

Company Brochure



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Yancheng Cyber Oilfield Equipment Co.,Ltd.

Introduction

Yancheng Cyber Oilfield Equipment Co.,Ltd. (Yancheng Cyber) is a reliable supplier of wellhead, flow and well control which are in accordance with API Spec. 6A, 16A ,16C, etc. As a professional supplier, we have advanced technology equipment and testing equipment, our main products involved well head equipments including: x-mas trees, casing head, casing spool, tubing head, tubing spools, cross over, BX and 6BX flanges, flow head, surface safety valves, choke manifolds, Cameron style FC & FLS-R style (hydraulic) gate valves, etc. and flow control products including: various sizes of swivel joint, plug valve, gate valve, check valve, hammer union, integral straight pipe, integral fittings, well control products including: Annular BOP, Ram BOP, etc.

All products provided by Yancheng Cyber will come with full material traceability sheet, assembly drawing, Material test certificate, pressure testing reports, NDE inspection reports and any kind of Third Party inspection (appointed by customer) report.

Yancheng Cyber Service and Support

Satisfying customer needs is top priority at Yancheng Cyber. Whether there is a technical / operational question, custom design requirement or call to service equipment in the field, Yancheng Cyber Engineering and Service Centers are strategically located worldwide to support your operations. With large inventories of replacement parts available, spares can be rapidly shipped to where they may be needed. Factory-trained technicians, deployed from Yancheng Cyber Service Centers, also perform comprehensive site assessments, reconditioning and upgrading of existing equipment. Recognizing the mission-critical nature of our customers' operations, world-class Yancheng Cyber service facilities and highly trained, experienced service technicians are available 24/7 to support Yancheng Cyber equipment and systems in the field. The Yancheng Cyber comprehensive service program reduces the risk of downtime while increasing safety.

Quality Control

VISION

To make a difference in the communities in which Yancheng Cyber operates by providing a world-class organization that develops a way of existence and sets the pinnacle of standards in all walks of life, whether at work or in society, to ensure future generations healthy, stable, and fruitful lives.

MISSION

To service the oil & gas industry by providing relentless reliability in our products and fulfilling our customer's "wish lists" by continuously designing and developing innovative features that will reduce the end users' maintenance and increase overall safety and production.

HSE

The policy of Yancheng Cyber is to maintain a Health, Safety, and Environmental Program by conforming to regulatory standards and best practices while providing a safe, healthy, and sustainable environment for its employees and customers.

Quality Policy Statement

The primary purpose of Yancheng Cyber Oilfield Equipment Co.,Ltd. is to provide products and services that meet the customer's needs and provide them with value. This philosophy will create gainful work for our employees and a profit for our company. Yancheng Cyber is dedicated to providing the best possible product and service to our customers by having well-trained, enthusiastic employees and the effective implementation of this management system.

It is the policy of Yancheng Cyber Oilfield Equipment Co.,Ltd. to:

- Operate in a safe, consistent and economical manner.
- Maintain conformance to the documented quality management system, including the applicable industry codes, standards and /or specifications and customer-specified requirements.
- Maintain compliance to statutory and regulatory requirements.
- Prevent nonconformities at all stages of design and manufacturing by implementing the requirements of this manual and supporting procedures.
- Ensure customer satisfaction.
- Foster an environment of continual improvement.
- Communicate this policy throughout Yancheng Cyber Oilfield Equipment Co.,Ltd. and ensure that it is understood.
- Aggressively pursue the Mitigation of systemic Risk™ through the implementation of this management system.
- Monitor and periodically review the management system, including stated objectives and this policy for suitability and effectiveness.

Yancheng Cyber Oilfield Equipment Co.,Ltd.

Manufacturing Process

Material Melting



Forging



Chemical Analysis

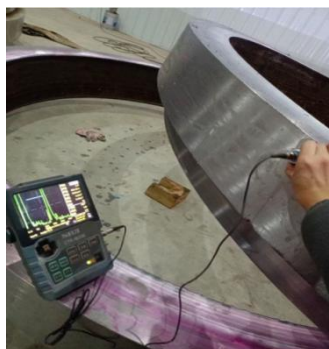


Rough-Machining



Yancheng Cyber Oilfield Equipment Co.,Ltd.

NDE



Heat-treatment



Hardness test & Mechanical test



Finish-Machining



Yancheng Cyber Oilfield Equipment Co.,Ltd.

Examination (Dimension and Hardness)



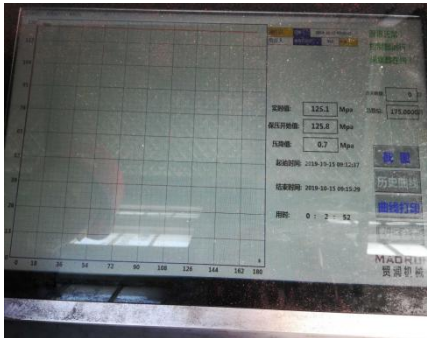
Marking



Washing & Assembly



Pressure Test



Yancheng Cyber Oilfield Equipment Co.,Ltd.

Spray-painting



Packing & Shipping



Surface Wellhead and Tree Equipment

Wellhead Equipment and Christmas trees are suitable for various drilling well bore structures and various wellhead completion types. They are also suitable for construction operations such as acidification, fracturing, water injection, steam injection and oil and gas production testing; at the same time, they can also be drilled and completed according to on-site wellheads. Design and produce wellhead devices and Christmas trees for the special needs of well conditions.

◆ The equipment consists of casing head, tubing head and oil/gas tree. The oil/gas tree has a single-wing or double-wing structure.

◆ The wellhead device and oil/gas tree can be equipped with downhole safety valve, uphole safety valve, pneumatic or hydraulic control system to realize remote automatic control of well opening or shutting.

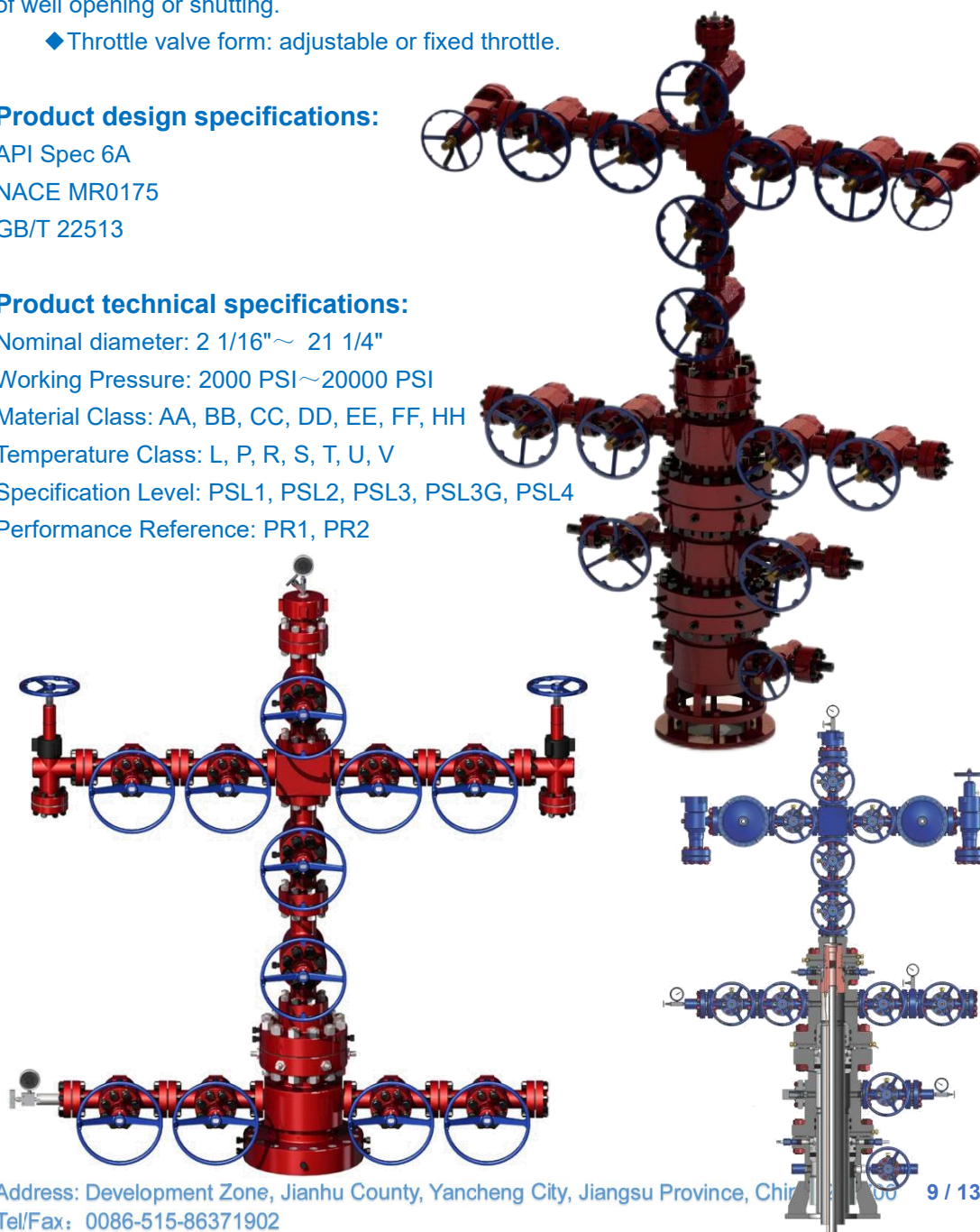
◆ Throttle valve form: adjustable or fixed throttle.

Product design specifications:

API Spec 6A
NACE MR0175
GB/T 22513

Product technical specifications:

Nominal diameter: 2 1/16" ~ 21 1/4"
Working Pressure: 2000 PSI ~ 20000 PSI
Material Class: AA, BB, CC, DD, EE, FF, HH
Temperature Class: L, P, R, S, T, U, V
Specification Level: PSL1, PSL2, PSL3, PSL3G, PSL4
Performance Reference: PR1, PR2



Composition of Wellhead Assembly

Part A: Casing Head

The casing head, installed at the bottom of wellhead assembly connecting casings and various wellhead assemblies, is composed of a body, casing hanger and seal assembly. The casing head is used for supporting the weight of technical and production casing, sealing the annular space between the casing and providing a filtered connection for the installation of upper wellhead assemblies. These assemblies include a blowout preventer (BOP), tubing head and Christmas tree. The surface casing is connected by a flange located below the casing head. The oil-string casing is connected by a screw thread inside of the casing head.

