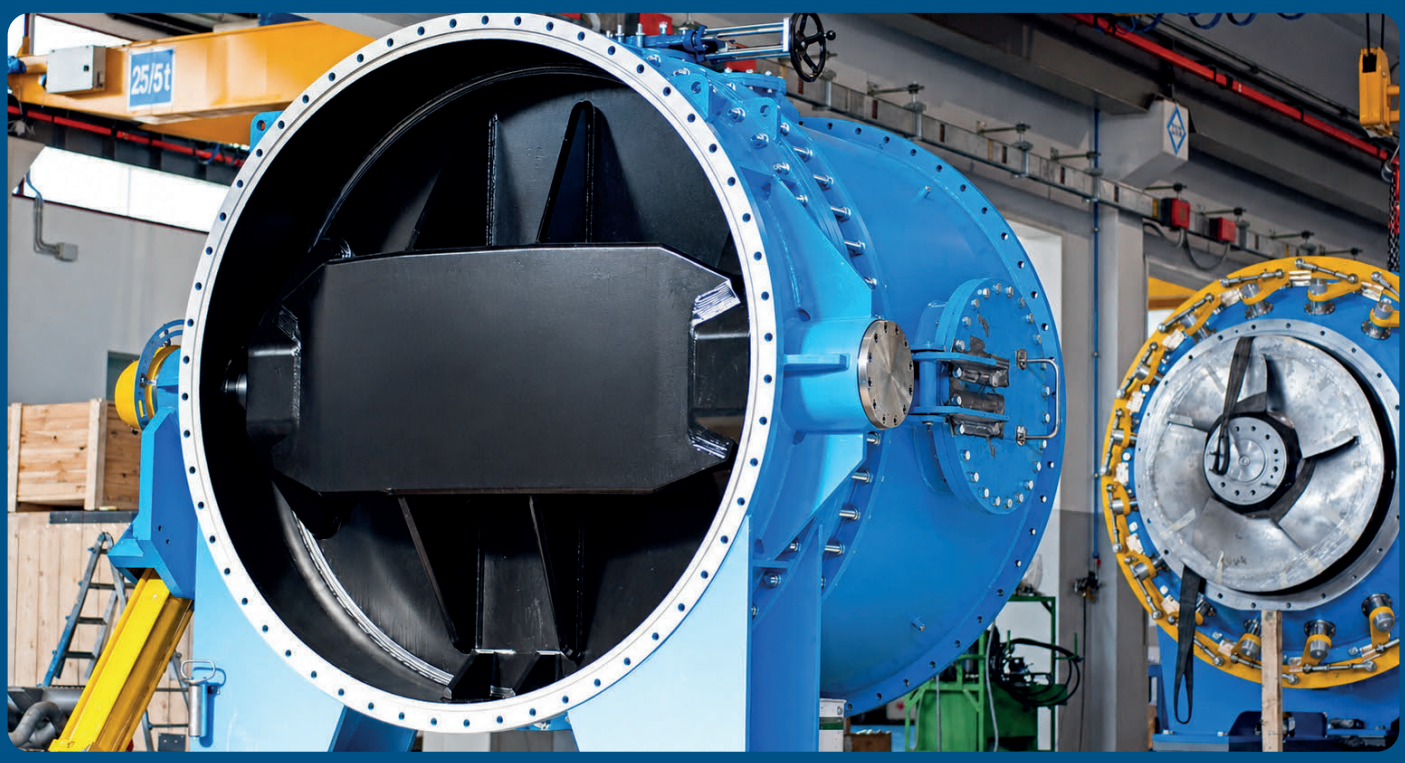
GATE VALVE DN800 PN6

Overspeed butterfly valves DN2400 PN2.5 (our design) and other parts as per customer’s design

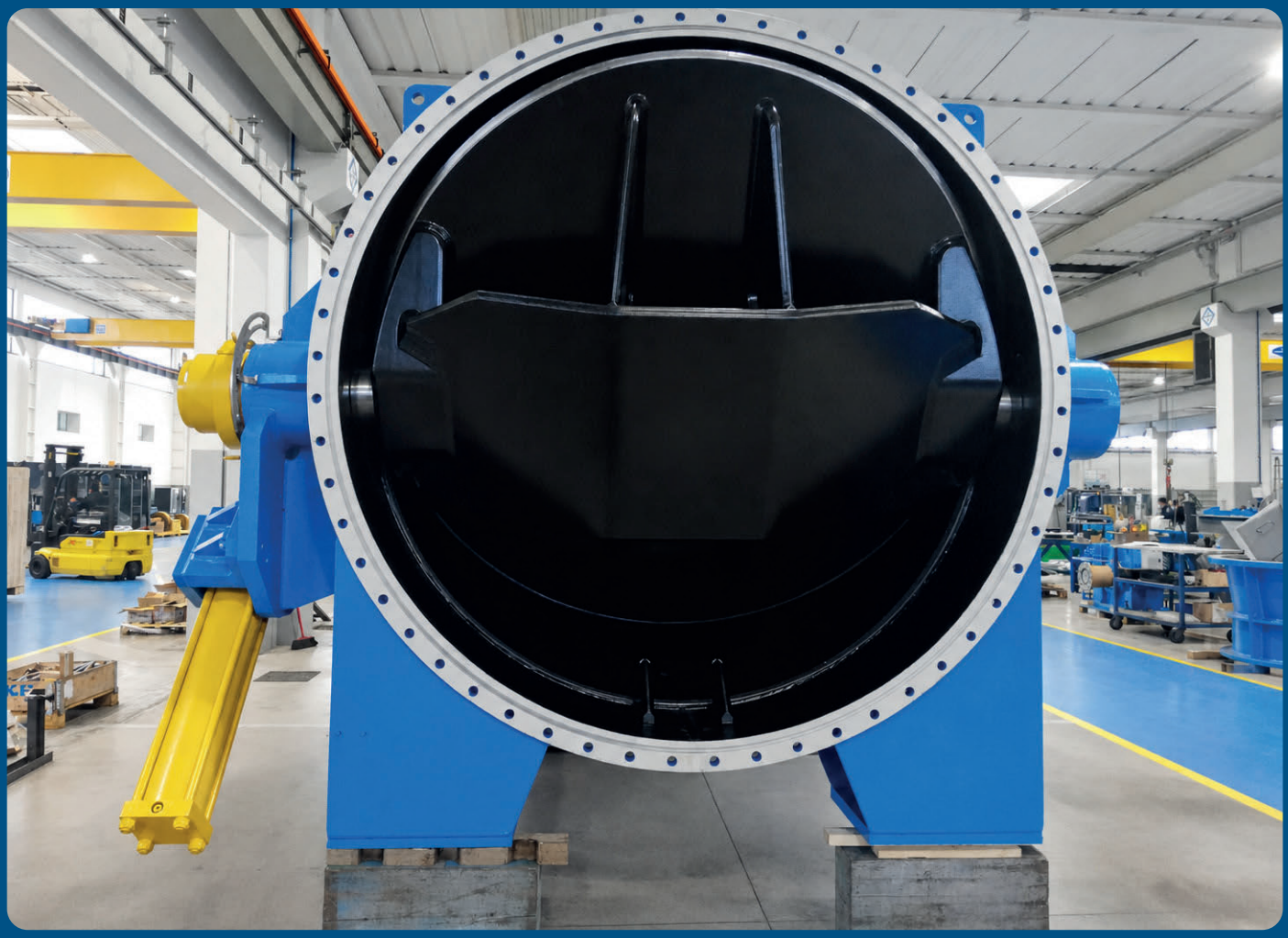
Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder for opening and by lever and counterweight for emergency closing
Accessories: Downstream Pipe with an integrated dismantling joint, manhole for main pipeline, parts of Kaplan turbines



