



**HP UREA LOOP
UNDER ONE ROOF**

About Us

KEY-TECH ENGINEERING COMPANY, established in 1996, to serve the Fertilizer, Chemical, Petrochemical, Refinery, Polymer Plants and Leading Engineering Consultants, is well experienced in processing exotic materials viz. Urea Grade, Titanium, High Nickel alloy, Duplex and Super duplex Grades into a range of products that are critical for the High Pressure Urea- Ammonia Loop.

With an experience of more than two decades **KEY-TECH** has been recognized as a leading manufacturer of HP Valves, Lens Gaskets, HP Isometrics, Carbamate Mixer, Pipe Fittings and Internals for critical Equipments by various Fertilizer plants in India as well as abroad.

KEY-TECH is manufacturing products in accordance to various International Standards namely ASME, ASTM, DIN, etc. in compliance with Process Licensors Specifications as well as customer requirements. Experienced, Qualified and Trained Engineers are in close and continuous interaction with clients to provide expertise through design, innovation and service support.

KEY-TECH activities are not only limited to manufacturing & sale of products but also provide valuable technical assistance in installation and after sales service. Key-Tech's main focus is to meet and exceed customer expectations in terms of superior product performance and top notch service levels.

Credentials



Approved by SAIPEM for Urea Grade products



Approved by PDIL for Urea Grade products

Product Range

- HP Manual Valves: Globe, Angle, and Check
- HP Control Valves
- Urea Reactor Trays
- Pipes & Pipe Fittings
- Metallic Gasket: Lens, Manway, Delta, Oval.
- Static Mixer: Carbamate
- HP Piping Spools in Urea Grade
- HP Equipment Internals
- Fasteners in Urea Grade
- Thermowell

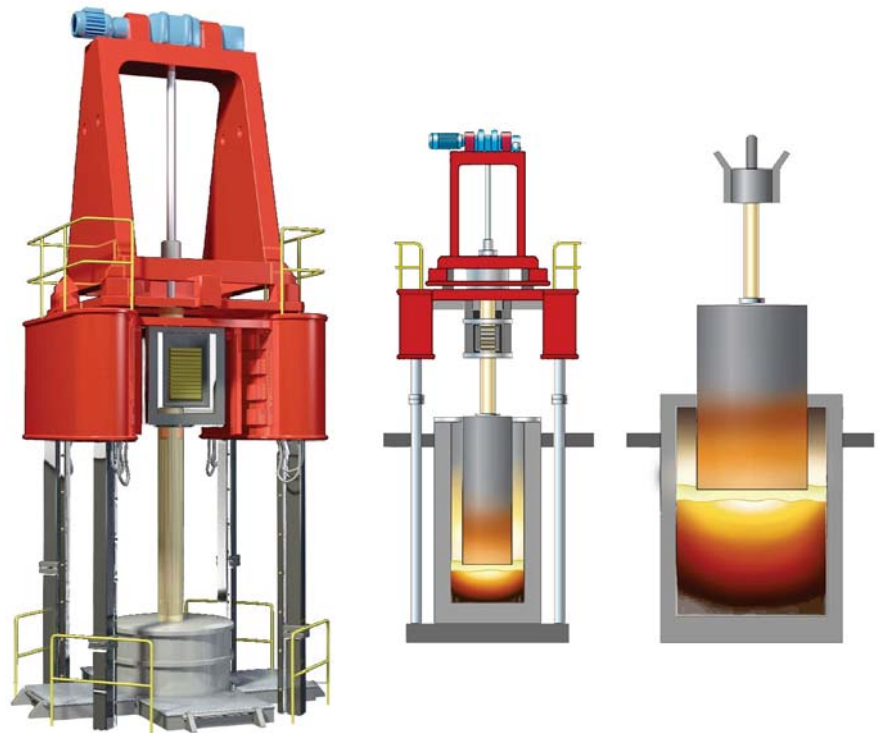
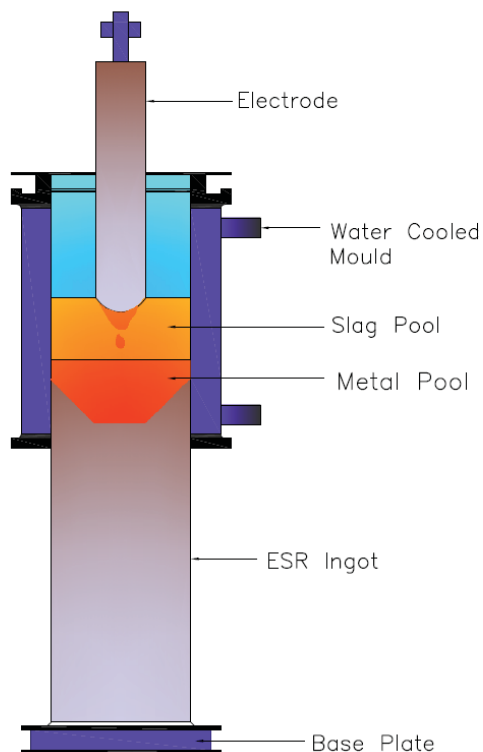
Material of Construction