Part B: Tubing Head

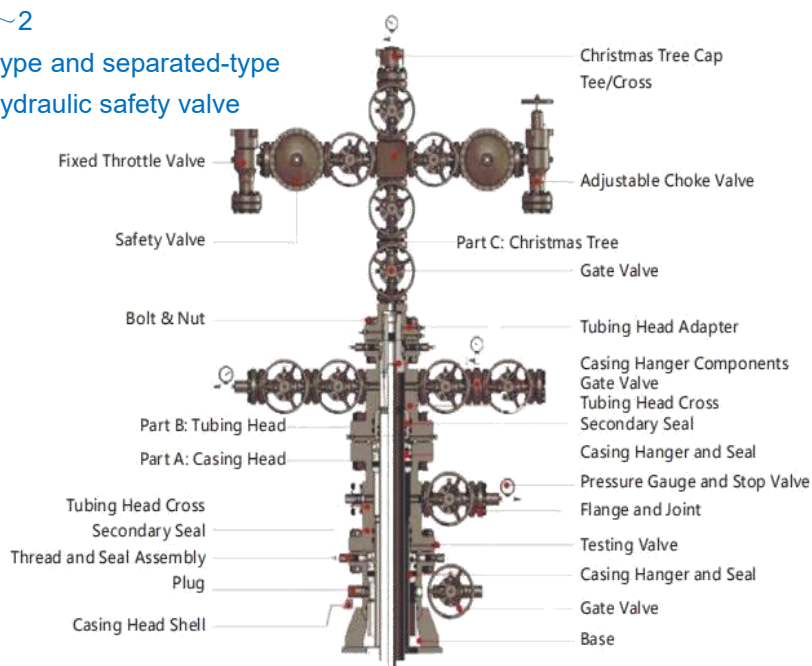
The tubing head is installed above the casing head and includes a tubing head spool and tubing hanger. The tubing hanger is used for hanging the internal tubing string and sealing the annular space between tubing and casing. This is used for conducting well flushing in direct circulation and reverse circulation, observing casing pressure, and for carrying out various tasks through the tubing and casing annular space.

Part C: Christmas Tree

The Christmas tree is installed above the tubing head and is composed of a gate valve, choke valve, tee/cross flange, Christmas tree cap, etc. This is used for controlling and regulating well production, directing oil or gas from wellhead to pipelines, and achieving down-hole installation and removal of tools and equipment.

Specifications:

- Working pressure: 2000 psi~20000 psi
- Nominal diameter: 7 1/16"~21 1/4"
- Working media: oil, gas, mud, H₂S and CO₂ gases
- Working temperature: LU (-51 F/-46°C ~ 250 F/121°C)
- Material grades: AA, BB, CC, DD, EE, FF and HH
- Specification level: PSL1~3G
- Performance level: PR1~2
- Structural type: integral-type and separated-type
- Installable (pneumatic) hydraulic safety valve



Yancheng Cyber Oilfield Equipment Co.,Ltd.

Christmas Tree

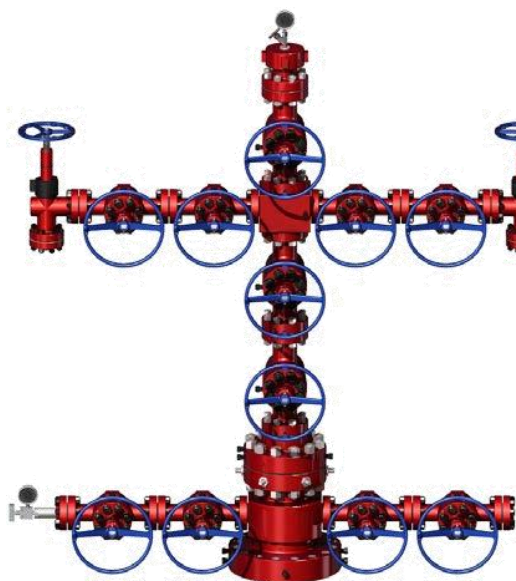
The christmas tree is wellhead equipment used to direct and control oil & gas from the well. This key piece of equipment for controlling the upper part of an oil & gas well and production adjustment and consists of a casing head, tubing head and oil (gas) tree ontology.

Gas production christmas trees and tubing heads are mainly used to produce and inject gas. While the relative density and gas column pressure is low, well head pressure is high and is prone to leakage. Sometimes natural gas may also contain corrosive media such as H₂S and CO₂. As a result, gas production christmas trees have more stringent requirements for both materials and sealing characteristics. To ensure a safe operating environment, two gate valves are used on the tubing and casing respectively. Some gate valves, which are used for high pressure and ultra-high pressure gas wells, are integrated valves manufactured from high quality forged steel.

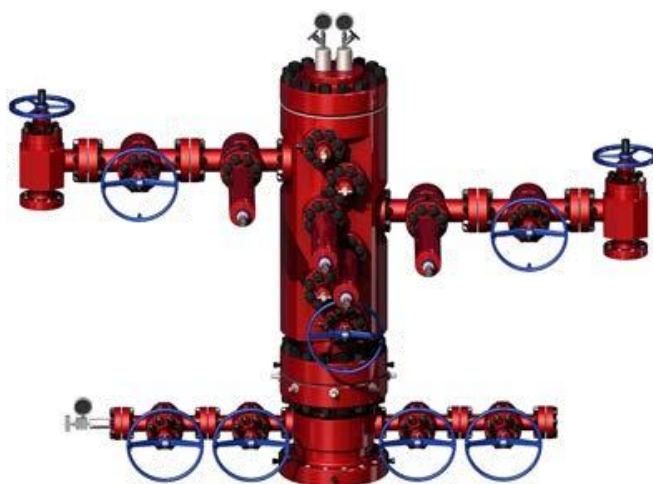
The christmas tree and tubing spools are both safe and reliable with a high pressure-bearing made of forged or special smelt steel.

Specifications:

- Working pressure: 2000 psi~20000 psi
- Nominal diameter: 2 1/16"~7 1/16"
- Working media: oil, gas, mud, H₂S and CO₂ gases
- Working temperature: LU (-51 F/-46°C ~ 250 F/121°C)
- Material grades: AA, BB, CC, DD, EE, FF and HH
- Specification level: PSL1~3G
- Performance level: PR1~2
- Installable (pneumatic) hydraulic safety valve



Typical Christmas Tree

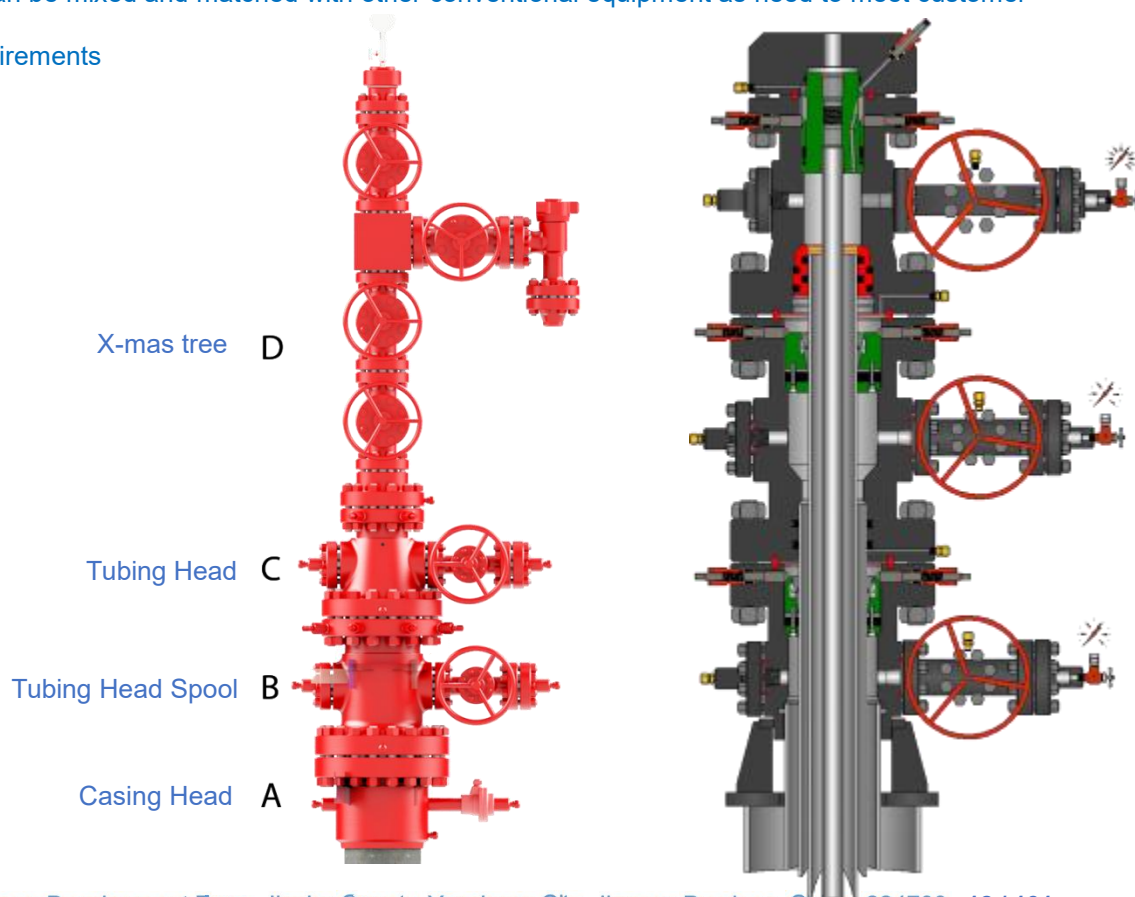


Dual-Tubing
Integral-Type Christmas Tree

Conventional Systems

Yancheng Cyber's conventional wellhead product line is available and strategic to meet the needs of our customers. Listed on the pages that follow are the casing heads and spools, casing hangers, secondary seals, tubing heads, tubing hangers, tubing head adapters and many other equipment categories. Details of or API 6A compliant conventional equipment are available for use at your convenience.