PRE-ASSEMBLY OF THE COMPLETE SCOPE OF SUPPLY



PRE-ASSEMBLY OF THE COMPLETE SCOPE OF SUPPLY



OVERSPEED BUTTERFLY VALVE DN2400 PN2.5



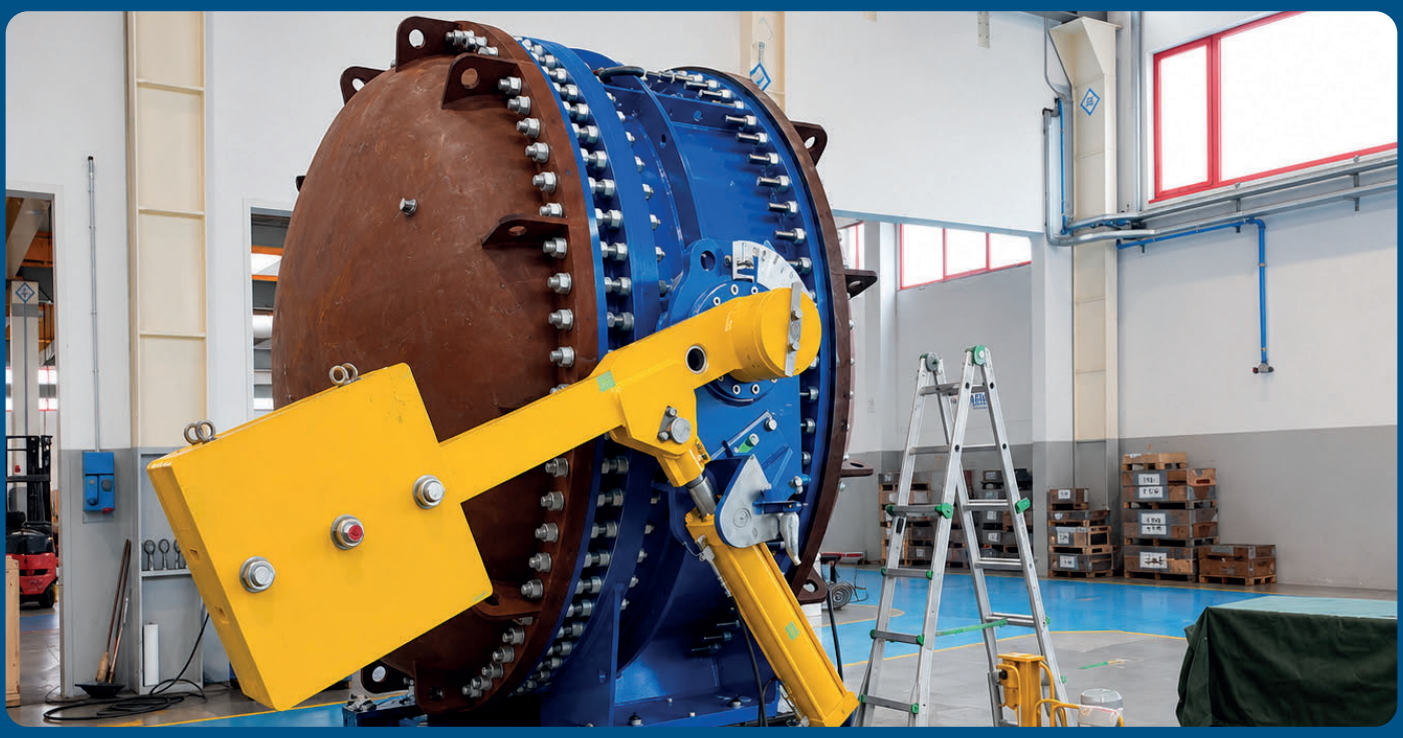
PRE-ASSEMBLY OF THE COMPLETE SCOPE OF SUPPLY

Overspeed butterfly valves DN3000 PN6 with cylinder, lever, and counterweight

Fabrication: Welded Carbon Steel
Actuation: Opening by hydraulic cylinder and closing by lever and counterweight
Accessories: Dismantling joints (integrated type), mechanical speed detector, and Air-Release Valve DN700 (floating type)



OVERSPEED BUTTERFLY VALVE DN3000 PN6 WITH INTEGRATED DISMANTLING JOINT



HYDRAULIC TEST OF THE BODY



DURING THE MACHINING OF THE BODY



DURING WELDING

Pumping station equipment:

Fast-closing and opening butterfly valve DN2200 PN6 (10 seconds per each operation) & motorised butterfly valve DN2200 PN6 complete with accessories.

Fabrication: Welded Carbon Steel

Actuation: Hydraulic-cylinder opening. An internal mechanical system provides two-stage closing, maintaining the required closing sequence even in the event of hydraulic system failure. Emergency closing is performed by lever and counterweight

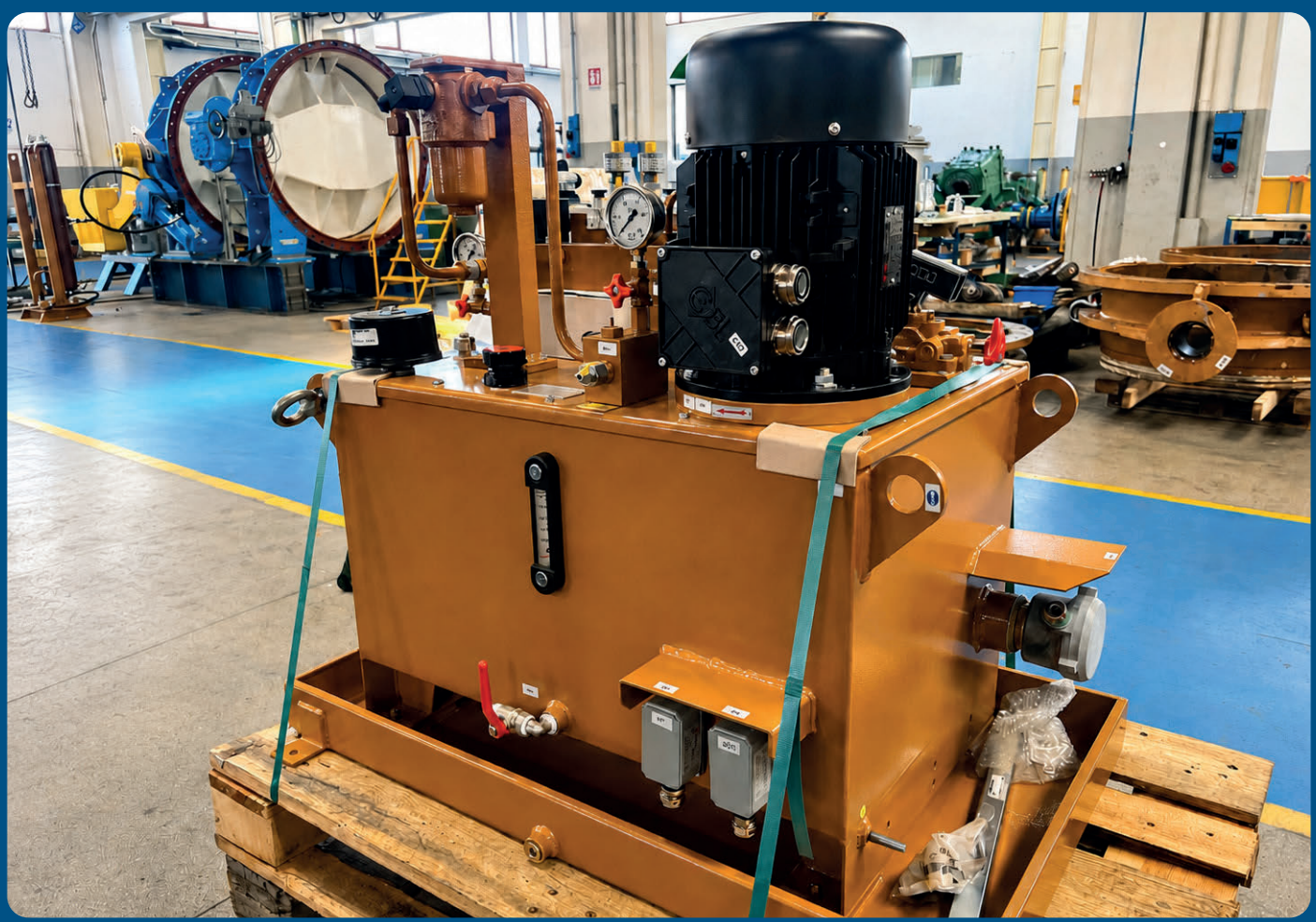
Accessories: Shoes in bronze with graphite to facilitate the sliding of the feet of the butterfly valve. Hydraulic oil unit complete with two accumulators and electrical control panel