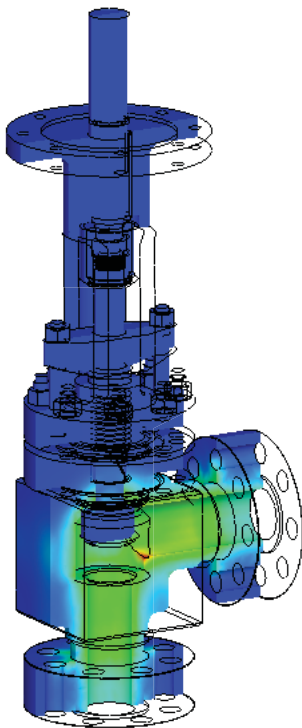
- SS 25-22-2 / Böhler A405
- SS 316L UG / Böhler A220
- HVD1
- Ferallium255
- Inconel625
- SS 904L
- Titanium
- Zirconium 705
- Other Special Alloys

About Material

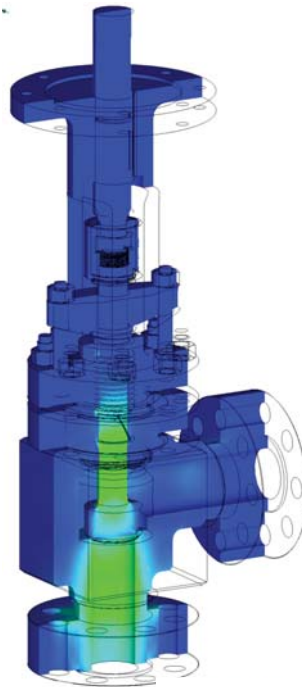
Böhler SS316L UG (A220) and SS 25-22-2 (A405) materials are being produced by means of the sophisticated Electro Slag Re-melting (ESR) process. The base material undergoes an additional purification step by re-melting it from the bottom to the top of the ingot. The sulphur and other non-metallic components are collected at the top part and cut off in a final step. As a result the materials for High Pressure valves and fittings have minimum sulphur content, minimum of non-metallic inclusions, isotropic properties and an optimally adjusted ingot weight.

Böhler A220 and A405 materials fulfils all the quality requirements of all Licensors. This means Key-Tech manufactured High Pressure Valves and Fittings are of the best Quality with the highest corrosion resistance properties assuring maximum lifetime and reliability.





Open Condition



Close Condition

Angle Valve

Size: NS 4" x PN320

MOC: A182 F316L UG

TRIM: FE255

End connection: Threaded End with Lens Face
with Special Gear Actuator with **Dual Torque Ratio**

Advantages:

- High Torque, Low Speed during closing & opening
- Low Torque, High Speed during rest of operation
- Reduction in Closing time
- Reduction in the operators efforts