- Yancheng Cyber conventional systems are traditionally cost effective
- Can easily be utilized for vertical or horizontal wells
- Employed with Short Radius, Sidetrack and Multi-lateral completions
- Can be used on water source wells
- Good for use on FRAC completions
- Available for use on thru-tubing completions
- Can be mixed and matched with other conventional equipment as need to meet customer requirements



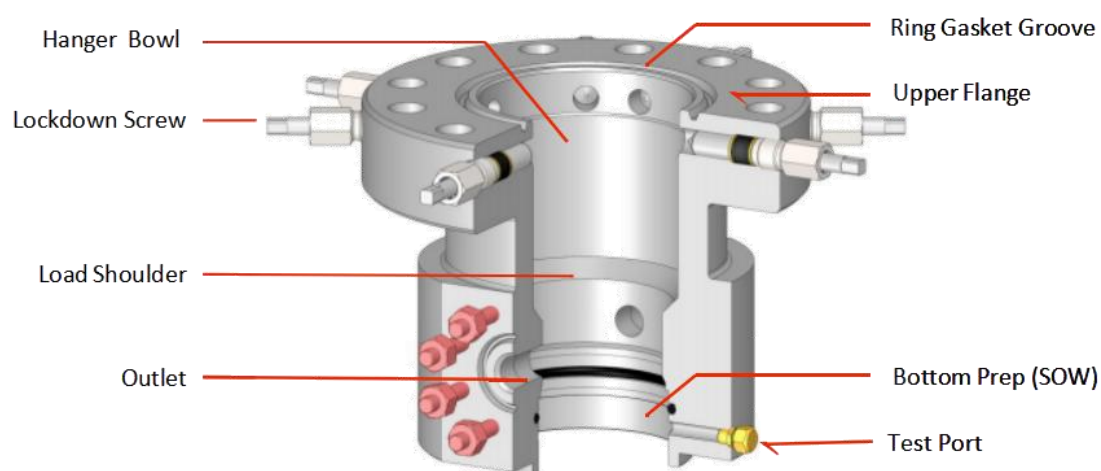
Casing Heads

The casing head in a conventional wellhead system is the lowest part of the wellhead assembly and is almost always connected to the surface casing string. It supports the remaining parts of the wellhead and completion equipment.

The casing head performs the following functions:

- Provides a means for attachment to the surface casing string
- Allows for suspending the next casing string, usually the first intermediate string in the well
- Supports the blowout preventers (BOP) while drilling
- Provides outlets for fluid returns
- Provides a means to test the blowout preventers (BOP) while drilling
- May provide a test port for testing welded or other non-threaded bottom casing head connections
- May also be referred to by the following names, "A-Section", "Braden Head" or "Starting Head"

Casing Head Components



Yancheng Cyber Oilfield Equipment Co.,Ltd.

C-22 Casing Heads

Yancheng Cyber casing heads incorporate the industry workhorse C-22 geometry that will accept a standard C-21 or C-22 casing hanger. Additionally, C-22 casing head product line has been engineered with the option to integrate full sets of lock-down screws (LDS) in the upper flange in order to provide mechanical casing hanger retention and/or pack-off actuation.

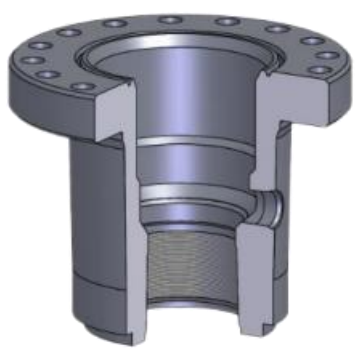
- The C-22 casing head is designed for light to intermediate casing string weights
- It incorporates a straight bowl design
- Is available with Lock Down Screws (LDS) in the upper flange for mechanical casing hanger retention
- Can utilize Bowl Protector lockdown screws
- It may be equipped with or without a base plate
- Available in multiple bottom connection configurations including Slip-Lock

Bowl	Top Flange	WP	Bottom Connection (Threaded or SOW)	Outlet Size	PSL Levels	Material Class
C-22	7"	3K, 5K	4-1/2" thru 7"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	9"	3K, 5K	4-1/2" thru 8-5/8"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	11"	3K, 5K	8-5/8" thru 10-3/4"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	13-5/8"	3K, 5K	11-3/4" thru 13-3/8"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	16-3/4"	3K, 5K	16"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	18-5/8"	5K	18-5/8"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	20-3/4"	3K	20"	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	21-1/4"	3K, 5K	20"	LP or Studded	PSL 1 thru 3	AA, EE, FF



C-22 Casing Head Configurations

C-29 Casing Head Configurations



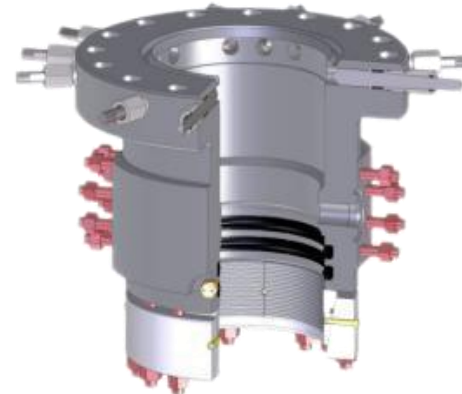
C-22 W/Threaded Bottom & Outlets



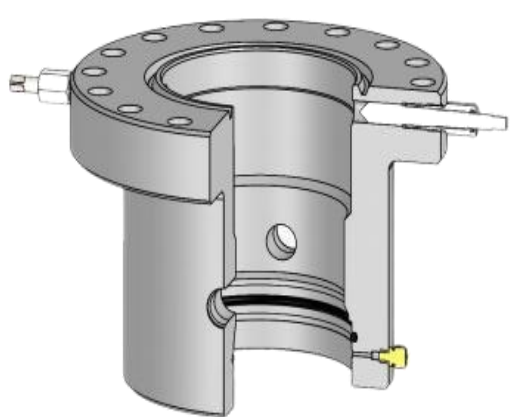
C-29-ET W/SOW Bottom & Studded Outlets



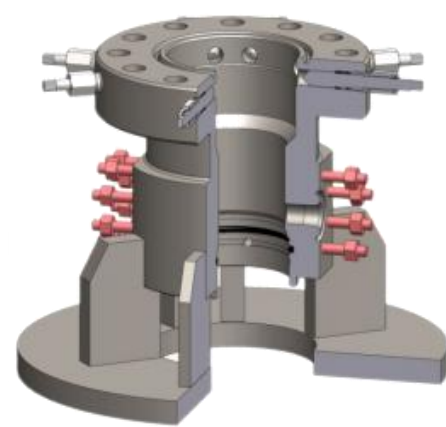
C-22 W/SOW Bottom & Threaded Outlets



C-29-ET W/Studded Outlets & Slip-Lock Bottom



C-22-BP-ET W/SOW Bottom & Threaded Outlets



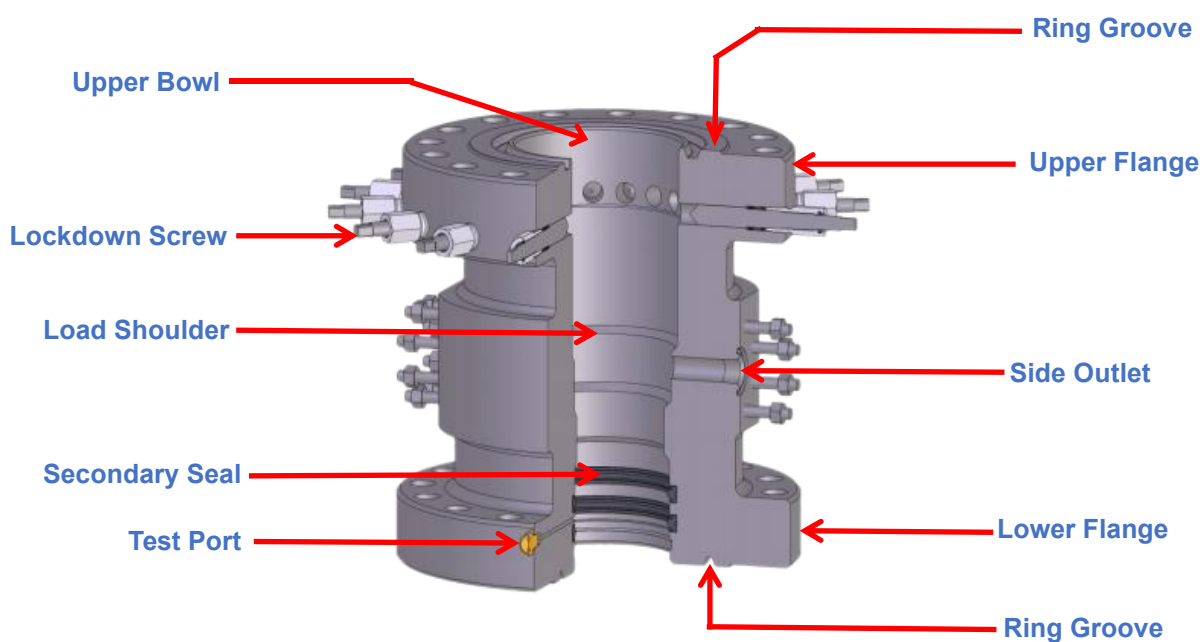
C-29-ET W/SOW Bottom, Studded Outlets & Baseplate

Casing Spools

The casing spool in a conventional wellhead system is the component that allows for an additional string of casing to be set in the well. Depending on the casing program for the well, there can be one or more casing spools and they perform the following functions:

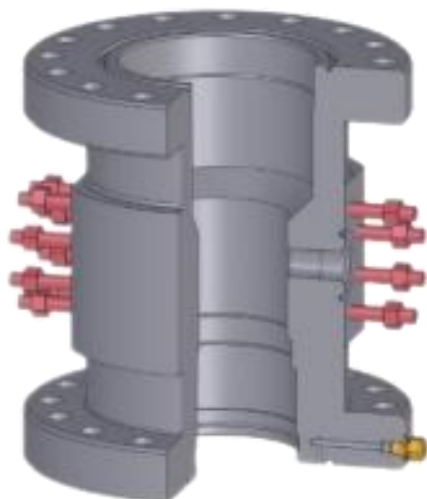
- Allows for suspending the next casing string in the well
- Supports the blowout preventers (BOP's) while drilling
- Provides outlets for fluid returns
- Provides a means to test the blowout preventers while drilling
- Has flanges on both the top and bottom of the assembly
- Has a seal area in the bottom flange for a secondary seal between the casing annulus and the flanged connection
- Utilize a test port in the bottom flange that allows for the secondary seal and the flanged connection to be pressure tested

Casing Spool Components



C-22 Casing Spools

C-22 casing spools incorporate the industry workhorse C-22 geometry that will accept a standard C-21 or C-22 casing hanger. Additionally, the Sentry C-22 casing spool product line has been designed with the option to integrate full sets of lock-down screws (LDS) in the upper flange in order to provide mechanical casing hanger retention.



