OIL AND GAS

MASTERING THE SCIENCE OF METALS

FOMAS GROUP

THE GROUP

FOMAS Group is a trusted global partner and industry leader in open die forgings, seamless rolled rings, and metal powders. Since 1956, the Group has combined advanced metallurgy, innovation, and precision engineering to deliver high-performance, sustainable solutions — supported by a strong global footprint.

Our purpose is to enable **sustainable energy, reliable power and limitless motion** by moving the needle in mastering the science of metals with a responsible approach. The Group's Mission is to play to win with **innovation**, responsiveness and a passionate **commitment to long-term partnerships**. Our vision for the future is to be a multicultural, **people-centric** organization leading our core businesses by leveraging cutting-edge competencies in the science of metals and embracing **digital transformation**. Everything we do is underpinned by our core values of proactivity, integrity, meritocracy, accountability, reliability, transparency & trust.

1,400

EMPLOYEES

The Group has around 1,400 employees all around the world. Working with us signifies entering a team which is focused on continuous evolution, a company that measures its success in the achievement of **excellence** at each step of function and process. The attention dedicated by our Group to safeguarding the **health and safety** of its employees and to improving the environmental performance of its activities represents a key reference to the continual improvement of business reliability. We believe this is essential to ensure the long-term health of our business.

FOMAS Group promotes safety and environmental protection in every aspect of its production cycle. This mindset is the foundation on which the company builds the continuous improvement of environmental, safety and health conditions in its sites worldwide. An integrated Group **HSE management system** is the means through which this goal is pursued. In a continuous effort to reduce its impacts, FOMAS Group sustainability process adopts also **energy management best practices**. An example is the adoption of certified energy management systems and best practice sharing between the sites.

Our Core values: proactivity, integrity, meritocracy, accountability, reliability, transparency & trust.

	EUROPE		ASIA		NORTH AMERICA
COUNTRY	ITALY	FRANCE	INDIA	CHINA	USA
PRODUCTION	• FORGINGS • RINGS • METAL POWDERS	• RINGS	• FORGINGS • RINGS	• RINGS	• RINGS
PLANT	• FOMAS • ASFO • HOT ROLL • MIMETE	• LA FOULERIE	• BAY-FORGE	• FOMAS DALIAN	• FOMAS USA

MARKETS
POWER GENERATION powergen@fomasgroup.com
AERONAUTIC, SPACE & DEFENCE aerospace@fomasgroup.com
OIL & GAS oilandgas@fomasgroup.com
INDUSTRIAL industrial@fomasgroup.com

OIL & GAS SOLUTIONS

GLOBAL EXPANSION AND LOCAL EXCELLENCE

In today's global market, particularly within the Oil & Gas sector, conditions are increasingly defined by volatility, uncertainty, complexity, and ambiguity (VUCA). Within such a context, the main problems customers encounter concern cost control, reliability, and on-time delivery which must occur when agreed and in compliance with the expected quality standards.
FOMAS Group's answer to such problems lies in its **global presence**: through the concept of glocalization, we can provide our customers with proximity, faster delivery times, achieving lower total costs, including ownership and emissions. All the above is supported by a significant service level, especially when flexibility to satisfy customer needs, proactivity, availability, problem solving and complexity management are concerned.
Our approach enables our customers to benefit from cost reliability mechanisms, as we allocate forging capabilities to reduce the risks connected to the volatility and uncertainty of the market. Thanks to such an approach, the customers have understood the advantages of fostering long-term agreements and relationships, if they want to coexist and have success within the current market conditions.

FORGINGS, ROLLED RINGS, AND METAL POWDERS

FOMAS Group manufactures open die forgings, seamless rolled rings, and metal powders, for the following Oil & Gas applications:

- Offshore and subsea applications
- Onshore and process applications
- Tubular equipment: valves, fittings and pin & box connectors

Our decades of experience in the manufacturing of industrial components have made us an essential partner to our clients: our network of **8 production sites**, strategically located across the globe (from America to Asia), allows the delivery of high integrity forgings to all our customers' worldwide locations with excellent lead times.