COMPLETE SCOPE OF SUPPLY



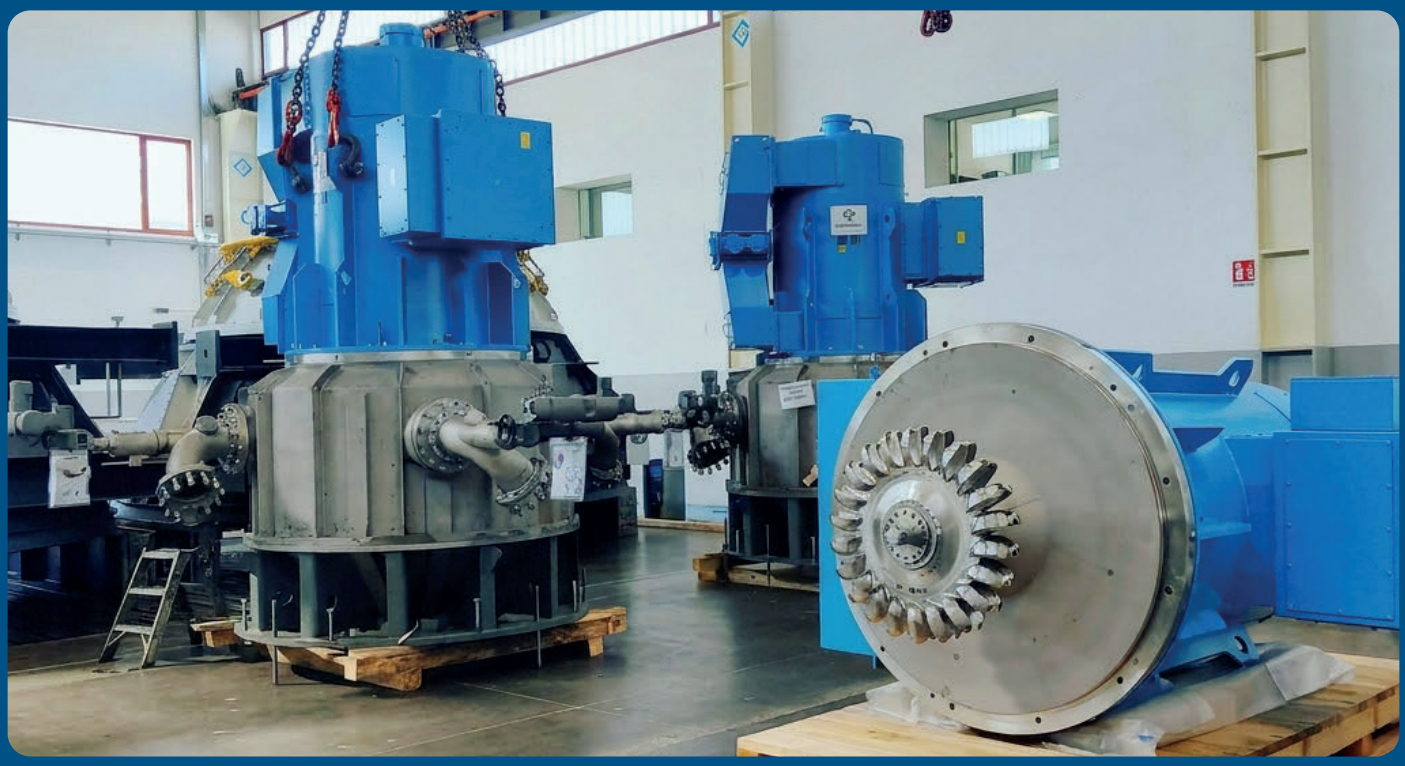
PRE-ASSEMBLY OF VALVES



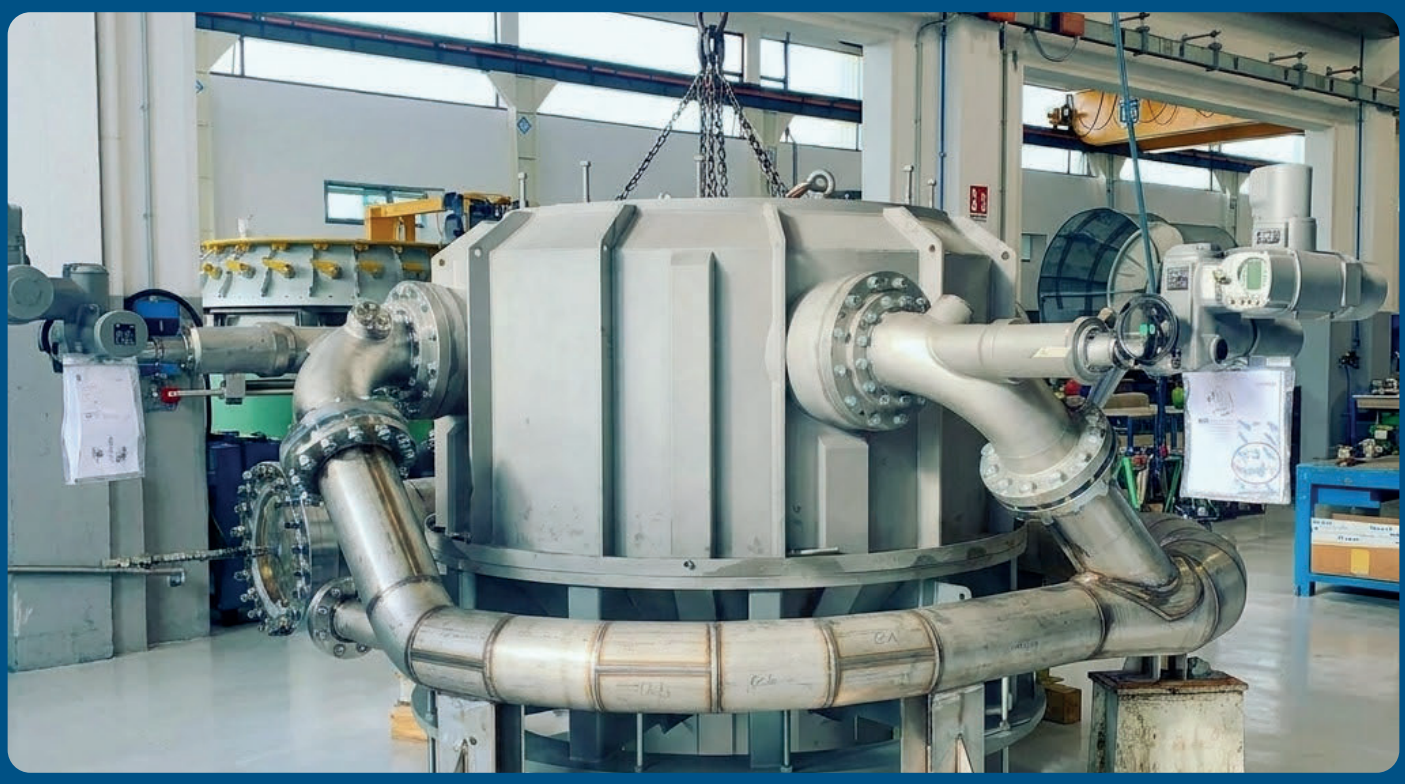
HYDRAULIC OIL UNIT

Welded parts, entirely in stainless steel, for three Pelton turbines

Fabrication: Stainless Steel 1.4301 (AISI 304)
Extra: Assembly and testing of the complete turbines, pipes, motorised injectors, etc.