Finite Element Analysis

Angle Valve



Size: NS 3" x PN325

MOC: A182 F316L UG

Trim: HVD1

End Connection: Lens Face

With Exchangeable Seat



HP Globe Regulating Valve



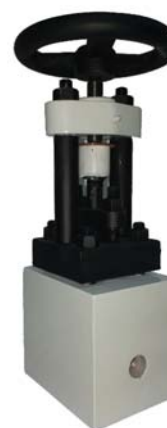
Size: NS 2" x PN320

MOC: A350 LF2

TRIM: SS 420 , SS 410 with Stellite

End connection: BW

For P1 Recycle Line



HP Globe Valve

Size: NS 1/2" x PN320

MOC: SS 25-22-2

TRIM: FE255

End connection: SW



Size: Up to NS 1" x PN320

MOC: A182 F316L UG

TRIM: FE255

End connection: DMF

with Exchangeable Seat



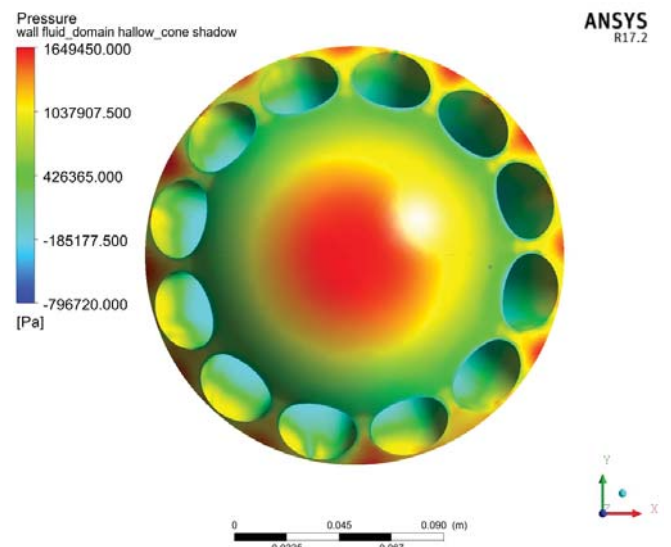
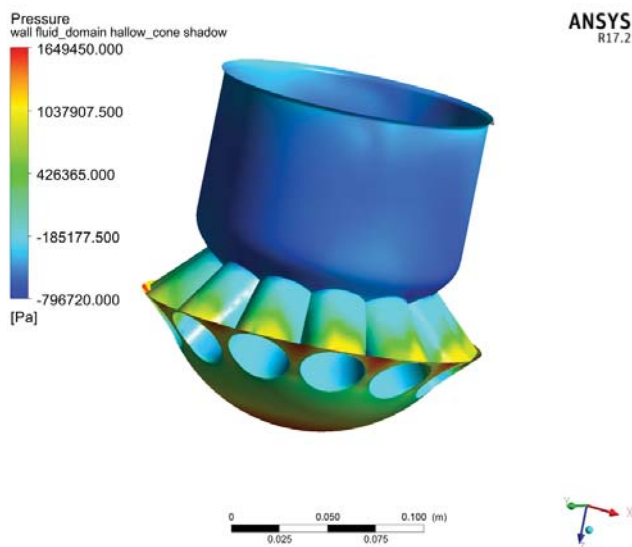
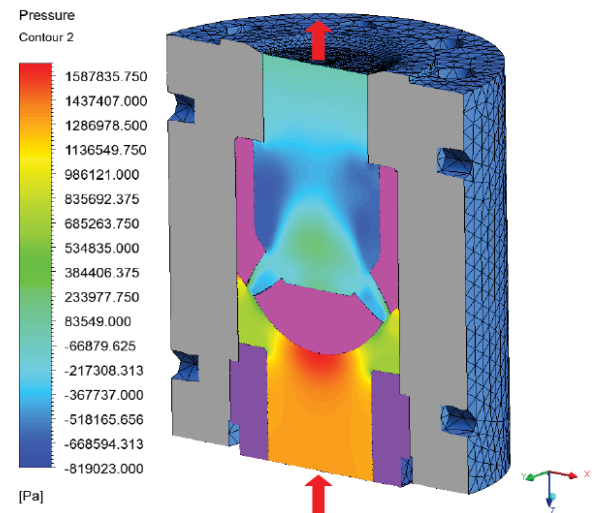
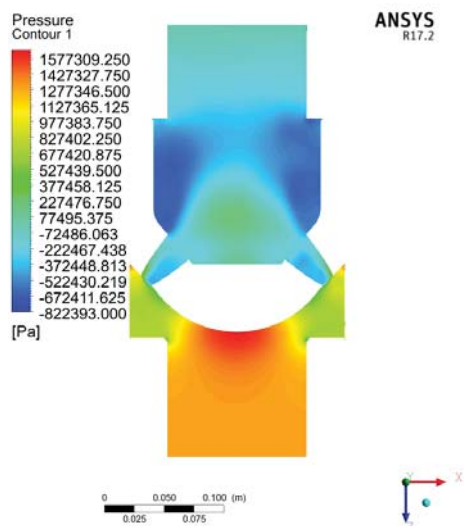
Vertical Drop Check Valve