We share know-how within the FOMAS Group, optimizing processes and materials, minimizing cost, and maximizing product quality. Our added value is to provide turnkey solutions, from forging and ring rolling to the finished machine part.

Starting from a thorough analysis of the customer's design, then engineering the production of contour forgings close to net shape up to the finished part. All the required machining processes such as milling, lathe-machining, drilling, sewing and others can be carried out within our manufacturing units.

FORGINGS AND ROLLED RINGS

FORGINGS PRODUCTION RANGES

EUROPE

- Max. diameter: 5,500 mm
- Max. length: 18,000 mm
- Max. ingot: 125-ton ESR (equivalent to 170 tons conventional ingot)
- Max. shipped weight: 100-ton

INDIA

- Max. diameter: 2,700 mm
- Max. length: 6,500 mm
- Max. weight (ingot): 30,000 kg

RINGS PRODUCTION RANGES

	WEIGHT		D ext		HEIGHT	
	Kg	Pounds (lb)	mm	inches	mm	inches
EUROPE	1-15,000	2.2 – 33,000	100-7,000[1]	3.9 – 275	25-1,250	0.9 – 49
USA	6-1,306	13-2,879	191-3,048	7.5-120	35-508	1.4-20
CHINA	2-2,500	4.4-5,511.5	160-2,700	6-106	30-750	1-29.5
INDIA[2]	20,000[3]	44,100	5,500	216	1,000	39

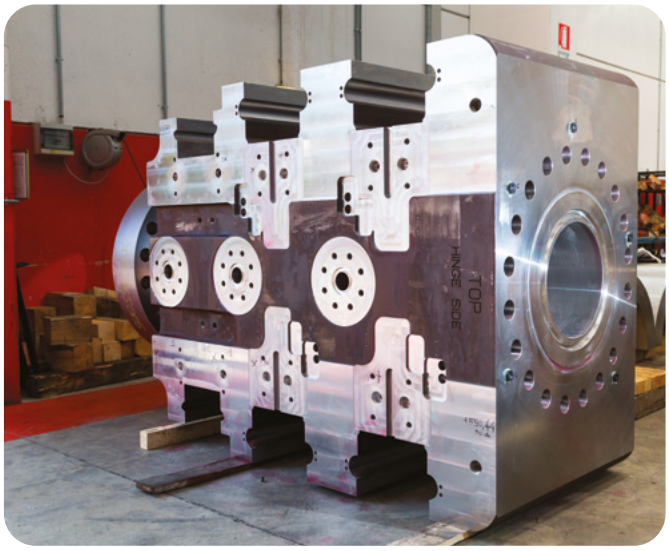
(1) 2,500 max / 7,000 max depending on rolling mill
(2) Only max values reported. Minimum values depending on material
(3) Up to 5,500 diameter mm

OFFSHORE & SUBSEA

- Spool body/Master Valve Block
- Spool body/Master Valve Block connectors
- Xmas tree components: casing/tubing hanger, wellhead housing

PRESSURE CONTROL

- Blow Out Preventer “BOP”
- Annular BOP



STRUCTURE

- Turret swivel core (FPSO)
- Swivel inner and outer ring (FPSO)
- Top plate (FPSO)
- Turret rail (FPSO)
- Mooring system/anchoring rod

