

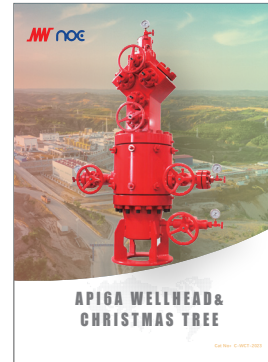
API16C MANIFOLD

MANIFOLD



SUBSEA PRODUCTS

Subsea Products



API6A WELLHEAD & CHRISTMAS TREE

WELLHEAD & CHRISTMAS TREE



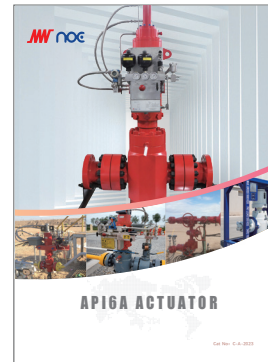
API6A GATE VALVE

GATE VALVE



FRACTURING PRODUCTS

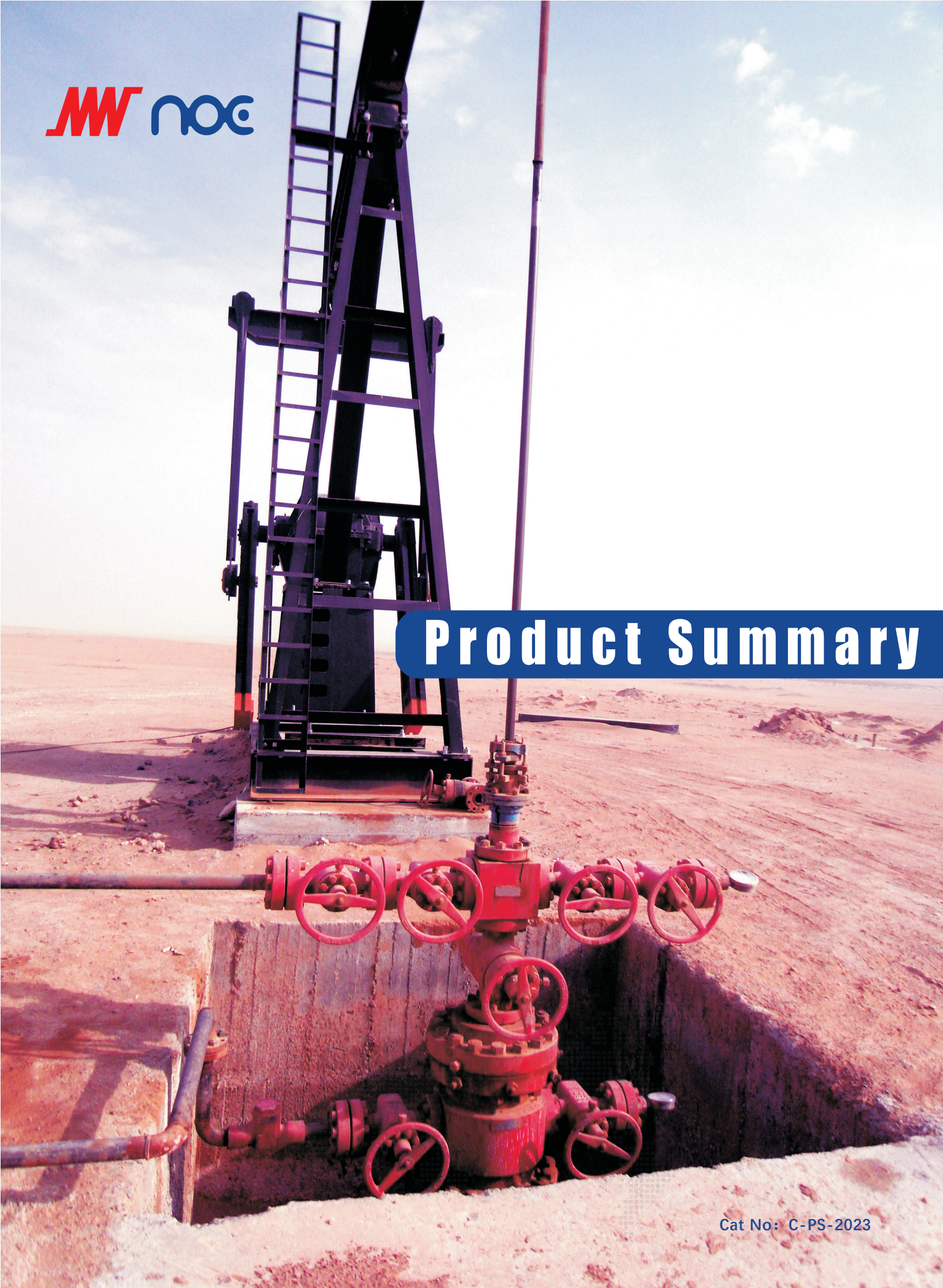
FRACTURING PRODUCTS



API6A ACTUATOR

ACTUATOR

# Product Summary



To be a Global Leading Manufacturer of Flow Equipment  
Complete Solutions for Smart High Pressure Flow Equipment

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WEBSITE



WECHAT





## About us

### Complete Solutions for Smart High Pressure Flow Equipment

Neway Oil Equipment (Suzhou) Co., Ltd (Hereafter: NOE), a unit of NEWAY Group (SSE 603699), is a professional smart high pressure flow equipment and always commits to provide customer with reliable quality for high pressure valve, wellhead equipment, Christmas tree and other upstream products. We are adhering to the business philosophy of Neway group, committing to developing and manufacturing the reliable oil and gas drilling equipment. Through continuous innovation, we provide engineering solutions for various working conditions to our clients, and to meet the requirements of the oil and gas industry on the health, safety and environment.

### Facilities & Service

We have our own R&D, manufacturing and sales, and have initially formed a product series based on Wellhead & X-mas tree, Fracturing Equipment, Control System, Choke Manifold, Subsea Equipment, Gate valve, Choke valve. Our products have been exported to Middle East, America, Asia, Europe and other countries and regions, and established a strategic partnership with many overseas agents and distributors. NOE is based on China to implement its global strategy. We have major production bases in China and Vietnam, and also we have professional casting plant, forging plant and R&D centers in China. We use SAP and MES system to control the traceability and statues of all products during the manufacturing process.

### High Quality, High Value

NOE is dedicated to the pursuit of providing Zero Defect products for our customers. Employ a Six Sigma quality management system and advanced statistical data analysis to continually enhance and improve our processes and control our overall product quality. NOE's industrial certifications include ISO 9001, ISO 14000, ISO45001, API6A, API16C, API 17D, API Q1, TS2710N10-2013, CE-PED qualification and hold PR2 certification issued by CA's like DNV, ABS & Lloyds.

