



Flexible Engineered Solutions



OFFLOADING HOSE END VALVES (NORTH SEA VALVES)

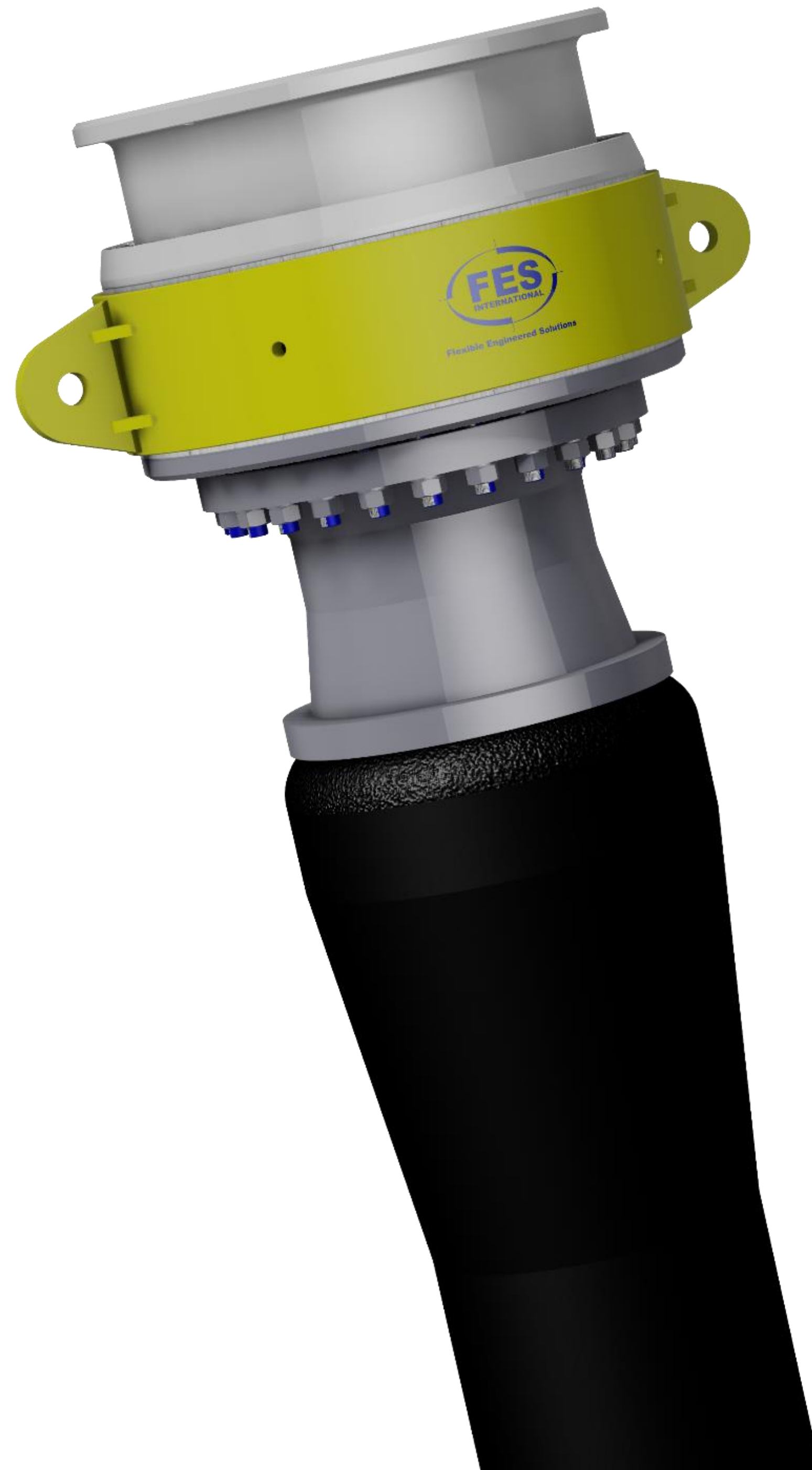
The FES Offloading Hose End Valve (commonly referred to as a "North Sea Valve") provides safe, leak free storage and connection of cargo offloading hoses, prior to fluid transfer.



Fitted to the end of cargo offloading hoses, the FES Offloading Hose End Valve is designed to be compatible with all existing transfer connections.