TURBOMACHINES

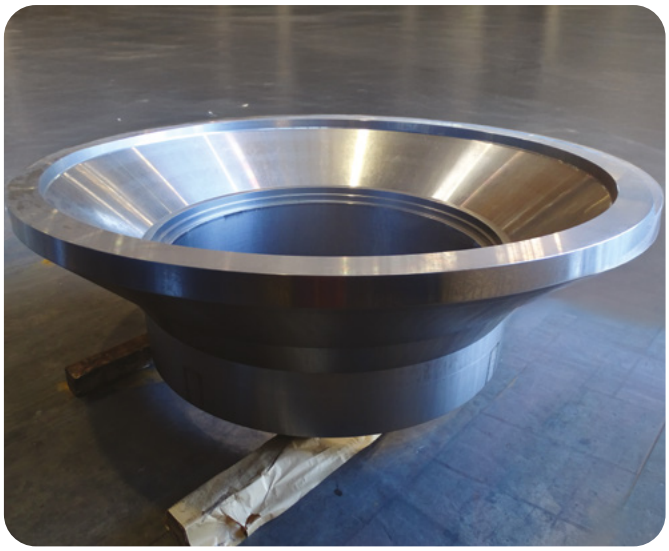
- Pump & compressor casing and cover
- Pump & compressor shaft
- Pump & compressor impeller
- Compressor wheel
- Compressor Housing

TUBULAR EQUIPMENT

- Riser flange joint
- Pin/box connector
- Tensioning joint ring
- Flange
- Clamp

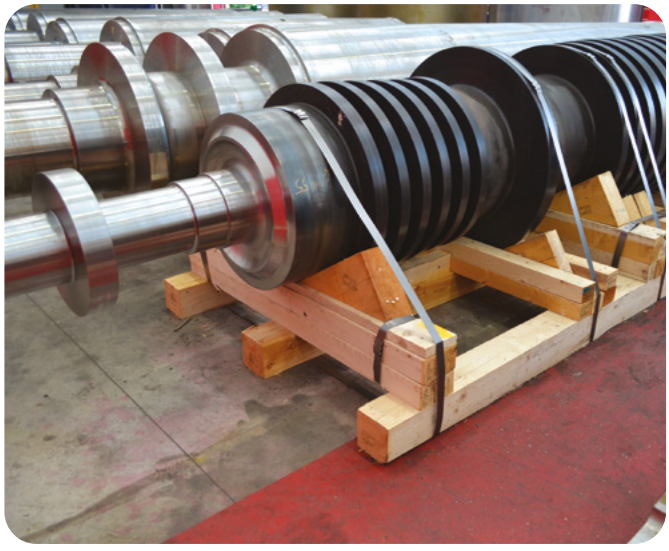
VALVES

- Closure
- Ball
- Body (top entry included)
- Seal ring



TURBINES

- Turbine casing and cover
- Turbine shaft
- Turbine wheel



PROCESS EQUIPMENT

- Cylindrical shell
- Shell cover
- Tube plate
- Nozzle/shell junction ring
- Transition ring

ONE STOP SHOP

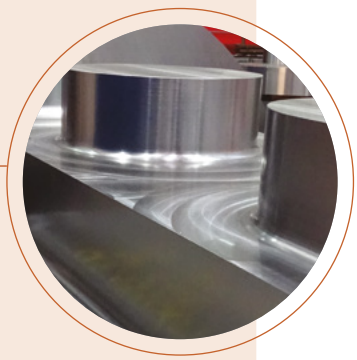
FOMAS Group capabilities allow us to supply goods in different delivery conditions from raw/heat treated to rough machined, from pre-cladded/cladded to coated depending on the level of **vertical integration** required by the Customer. This business model allows us to optimize the overall supply chain, providing an exclusive point of contact and assures us of the shortest possible response time to market requirements.