NOE recognizes the importance of product quality for the safety and property. It is our quality commitment to focus our resources to provide our customers with first class products at a competitive price, that are designed, manufactured, inspected and tested in accordance with our customers specifications and that comply with all international standards.

With respect to the facts that the current industrial standards do not always take into consideration the likelihood and consequences of possible deterioration in service, related to specific service fluids or the external environment in which they operate. Our customers are requested to keep an open line of communication with our engineering department to identify and implement standards, that will provide our products with the possibility of deterioration in service, so as to ensure safety over the our products expected lifetime.

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## Quality Control of Raw Material



Split Frame Hydraulic Press



CNC Ring Squeezer



Regenerative Gas Forging Furnace

NOE understands that consistently producing high quality castings and forgings is the single most important factor in maintaining product integrity and assuring long trouble-free service life. Casting and forging quality pressure containing components is of utmost importance to ensure safety and reduce the risk of product failure. NOE has been audited, certified and approved by many end users as part of their Quality Assurance program prior to vendor approval.

Compared with most of other competitors, we own three foundries: two of them work on produce large-sized sand castings by organic ester water glass, and one of them are for production of small-sized investment castings by lost-waxcasting. And we also have one forging plant with an annual output value of \$120 million, main products are varied dimensions hand forgings and ring forgings of different steel materials. Besides, each is equipped with all kinds of quality inspection facilities, such as spectrum instrument, non-destructive test machinery, and mechanical property test device. Against such backdrop, NOE can monitor the whole process of manufacture to ensure product quality, delivery and competitive price and enable NOE to remain a creditable supplier for every customer.



Imported Sand Mixing Machine



Automatic Line Form IMF ,Italy



Forklift Type Heat Treatment Equipment

## Advanced Manufacturing

The latest computer technologies are widely applied by NOE in its manufacturing facilities, including a large number of computer numeric controlled (CNC) machining centers, horizontal and vertical lathes and drilling machines. These machines directly tie into NOE's ERP management system, resulting in significantly improved machining quality and timely order processing. NOE produces major components in-house, ensuring consistent quality and timely deliveries.

NOE's strength in manufacturing is augmented and supported by the other facilities owned by the Neway Group; "NewayValve", "Neway Industrial Metal", "Neway CNC Equipment" working in conjunction with NOE ensure that all key aspect of production are completed in-house. This include rough casting (with AOD device), Forging, heat treatment, welding ( CRA material), machining and other special treatment. Our inventory and professional procurement practices effectively support our production facility towards ensuring shorter lead time and providing higher quality products.



WFL Millturn



CNC Centre



Boring Machine



Hot-wire Tig Automatic Cladding System



Fire safe Test equipment



# Gate Valves

- Expanding Gate Valve
- Slab Gate Valve
- Mud Valve



## Expanding Gate Valve



GE series gate valves are designed with non-rising stem and expanding split gate. The sealing performance is safe and reliable. It can provide threaded end and flange end connection with rated working pressure of 2,000-5,000psi. The valve is suitable for all field environments.

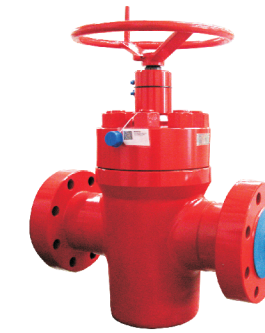
### Design Features

- Three types of sealing structure valves are available: double-side soft sealing structure, single-side soft sealing structure and metal-metal sealing structure.
- Split gate design provides an effective mechanical seal between gate and seat, regardless of pipeline pressure.
- Guide plate can effectively reduce the loss of lubricant in the valve chamber.
- The upper/lower thrust bearing space is isolated from the medium to effectively reduce the torque.
- Stem packing with pressure can be sealed by injecting injectable packing.
- Non-rising stem design effectively reduces valve installing space.

### Product Range

- Size: 2-1/16" ~ 7-1/16"
- Pressure: 2,000 ~ 5,000psi
- Material: AA, BB, CC, DD, EE, FF, HH
- Temperature: L, N, P, S, T, U, V, X, Y
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2, CE-PED

## Slab Gate Valve



GB series gate valves are proved to have the advantages of reliability and interchangeability by oil field. According to customer's requirement, the actuator is equipped with valve, Neway Series Diaphragm actuator, pneumatic actuator and hydraulic actuator as well. It can provide forged or cast valves with rated working pressure of 2,000~20,000psi and size of 1-13 / 16" ~ 7-1 / 16".

### Design Features

- GB serial gate valve is a full aperture, symmetrical structure and double flow design of the non-rising stem gate valve.
- The bearing seat is equipped with a special oil cup for lubricating the bearing.
- The stem is provided with an inverted seal structure, allowing the valve to replace the stem packing under pressure (replacement of packing after pressure relief is recommended for safety).
- The lower part of the bonnet is provided with lubricators for stem and gate lubrication. The bonnet grease hole can also be used to verify the pressure integrity of the stem inverted seal.
- Metal to metal seal between gate and seat, seat and body.
- The stem and gate have a modified ACME threaded connection to help the gate float and facilitate sealing.
- Hand wheel and stem nut with pin connection, easy to quick removal and installation.

### Product Range

- Size: 1-13/16" ~ 7-1/16"
- Pressure: 2,000 ~ 20,000psi
- Material: AA, BB, CC, DD, EE, FF, HH
- Temperature: K, L, N, P, S, T, U, V, X
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2, FIRE-SAFE, CE-PED

## Mud Valve



GA series mud valves are specially designed for use in harsh oil field environments. They are reliable in design and perform well in abrasive environments.

### Design Features

- When in use, the valve is only allowed to be in a fully open or fully closed state, not in a half-open or half-closed state, in this state of operation of the valve, gate and seat easy to be fluid erosion.
- The valve is top-mounted and can be repaired online. Without removing the valve from the line, the bonnet can be easily removed for maintenance and replacement of internal parts.
- Flexible inner parts supply: suitable stem, gate, seat and core can be selected under various application conditions.
- A perspective window is provided at the top of the valve for observation to determine valve position.
- The special design of the seat assembly ensures a reliable seal and an effective seal even if the seat and gate are scratched or worn in service.

### Product Range

- Size: 1-13/16" ~ 5-1/8"
- Pressure: 2,000 ~ 10,000psi
- Material: AA, BB, CC, DD, EE, FF, HH
- Temperature: L, N, P, S, T, U, V, X
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL4
- Certificate: ABS, CE-PED



# Choke Valves

- Positive
- Multiple Orifice
- External Sleeve Control
- Adjustable Needle
- Plug & Cage Control



## Positive Choke



Positive Choke provides a fixed flow condition with a large selection of available bean sizes and types. All standard positive chokes under 10000psi wp are furnished with a blanking plug that has a 1/2" NPT port for attaching a needle valve and/or pressure gauge. Positive chokes 15000psi wp and over are supplied with a 9/16" autoclave port.