Size: NS 6" x PN325

MOC: A182 F316L UG

End Connection: Lens Face

With Exchangeable Seat



CFD Analysis

Drop Check Valve

Size: NS 3" x PN 320

MOC: A182 F316L UG

TRIM: HVD1

End connection: Lens Face

For Horizontal Installation



Check Valve Spring Type

Size: NS 3/4" x PN 320

MOC: A182 F316L UG

TRIM: HVD1

End connection: DMF

For Horizontal Installation





Monoblock Control Valve

Size: NS 1/2" x PN250

MOC: SS 25-22-2

Trim: HVD1

End Connection: Lens Face

For NC Meter

HP Butterfly Control Valve (HV-3)

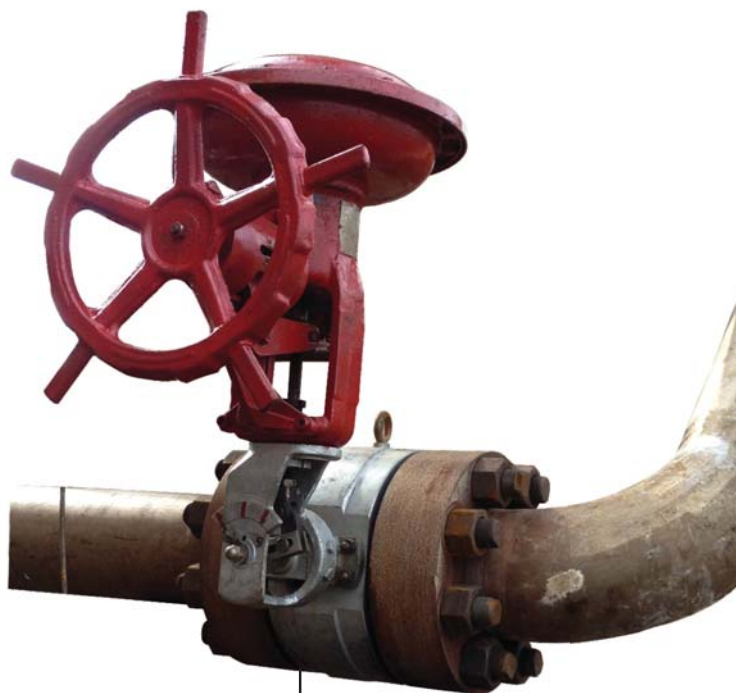
Size: NS 8" x PN320

MOC: SS 25-22-2

Trim: HVD1

End Connection: Lens Face

For Stripper Inlet



Static Mixer: Carbamate



Size: NS 8" x 6"
MOC: A182 F316L UG
Design Pressure: 165 bar
Tag No.: X0201
Process Licensor: Casale