The valve can also be supplied as part of the FES complete Cargo Offloading Hose Reel System.

Interfacing with the offloading vessel, the valve assembly helps to ensure a leak free connection during offloading activities.



A standard 20", 300# design utilizing FES's technical experience in the fluid transfer sector provides a complete solution with design, analysis and testing in accordance with the latest industry standards.

Verification of design, manufacture and testing can be completed with full third-party accreditation (DNV, ABS and Lloyd's Register among others).

TYPE APPROVAL

FES Offloading Hose End Valves (North Sea Valves)

- Following a rigorous design review and testing program, FES now hold ABS Type Approval for the Offloading Hose End Valve.
- Further information can be [viewed online](#).



Confirmation of Product Type Approval

Company Name: FLEXIBLE ENGINEERED SOLUTIONS LTD.

Address: MERCHANT COURT, FREEMAN WAYNORTH SEATON INDUSTRIAL ESTATE WASHINGTON NE63 0YH United Kingdom

Product: Valve

Model(s): Offloading Hose End Valve 20in (4224_1101)

| Certificate Type | Certificate Number | Issue Date | Expiry Date |
|---------------------------------|--------------------|-------------|-------------|
| Product Design Assessment (PDA) | 19-LD1837854-1-PDA | 15-MAR-2019 | 14-MAR-2024 |
| Manufacturing Assessment (MA) | 19-NC3738275 | 03-OCT-2019 | 02-OCT-2024 |
| Product Quality Assurance (PQA) | NA | NA | NA |

Tier
5

Intended Service
Interface between offloading hose and vessel.

Description
Hose End Valve is a valve fitted to the end of cargo offloading hoses, to allow for the offloading from one vessel to the shuttle tanker.

The FES Offloading Hose End Valve is designed to be compatible with all existing bow transfer connections and can also be supplied as part of the FES Complete Cargo Offloading Hose Reel System.

Interface with offloading vessel, the valve assembly helps to ensure leak free connection during offloading activities provided that appropriate procedures are followed.