### Design Features

- Positive choke bodies are interchangeable with adjustable needle choke.
- Change the throttling diameter by replacing the choke beans.
- Bleeder valve allows the operator to safely vent the body cavity pressure prior to removal of the bonnet assembly.
- The cap plug is fixed by the union nut, easy to disassemble and assemble, low cost.
- The O-ring seal is used between body and plug at low pressure. And metal seal is used at high pressure.
- The choke beans are made of tungsten carbide material, which can resist erosion and effectively prolong the service life of the valve seat.

### Product Range

- Size: 2-1/16" ~ 7-1/16"
- Pressure: 3,000 ~ 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2,CE-PED

## Multiple Orifice Choke



The Multiple Orifice Chokes adopts the upper and lower disc design, through the rotation of the hand wheel or in the driver's action, through the fork to drive the upper disc assembly rotation, to adjust the coaxiality between the two holes with the lower orifice plate, so as to achieve the purpose of the control of the fluid medium in the channel, for high pressure to achieve sealing conditions.

### Design Features

- Pressure holds discs together, avoid vibration, noise or fatigue failures.
- The circular shape of disc offers a smaller wearing surface, less wear on the throttling and greatly extended service life.
- The structure design of The Multiple Orifice Chokes is simple, the parts wear less, the field maintenance is easy, and the time is short, the cost is low.
- Tungsten carbide discs are offered for extreme erosive conditions and very high pressure drops.
- The outlet end of a Multiple Orifice Choke has a replaceable adapter flange, the customer can changes it in accordance with different pressure ratings and sizes.

### Product Range

- Size: 3-1/16" ~ 4-1/16"
- Pressure: 10,000 ~ 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2,CE-PED

## External Sleeve Control Choke



The External Sleeve Control Choke has a sleeve that throttles the flow on the outside diameter of the ported cage. This choke is used for low capacity/high pressure drop applications. The external sleeve is specifically designed for severely erosive conditions where the combination of high pressure drops and high sand concentrations can reduce the life of a choke.

### Design Features

- Tungsten carbide lined stem and seat provide optimum wear resistance in erosive conditions.
- Metal-to-metal bonnet closure seal.
- Reverse angle trim reduces annular flow-by extending the life of the trim .
- Self-flushing, pressure-balanced ports minimize stem loads and actuator requirements.
- Heavy duty thrust bearings also reduce operating torque..
- Outer Flow Sleeve provides protection from impact damage.
- Stem lock maintains set position.
- Indicator calibrated in 1/64" or multiples of 1/64" increments to show effective orifice diameter.

### Product Range

- Size: 2-1/16" ~ 5-1/16"
- Pressure: 5,000 ~ 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2,CE-PED

## Adjustable Needle Choke



The adjustable needle choke has a standard body with an adjustable bonnet assembly and seat installed. This assembly features a tungsten carbide-tipped needle, tungsten carbide-lined seat, and an indicator calibrated in 1/64" or multiple of 1/64" to show effective orifice diameter. A needle lock device retains needle position.

### Design Features

- Adjustable Needle Choke and Positive Choke body has interchangeability.
- Bleeder valve allows the operator to safely vent the body cavity pressure prior to removal of the bonnet assembly.
- The cap plug is fixed by the union nut, easy to disassemble and assemble, low cost.
- The O-ring seal is used between body and plug at low pressure. And metal seal is used at high pressure.
- Stem packing is lower mounted to provide an effective seal under pressure.
- Choke beans and discs are made of tungsten carbide, which can resist erosion and effectively prolong the service life.
- The indicator plate shows the effective throttling diameter in increments of 1/64" or 1/64", and the stem is locked in an open position with a set screw.

### Product Range

- Size: 2-1/16" ~ 7-1/16"
- Pressure: 3,000 ~ 15,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2,CE-PED

## Plug & Cage Control Choke



The Plug and Cage Choke moves up and down by rotating the handwheel or under the action of the driver, so as to change the orifice area of the seat core and achieve the purpose of limiting the flow. The Plug and Cage Choke is generally used in high yield, medium pressure drop conditions; Due to its high flow characteristics, it is generally used in the later stage of wellhead production.

### Design Features

- Tungsten carbide flow plug assembly in conjunction with cage sleeve provides optimum wear resistance in erosive conditions.
- Metal-to-metal bonnet closure seal.
- The stem bushing moves up and down without rotating to minimize side loading and vibration of the fluid.
- Self-flushing, pressure-balanced ports minimize stem loads and actuator requirements.
- Heavy duty thrust bearings also reduce operating torque.
- Outer flow cage provides protection from impact damage.
- Stem lock maintains set position.
- Indicator calibrated in 1/64" or multiples of 1/64" increments to show effective orifice diameter.

### Product Range

- Size: 2-1/16" ~ 5-1/16"
- Pressure: 3,000 ~ 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: PR2,CE-PED



# Ball, Plug Valves

- Floating Ball Valve
- Trunnion Ball Valve
- Plug Valve



## Floating Ball Valve



NOE floating Ball Valve has compact structure, and sealing performance is stable. Due to the reliable seating and low friction coefficient, the valve can be opened and closed quickly with 90 degree twisting stroke, which can be operated directly by the handle for small size. Compared with gate valve and globe valve of the same size, the ball valve is smaller, light in weight and convenient for pipeline installation.

### Design Features

- Compact structure design, end connection can be studded or welded according to customer demand.
- Stem with blow out proof design, to ensure the stem safety under pressure.
- Through bore or reduced bore according to customer demands.
- Simple valve structure, and easy to maintenance.
- Simple valve structure, easy maintenance.
- Prevent valve misoperation, there are lock holes in the fully open and fully closed position, to ensure that the valve is in the correct position.
- Anti-Static Device: Anti-static device ensures electric continuity preventing damage from static build-up.

### Product Range

- Size: 1-13/16" ~ 4-1/16"
- Pressure: 2,000 ~ 10,000psi
- Material: AA, BB, CC, DD, EE, FF, HH
- Temperature: L, N, P, S, T, U, V, X
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL4
- Certificate: CE-PED

## Trunnion Ball Valve



NOE Trunnion Ball Valve is supplied for two-piece, three-piece split body and top entry body, all design is based on standard API 6A. Flow shut off can be achieved by rotating the ball 90 degrees.

### Design Features

- Back-up Metal to Metal Sealing: When primary soft-seat material is deteriorated by fire, the metal-to-metal provides shutoff.
- Use stellite overlay or spray Tungsten carbide to harden the sealing surface of ball and seats, which prolong the service life.
- Two O-ring seals prevents leakage from stem area.
- Stem with blow out proof design, to ensure the stem safety under pressure.
- Floating Spring-loaded Seats: Ensure sealing even at low pressures.
- Emergency Sealant Injection Fitting: Allow external interventions to prevent stem leakage.
- Emergency Sealant Injection Fitting: Allow external intervention to prevent seat leakage.
- O Ring & Gasket Combination: Prevents leakage from body joint area.
- Anti-Static Device: Anti-static device ensures electric continuity preventing damage from static build-up.
- Metal-to-metal seal or soft seal according to the working condition.