- The C-22 casing spool is designed for light to intermediate casing string weights
- It incorporates a straight bowl design
- Is available with Lock Down Screws (LDS) in the upper flange for mechanical casing hanger retention
- Has flanges on both the top and bottom of the assembly
- Has a seal area in the bottom flange for a secondary seal between the casing annulus and the flanged connection
- Incorporates a test port in the lower flange to accommodate secondary seal testing.

Bowl	Top Flange	WP	Bottom Flange	WP	Outlet Size	PSL Levels	Material Class
C-22	11"	3K, 5K, 10K, 15K	11"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	11"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	13-5/8"	3K, 5K, 10K	16-3/4"	3K, 5K, 10K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	16-3/4"	5K, 10K	18-5/8"	5K, 10K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	13-5/8"	3K	20-3/4"	3K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-22	13-5/8"	3K, 5K	21-1/4"	3K, 5K	LP or Studded	PSL 1 thru 3	AA, EE, FF

C-29 Casing Spools

C-29 casing spool has all of the same features and benefits as the C-22, but is designed for intermediate to extreme casing weights. This head design can also handle the standard C-21 and C-22 casing hangers.

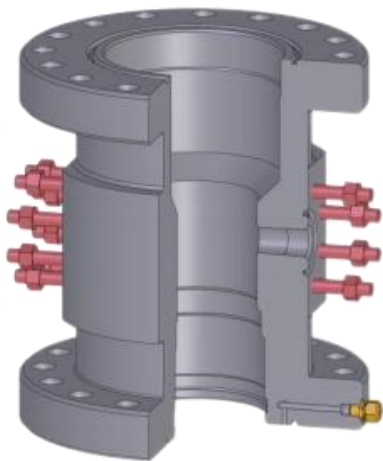


- The C-29 casing spool is designed for intermediate to extreme casing string weights
- It incorporates a straight bowl design
- Is available with Lock Down Screws (LDS) in the upper flange for mechanical casing hanger retention
- Has flanges on both the top and bottom of the assembly
- Has a seal area in the bottom flange for a secondary seal between the casing annulus and the flanged connection
- Incorporates a test port in the lower flange to accommodate secondary seal testing

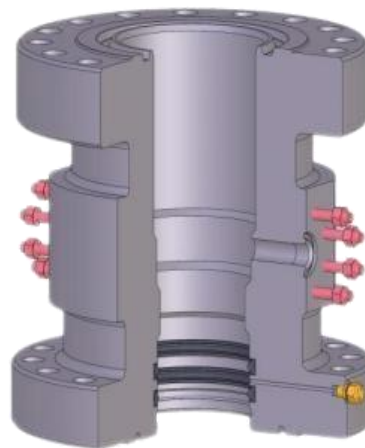
Bowl	Top Flange	WP	Bottom Flange	WP	Outlet Size	PSL Levels	Material Class
C-29	11"	3K, 5K, 10K, 15K	11"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-29	11"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-29	13-5/8"	3K, 5K, 10K	16-3/4"	3K, 5K, 10K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-29	16-3/4"	5K,10K	18-5/8"	5K, 10K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-29	13-5/8"	3K	20-3/4"	3K	LP or Studded	PSL 1 thru 3	AA, EE, FF
C-29	13-5/8"	3K, 5K	21-1/4"	3K, 5K	LP or Studded	PSL 1 thru 3	AA, EE, FF

C-22 Casing Spool Configurations

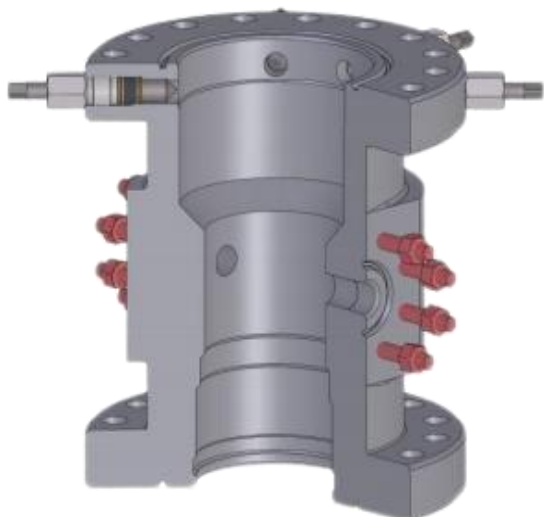
C-29 Casing Spool Configurations



C-22 Flanged Top & Bottom
W/Studded Outlets and Blank
Lower Secondary Seal Area



C-29 Flanged Top & Bottom
W/Studded Outlets and Double
CS Secondary Seal Area



C-22-ET Flanged Top & Bottom
W/Studded Outlets and Blank
Lower Secondary Seal Area



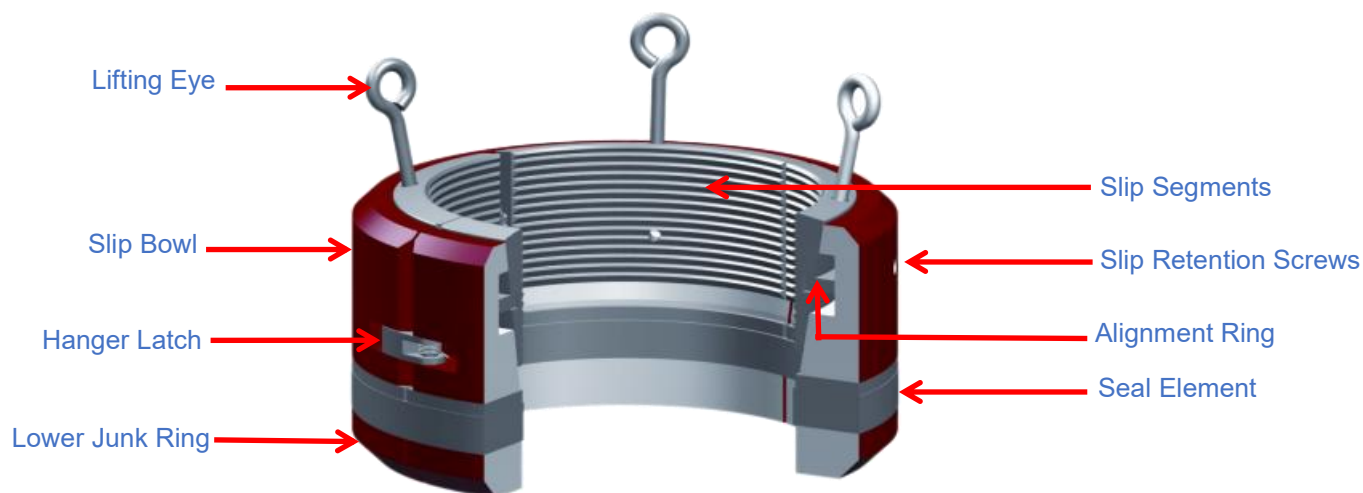
C-29-ET Flanged Top & Bottom
W/Studded Outlets and Double
CS Secondary Seal Area

Casing Hangers

Casing hangers are devices that allow casing to be set in the well bore during the drilling phase of an oil or gas well. There are two basic designs of casing hanger, slip-type or mandrel. The slip-type is the conventional and most commonly used. The mandrel-type is normally used when special needs arise during the building of the well. Both allow for the Tens of Thousands of pounds in weight of the casing string weight to be transferred from the derrick of the drilling rig to the load shoulder in a casing head or spool. A Casing Hanger performs the following functions:

- Suspends the casing load
- Transfers casing weight
- Centers casing
- Provides a primary seal in the casing annulus
- Creates an annular space
- Allows for testing of connections

Slip Casing Hanger Components



Yancheng Cyber Oilfield Equipment Co.,Ltd.

C-21 Casing Hangers

C-21 casing hangers are the non-automatic solution for hanging casing. The split bowl utilizes the same upper slip segments as the C-22 and C-29 hangers and incorporates a separate seal assembly. This has two benefits. It prevents any well or test pressure from adding to the radial compression of the slip segments. And it is a primary casing seal that can be replaced during workover operations without picking up the pipe.



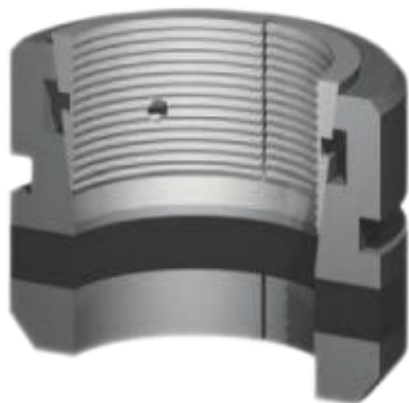
- Non Automatic casing hangers are typically used when the casing string weight is not sufficient enough to energize the seal mechanism in automatic casing hangers
- The Type-H seal ring utilizes S (OD) and CS (ID) seals to provide the primary seal on the string of casing being suspended in the casing hanger
- The C-21 casing hanger seal mechanism cannot be used if LDS are present in the upper flange of the casing head

Type	Top Flange	Casing Size	WP	PSL Levels	Material Class
C-21	7"	2 3/8" thru 4-1/2"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-21	9"	4-1/2" thru 7"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-21	11"	4-1/2" thru 7-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-21	13-5/8"	4-1/2" thru 11-3/4"	3K, 5K	PSL 1 thru 3	AA, EE, FF
C-21	16-3/4"	5-1/2" thru 13-3/8"	3K, 5K	PSL 1 thru 3	AA, EE, FF
C-21	18-5/8"	7" thru 13-3/8"	5K	PSL 1 thru 3	AA, EE, FF
C-21	20-3/4"	9-5/8" thru 16-3/4"	3K	PSL 1 thru 3	AA, EE, FF
C-21	21-1/4"	9-5/8" thru 16-3/4"	3K, 5K	PSL 1 thru 3	AA, EE, FF

Yancheng Cyber Oilfield Equipment Co.,Ltd.