CONSTRUCTION OF ALL WELDED PARTS FOR THREE PELTON TURBINES ENTIRELY IN STAINLESS STEEL 1.4301 (AISI 304), INCLUDING ASSEMBLY AND TESTS



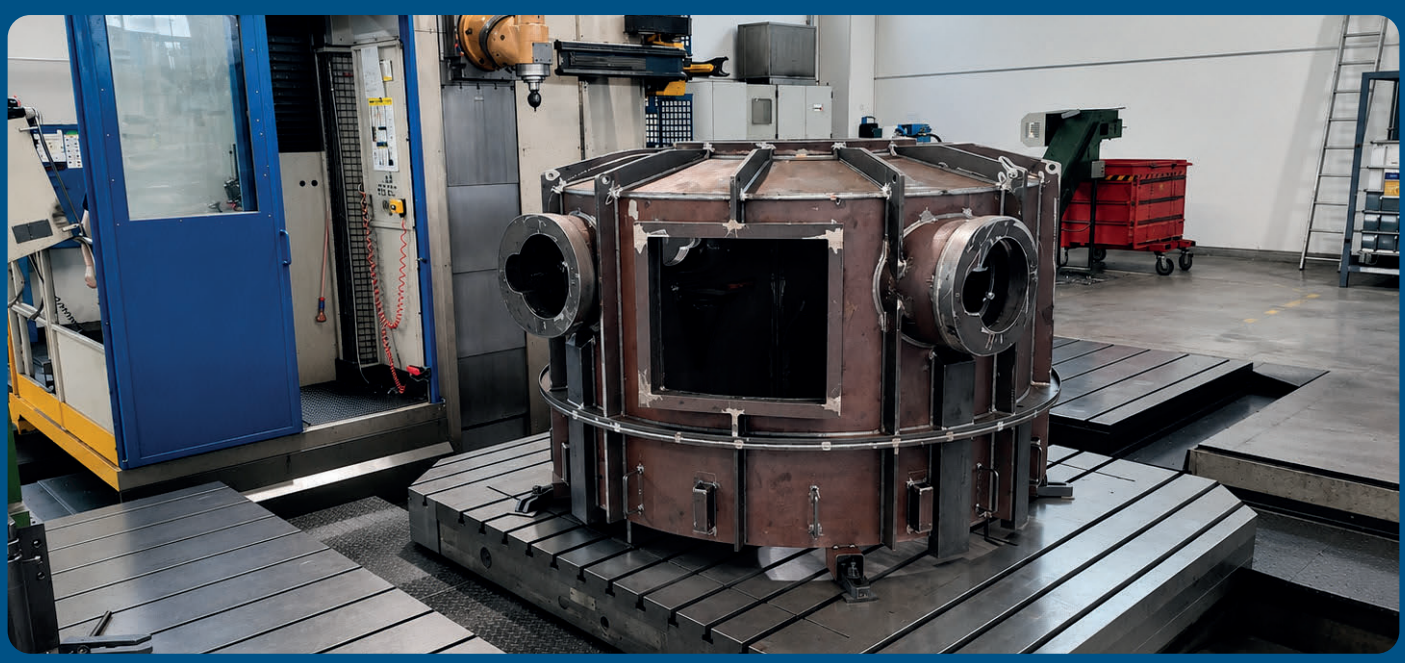
BODY, PIPES, AND MOTORISED INJECTORS DURING THE ASSEMBLY PHASE

Welded parts for a Pelton turbine and four complete injectors

Fabrication: Welded Carbon Steel and parts in Stainless Steel
Extra: Assembly and tests of the complete turbine, pipes, motorised injectors, etc.