### Product Range

- Size: 1-13/16" ~ 7-1/16"
- Pressure: 2,000 ~ 10,000psi
- Material: AA, BB, CC, DD, EE, FF, HH
- Temperature: L, N, P, S, T, U, V, X
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL4
- Certificate: FIRE-SAFE, CE-PED

## Plug Valve



Plug valve is verified to be durable in the well cement, frac service, sour service and continuous tubing operation condition. Newway can provide various size plug valve with working pressure up to 15,000psi.

### Design Features

- Valve could be open and close easily and quickly only need to rotate plug for 90°.
- Small fluid resistance and good sealing performance.
- With simple structure and relatively small dimension, easy for maintenance.
- Bi-direction design.
- With small vibration and noise.

### Product Range

- Size: 1-13/16" ~ 4-1/16"
- Pressure: 10,000 ~ 15,000psi
- Material: AA, BB, CC, DD, EE, FF, HH
- Temperature: PU(-29~121)°C
- Performance: PR1
- Specification: PSL1 ~ PSL3
- Medium: mud, fracture fluid, acidizing fluid etc.

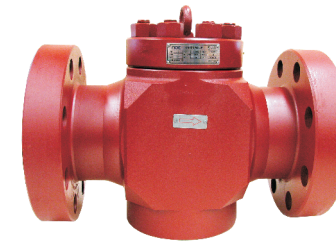


# Check ,Globe Valves

- Lift Check Valve
- Swing Check Valve
- Globe Valve



## Lift Check Valve



Lift Check Valve are spring return type unidirectional valves with guide rod for reliable sealing. Designed for use in high pressure mud choke manifold, high pressure Christmas Tree, choke and kill lines, it is available with rated pressure of 2,000~20,000psi and size of 1-13/16"~7-1/16".

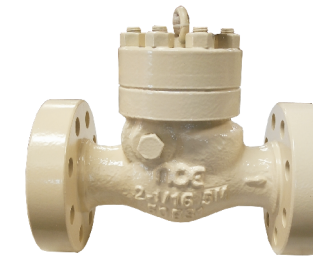
### Design Features

- Various end connections are available: flange, clamp, welding end and 3 kinds of mixed end connections.
- Metal to metal seal surfacing welded cobalt base between disc and seat eliminates nonmetallic seal due to chemical reagent and well fluid. Can be used in high temperature environment.
- Flow type seat area design reduces fluid turbulence and improves body life.
- Low maintenance cost: no need for short term regular lubrication and maintenance.

### Product Range

- Size: 1-13/16" ~ 7-1/16"
- Pressure: 2,000 ~ 15,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: K, L, N, P, S, T, U, V, X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: CE-PED,FIRE-SAFE

## Swing Check Valve



Swing check valve is mainly used for unidirectional flow of medium on the pipeline, generally installed horizontally. The valve is opened or closed by the flow of the medium, which is suitable for the cleaning medium, not suitable for the medium with large solids and viscosity.

### Design Features

- Full bore, strong flow capacity.
- Disc of convex design with better performance and the arc design can reduce pressure loss and turbulent medium.
- Optional soft seal and metal seal according to different working conditions.

### Product Range

- Size: 2-1/16" ~ 4-1/16"
- Pressure: 5,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4
- Certificate: CE-PED,FIER-SAFE

## Globe Valve



Globe valve only allow unidirectional flow medium, installation direction, its stem opening and closing stroke is relatively short, has a very reliable cut-off function, and because of the change of valve seat opening and disc stroke is proportional to the relationship, suitable for the flow of the regulation, simple structure, convenient maintenance.

### Design Features

- Impact handwheel supplied at manufacture's option or on customer request.
- Anti blow-out stem design with conical backseat surface to permit repacking of valve in the fully open position.
- Disc design is plug type, as well as spherical and flat seating surface is optional on customer request.
- Seat face with stellite 6 is standard design.

### Product Range

- Size: 2-1/16" ~ 4-1/16"
- Pressure: 3,000 ~ 10,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: L,N,P,S,T,U,V,X
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4



# Wellhead & Christmas Tree

- Christmas Tree
- Gas Wells' Christmas Tree
- Multi-Lateral Sim Twin Wellhead
- Surface Test Tree



## Christmas Tree



NOE Christmas Tree meets a range of requirements for onshore/offshore platform applications including flexibility, compatibility and interchangeability. At the same time, NOE is able to meet a variety of detailed requirements, lower prices and standard components.

NOE has earned a reputation for product quality assurance by offering its customers with a complete set of wellhead and Christmas tree to suit casing and tubing programs for working pressures up to 20,000 psi. Christmas tree ranges from low pressure to high pressure, and can satisfy acidic and geothermal environments.

Christmas Tree is a wellhead device used to extract oil from gusher Wells and machine production Wells. It is the main equipment for controlling and regulating oil and gas production in the uppermost part of oil and gas well.

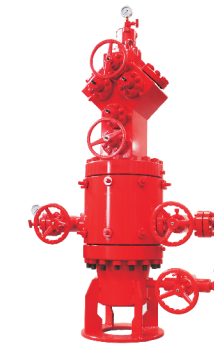
### Design Features

- Compact structure, easy to install on land/platform.
- Christmas tree is equipped with a safety valve to ensure maximum safe operation of the wellhead.
- Christmas tree is equipped with swab valve for daily maintenance work such as wax removal.
- Christmas tree is equipped with choke valves to control and regulate well production.

### Product Range

- Pressure: Max 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: K, L, N, P, S, T, U, V, X, Y
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4

## Gas Wells' Christmas Tree



NOE Gas Wells' Christmas Tree meet a range of requirements for onshore/offshore platform applications including flexibility, compatibility and interchangeability. At the same time, NOE is able to meet a variety of detailed requirements, lower prices and standard components.

NOE has earned a reputation for product quality assurance by offering its customers with a complete set of wellhead and Christmas tree to suit casing and tubing assemblies for working pressures up to 20,000 psi. Gas Wells' Christmas tree can be manufactured from low pressure to high pressure, and can satisfy acidic and geothermal environments.

Gas Wells' Christmas Tree is installed on the top of the tubing head. The main purpose of the tree is to control the wellhead pressure and regulate the flow of oil (gas), and to induce the oil (gas) to the oil pipeline. If necessary, it can also be used to close the well or conduct well acidizing and fracturing and paraffin removal.