C-22 Casing Hangers

C-22 automatic casing hangers are designed for use with the venerable C-22 casing heads and are an industry standard around the world.



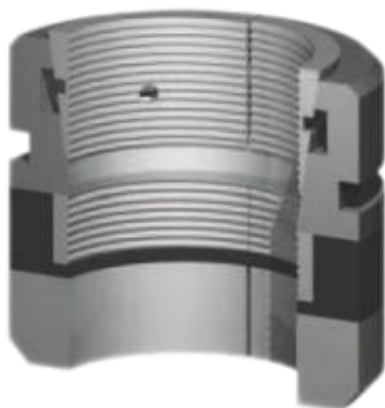
- The C-22 automatic casing hanger has an integral, compression-type seal mechanism that automatically actuates with the weight of the casing string
- The sealing element made into the casing hanger provides the Primary seal on the string of casing being suspended
- The C-22 casing hanger is hinged on one side and latches on the other
- The C-22 casing hanger is designed to be used with the C-22 casing head and is utilized for most intermediate casing string weights
- C-22 Casing Hangers can be utilized in a C-29 casing head or spool

Type	Top Flange	Casing Size	WP	PSL Levels	Material Class
C-22	7"	2 3/8" thru 4-1/2"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-22	9"	4-1/2" thru 7"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-22	11"	4-1/2" thru 7-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-22	13-5/8"	4-1/2" thru 11-3/4"	3K, 5K	PSL 1 thru 3	AA, EE, FF
C-22	16-3/4"	5-1/2" thru 13-3/8"	3K, 5K	PSL 1 thru 3	AA, EE, FF
C-22	18-5/8"	7" thru 13-3/8"	5K	PSL 1 thru 3	AA, EE, FF
C-22	20-3/4"	9-5/8" thru 16-3/4"	3K	PSL 1 thru 3	AA, EE, FF
C-22	21-1/4"	9-5/8" thru 16-3/4"	3K, 5K	PSL 1 thru 3	AA, EE, FF

Yancheng Cyber Oilfield Equipment Co.,Ltd.

C-29 Casing Hangers

Sentry C-29 casing hangers incorporate a set of 8 independent slip segments. Of these 4 are located above the packing element and 4 below the packing element. These hangers are best suited for extreme casing string weights.



- The C-29 casing hanger is designed to be used with the C-29 Casing head or spool
- The C-29 automatic casing hanger has an integral, compression-type seal mechanism that automatically actuates with the weight of the casing string
- The sealing element made into the casing hanger provides the Primary seal on the string of casing being suspended
- The C-29 casing hanger incorporates many of the same features as the C-22 casing hanger, but is designed for much higher casing string weights

Type	Top Flange	Casing Size	WP	PSL Levels	Material Classes
C-29	9"	4-1/2" thru 7"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-29	11"	4-1/2" thru 8-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-29	13-5/8"	5-1/2" thru 11-3/4"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-29	16-3/4"	5-1/2" thru 13-3/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
C-29	18-5/8"	7" thru 13-3/8"	5K, 10K	PSL 1 thru 3	AA, EE, FF
C-29	20-3/4"	9-5/8" thru 16-3/4"	3K	PSL 1 thru 3	AA, EE, FF
C-29	21-1/4"	9-5/8" thru 16-3/4"	3K, 5K	PSL 1 thru 3	AA, EE, FF

Yancheng Cyber Oilfield Equipment Co.,Ltd.

Mandrel Casing Hangers

Sentry Mandrel-type casing hangers are used when special needs arise during the building of the well. They can be customized to meet the needs of your well design in almost any design or configuration. Consult your Sentry Sales Representative to discover how we can help design one to fit your unique requirements.

- Mandrel casing hangers can be utilized in conjunction with a pack-off to minimize the time spent setting casing by allowing for the pipe to be set and the annulus sealed without removing the BOP's
- A mandrel casing hanger can be used to secure the well for the safe installation of FRAC equipment by incorporating a back pressure valve profile in the ID
- The mandrel hanger can be utilized to simply prevent any hot work normally performed for the setting of slip-type casing hangers
- A mandrel casing hanger may be designed to meet all three needs mentioned above, in one casing hanger



Fluted Mandrel Hanger



Drilled-Thru Mandrel Hanger

Secondary Seals

Secondary Seal Assemblies come in many forms and are installed in the lower seal area of the casing spool or tubing head. They are utilized to offer redundant well security between the casing annulus and the flanged connection of a casing head, casing spool or tubing head. In certain instances these seals can offer a special sealing capability for FRAC equipment. Secondary seal assemblies include several advanced elastomeric and metal to metal seal designs.

- Packoffs or Secondary seals come in many different configurations and pressure ratings
- Secondary seals assemblies seal on rough casing
- Some provide an elastomeric seal
- Some provide a metal to metal seal
- Secondary seals, or packoffs, come in many different I.D. sizes allowing for a broad range of casing sizes to be utilized in a standard bottom prep in the casing spool or tubing head

Reducer Bushing Components



2-CS Reducer Bushings

Yancheng Cyber's 2-CS Reducer bushing is the simplest of the secondary seal assemblies. It consists of reducer bushing body, (2) CS Seals in the I.D. of the bushing and a snap ring for retaining the bushing in the secondary seal area of a casing spool or tubing head.

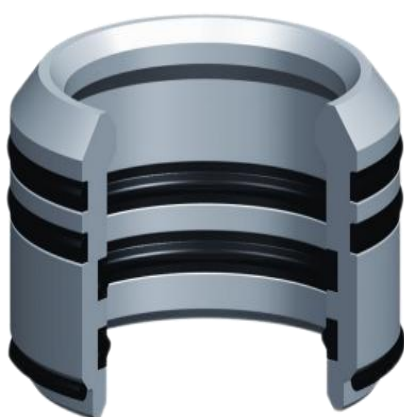


- This design consists of two "CS" seals located in grooves in the I.D. of the reducer bushing body
- A seal is achieved by interference of the seal with the outside diameter of the casing and the I.D. of the seal groove
- A spring molded in each ID corner of the seal provides the anti- extrusion mechanism when sealing against the casing OD
- The shape of the seal allows it flexibility to maintain interference with normal manufactured tolerances of the casing O.D.
- Is utilized in the bottom of a casing spool or tubing head that already has (2) "CS" seals in the secondary seal area

Type	Size	Casing Size	WP	PSL Levels	Material Classes
2-CS	7"	3-1/2" thru 5-1/2"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
2-CS	9"	4-1/2" thru 7-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
2-CS	9-3/4"	4-1/2" thru 7"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
2-CS	12-1/2"	9-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF

4S-FS Reducer Bushings

Yancheng Cyber's 4S-CS Seal Assembly is a secondary seal assembly that features both O.D. and I.D. seals. It consists of reducer bushing body, (2) CS Seals in the I.D. of the bushing accompanied by (2) S-Seals on the O.D. A single snap ring also retains the bushing in the secondary seal area of a casing spool or tubing head.

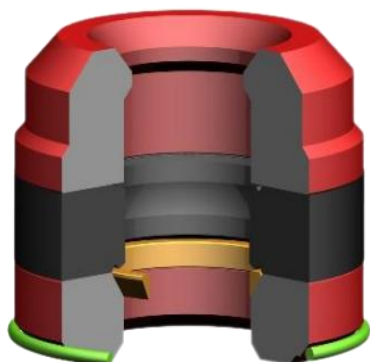


- This design consists of two "CS" seals located in the I.D. of the reducer bushing body and (2) "S" seals located on the O.D.
- A seal is achieved by interference of the seals on both the I.D. and O.D. of the seal assembly
- A spring molded in each ID corner of the seal provides the anti- extrusion mechanism when sealing against the casing OD or the secondary seal area in the casing spool or tubing head
- The shape of the seal allows it flexibility to maintain interference with normal manufactured tolerances of the casing O.D.
- Is utilized in the bottom of a casing spool or tubing head that already has no seals in the secondary seal area

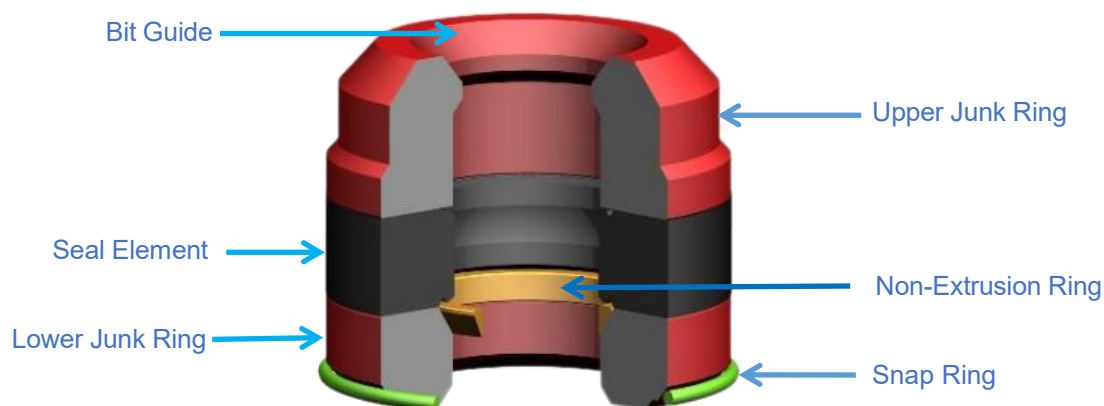
Type	Size	Casing Size	WP	PSL Levels	Material Class
4S-CS	7"	4-1/2" thru 5-1/2"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
4S-CS	9"	4-1/2" thru 7-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
4S-CS	9-3/4"	4-1/2" thru 7"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
4S-CS	12-1/2"	9-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF

BG-PE Seal Assembly

The BG-PE Seal is a secondary seal of different design. It is a five piece assembly consisting of an upper and lower junk ring, a seal element, a non-extrusion ring and a snap ring to retain the assembly in the secondary seal area of a casing spool or tubing head.