KEY FEATURES

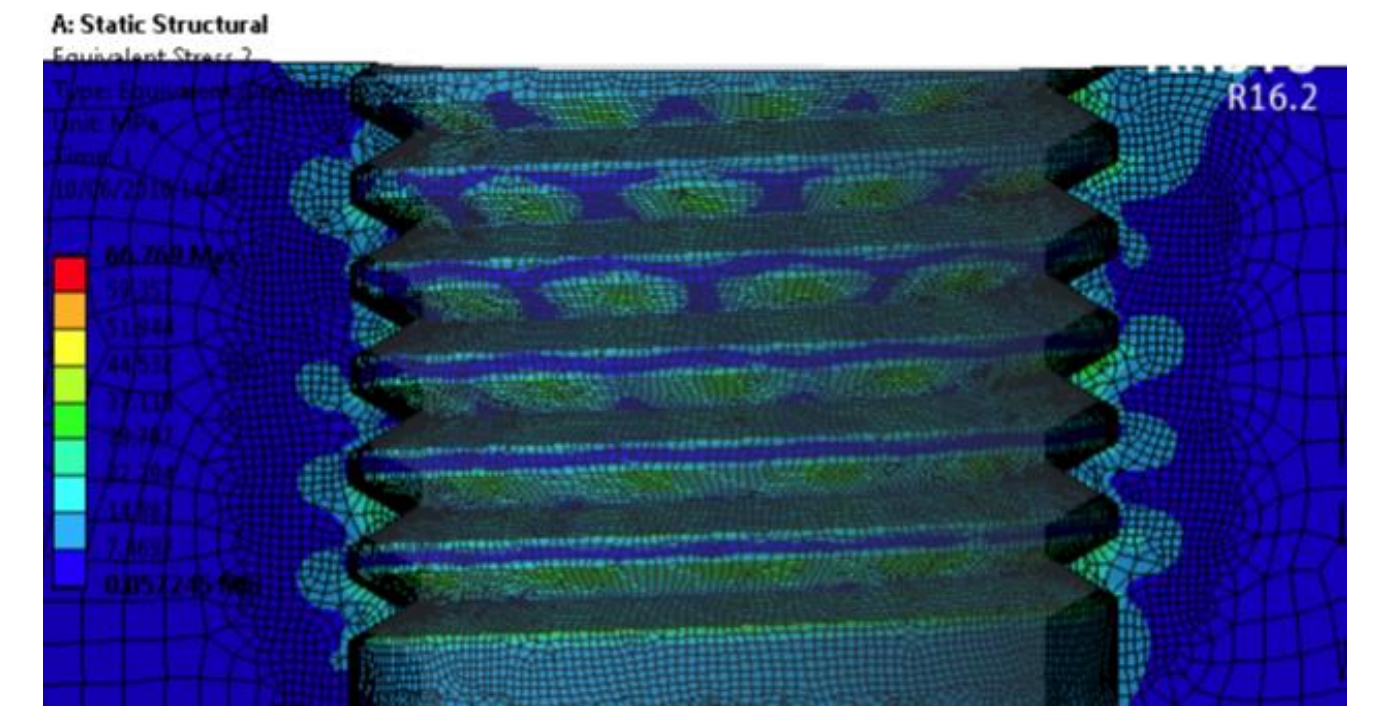
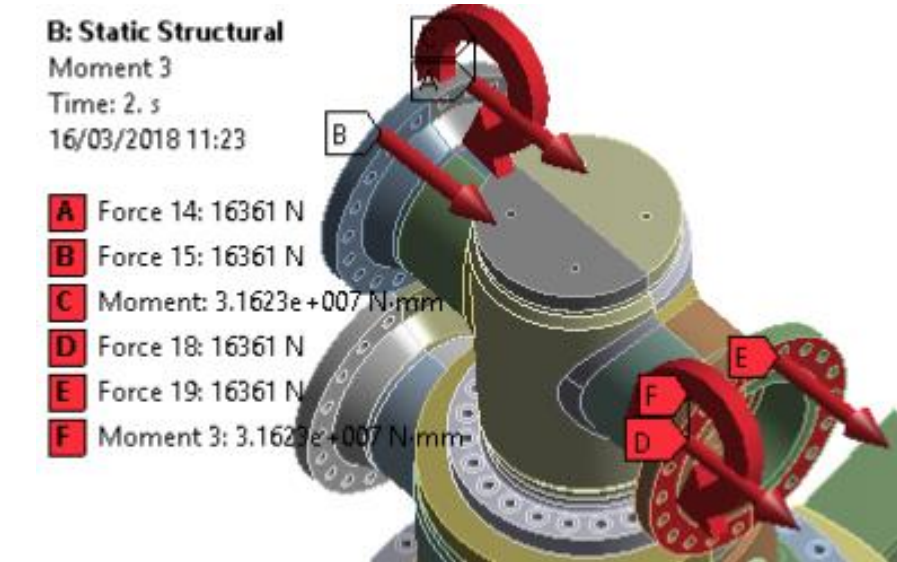
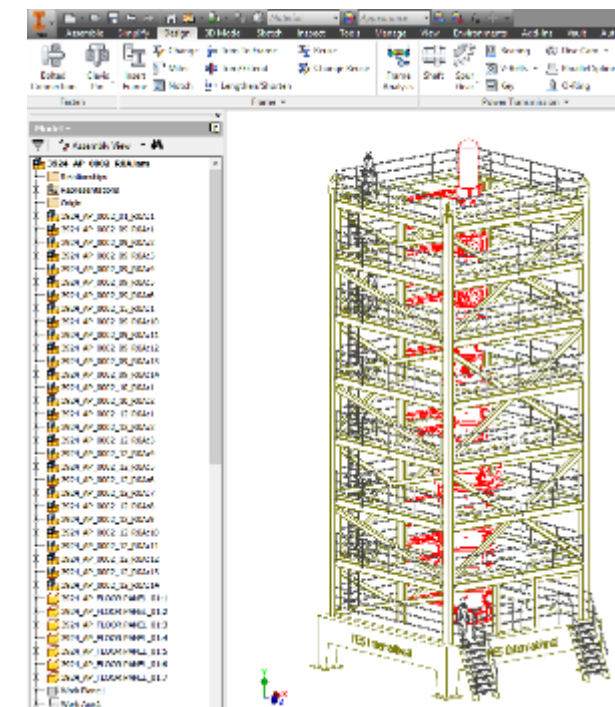