PRE-ASSEMBLY PHASE



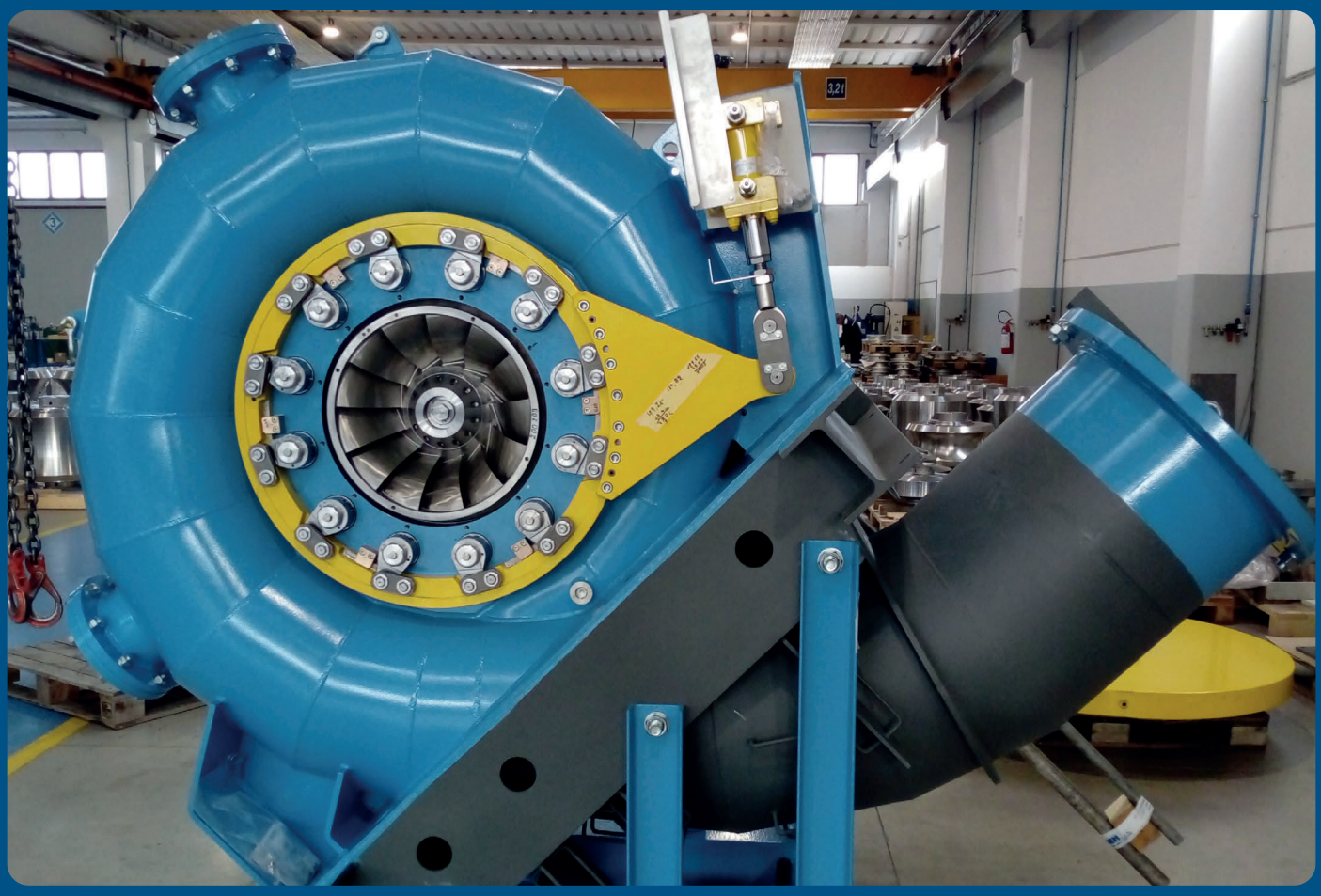
MACHINING

Kaplan and Francis turbines

Fabrication: Welded Carbon Steel



KAPLAN TURBINES



FRANCIS TURBINE

Turbine for smoke exhaust

Fabrication: Welded Carbon Steel



PRE-MOUNTING



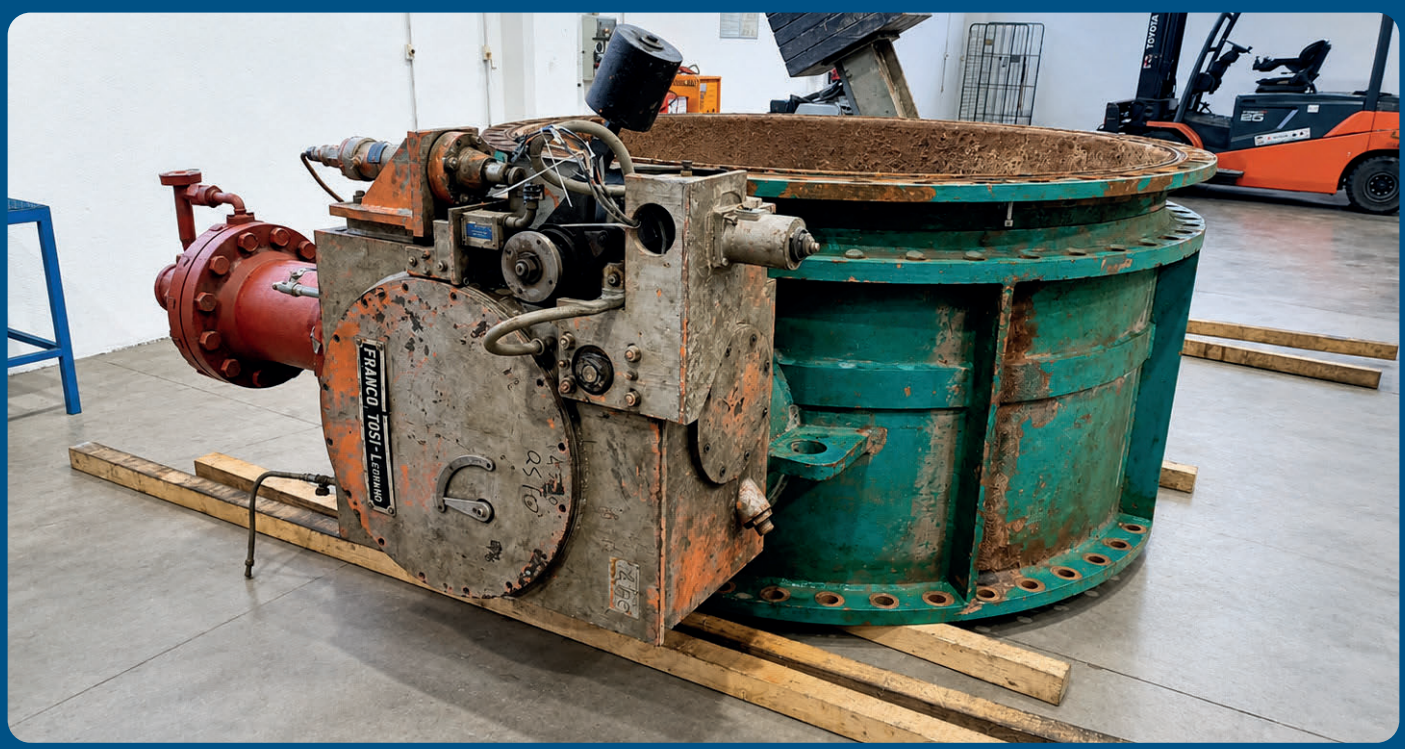
CONSTRUCTION PHASE

Revamping of a butterfly valve DN2000 PN10

Fabrication: Welded Carbon Steel
Actuation: By hydraulic cylinder for opening and counterweight for closing



BEFORE MAINTENANCE



BEFORE MAINTENANCE



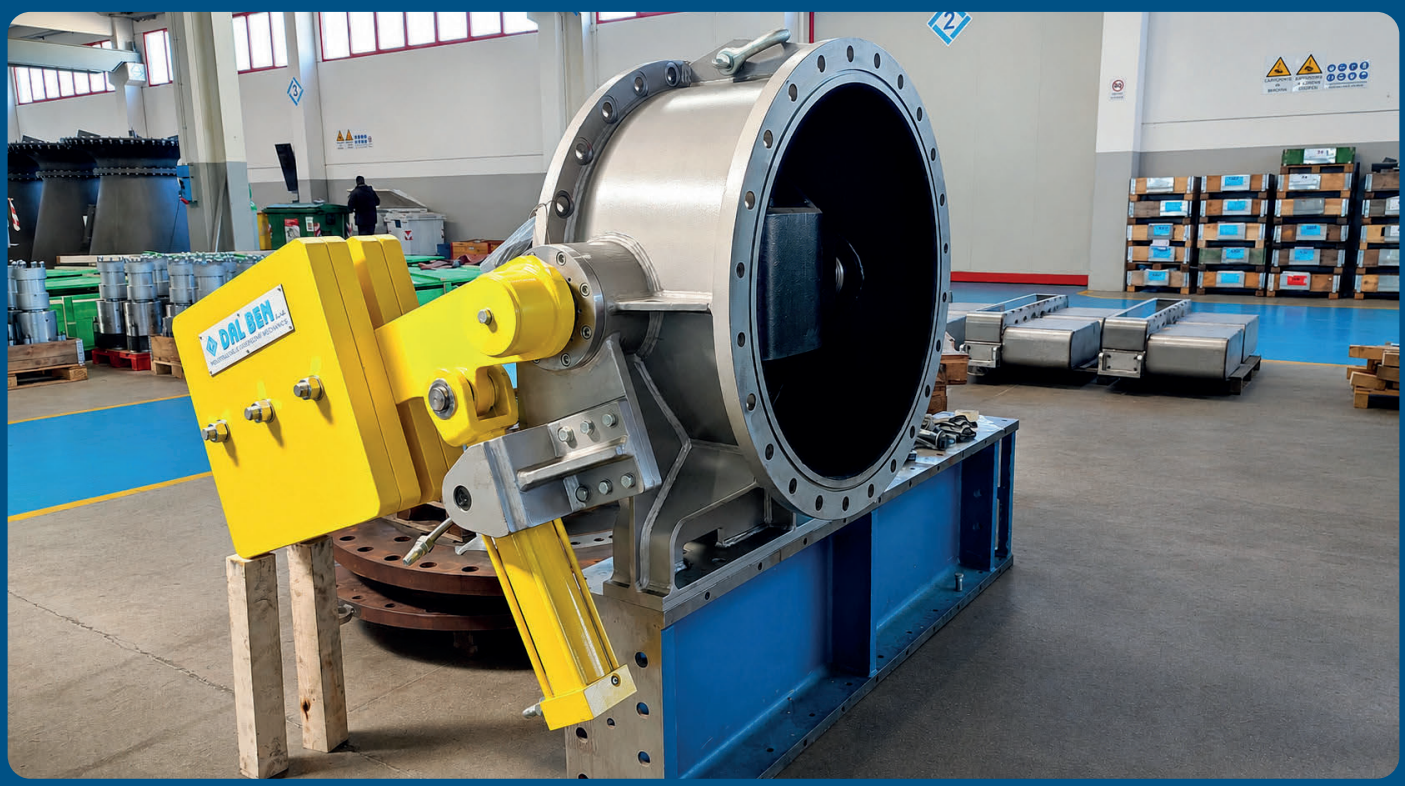
AFTER MAINTENANCE



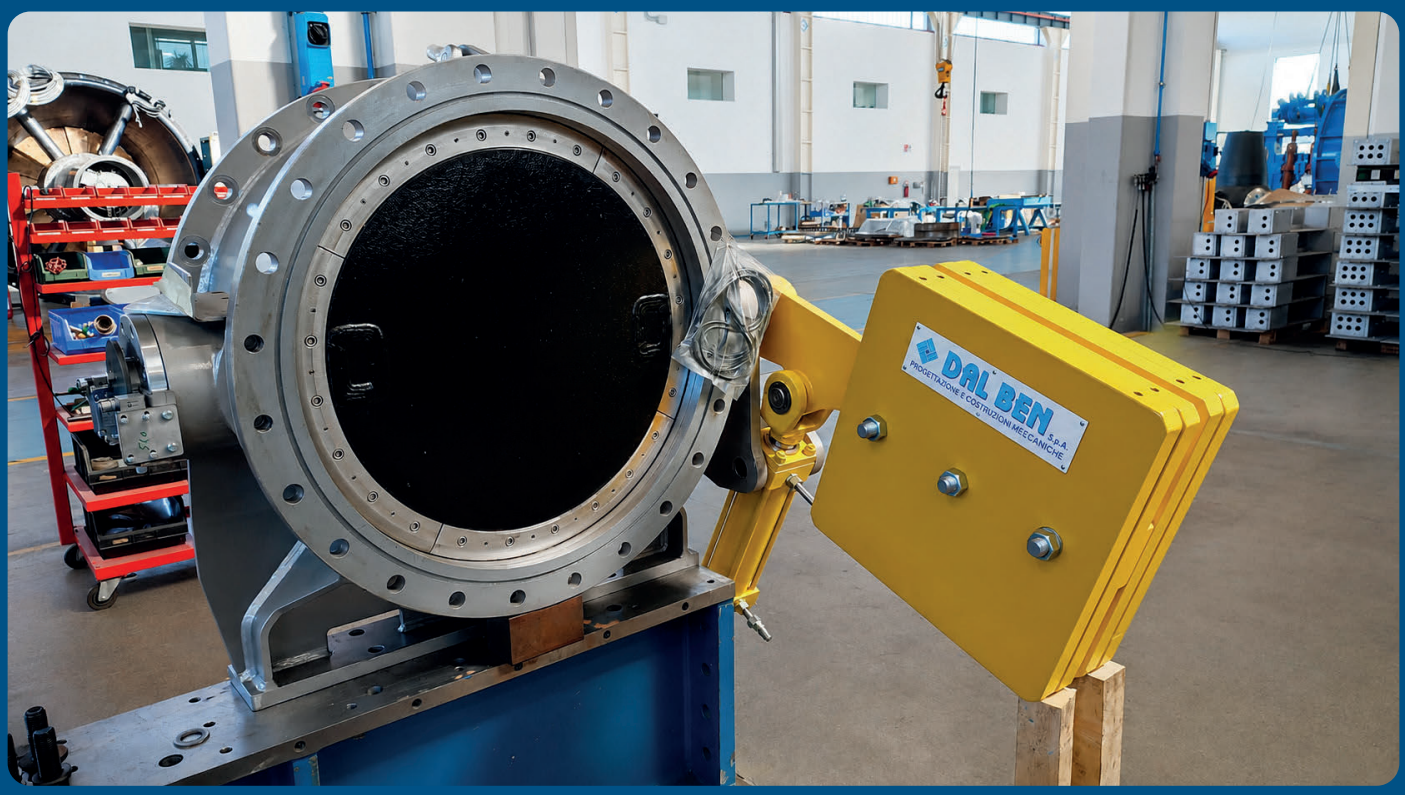
AFTER MAINTENANCE

Overspeed butterfly valve DN850 PN10

Fabrication: Welded Carbon Steel
Actuation: Opening by hydraulic cylinder and closing by lever and counterweight
Accessories: The replacement valve was designed to replicate the existing unit, including its instrumentation and control philosophy