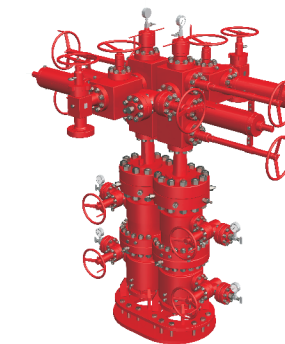
### Design Features

- Compact structure, easy to install on land/platform.
- The valve in the gas tree adopts metal seal structure completely, the seal is reliable.
- The flange at the bottom of the gas tree, the tubing hanger and the tubing head are sealed with metal.
- The Christmas tree is equipped with a safety valve to ensure the maximum safety of the wellhead operation.
- The Christmas tree is equipped with a swab valve for daily maintenance work such as wax removal.
- The Christmas tree is equipped with choke valve to control and regulate the production of oil well production.

### Product Range

- Pressure: Max 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: K, L, N, P, S, T, U, V, X, Y
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4

## Multi-Lateral Sim Twin Wellhead



The single-cylinder double-well technology is an advanced common-pipe drilling technology suitable for the development of offshore marginal oilfields and adjustment wells. With this technology, two directional wells can be drilled in one well. When space on offshore platforms is limited, with the limited wells, more boreholes can be drilled, which is equivalent to the one well's riser pipe shared by 2 wells. It is applied to the cluster well platform.

### Design Features

- There can be two separate wells in a single conduit.
- Two separate wells each have their own oil casing string at different depths.
- Effectively reduce the number of mining platforms, and reduce platform development costs.
- Metal to metal sealed oil casing hangers design.
- Achieve independent exploitation of oil and gas layers.

### Product Range

- Maximum column size:  
Casing 13-3/8" x Tubing 4-1/2"
- Maximum rated pressure:  
Casing 5,000psi x Tubing 15,000psi
- Material: DD, EE, FF, HH
- Temperature: L, U
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL4

## Surface Test Tree



Surface test tree, also called flow head, is located at the top of the test string to contact, test and control the oil well output. It is used to support the test string, and to facilitate and control the flow of the fluid medium into or out of the well. The wing valve is usually equipped with a fail-close actuator which is link to the emergency shutdown system, this configuration allows for remote shut-in of the well on the surface.

The kill wing valve is a manual valve and should remain open during testing operation to allow immediate killing of the well. Swab valve is usually a manual valve too and can perform live well intervention operation during test or production. The handling sub attached to the top of the flow head provides an interface to the surface wireline or coiled tubing equipment. The swivel connects all kinds of fluid pipelines, allowing rotation of the string without rotating the flow head. The master valve is located below the swivel, and can be used when the valve in the swivel is leaking.

### Design Features

- Adaptable and compact design provides added flexibility and mobility.
- Low torque metal-to-metal sealing on all gate valves provides increased reliability and ease of operation.
- Hydraulic "fail-close" flow line valve with stem positioning indicator enhance safety.
- Protection frame on main block for manual and hydraulic valves improves durability.
- Swivel enables rotation of the test string for packer setting and disconnects operations.

### Product Range

- Size: 3-1/16" ~ 5-1/8"
- Pressure: 3,000 ~ 20,000psi
- Material: AA,BB,CC,DD,EE,FF, HH
- Temperature: K, L, N, P, S, T, U, V, X, Y
- Performance: PR1,PR2
- Specification: PSL3, PSL3G, PSL4



## Manifold

- Well Testing Manifold
- Mud Manifold
- Choke Manifold
- Kill Manifold



## Well Testing Manifold



The well Testing manifold is generally installed on the drill floor, and is used in conjunction with other devices to evaluate the cementing quality, the cementation between foam cement and casing, and to collect information about oil casing. It can provide effective and flexible fluid control and good shut-in steps in the test process. An adjustable choke valve is attached to one side of the manifold for use in flushing or lowering of the water level. The other end is connected to a positive choke valve to precisely control the flow rate. There is a full-bore branch in the middle of the manifold, which can be used under heating or spraying conditions.

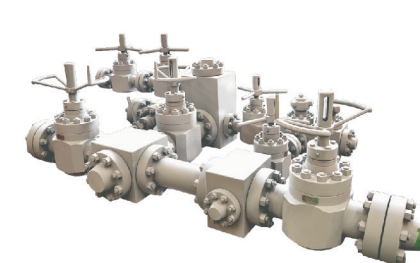
## Design Features

- There is a monitoring hole in the pipeline, which can timely monitor the pressure, velocity and temperature of the pipeline.
- Adjustable choke valve can accurately adjust pipeline pressure and flow at any time.
- The manifold is equipped with control cabinet, which can be controlled remotely and is safe and reliable.
- The mating gate valve adopts single slab gate valve with reliable performance, which has passed PR2 certification, reliable performance and durability.

## Product Range

- Size: 1-13/16" ~ 7-1/16"
- Pressure: 3,000 ~ 20,000psi
- Material: DD,EE,FF, HH
- Temperature: K, L, N, P, S, T, U, V, X
- Performance: PR1,PR2
- Specification: PSL3, PSL3G, PSL4
- Working medium: mud, oil, natural gas

## Mud Manifold



The mud line manifold is to merge and separate the mud during the drilling operation, and transfer the mud slurry from the mud pump to the standpipe manifold reasonably, so that ensure enough mud to meet the technical requirements through the top drive drilling operation.

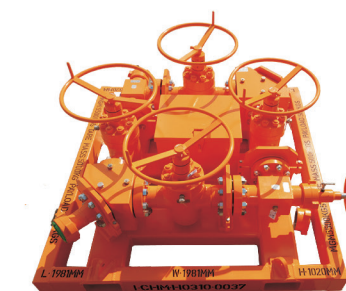
## Design Features

- Pipeline monitoring hole, which can timely monitor the pressure and flow rate of the pipeline.
- Union end connection, fast, convenient, safe and reliable.
- Mud valve is metal-to-metal seal, improve the performance of the valve.
- Mud manifold can be built according to the actual requirements of working conditions, flexible, changeable, can adapt to various requirements.

## Product Range

- Size: 1-13/16" ~ 7-1/16"
- Pressure: 2,000 ~ 15,000psi
- Material: DD,EE,FF
- Temperature: L,U
- Performance: PR1
- Specification: PSL1 ~ PSL4
- Working medium: mud, drilling fluid

## Choke Manifold



API 16C manifold is generally divided into Choke and kill manifold. However, with the demand of different working conditions, more and more types of manifold are needed. Such as vertical mud manifold, generally used in the platform mud circulation system; for example, the vertical choke and kill manifold is used for drilling and completion on the platform.

Choke manifold is the necessary equipment to control well kick and implement oil and gas well pressure control technology. Under the condition of BOP closing, the opening and closing of the choke valve is used to control certain casing pressure to maintain the bottom-hole pressure is always slightly higher than the formation pressure, so as to avoid further flow of formation fluid into the well. In addition, when the shut-in is implemented, the pressure can be used to reduce the pressure to achieve soft shut-in. When the pressure in the well rises to a certain limit, it is used to spray to protect the wellhead. When the pressure in the well increases, the choke valve on the choke manifold can be opened and closed to release the fluid in the well to control the casing pressure. When the sleeve pressure is very high, it can be sprayed directly through the gate valve.