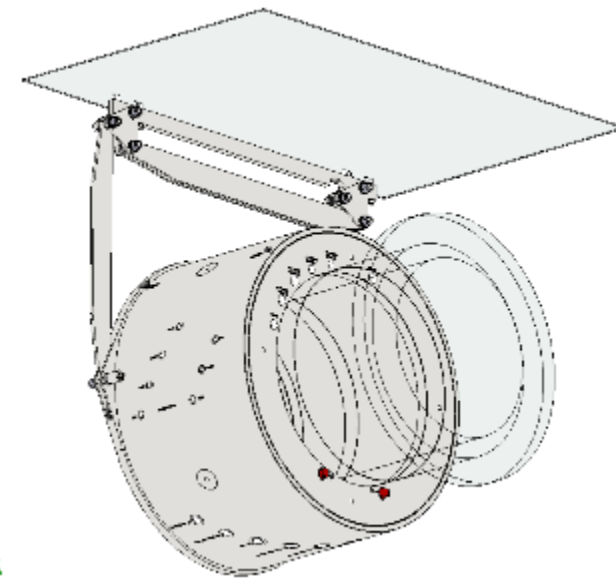
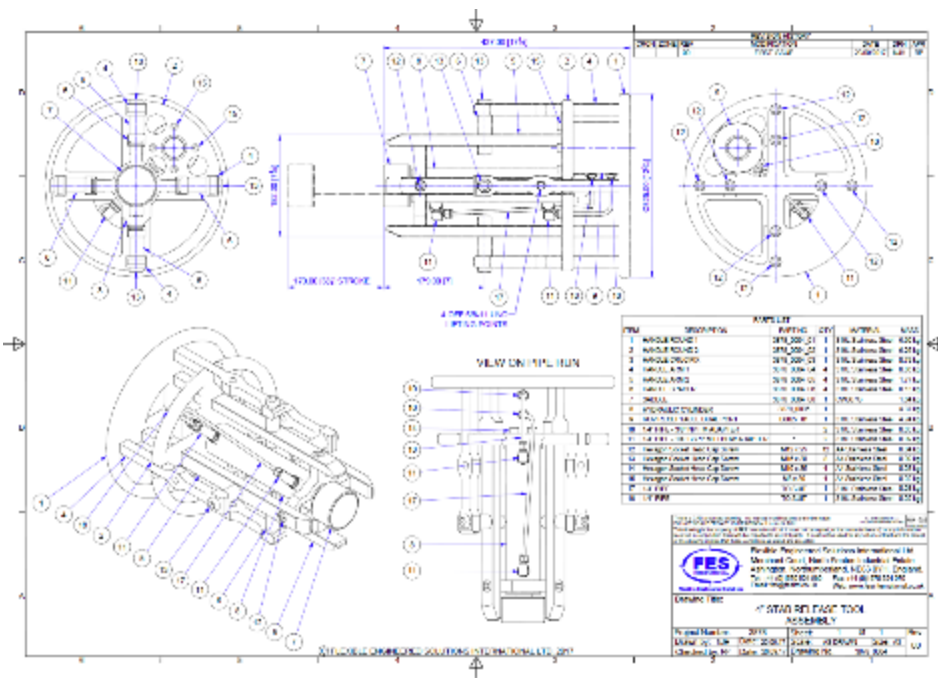
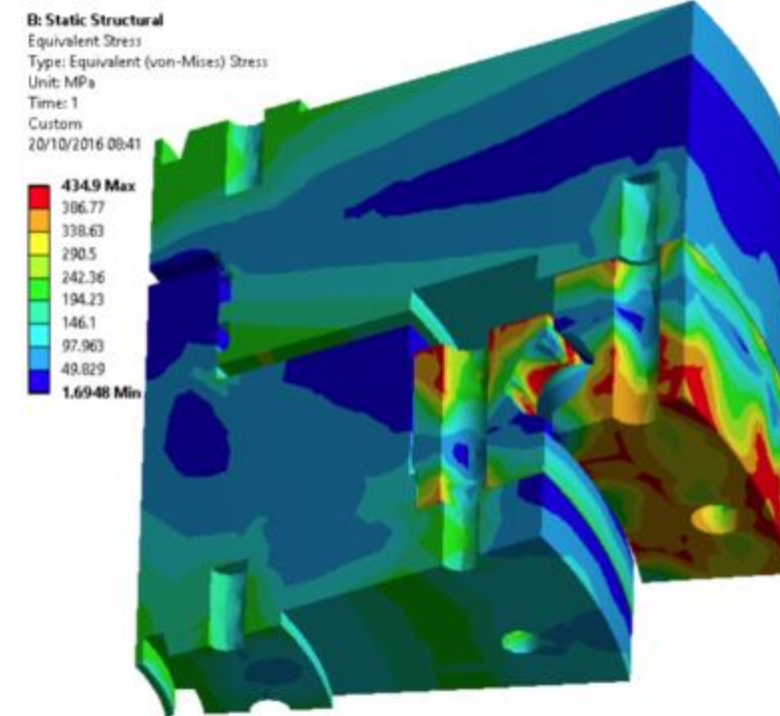