1

HEAT TREATED
IN BLACK CONDITION

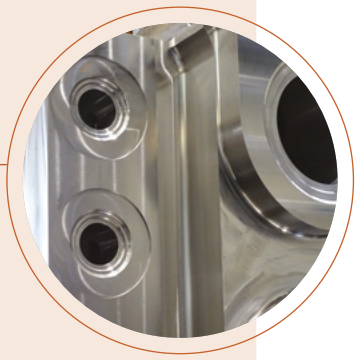
2

ROUGH MACHINED



3

PRE-CLADDED
MACHINED

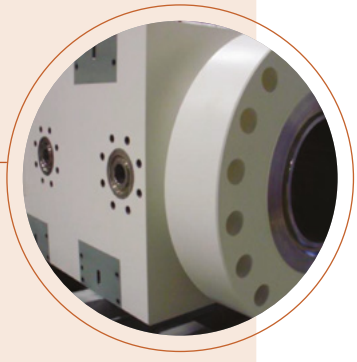


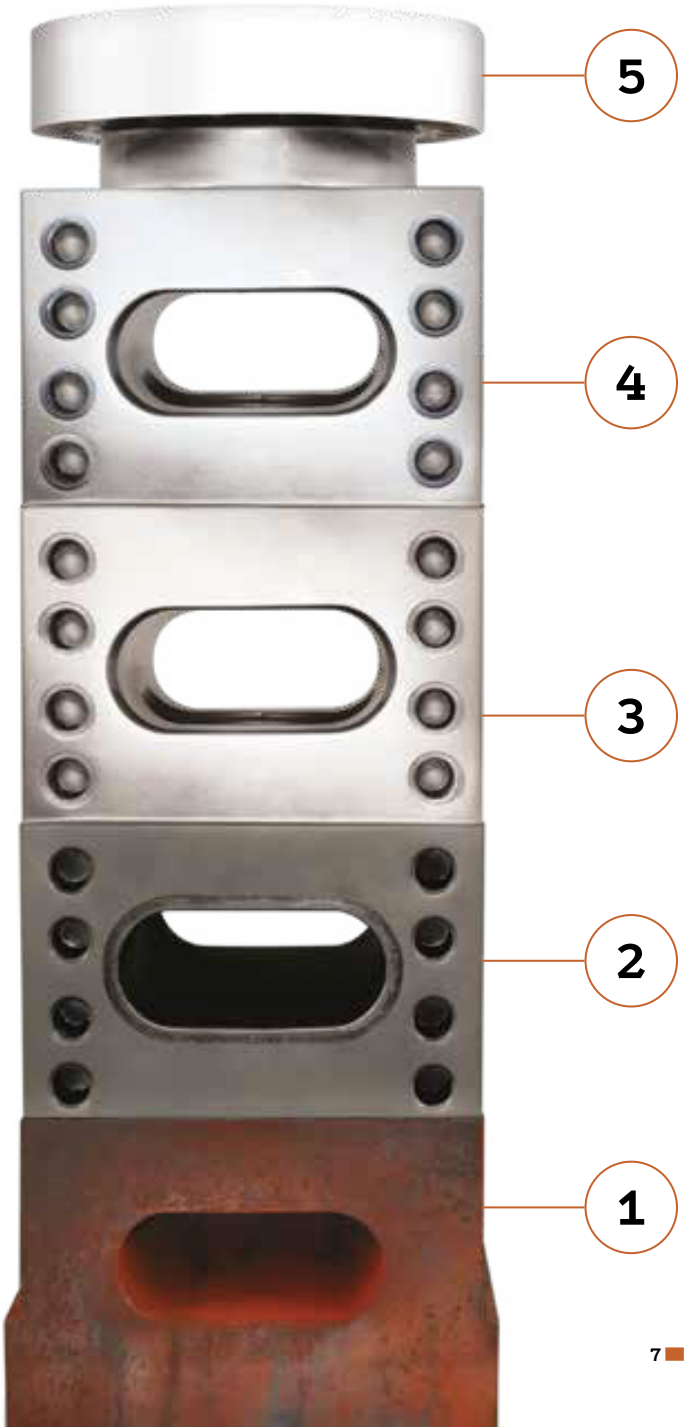
4

FULLY MACHINED
CLADDED
PREASSEMBLEDDED

5

COATED





METAL POWDERS

FOMAS Group produces **nickel-, iron- and cobalt-based** alloy atomized metal powders through a **VIGA** (Vacuum induction melting Inert Gas Atomization) plant. Our powders are available for Additive Manufacturing (Powder Bed Fusion, Directed Energy Deposition and Binder Jetting), Thermal Spray and HIP (Hot Isostatic Pressing) manufacturing applications. Furthermore, we can provide four different PSD (Particle Size Distribution), based on the requests of our customers.
Our metal powders stand out with their **sphericity and flowability**, giving a competitive edge in your applications. To ensure the highest standards, each cast undergoes a rigorous testing process, involving over 20 tests.