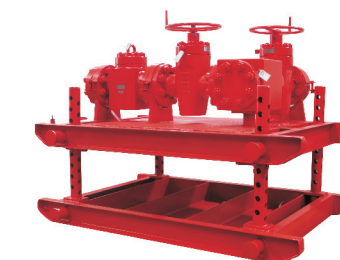
## Design Features

- NOE can produce manifold for use on land and sea.
- NOE will use different valves according to different service conditions, including Neway GBS, GBW series gate valves, choke valves, various actuators.
- NOE designed manifold can be used in H2S environment, up to 20,000 psi.
- The base, control box and related instruments can be provided together with the manifold.
- The manifold for offshore platform has compact structure, complete functions and small size, which is convenient for platform installation and maintenance.

## Product Range

- Size: 2-1/16" ~ 7-1/16"
- Pressure: 3,000 ~ 20,000psi
- Material: EE, FF, HH
- Temperature: A, B, K, P, V, X
- Specification: PSL3, PSL3G, PSL4
- Working medium: mud, oil, gas

## Kill Manifold



API 16C manifold is generally divided into choke and kill manifold. However, with the demand of different working conditions, more and more manifold are needed. Such as standpipe manifold, generally used in the platform mud circulation system; For example, the standpipe choke and kill manifold is used for drilling and completion on the platform.

Kill manifold is an important part of pressure control equipment in oil and gas well. Its purpose is to control well pressure by pumping drilling fluid into the well through the kill manifold when normal circulation cannot be achieved through the drill string. One end of the kill manifold is connected to the drilling side hole and the other end to the drilling mud pump. When the wellhead pressure increases, drilling fluid can be pumped into the well through the kill manifold to control the well pressure and prevent the well kick and blowout. The injection line connected by the kill manifold can be used for direct injection. It is also possible to inject fresh water or extinguishing agent into the well by using the kill manifold cementing operation. One end of the kill manifold is connected to the drilling side hole and the other end to the drilling mud pump.

## Design Features

- NOE specializes in the manufacture of manifolds for a complete range of onshore and offshore oilfield applications.
- NOE will use different valves according to different service conditions, including Neway GBS, GBW series gate valves, chokes, various actuators.
- NOE designed manifold can be used in H2S environment, up to 20,000 psi.
- The base, control box and related instruments can be provided together with the manifold.
- The manifold for offshore platform has compact structure, complete functions and small size, which is convenient for platform installation and maintenance.

## Product Range

- Size: 2-1/16" ~ 7-1/16"
- Pressure: 3,000 ~ 20,000psi
- Material: EE, FF, HH
- Temperature: A, B, K, P, V, X
- Specification: PSL3, PSL3G, PSL4
- Working medium: mud, oil, gas



# Subsea Valves

## Typical Reference List

1. CNOOC-BO NAN REGION GAS RECOVERY (PHASE II) PROJECT
2. CNOOC-LH16-2 OIL FIELD PROJECT
3. CNOOC-WC9-2/9-3/10-3 PROJECT
4. COOEC-DEEP WATER PIPELINE PRE-COMMISSIONING TECHNOLOGY RESEARCH AND EQUIPMENT DEVELOPMENT PROJECT
5. COMSORCIO TERMINALES-MOLLOBAMBA PROJECT
6. HUSKY OIL-LH29-1 GAS FIELD SUBSEA PLRS PROJECT



## Subsea Ball Valve



Subsea valves, the valve used in shallow water, deep water or ultra-deep water, typically application: subsea manifold, PLEM, PLET, single buoy mooring systems and other subsea production system. The advanced design methods and manufacturing ability, make Neway subsea valve with high reliability, excellent sealing performance, long service life, etc.

## Design Features

- Metal-metal seat seal.
- Long service life soft sealing parts.
- Metal seals.
- ISO 13628-8 ROV receptacle.
- Multiple stem sealing structure
- Cathodic protection.

## Product Range

- Standard: API 6DSS, API6A, API17D, or other client specifications
- Size: 1/2" ~ 48"
- Pressure: Class 150~Class 2,500
- Temperature: -46 ~ 150°C
- Water depth: ≤3,000m
- QL level: QL1~2
- Type: Side-entry type, Top-entry type
- Actuator: gearbox, hydraulic actuator etc. (ROV interface are all available)

## Application

- Subsea Manifold
- PLEM
- PLET
- Subsea Transport Pipeline
- Other Subsea Production System

## Subsea Gate Valve



Subsea valves, the valve used in shallow water, deep water or ultra-deep water, typically application: subsea manifold, PLEM, PLET, single buoy mooring systems and other subsea production system. The advanced design methods and manufacturing ability, make Neway subsea valve with high reliability, excellent sealing performance, long service life, etc.

## Design Features

- Metal-metal seat seal.
- Long service life soft sealing parts.
- Metal seals.
- Multi-seal stem sealing solution.
- The linear type driving device.
- ISO 13628-8 ROV receptacle.
- Cathodic protection.

## Product Range

- Standard: API6A, API17D, or other client specifications
- Size: 2"~9"
- Pressure: ≤15,000psi
- Temperature: -46 ~ 150°C
- Water depth: ≤3000m
- Specification: PSL1~PSL4
- Type: Slab gate
- Actuator: Linear type actuator, hydraulic actuator (ROV interface are all available)

## Application

- Subsea Manifold
- PLEM
- PLET
- Subsea Transport Pipeline
- Other Subsea Production System



# Actuator & Control System

- Hydraulic- Single Action
- Hydraulic- Compact Design
- Hydraulic- Double Action
- Pneumatic- Diaphragm
- Pneumatic- Piston
- Emergency Shut Down System



## Hydraulic-Single action



AH actuator is a piston type hydraulic actuated device, which is very suitable for surface safety valve, oil (gas) transmission line, manifold valve and collection pipeline, as well as casing safety valve and storage valve. The operating pressure medium is hydraulic oil. This actuator is suitable for both fail closed and fail open applications.

### Design Features

- **Over-Pressure Protection:** This actuator come equipped with pressure relief devices to protect personnel and guard against damage to the actuator in case of an over pressure condition. The pressure relief device is easily inspected and is field-replaceable.
- **Corrosion Protection:** The actuator housings are internally and externally coated to prevent corrosion due to environmental conditions. All internal components are either stainless steel or are coated to prevent corrosion due to any contamination that might be present in the control pressure source.
- **Backseat & backseat detection:** This actuator come equipped with backseat and backseat detection hole. Heavy duty thrust bearings also reduce operating torque.
- **Maintenance:** The actuators are designed for ease of maintenance. All non-metallic seals and other parts are easily replaceable.
- **Packing Integrity:** A tattletale weep port is located above the packing to provide visual confirmation of stem seal integrity during operation.
- **Preset drift:** Factory preset drift eliminates the need for field adjustments.