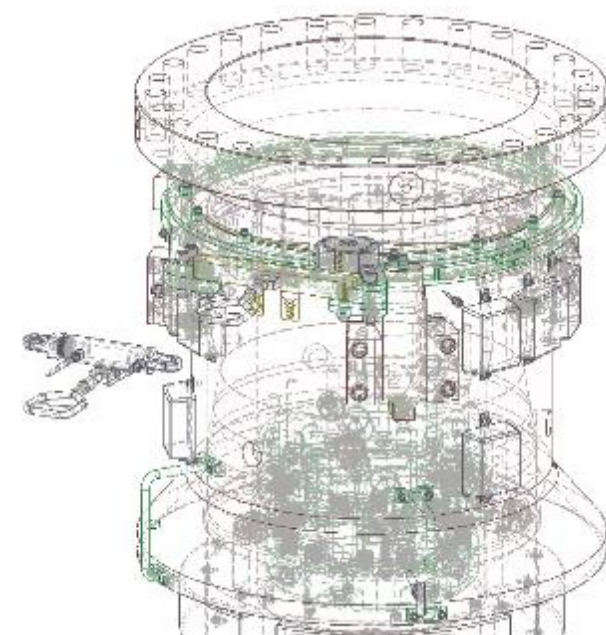
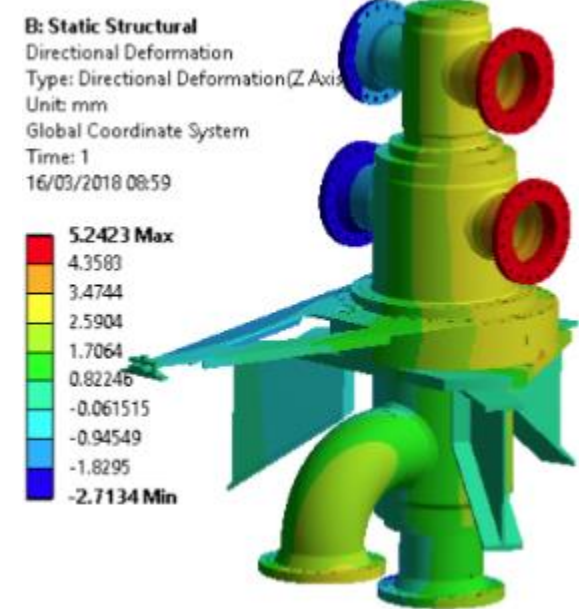
FES Offloading Hose End Valves (North Sea Valves)