METAL POWDERS FOR OIL AND GAS

Iron-based alloys

- MIMETE® M 316L
- MIMETE® M F51
- MIMETE® M F53

Nickel-based alloys

- MIMETE® V 625
- MIMETE® V 625 NACE
- MIMETE® V 718

PARTICLE SIZE DISTRIBUTION

Small 0-20 µm	**Medium** 15-45 µm or 20-60 µm
Large 50-150 µm or 50-100 µm	**One size** 0-150 or 0-300 µm

APPLICATIONS

- 3D printing (PBF)
- Welding
- DED
- Thermal Spray
- Cladding
- HIPping

TECHNICAL SUPPORT

Thanks to our experience and expertise in metallurgy, as well as to our deep knowledge of the relevant processes, we can offer our complete **support to our customers**, during every phase of the purchasing process.

A TAILOR-MADE APPROACH

Our approach focuses on providing our customers with customized services, ensuring **swift and flexible responses to their needs**.

MASTERING THE SCIENCE OF METALS

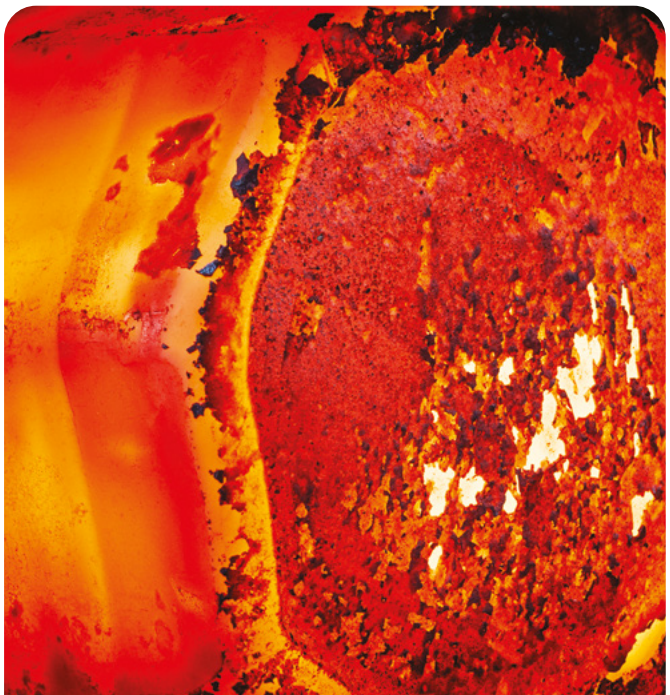
METALLURGY

At FOMAS Group, our deep understanding of metallurgy is rooted in our history and continues to guide our future. For generations, we have cultivated and transmitted extensive knowledge of steels and non-ferrous alloys—encompassing their chemical, physical, and mechanical properties. This heritage is embodied in our slogan, "**Mastering the Science of Metals**," which reflects our advanced **metallurgical expertise** and our **full-process mastery**: from remelting and atomization to forging and hot-rolling. This comprehensive capability allows us to maintain precise control over metal behaviour at every stage of transformation.

Our know-how also enables us to support customers in identifying alternative solutions when needed, leveraging our ability to **predict material response** during deformation and machining processes.

We apply **advanced profiling technologies** to manufacture rolled rings, shaping metal with exceptional precision to achieve geometries that closely match the final product. This approach reduces material waste, machining time, and transportation costs—enhancing overall yield while delivering components with outstanding mechanical performance.

In addition, upon request, we can provide **preassembled solutions**, delivered after final machining, to further streamline our customers' production processes and reduce integration time.