Urea Reactor Tray

MOC: SS 25-22-2

Equipment: Urea Reactor

Process Licensor: Saipem

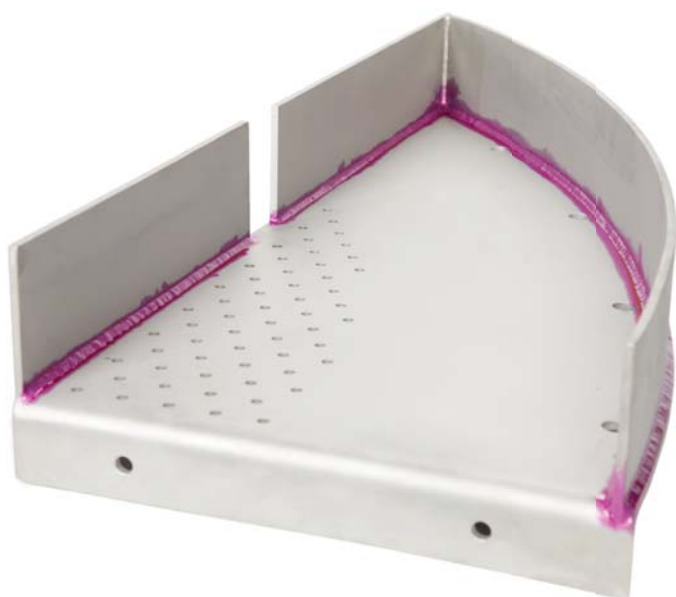
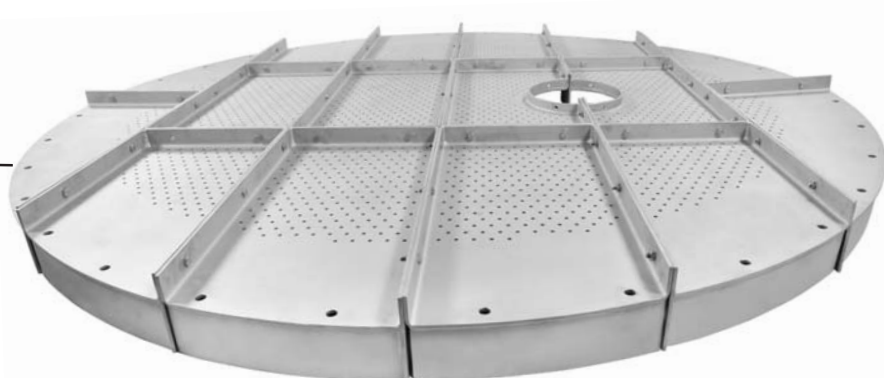
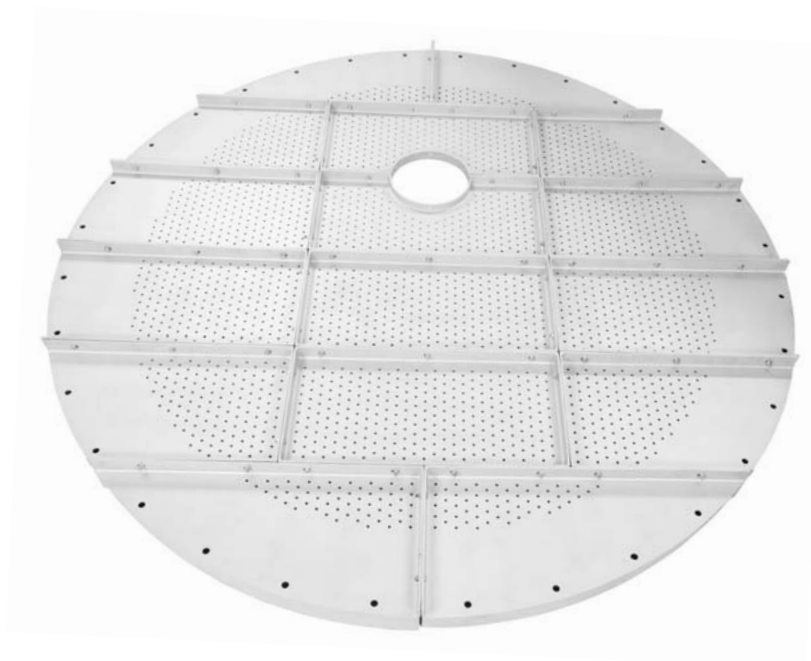