- The upper junk ring serves as a bit guide, (BG)
- In this design the seal element is pressure energized, (PE)
- Utilizes a single molded seal element to affect a annular seal
- Is extremely robust and will still offer a solid, positive seal even if the sealing areas of the element have been damaged and/or sections of the seal element are missing
- Is used in application up to 10,000 PSI



Type	Size	Casing Size	WP	PSL Levels	Material Class
BG-PE	9"	4-1/2" thru 7-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
BG-PE	9-3/4"	4-1/2" thru 7-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
BG-PE	10-3/4"	4-1/2" thru 9-5/8"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF
BG-PE	12-1/2"	7" thru 10-3/4"	3K, 5K, 10K	PSL 1 thru 3	AA, EE, FF

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Mandrel Hanger Pack-offs

This style of secondary seal is designed to be used in conjunction with a mandrel-type casing hanger. They can be installed through the BOP stack over the neck of the mandrel hanger thus sealing off the casing annulus.

Like the mandrel hanger itself, these pack-offs are engineered to meet the unique requirements of your well design.

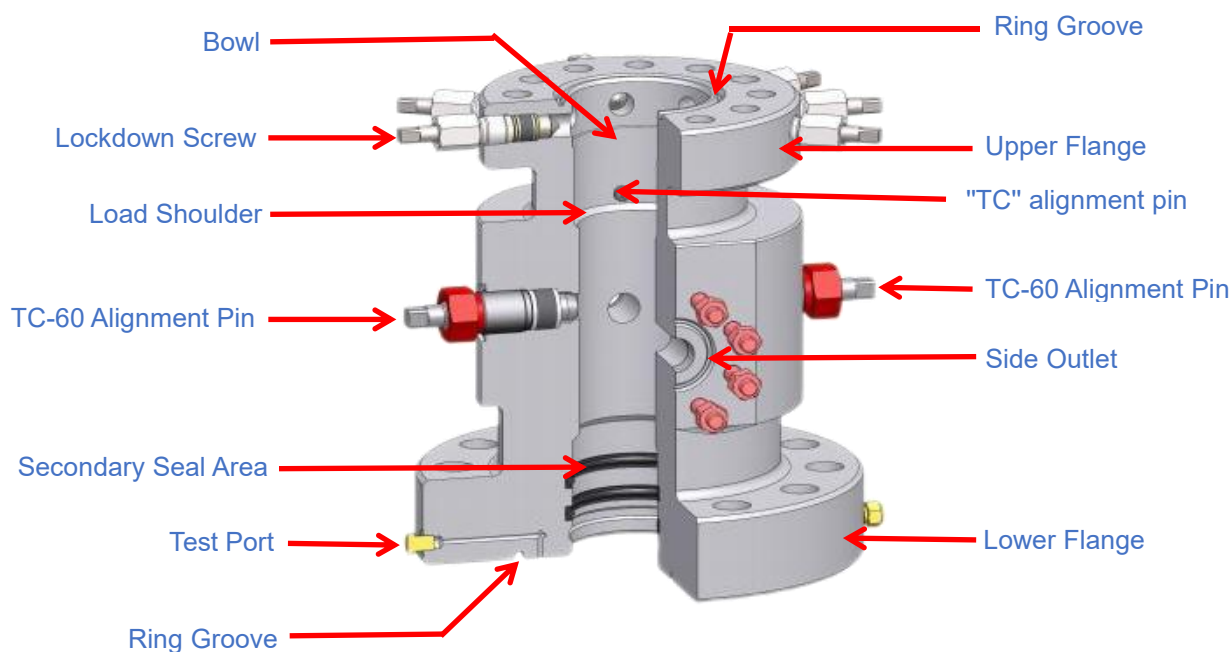


CS Seal Pack-off /Support Bushing

Tubing Heads

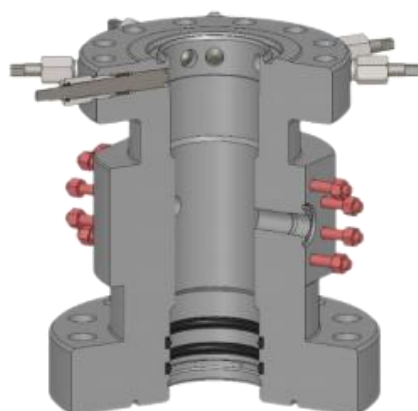
The Tubing Head is the top spool on a surface wellhead. It is typically installed over the last string of pipe suspended in the well, the production casing. These heads come in a wider range of types and sizes than any other head in a conventional wellhead system. The Tubing Head will provide for well fracturing and allow for the well to be completed using an almost innumerable variety of tubing hangers and tubing head adapters.

- Allows for suspending the production tubing in the wellbore.
- Provides a seal bore for the Tubing Hanger
- Incorporates Lock Down Screws to retain the Tubing Hanger and energize its seals in the seal bore
- Supports the blowout preventers (i.e. "BOP's") while drilling
- Provides outlets for fluid returns
- Provides a means to test the blowout preventers while drilling
- Has flanges on both the top and bottom of the assembly
- Has a seal area in the bottom flange for a secondary seal between the casing annulus and the flanged connection
- Utilize a test port in the bottom flange that allows for the secondary seal and the flanged connection to be pressure tested



TCM-ET Tubing Heads

The TCM-ET tubing head is one of the most widely used tubing head designs in the wellhead industry. It incorporates a straight bowl design and can accommodate almost any TC tubing hanger that does not require an alignment pin. This includes the TC-1W Wrap-around pack-off used on BO-2 and BO-10 coupling type completions.

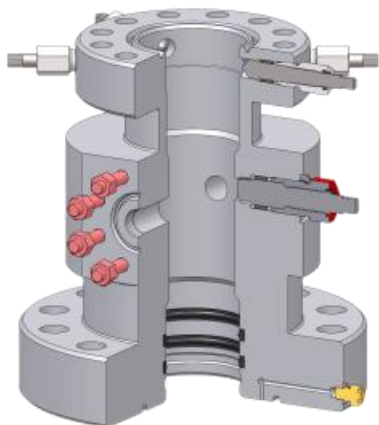


- The TCM-ET tubing head utilizes "ET" style Lock Down Screws (LDS) in the upper flange to retain a tubing hanger or tubing wraparound pack-off
- It does not utilize any alignment pins
- It is available with either threaded or studded outlets
- The TCM-ET tubing head has a secondary seal area in the lower flange
- It has a test port in the lower flange to test the secondary seals and the flanged connection

Bowl	Top Flange	WP	Bottom Flange	WP	Outlet Type	PSL	Material Class
TCM	7"	3K, 5K, 10K, 15K	11"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
TCM	11"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
TCM	13-5/8"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF

TC-ET Tubing Heads

Yancheng Cyber's TC-ET Tubing Head has the same features as the TCM but adds a single alignment pin to the bowl area. This pin provides an orientation point in the head for tubing hangers that have alignment requirements.



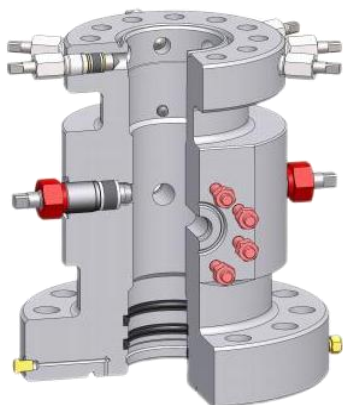
- The TC-ET tubing head incorporates a straight bowl design
- It utilizes Lock Down Screws (LDS) in the upper flange to retain a tubing hanger
- It is flanged top and bottom
- Has outlets for access to the annulus
- The TC-ET Tubing Head has a secondary seal area in the lower flange
- It has a test port in the lower flange to test the secondary seals and the flanged connection

Bowl	Top Flange	WP	Bottom Flange	WP	Outlet Type	PSL	Material Class
TCM	7"	3K, 5K, 10K, 15K	11"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
TCM	11"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
TCM	13-5/8"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF

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TC-60-ET Tubing Heads

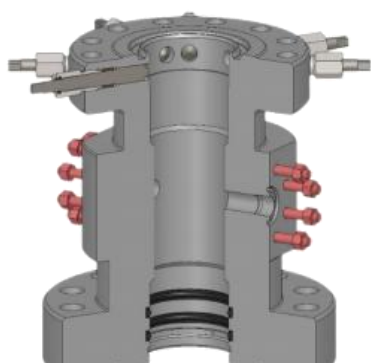
Yancheng Cyber's TC-60-ET Tubing Head has the same features as the TC but adds two additional alignment pins to the head. These larger alignment pins are located below the bowl area and allow for dual tubing hangers that are split into separate halves, to be run separately, aligned and landed in the bowl of the TC-60-ET tubing head.