FORGINGS

Presses

The forgings are processed in smaller or larger presses depending on the contours and size.
Our presses for open die forgings (all with integrated manipulators):

- **12,500 tons**
- **6,000 tons**
- **n° 2 - 3,500 tons**
- **2,000 tons**

Across our facilities, we operate six state-of-the-art automatic UT stands, both vertical and horizontal, designed by FOMAS and qualified by major turbine manufacturers, as well as titanium and aluminum heat treatment lines equipped with electric drop furnaces.

RINGS

Rolling Mills

- **19 lines (axial/radial)**

State-of-the-art rolling mills worldwide, delivering precision, reliability, and top-quality forged and rolled components for global industries.

METAL POWDERS

- **Vacuum induction melting and inert gas atomization** ensuring the highest purity and sphericity of the powder.
- Complete **inert post processing** comprehensive of handling, packaging, air classification, and sieving facilities.

All machines are controlled by PLC panels for powder process route integration and maximum control for traceability.

MATERIALS PRODUCTION

Electro Slag Remelting (ESR) plant

Production of defect-free metal ingots

- Three ESR stands.
- New 125-ton ESR ingot equivalent to a conventional ingot of 170 tons.
- Pressurized ESR for top quality remelting of special steel & stainless steel under full inert gas atmosphere.

Vacuum Induction Gas Atomization (VIGA) plant

Production of metal powders

- Able to operate at higher temperatures thanks to standard gas atomizers (argon or nitrogen), suitable for high melting point and refractory alloys.
- High-vacuum pumps for minimum content of oxygen and residuals.
- Special nozzles dedicated to specific alloys and particle size.
- Develop for maximum flexibility.

INNOVATION: DRIVING EFFICIENCY AND SUSTAINABILITY

At FOMAS Group, innovation is at the heart of our operations. We leverage automation and digitization to stay ahead of the curve, utilizing cutting-edge software and tools such as Business Intelligence, Digital Twin, Big Data management and analysis, cloud solutions, and Artificial Intelligence.

LEAN APPROACH FOR OPTIMAL EFFICIENCY

Our approach is centered around lean principles, aimed at minimizing waste and optimizing manufacturing processes. By streamlining our operations, we reduce inefficiencies and promote sustainability. The effective management and analysis of large datasets (mega-data) enable us to identify areas for improvement and implement targeted enhancements.

STATE-OF-THE-ART TECHNOLOGY FOR SUPERIOR QUALITY

As a global leader in the production of forgings, seamless rolled rings, and metal powders, FOMAS Group is committed to driving growth and innovation.
In 2025, FOMAS Group launched the implementation of a 5-ton controlled-atmosphere furnace with vacuum induction melting (VIM) capabilities, dedicated to processing superalloys. The system is expected to be fully operational in 2027. This cutting-edge technology will enable us to achieve unparalleled control over metal quality, develop tailored melting practices for specific alloy compositions, and further support our circular economy goals.

QUALITY

The Group places quality at the core of all its operations, in every step of manufacturing and customer service. Quality means ensuring compliance with all the required standards and customer expectations in terms of performance, reliability and safety.

This commitment translates into a set of practices and standards encompassing:

- **Strict Material Control**: Careful selection of raw materials and constant monitoring of their properties.
- **Advanced manufacturing processes**: Using state-of-the-art technology and procedures to process metals.
- **Testing and continuous veri ication**: Each product goes through an extensive testing process to verify that it complies with all the requirements and specifications.
- **International certifications and standards**: Compliance with international standards and obtaining relevant certifications that attest to the quality of FOMAS Group's products and processes because each market has its own dedicated certification requirements and standards.
- **Continuous employee training**: Cyclic training on new manufacturing methods, technologies and quality standards to ensure that our staff is always up to date with the best practices in the industry.
- **Customer feedback and continuous improvement**: FOMAS Group places great importance on customer feedback as a tool for an incremental enhancement process. Through the analysis of feedback, the company strives to refine its processes and products to better meet market needs.

LABORATORIES

IN-HOUSE LABORATORIES

FOMAS Group is equipped with two testing laboratories accredited by ACCREDIA, the Italian national accreditation body, in accordance with ISO/IEC 17025 requirements. One of them is located in our metal powders production facility.