### Product Range

- Maximum Operating ControlPressure: 3,000psi
- Material: AA,BB,CC
- Temperature: -29°C to +82°C
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL3

## Hydraulic-Compact design



The operating principle of AC hydraulic actuator is similar to that of AH. The most obvious difference is that the height of AC actuator with the same size is lower than that of AH, which is more suitable for the limited space offshore platform, fracturing wellhead, surface test tree (flowhead), integrated wellhead, single barrel multi well block. The operating pressure medium is hydraulic oil. This actuator is suitable for both fail closed and fail open applications.

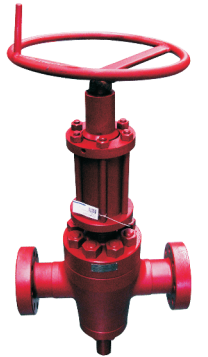
### Design Features

- **Quick disconnect mechanism:** The AC SSV assembly is designed such that the actuator can be removed from the gate valve as a separate assembly with the valve in service. This quick disconnect mechanism for the actuator allows fast removal without disturbing the body/bonnet connection, and this provides immediate access to stem packing.
- **Over-Pressure Protection:** This actuator come equipped with pressure relief devices to protect personnel and guard against damage to the actuator in case of an over pressure condition. The pressure relief device is easily inspected and is field-replaceable.
- **Packing Integrity:** A tattletale weep port is located above the packing to provide visual confirmation of stem seal integrity during operation.
- **Maintenance:** The actuator has single forged unitized top cap and cylinder for simple on-line maintenance.

### Product Range

- Maximum Operating ControlPressure: 3,000psi
- Material: AA,BB,CC
- Temperature: -29°C to +82°C
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL3

## Hydraulic-Double action



DH double acting hydraulic actuator is designed to actuate valve open and close directionally, with large and stable driving force. It is suitable for valves with large size, high pressure and full differential pressure operation, and can replace manual valve efficiently. Such actuator can also be used for choke and kill system, fracturing operation and drilling operation, the control pressure medium is hydraulic oil.

### Design Features

- **Improved Corrosion Control:** All non-stainless components are coated to provide resistance against the corrosive effect of harsh environments.
- **Housing:** The pressurized housing is designed as a protective member for the piston and stem. The design is symmetrical thereby simplifying assembly. A hard plated wear surface protects and ensures seal integrity.
- **Ease of Maintenance:** Top shaft can be replaced by removal of top fixer. To replace piston seal, remove piston from actuator housing. This concept provides easy removal and seal replacement.

### Product Range

- Maximum Operating ControlPressure: 3,000psi
- Material: AA,BB,CC
- Temperature: -29°C to +82°C
- Performance: PR1,PR2
- Specification: PSL1 ~ PSL3



## Pneumatic-Diaphragm



AD pneumatic diaphragm actuators are widely used in surface safety valves, integral wellhead, choke and kill equipment, oil (gas) transmission line, oil (gas) storage shut-down valves and other equipment, with the advantages of smaller weight and easier maintenance. The operating pressure medium can be air, nitrogen or treated wellhead gas. This actuator is suitable for both fail closed and fail open applications.

### Design Features

- **Over-Pressure Protection:** This actuator come equipped with pressure relief devices to protect personnel and guard against damage to the actuator in case of an over pressure condition.
- **Corrosion Protection:** The actuator housings and all internal components are coated to prevent corrosion due to environmental conditions and control pressure source.
- **Backseat & backseat detection:** This actuator come equipped with backseat and backseat detection hole.
- **Maintenance:** The actuators are lightweight and designed for ease of maintenance. All non-metallic seals and other quick-wear parts are easily replaceable.
- **Packing Integrity:** A tattletale weep port is located above the packing to provide visual confirmation of stem seal integrity during operation.
- **Preset drift:** Factory preset drift eliminates the need for field adjustments.

### Product Range

- Maximum Operating Control Pressure: 170psi
- Material: AA, BB, CC
- Temperature: -29°C to +82°C
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL3

## Pneumatic-Piston



AP pneumatic piston actuator has the same application field as AD actuator. To some extent, AP actuator can be considered as the supplement and extension of AD diaphragm actuator, which can bear higher control pressure to drive valves with bigger sizes and higher rated pressure. It is the recommended for customized service. The operating pressure medium can be air, nitrogen or treated wellhead gas. This actuator is suitable for both fail closed and fail open applications.

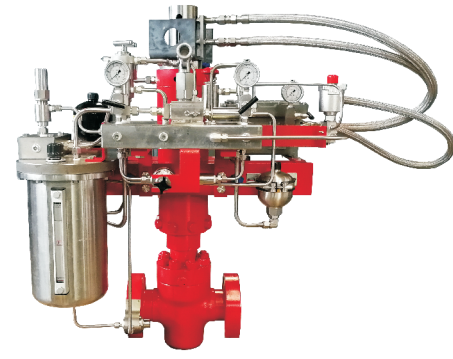
### Design Features

- **Over-Pressure Protection:** This actuator come equipped with pressure relief devices to protect personnel and guard against damage to the actuator in case of an over pressure condition.
- **Corrosion Protection:** The actuator housings and all internal components are coated to prevent corrosion due to environmental conditions and control pressure source.
- **Backseat & backseat detection:** This actuator come equipped with backseat and backseat detection hole.
- **Maintenance:** Easily removable piston allows for quick seal inspection and replacement.
- **Packing Integrity:** A tattletale weep port is located above the packing to provide visual confirmation of stem seal integrity during operation.
- **Preset drift:** Factory preset drift eliminates the need for field adjustments.

### Product Range

- Maximum Operating Control Pressure: 170psi
- Material: AA, BB, CC
- Temperature: -29°C to +82°C
- Performance: PR1, PR2
- Specification: PSL1 ~ PSL3

## Emergency Shut Down System (Self-Contained Hydraulic Valve Actuation System)



Hydraulic emergency shutdown system is self-service hydraulic operation. Opening and closing valves do not need any power such as air source and electric energy. It only needs to operate the hydraulic manual pump equipped to complete power supply to open valves. It can automatically, remotely or manually complete emergency shutdown in a short time. It is suitable for remote, high-risk and other special working conditions. It can provide safety guarantee for the operation of pipelines and equipment.