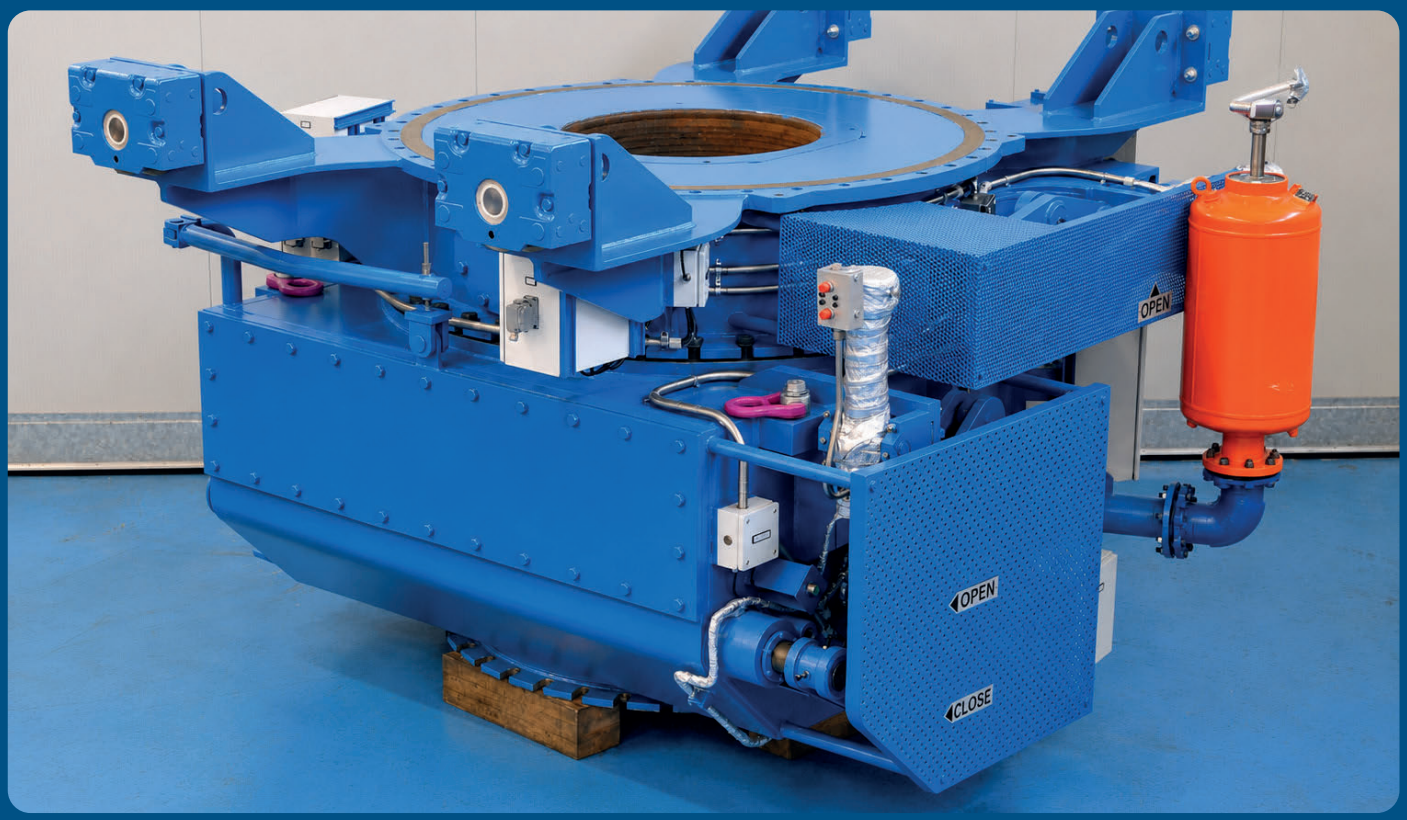
OVERSPEED BUTTERFLY VALVE DN850 PN10



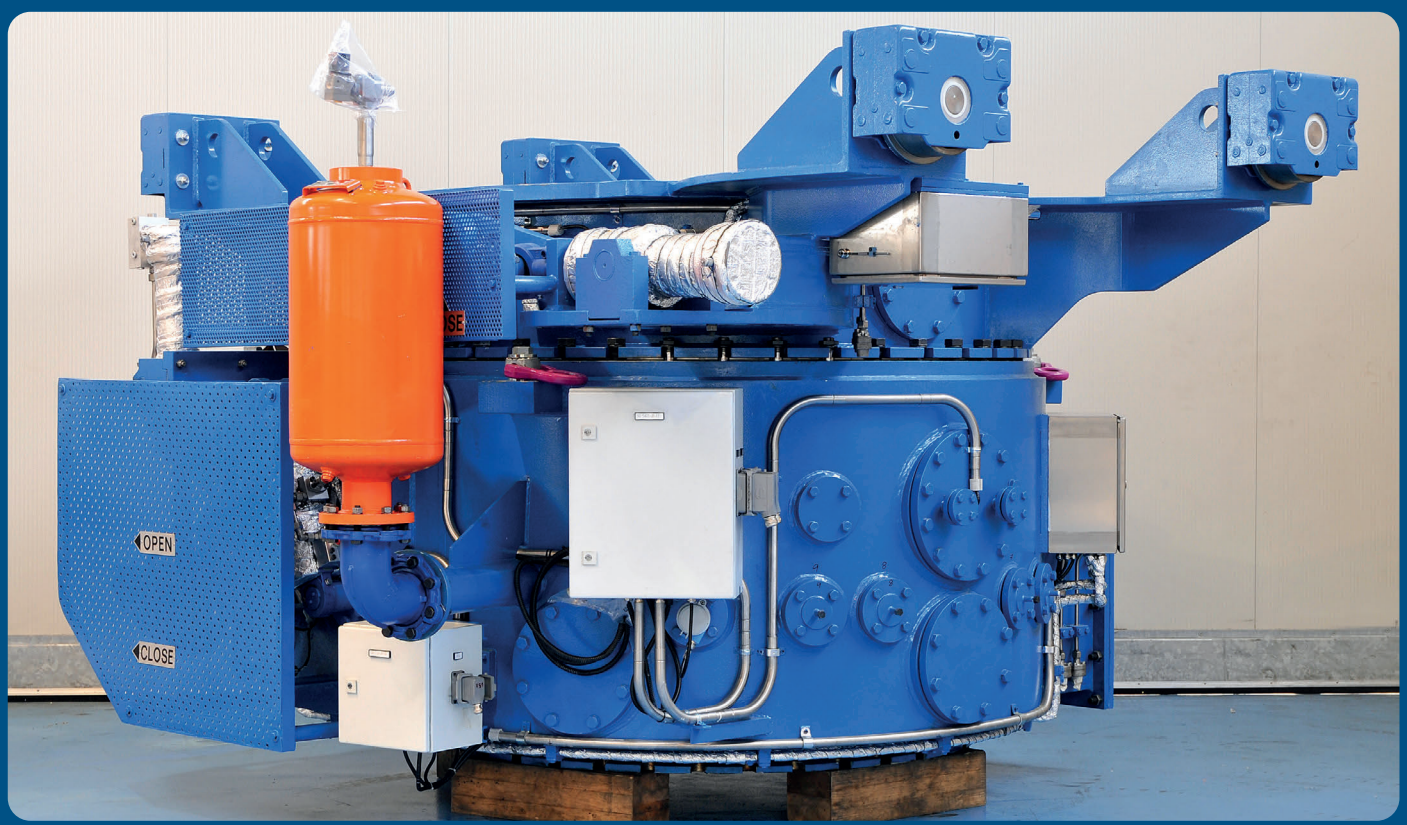
OVERSPEED BUTTERFLY VALVE DN850 PN10

Special Valves for the Steel Industry

Fabrication: Welded Carbon Steel with wear-resistant cladding
Actuation: Hydraulic system