The laboratories are equipped with cutting-edge technology and precision instruments, enabling comprehensive testing, examination, and analysis of materials and final products. We perform comprehensive chemical, morphological, physical, metallographic, and mechanical assessments to uphold the highest quality standards.

Our quality tests guarantee compliance with industry standards and ensure the long-term performance and reliability of our products under various stress regimes and usage conditions. The laboratories are added value that underlines the Group's commitment to providing superior quality and highly reliable solutions, meeting the most stringent requirements of our customers.

OUR CERTIFICATION

FOMAS Group's plants hold various certifications that demonstrate compliance with international standards for quality, safety, and environmental responsibility. These include:

- ISO 9001
- ISO 14001
- ISO 45001
- ISO 50001
- ISO 29001
- ISO 3834-2

Certifications may vary by production site. For a complete list of certifications and accreditations, scan the QR code to access our dedicated webpage.

SUSTAINABILITY

Our sustainability strategy is anchored on well-defined pillars that set the framework for short, medium, and long-term targets across departments. This strategic approach enables us to integrate sustainability into every facet of our operations.

THE PILLARS OF OUR ESG STRATEGY:

1

Mastering the science of metals

2

Awareness and commitment for the planet

3

People-centric

4

Creating shared value for the community

5

Embracing the change with our partners

MATERIALS – Special steels, nickel and titanium alloys

AUSTENITIC
A182 304/304H
A182 F316
A182 F316 LN
A182 FXM 11-19
A182 F347
A182 F321
A182 F44
A182 F49

SUPER-ALLOYS
Inconel 625
Inconel 718
Inconel 825
Incoloy 800/800H
A286
Nitronic 263
Hastelloy X
Waspalloy

CARBON AND LOW ALLOY STEELS
A105
A350 LF2
A350 LF3
A350 L52
A350 L60

CARBON AND LOW ALLOY STEELS
A350 L65
A350 L70
A182 F11
A182 F22
A707 L5/3W
AISI 4130
AISI 4140
AISI 8630

Other materials and alloys are available on request.

DUPLEX & SUPERDUPLEX
A182 F51
A182 F53
A182 F55
A182 F61

MARTENSITIC
17-4PH
15-5PH
F6A
F6NM
F91
F92

ALUMINUM
Series 7XXX
Series 2XXX
Series 5XXX

TITANIUM
Grade 2 and 5

REFERENCES

ONESUBSEA

Main components	Materials
Spool body/Master valve block	F22
Annulus wing block	8630
Outer sleeve connector	8630/F22
Unlock ring connector	8630/F22
Lower body connector	8630/F22
Top support ring connector	8630/F22
Housing compressor	F51

SLB

Main components		Materials
BOP (single, double, triple)		F22
BOP (annular)		8630
	Riser flanges	
	Top Plate, Piston, Body	
	Upper and Lower Housing	
	Bonnet	
	Collect Segments	F51
	Clamp	
Diverter		
Manifold		
Valve		
	Closure	LF2/A105
	Ball	F60/F65
	Body	LF2/A105 /316/F51/F55
	Seal ring	In625/718

NATIONAL OILWELL VARCO

Main components	Materials
BOP (single, double, triple)	F22
BOP (annular)	4130
Piston	
Body	
Upper and Lower Housing	
Riser flanges	
Internal/external housing	

BAKER HUGHES

Main components	Materials
BOP (single, double, triple)	F22
BOP (annular)	8630
Subsea wellhead	4130
Tension ring	
Aeroderivative Gas Turbines	INCO718
	M152
	HASTELLOY X
	X22CrMoWNi
	304 SS
	316SS
Centrifugal Compressors	INCO718
	17-4 PH
	F22
	LF2

TECHNIP FMC

Main components	Materials
Xmas tree	F22
Spool body	8630
Caisson separator booster	

INNOVEX

Main components	Materials
Casing hanger	8630
Wellhead housing	4130
Body hanger	4140
Looking ring	4330
Actuator sleeve	
Tubing hanger	In718