- Operating Pressure: 21 bar (305 PSI)
- Operating Temperature: -5°C to 50°C
- Maximum Flowrate: 1.84 m³/s
- Pressure Drop at maximum flowrate: 2.0bar (29PSI)
- Adjustable closing time from 25 seconds +
- Third party classification society approved design and testing program available
- Optimised design for maximum weight and cost savings
- Modular design allows for easy maintenance and repair
- Specification: OCIMF 2009



DESIGN & ANALYSIS

FES Fluid Handling utilise highly qualified technical personnel and the latest software to design and analyse our products

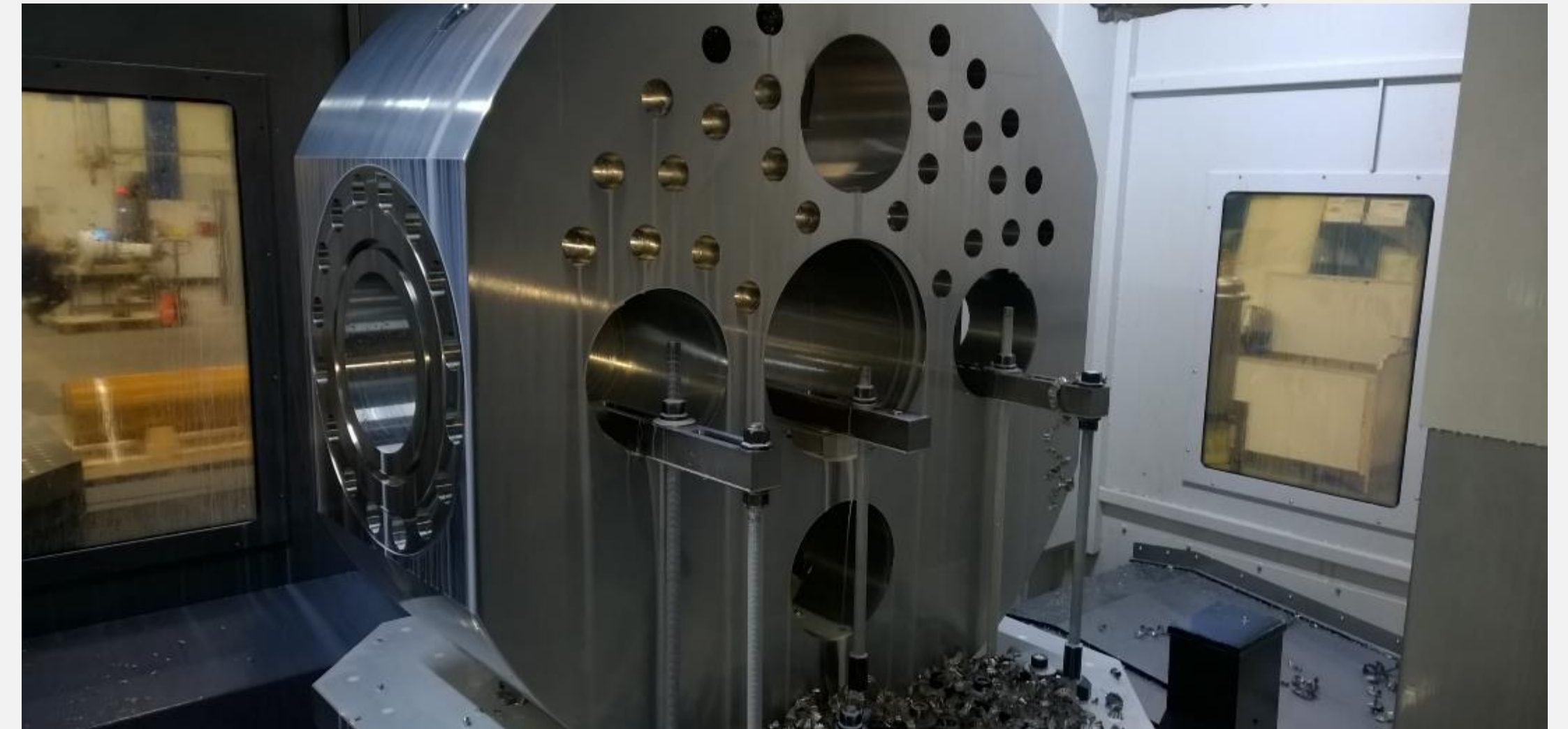


A combination of calculations in accordance with industry standards, sophisticated computer software & the latest FEA programmes are utilised to achieve the necessary design parameters and a first class engineered solution to each client project specification.

MANUFACTURE, ASSEMBLY & TESTING

MANUFACTURE

All components are designed and manufactured by FES and approved sub suppliers, ensuring that we retain control of product quality and material traceability.



ASSEMBLY & TESTING

In-house assembly and testing facilities ensure all test procedures and inspection & testing plans are strictly adhered to.

QUALITY, HEALTH & SAFETY

FES places quality and safety at the heart of everything we do



Certificate
No:33532021



Certificate
No:114742021



Certificate
No:204072021

QUALITY MANAGEMENT

Our quality management system has been assessed and accredited to ISO 9001:2015

Further illustrating our commitment to QHSE, our quality management system has also been assessed and certified to the stringent industry specification API Q1.