SPECIAL VALVE



SPECIAL VALVE

Dismantling Joints from DN500 to DN2400 ANSI150# / 300# / 400# / 600#

Fabrication: Welded Carbon Steel with hot-dip galvanised fasteners



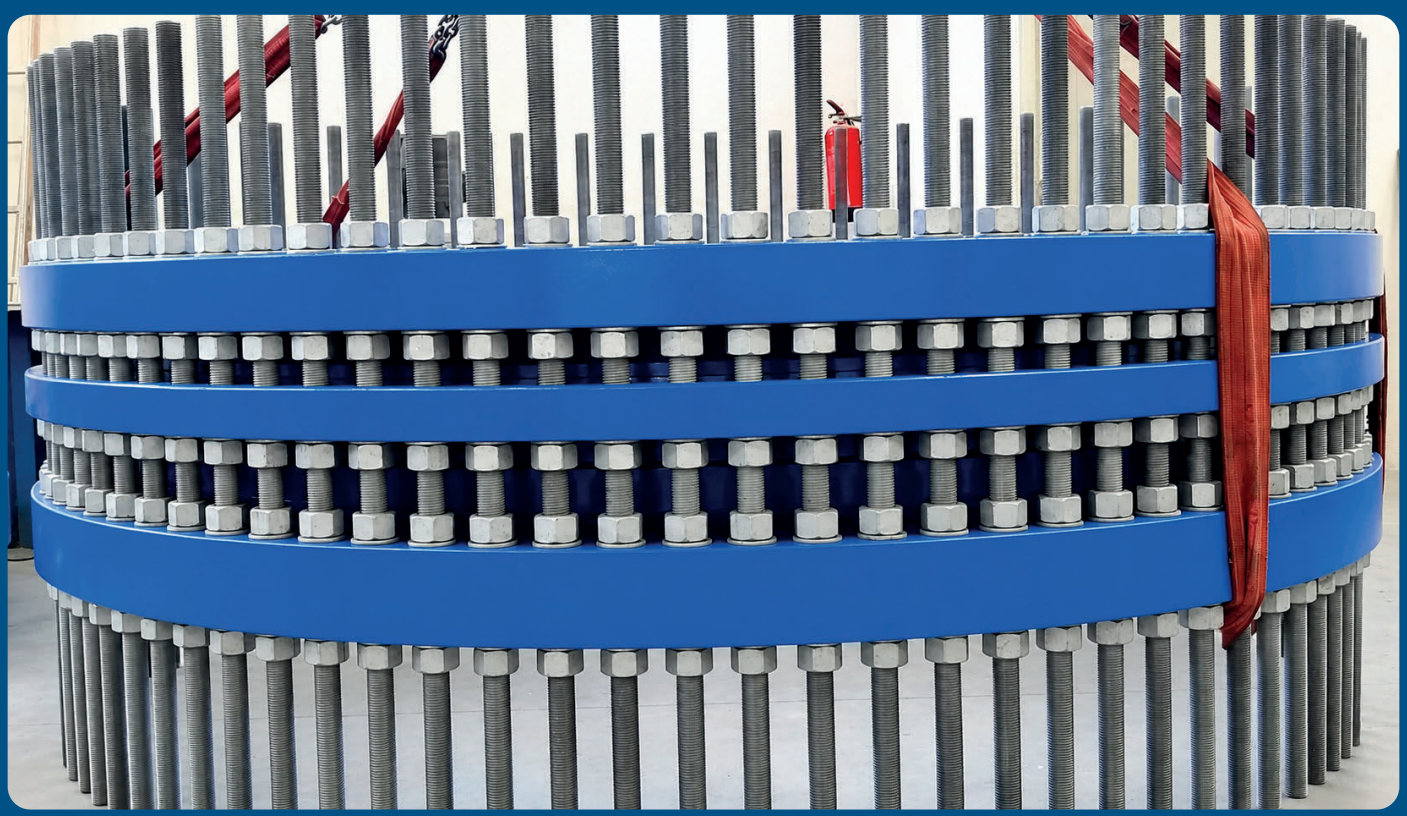
DISMANTLING JOINTS



DISMANTLING JOINTS



DISMANTLING JOINTS DN3200 PN16



DISMANTLING JOINT 96'' (DN2400) ANSI 150# - SPECIAL DRAWING



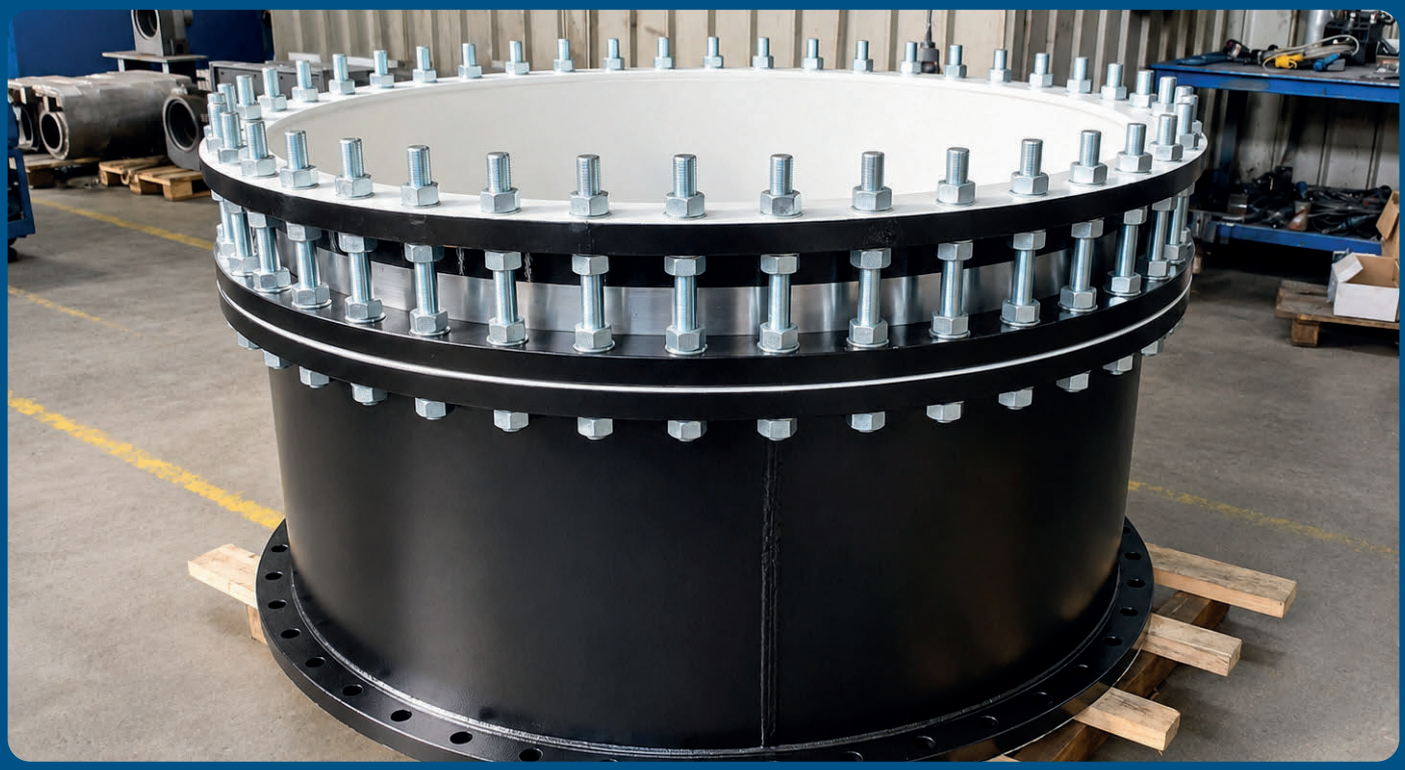
DISMANTLING JOINTS 60’’ (DN1500) ANSI 600# AND 80’’ (DN2000) ANSI 400# (UNDER HYDRAULIC TESTS)