### Design Features

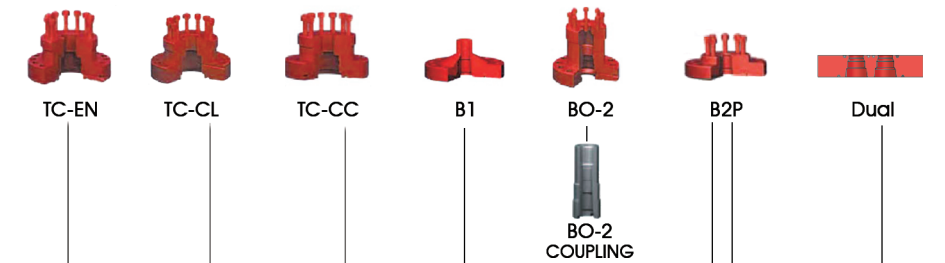
- The system can automatically control the actuator to close the valve when electrical power failure occurs on site, and remote control to close the valve at any time.
- The system can automatically control the actuator to close the valve when a fire accident occurs around SDV.
- The system can shut off artificially in case of emergency or equipment maintenance.

### Product Range

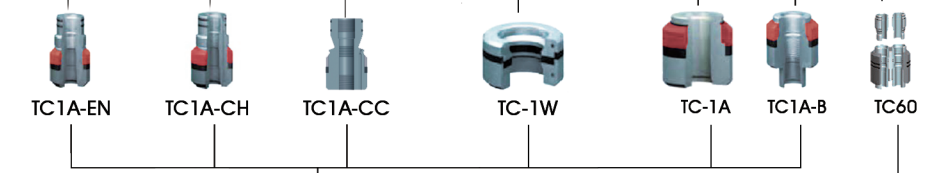
- System type: NS1. NS2. NS3. NS4.
- The Max pressure of main loop pipeline: 3,000psi
- The Max pressure of pilot pipeline: 145psi
- Equipment protection level: Ex ia, e, d IIB/C T4/5/6
- Degree of protection of enclosure IP: IP65/66

# Wellhead Components Sheet

## Adapter Bonnets



## Tubing Hangers



## Tubing Heads



## Secondary Seals



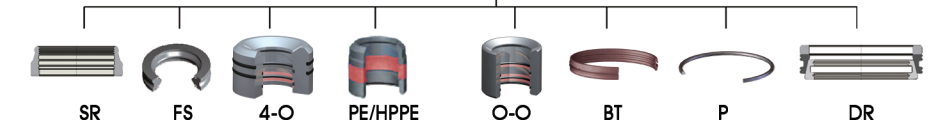
## Casing Hangers



## Casing Spools



## Secondary Seals



## Casing Hangers



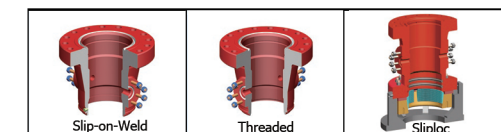
## Casing Heads



## Base Plate Option



## Bottom Prep Options





## Tools

- VR Plug
- VR Plug Lubricator
- Back Pressure Valve
- Wear Bushing
- Combination Tool
- BPV Lubricator

## VR Plug



Installed on the side outlets of studded or flanged of casing head, casing head spool and tubing head spool, for the purpose of isolating the gate valve from pressure during disassembly or repair.

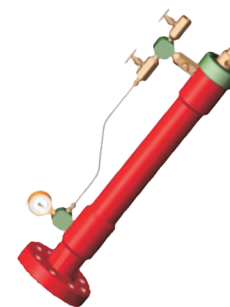
## Design Features

- VR plug with pressure class  $\leq 10,000$ psi, use taper thread for sealing, convenient installation, reliable sealing.
- VR plug with pressure class  $\geq 15,000$ psi, use tapered metal for sealing, and equipped with O-Ring auxiliary seal to ensure reliable sealing.

## Product Range

- Pressure: Max 20,000psi
- Material: DD, FF, HH
- Temperature: K, L, N, P, S, T, U

## VR Plug Lubricator



Lubricator installs VR plugs in casing head, casing spool, or tubing head side outlets so gate valves can be isolated from pressure for removal or repair.

## Design Features

- Lubricator mounts on the gate valve outlet flange. With the lubricator holding the pressure, the gate valve can be opened, allowing the VR plug to pass through the valve and be threaded into the head or spool outlet.
- All studded and flanged outlets on NOE casing heads, casing spools, and tubing heads are threaded to accept VR plugs. VR adapters are available for threaded outlets.
- For outlet working pressures of 15,000psi, straight-thread, metal-to-metal seal VR plugs are standard. For lower working pressures, tapered-thread VR plugs are standard.

## Back Pressure Valve



The Back Pressure Valve (BPV) is designed to block the pressure coming upstream from the well during the removal of the BOP and during the repair of the Christmas tree. It includes one-way BPV and two-way BPV. In most cases, you will use a one-way BPV, except when testing the BOP stack or the Christmas Tree.

## Design Features

- Back pressure valve body with a rectangular rubber ring seal, make seal reliable.
- Back-pressure valve plug use cone metal seal, and with O-Ring auxiliary seal, make seal reliable.
- Compact structure and few parts, and also be convenient for site installation and maintenance.

## Product Range

- Thread Diameter Size: 2-1/2" ~ 6-5/16"
- Material: DD, FF, HH
- Temperature: K, L, N, P, S, T, U, V, X



## Wear Bushing



The Wear bushing is a cylindrical structural component with o-ring and other soft seals in the outer circle, which is used to protect the sealing area of the wellhead device and avoid the sealing surface of the wellhead device being damaged by the drill pipe during drilling.

### Design Features

- The wear bushing is designed with J-slots to accept the lift lugs of the running tool. The running tool is installed into the wear bushing with clockwise rotation to engage the lift lugs into the J-slots.
- The wear bushing could be installed into casing head or casing spool with or without lockdown screws. It is designed with a groove to allow lockdown screws to be run into and prevent from rotation (where applicable).
- The wear bushing is equipped with soft seals to protect the sealing surface of wellhead.
- The wear bushing is designed with an internal structure which can guide the downhole tools.

### Product Range

-Size: 7-1/16", 9", 11", 13-5/8", 16-3/4", 20"

## Combination Tool



Combination tool is used to test the seal performance of blowout preventer during the wellhead installation.

### Design Features

- The dovetail is a radially energized elastomer seal used in all combination tools.
- The combination tool is equipped with either box type 3-1/2" IF or 4-1/2" IF joint connection both top and bottom configuration.
- The combination tool is also doubles as a wear bushing running tool when inverted. It equipped with four lift lugs, these lugs can use to run and retrieve wear bushing.

### Product Range

-Size: 7-1/16", 9", 11", 13-5/8", 16-3/4", 20"

-Pressure: 2,000 ~ 15,000psi

## BPV Lubricator



It can be used to run and retrieve back pressure valve (BPV). Uses pressure directly from the well and the pressure are balanced between the tool's upper and lower housing, the rod will move easily.

### Design Features

- Self-contained pressure balance system, easy to install and remove BPV under-pressure.
- Compact structure, easy to be operated.

Seller will replace without charge or refund the purchase price of products provided by Seller which prove to be defective in material or workmanship, provided in each case that the product is properly installed and is used in the service for which Seller recommends it and that written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with repair or replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.