Urea Reactor Tray

MOC: SS 25-22-2

Equipment: Urea Reactor

Process Licensor: TOYO



Dye Penetration Test



Urea Reactor Tray

MOC: SS 25-22-2

Equipment: Urea Reactor

Process Licensor: Stamicarbon

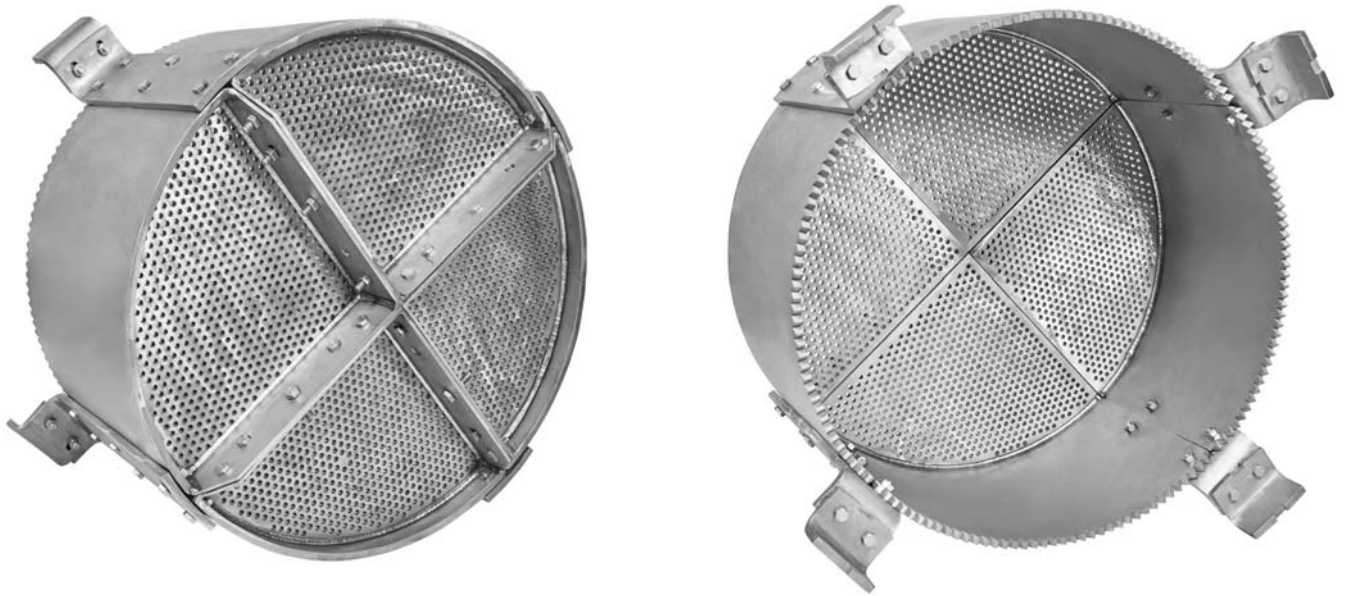


Hold Down Grating

MOC: SS 25-22-2

Equipment: Scrubber (U-DA1102 / DA2102)

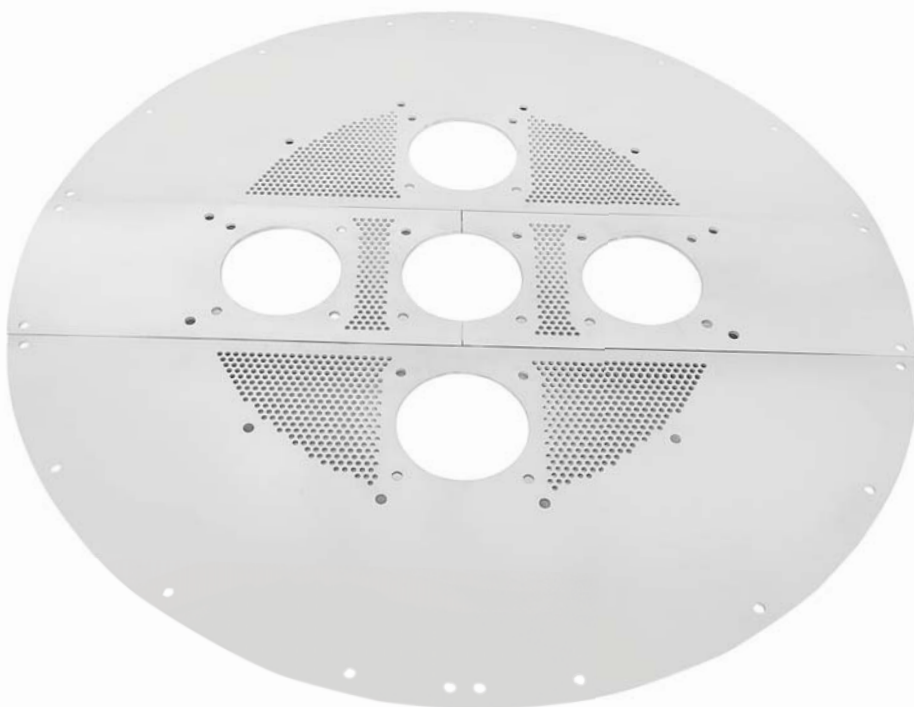
Process Licensor: Toyo



Distributor Tray Assembly

MOC: SS 25-22-2

Equipment: Urea Reactor



Distributor Plate

MOC: SS 25-22-2

Equipment: Urea Stripper

Ferrules

MOC: SS 25-22-2

Equipment: Urea Stripper



Ferrule

MOC: INC 601 (UNS N06601)

Equipment: RG Boiler



LP Swirl

MOC: SS 316L

Equipment: LP Decomposer

Process Licensor: Toyo





Nippolet

Size: NS 4"

MOC: A182 F316L UG

Stub End

Size: NS 3"