DISMANTLING JOINT 40’’ (DN1000) ANSI 600# AND OTHERS

4-Flange Expansion Joint DN1800 PN6 and 4-Flange Dismantling Joint DN1800 PN6 with sliding male pipe in stainless steel AISI 304

Fabrication: Welded Carbon Steel + Stainless Steel



EXPANSION JOINT DN1800 PN6 WITH MALE PIPE IN SS 304



DISMANTLING JOINT DN1800 PN6 WITH MALE PIPE IN SS 304

Different models of dismantling joints:

Fabrication: Welded Carbon Steel, optionally with sliding parts in Stainless Steel



4-FLANGE TYPE – DN1400 PN6 & PN10 – SLIDING PART IN STAINLESS STEEL



3-FLANGE TYPE - SPECIAL DESIGN - DN2600 PN6 - DIFFERENT DRILLING PATTERN



4-FLANGE TYPE - DN900 PN10 WITH DN600 MANHOLE - WITH AISI 304 STAINLESS STEEL OVERLAID SURFACES IN CONTACT WITH SEALS AND ALL BLOCK FLANGES FOR CONNECTIONS IN AISI 304 STAINLESS STEEL



4-FLANGE TYPE - DN900 PN10 WITH DN600 MANHOLE - WITH AISI 304 STAINLESS STEEL OVERLAID SURFACES IN CONTACT WITH SEALS AND ALL BLOCK FLANGES FOR CONNECTIONS IN AISI 304 STAINLESS STEEL

Other products with our design

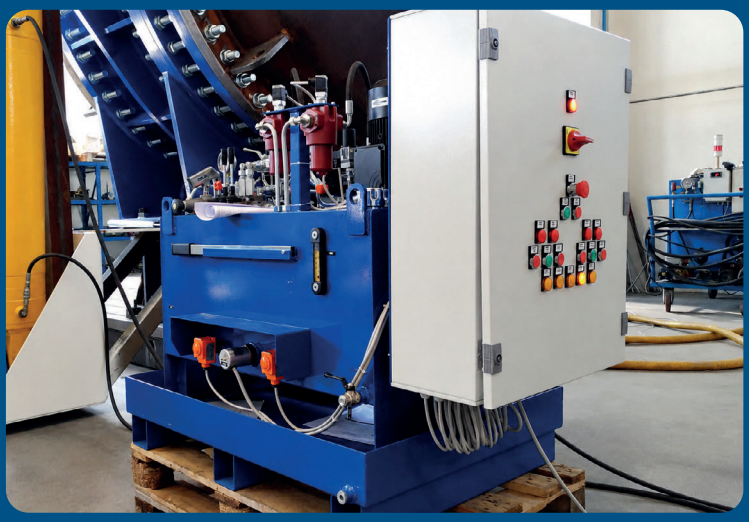
Designed according to project requirements and operating conditions.



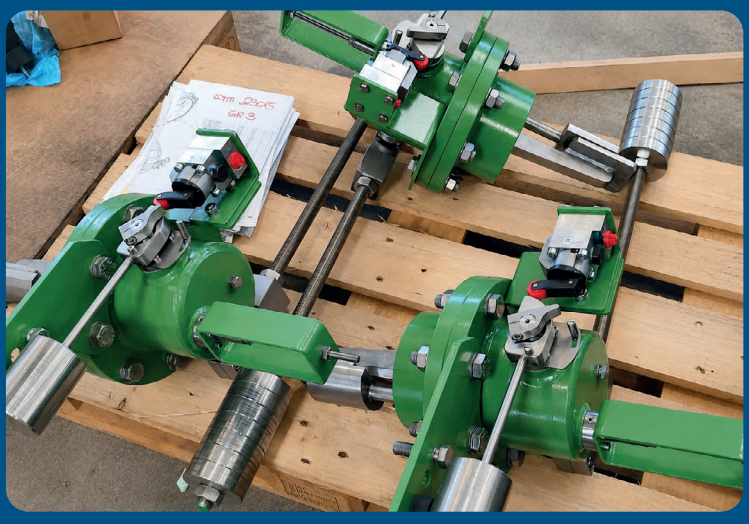
AIR-RELEASE VALVES DN1000 PN6



VACUUM BREAKER SPRING VALVE DN500 PN10



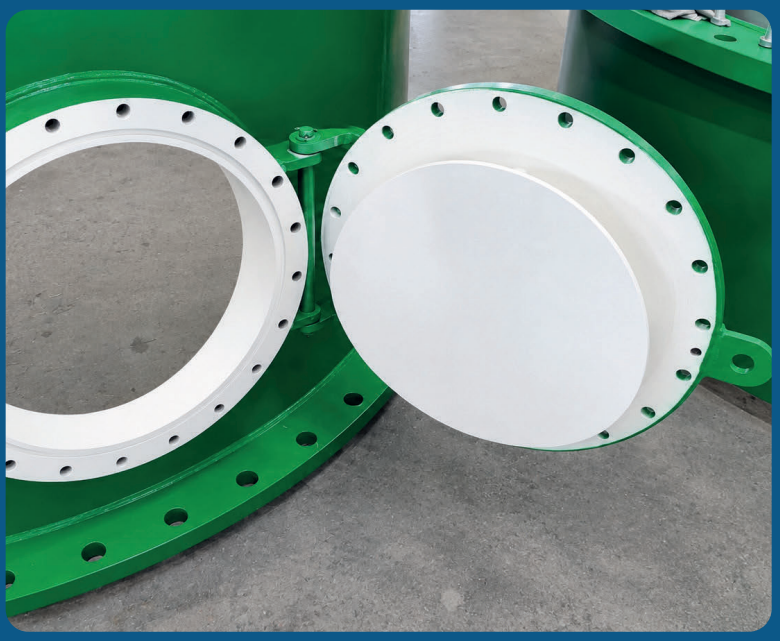
ELECTRICAL CONTROL PANEL & HYDRAULIC OIL UNIT



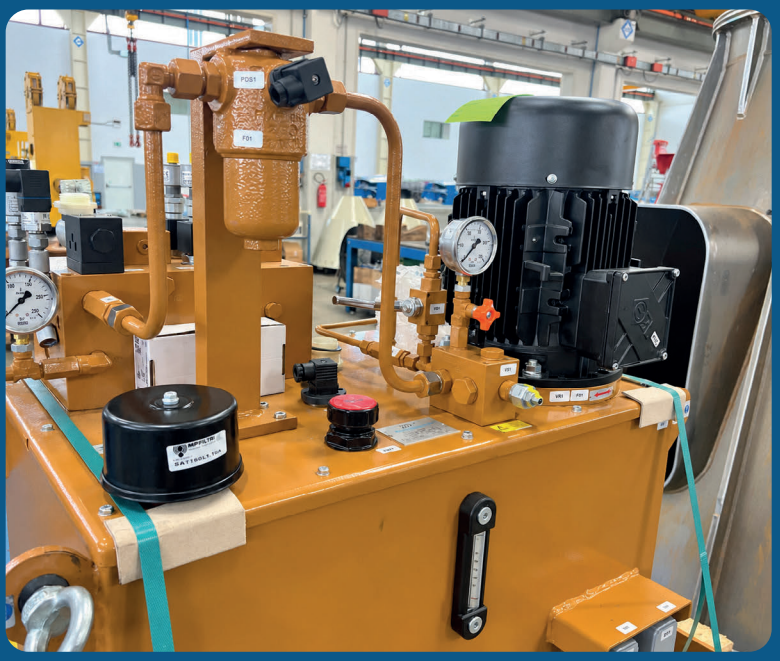
MECHANICAL SPEED DETECTORS



AIR-RELEASE VALVE DN700 PN6



MANHOLE DN600



HYDRAULIC OIL UNIT



AIR-RELEASE VALVE DN800 PN16



AIR-RELEASE VALVES DN400 & DN450 PN10 & PN16

DAL BEN
Leading vision

HEADQUARTERS

Via G. Di Vittorio, 12
30029 San Stino di Livenza (VE)
Italy

CONTACTS

+39 0421 461311
info@dalbenspa.com
dalbenspa.com