- The TC-60-ET tubing head design can accommodate any TC style tubing hanger
- It utilizes Lock Down Screws (LDS) in the upper flange to retain a tubing hanger
- The TC-60-ET Tubing Head has a secondary seal area in the lower flange
- It has a test port in the lower flange to test the secondary seals and the flanged connection

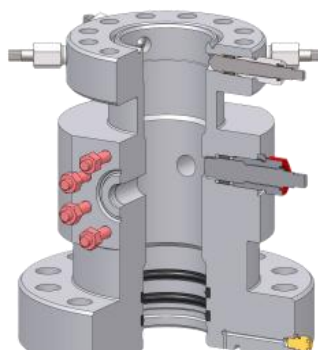
Bowl	Top Flange	WP	Bottom Flange	WP	Outlet Size	PSL Levels	Material Classes
TC-60-ET	7"	3K, 5K, 10K, 15K	11"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
TC-60-ET	11"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF
TC-60-ET	13-5/8"	3K, 5K, 10K, 15K	13-5/8"	3K, 5K, 10K, 15K	LP or Studded	PSL 1 thru 3	AA, EE, FF

Tubing Head Configurations



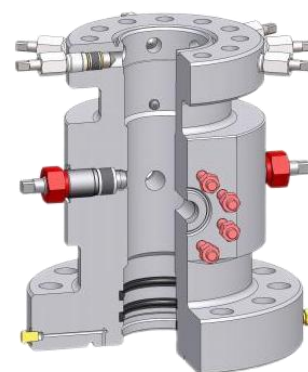
TCM-ET

**Flanged Top & Bottom
W/Studded Outlets and
Double "CS" Seal Bottom**



TC-ET

**Flanged Top & Bottom
W/Studded Outlets and
Double "CS" Seal Bottom**



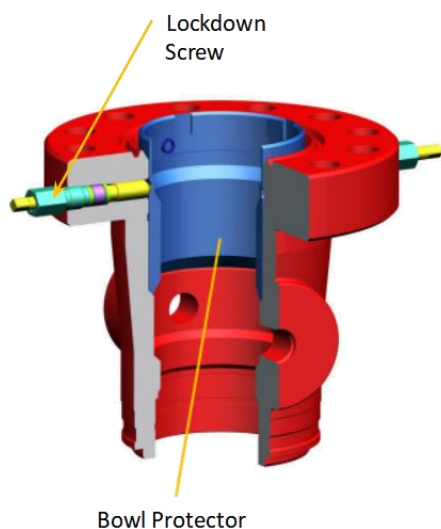
TC-60-ET

**Flanged Top & Bottom
W/Studded Outlets and
Double "CS" Seal Bottom**

Test Plugs & Bowl Protectors

Bowl Protectors

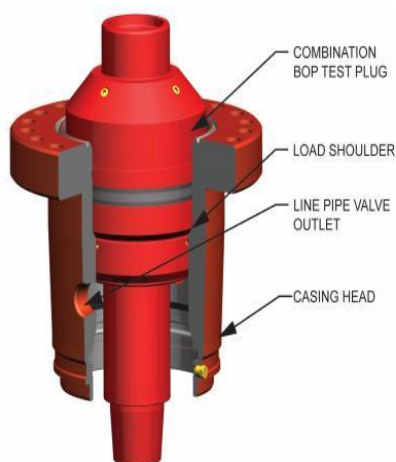
Bowl Protectors perform the very basic function of protecting the upper bowl sealing areas and load shoulder of a head from the drill bit, drill pipe and downhole tools during drilling or workover operations.



- They are installed in the head by running through the BOP stack using a running tool
- They land on the same load shoulder used by the casing hangers
- The I.D. of the bowl protector needs to allow the drill bit to pass through
- They are normally retained in the head by the Lock Down Screws (LDS) in the upper flange
- Should be pulled regularly to remove any built up mud or sand
- Are inexpensive insurance for protecting the wellhead investment

Test Plugs

After a casing head or spool and Blow Out Preventers, (BOP), have been installed on a well a pressure integrity test for these items must be conducted. In order for the test to take place, a test plug should be set in the casing head or spool

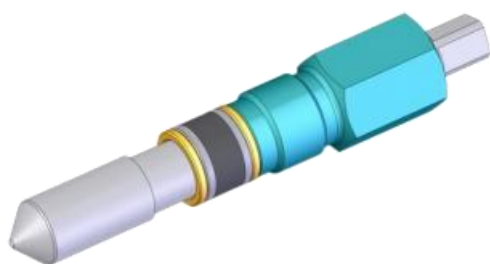


- A BOP test plug can be installed by running it down through the BOP stack and landing it on the load shoulder in the head
- The test plug is usually run on a joint of drill pipe
- Once in place the hydraulic rams of the BOP can be closed on the pipe and a hydrostatic test performed
- This will insure the integrity of the well control equipment prior to the restart of drilling operations

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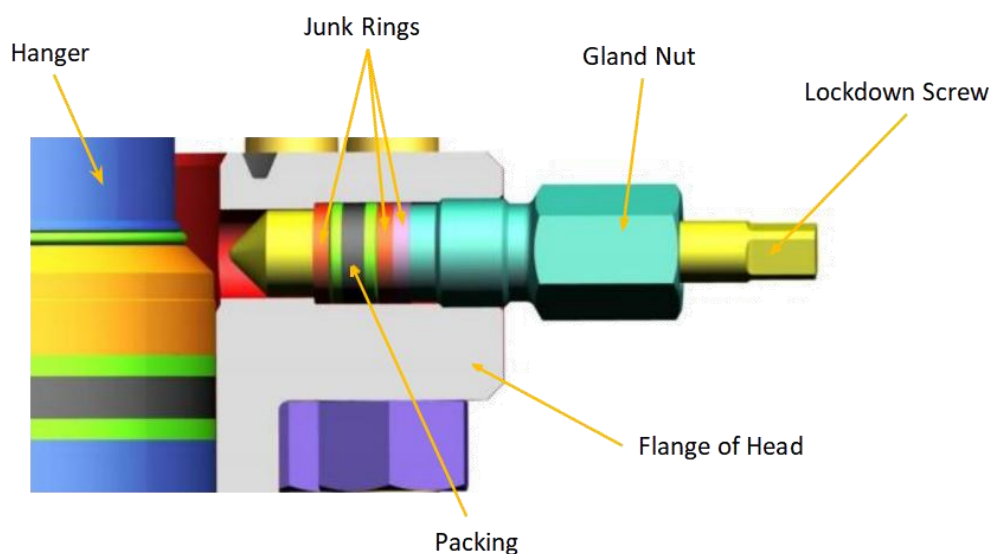
Lockdown Screws

Yancheng Cyber's lockdown screws, (LDS) utilize an external thread (ET) design that moves the threads outside the pressurized or wetted surface of the wellhead equipment. They utilize a robust Unified National Coarse (UNC) thread for the lockdown screw itself and the packing gland nut to minimize any galling. Additionally a one piece HBNR compression packing element with molded metal end caps to provide a dependable seal in multiple pressure ranges and service environments.



- They mechanically retain items installed in the bowl of a head that are under pressure
- They can be utilized to energize a compression seal or seals installed in the bowl of a head
- They can be used to prevent an item installed in the head from rotating during the drilling phase of a well
- They retain pressure in the flange of a wellhead assembly
- The lockdown screw itself and the packing gland nut are designed with a robust bolt type thread to prevent galling
- They utilize HBNR compression packing with molded metal end caps to provide a dependable seal in multiple pressure ranges and service environments

Lockdown Screw Components

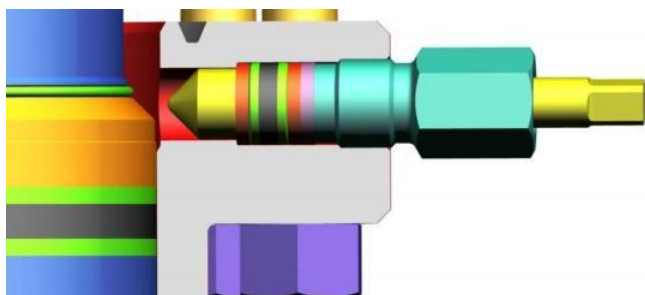


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Lockdown Screw Positions

Lock Down Screws have the following procedural requirements:

- Are either fully engaged or fully disengaged.
- The lockdown screw gland nut cannot be rotated under pressure
- Must only be operated by fully trained and authorized SWS Field Service Technicians