MOC: A182 F316L UG



Threaded Nozzle

Size: NS 10" (38mm THK) Special Nozzle

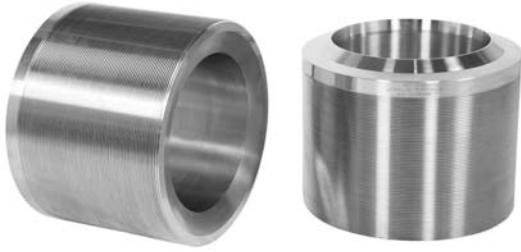
MOC: A182 F316L UG



HP Forged Fittings

MOC: SS 25-22-2

Equipment: Urea Stripper



Threaded Nozzle

Size: NS 12" (45mm THK)

MOC: A182 F316L UG



HP Urea Flange

MOC: A182 F316L UG



Manway Gasket

MOC: Titanium Gr.1



Drip Ring / Branch Lens Gasket

Size: Up to NS 14" / To suit customer specs.

MOC: SS 25-22-2 / A182 F316L UG / Titanium Gr.1

HP Spools

Size: NS 8" x 6" (31mm x 24mm THK)

MOC: SS 316L UG

End Connection: Lens Face & BW



Size: OD 130 x 19mm THK

MOC: SS 25-22-2

End Connection: DMF Type

Size: NS 3" x 9mm THK

MOC: SS 25-22-2

End Connection: BW



Size: OD 139.8 x 24THK

MOC: SS 25-22-2

End connection: DMF



HP Pipe Fittings

Size: Up to NS 14"

MOC: A403 WP 316L UG



Concentric Reducer

Size: NS 8" x 6" (21mm x 15mm THK)

MOC: A403 WP 316L UG

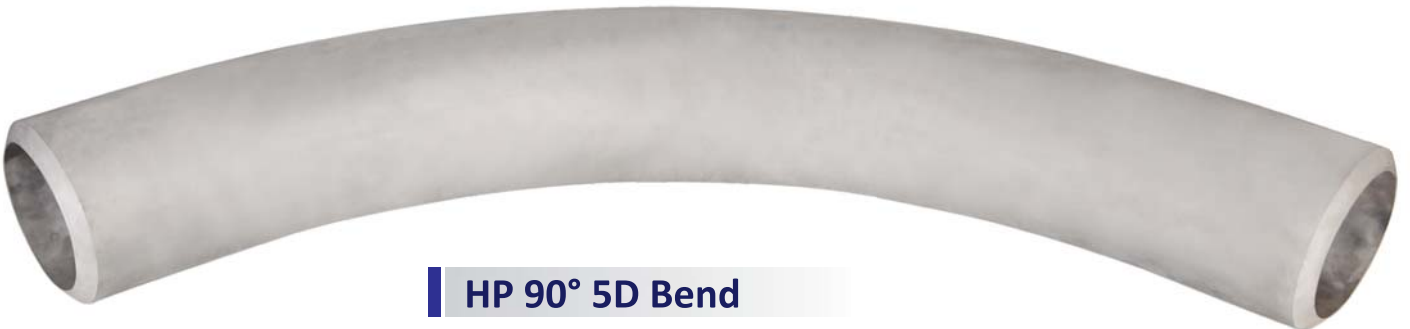


Bevelling Tool

Advantages Over Grinding :

- Low Heat Input
- Better Dimensional Accuracy
- No HAZ

Size: up to NS 14"



HP 90° 5D Bend

Size: NS 8" SCH 140

MOC: A403 WP 316L UG

HP Urea Control Valve Stem



MOC: FE255

Tag: HICV-1201



MOC: HVD1

Tag: HV-9



HP Urea Control Valve Seat

HP Thermowell



MOC: SS 25-22-2



MOC: HVD1

Tag: HV-2



MOC: INC 800HT (UNS N08811)