SBM OFFSHORE

Main components	Materials
Rail	F51
Turret-swivel core	4130
FPSO	4140
Axial Bogie	F316
Guiding whell	
Radial Bogie	

EVERLLENCE

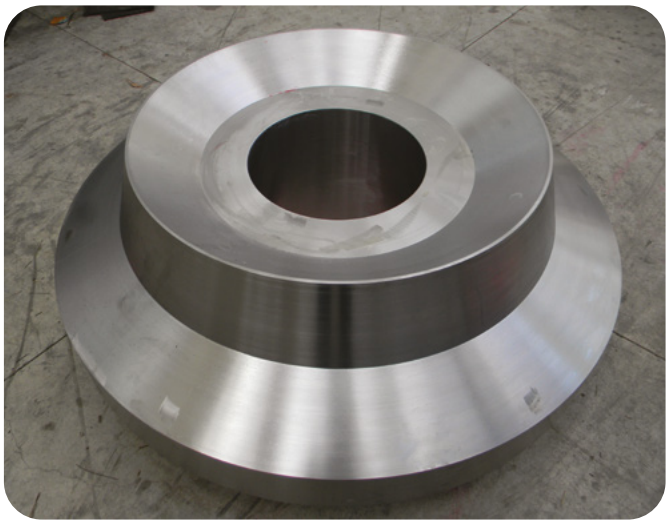
Main components	Materials
Compressor body	F51
Centrifugal impeller	In718

SIEMENS

Main components	Materials
Centrifugal impeller	17-4 PH
Bullgears	In718
Casing/housing	F6NM

SULZER PUMPS

Main components	Materials
Barrel pump	F53



SOLAR

Main components	Materials
Stator ring	In718
Diaphragm	In600
Clamp ring	In901
Rim Seal	Incoloy 909
Nozzle support	X12Cr13
Seal plate ring	X22CrMoWNiV
Housing ring	304 SS
Exhaust flange ring	316SS

FLOW CONTROL TECHNOLOGIES

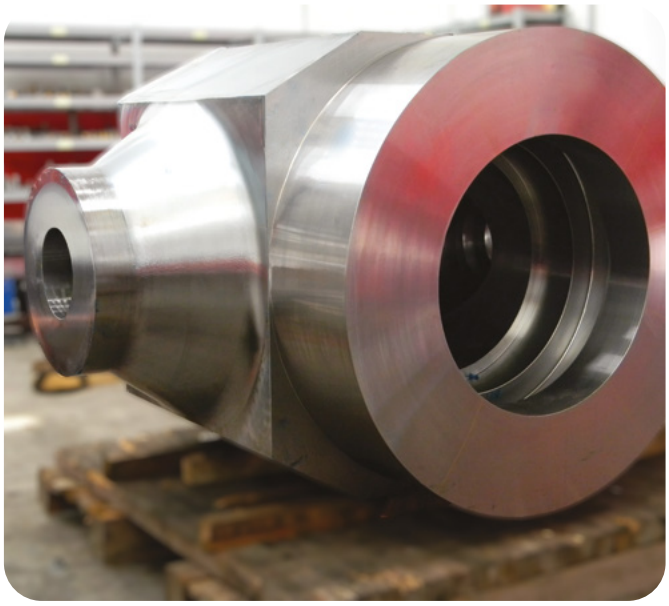
Main components	Materials
Valve body	In625

EMERSON/SEMPELL

Main components	Materials
Valve body	20MNNIV5-1
Valve cover	20MNNIV5-1

TYCO VALVES

Main components	Materials
Valve body	F22
	F51



HEAT EXCHANGERS (VARIOUS CUSTOMERS)

Main components	Materials
Tube plate (400 mm thickness)	F22
	F11
	F304/F304 L

Contact Us

Via Martiri della Liberazione, 17
23875 Osnago (LC) - Italy
+39 039 99811
info@fomasgroup.com
www.fomasgroup.com