HEALTH & SAFETY

Our health and safety management system has been assessed and accredited to OHSAS 45001:2018

ENVIRONMENTAL

FES has been assessed and accredited to ISO 14001 certification for environmental management.

Contact Us

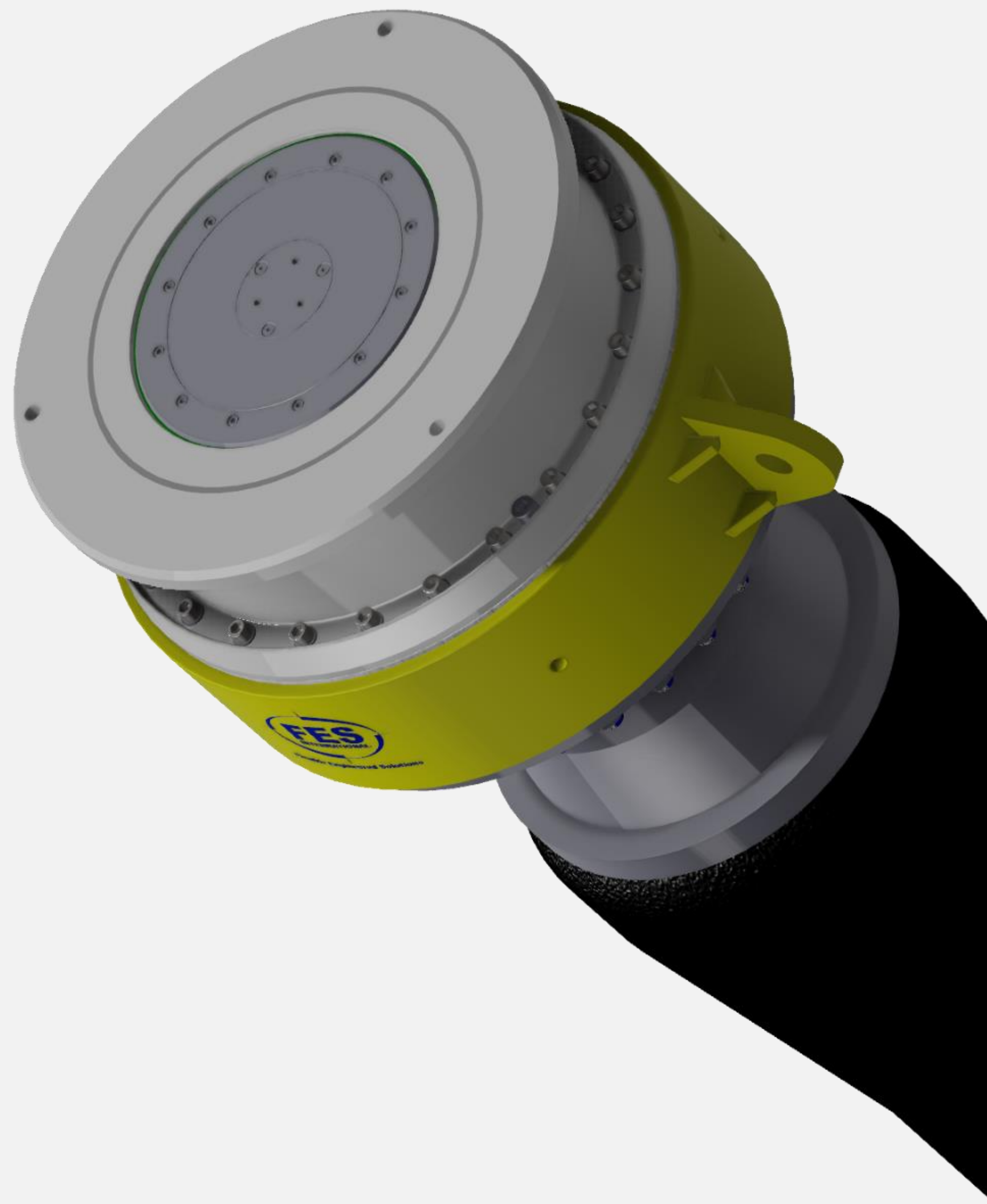
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Northumberland,
NE63 0YH

Other Locations

Worldwide locations, including:

- Brazil
- China
- Ghana
- Malaysia
- Nigeria
- Russia
- Singapore
- South Korea
- Trinidad & Guyana
- United Arab Emirates
- Vietnam



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