Equipment: Reformer



J-BOLT



Fasteners in UG Material

Size: Up to M36

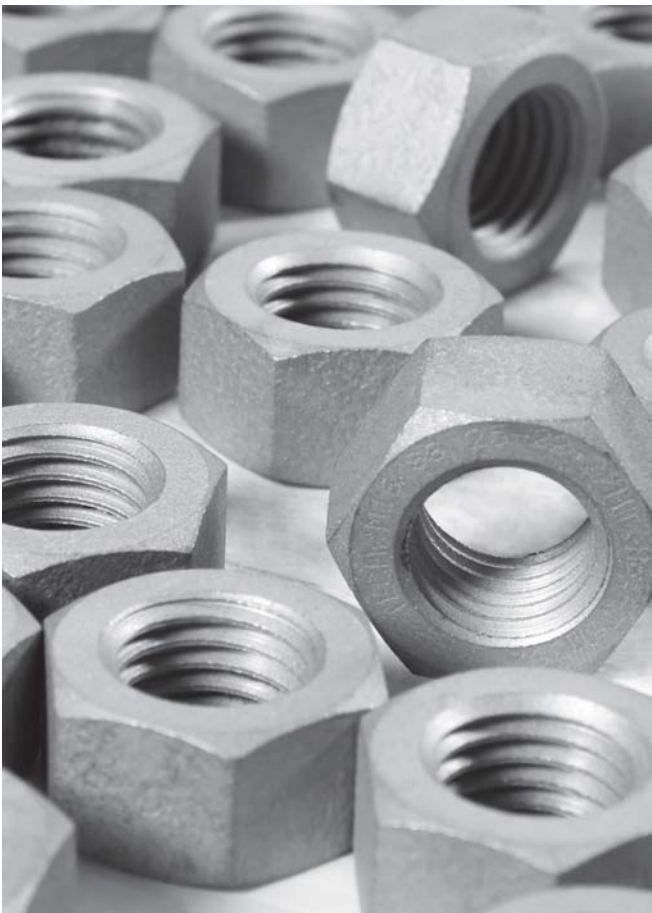
MOC: SS 25-22-2

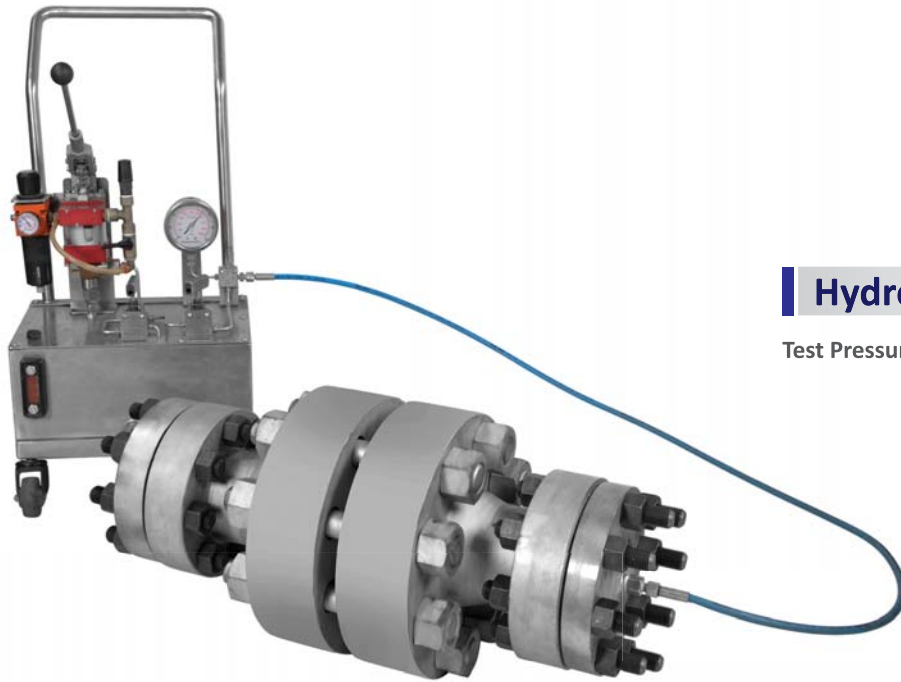
- Hex Bolts
- Hex Nuts
- Studs
- Tie Rods
- U Bolts
- Stub Pieces
- Special Nuts
- J- Bolts

Dimension Standard for Hex Bolts & Nuts

Hex Bolt: ANSI B18.2.3.5M (Metric)/ ANSI B18.2.1 (Inch)

Hex Nut: ANSI B18.2.4.1M (Metric) / ANSI B18.2.2 (Inch)





Hydro Test

Test Pressure : Up to 1200bar



Thickness Check



Run out Check



Radiography Test



Surface Roughness



Ultrasonic Test



Ferrite Check



Hardness Test



Positive Material Identification



Dye Penetration Test

Our Valuable Customers



Engineering Companies





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