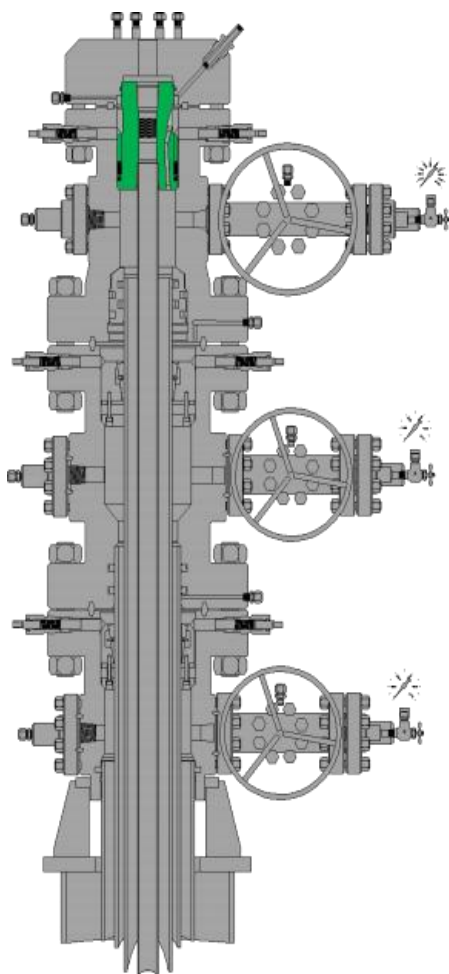
Disengaged



Engaged

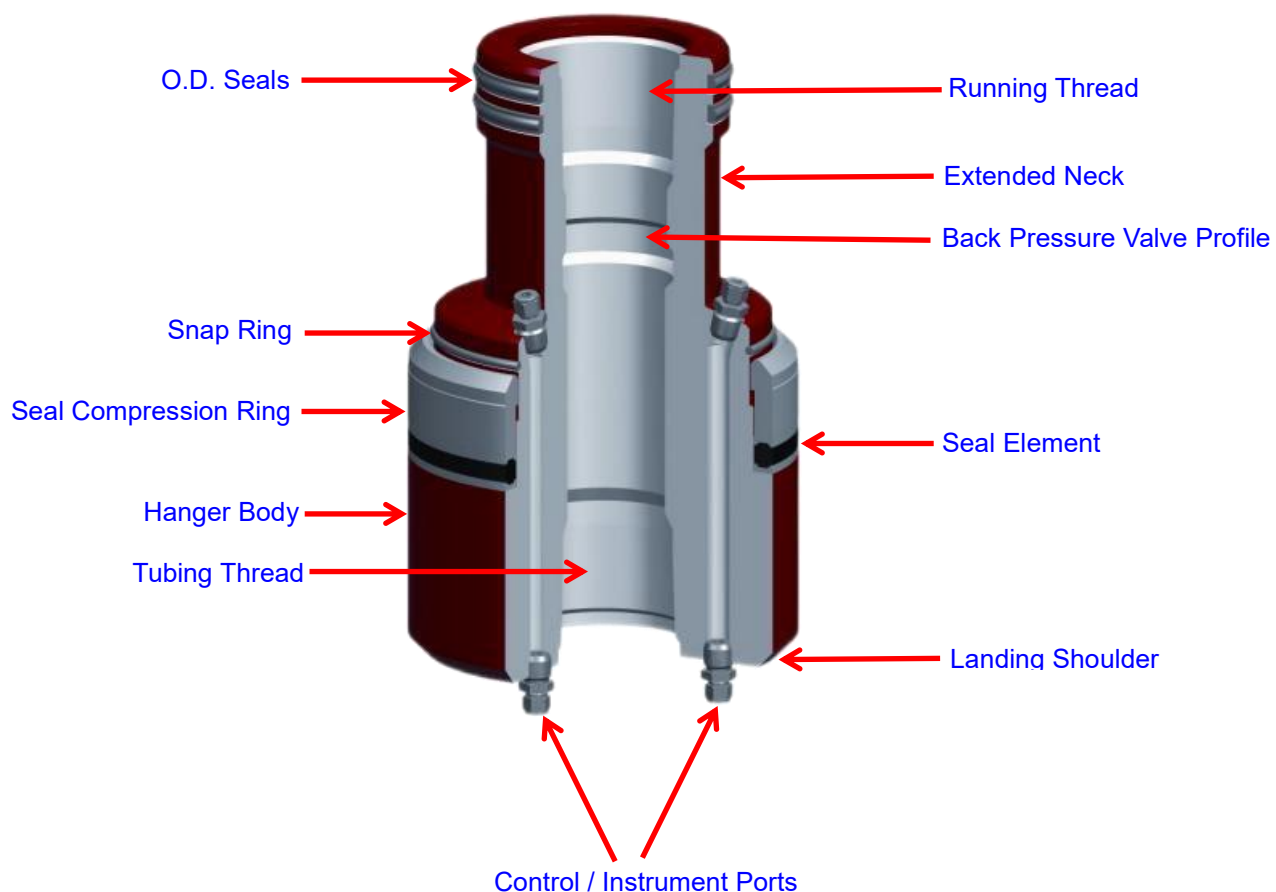
Tubing Hangers

Tubing Hangers are manufactured in a wider variety of types and sizes than any other single component in the wellhead system. They must be configured to meet the needs of a basic completion or the increasingly complex well completion requirements of 21st Century oil and gas wells.



- The Tubing Hanger provides control of the well bore prior to BOP removal
- Suspends the production tubing in the well bore
- Provides the primary annulus seal on the string of tubing being suspended
- Can be manufactured for single or multiple string tubing completions
- Are manufactured with a internal back pressure valve (BPV) profile to seal the ID of the tubing string(s) and provide additional well security prior to BOP removal
- Can be manufactured in configurations including but not limited to, DHCV ports, Chemical Injection ports, Fiber Optic Instrument ports and multiple ESP Penetrator profiles

Tubing Hanger Components



Yancheng Cyber Oilfield Equipment Co.,Ltd.

TC-1A-EN (Extended Neck Seal) Tubing Hangers

Yancheng Cyber's TC-1A-EN tubing hanger is a threaded mandrel type tubing hanger with an extended neck. This hanger utilizes "S" type seals on its neck that are used to seal in the tubing head adapter. This hanger can be configured with interference type "S" seal or compression packing on the body to affect an annular seal. Lock down screws are used to both energize this packing as well as lock the hanger into the tubing head bowl.



- This is a solid mandrel type tubing hanger that can be installed in the top bowl of any TC style tubing head
- Has OD seals on the extended neck
- Does not require alignment in the tubing head
- Can have a compression type or interference type annular seal
- Can contain premium tubing or special landing threads
- Can contain non-continuous porting for control or instrument lines

Type	Bowl Size	Tubing Size	WP	PSL Levels	Material Class
TC-1A-EN	7"	2-3/8" thru 3-1/2"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF
TC-1A-EN	11"	3-1/2" thru 7"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF

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TC-1A-TMS (Tapered Metal Seal) Tubing Hangers

Yancheng Cyber's TC-1A-TMS tubing hanger is also a threaded mandrel type tubing hanger that is used for more demanding completion applications. The extended neck of the tubing hanger assembly is sealed at the top by the a tapered metal seal (TMS). The TC-1A-TMS also incorporates metal to metal continuous control line fittings that prevent unwanted leak paths in the SCS SSV line. The annular seal can be an externally energized metal seal (XEMS) using lockdown screws to complete the full metal seal capability of the hanger.



- This is a solid mandrel type tubing hanger that can be installed in the top bowl of any TC style tubing head
- Has OD seals on the extended neck for testing
- Does not require alignment in the tubing head
- Can have a compression type or interference type annular seal
- Can have metal to metal XEMS and/or TMS Seals
- Can contain premium tubing or special landing threads
- Can contain special porting for control or instrument lines

Type	Bowl Size	Tubing Size	WP	PSL Levels	Material Class
TC-1A-TMS	7"	2-3/8" thru 3-1/2"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF
TC-1A-TMS	11"	3-1/2" thru 7"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF

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BO-2 Coupling Tubing Hangers

Yancheng Cyber's BO-2 coupling type tubing hanger uses a one piece coupling that is externally threaded with a ACME thread. The internal landing and suspension threads match the customer tubing specifications. Additionally the BO-2 coupling incorporates a back pressure valve, (BPV) profile in the I.D. The BO-2 coupling is used with the TC-1W pack-off and is system of choice whenever the tubing string needs to be manipulated to set run in conjunction with a TC-1W wrap around type pack-off.



- This is a coupling type tubing hanger that threads into and suspends the tubing from the bottom of the tubing head adapter
- This tubing hanger is used in conjunction with the TC-1W wraparound pack-off whenever the tubing string needs to be moved up, down or rotated to operate the packer in the bottom of the well and still maintain well security
- Can be supplied with BPV locking groove or thread
- Has Acme load bearing threads
- Incorporates secondary seals in the bottom of BO-2 adapter

Type	Tubing Size	WP	PSL Levels	Material Class
BO-2	2-3/8" thru 3-1/2"	3K, 5K, 10K	PSL 1 thru 3	AA, DD, EE, FF

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BO-10 Coupling Tubing Hangers

Yancheng Cyber's BO-10 coupling type tubing hanger shares all of the same design features as the BO-2 and is generally utilized on completions demanding higher completion shut in pressures. This hanger is a coupling by design but also incorporates a separate rotating, ACME threaded locking nut and is used in conjunction with the TC-1W pack-off.



- The BO-10 coupling is best suited for landing larger trees and any time dissimilar metals may be used for hangers and adapters
- This is a coupling type tubing hanger that suspends the tubing from the bottom of the tubing head adapter
- This tubing hanger is used in conjunction with the TC-1W wraparound pack-off whenever the tubing string needs to be moved up, down or rotated to operate the packer in the bottom of the well and still maintain well security
- Can be supplied with BPV locking groove or thread
- Has Acme load bearing threads

Type	Tubing Size	WP	PSL Levels	Material Class
BO-10	2-3/8" thru 3-1/2"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF

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TC-1W Wraparound Pack-offs

The TC-1W is a split, wraparound pack-off that allows tubing-string manipulation to displace fluid while maintaining complete control of annular pressure. Like all TC Series pack-offs, tubing string weight must be suspended from a tubing suspension adapter or coupling adapter. The TC-1W has a compression-type seal which is actuated by lockdown screws.



- Considered a primary annulus seal
- The compression seal is actuated utilizing lockdown screws
- Lockdown screws also retain the pack-off in position
- Seats in the TCM, TC and TC-60 tubing head bowl
- Is used in conjunction with a tubing thread suspension adapter, BO-2 or BO-10 coupling type hanger

Type	Bowl Size	Tubing Size	WP	PSL Levels	Material Class
TC-1W	7"	2-3/8" thru 4-1/2"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF
TC-1W	11"	3-1/2" thru 7"	3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF

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Elastomer Seals & Metal Seals

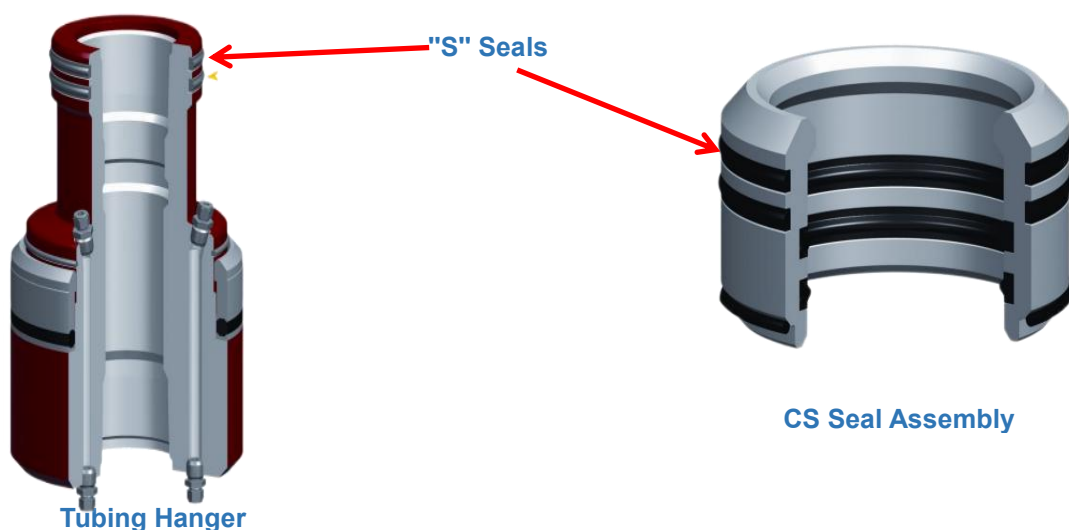
S-Seals

This style of seal is the most commonly used in the industry. They utilize continuous coil springs that are scaled to the specific sealing requirement and then integrally bonded to the elastomer during the molding process. This eliminates extrusion gaps and weak points around the circumference of the seal and solves problems associated with explosive decompression damage and chemical swell of the seal during use. "S" seals are designed to be used on all wellhead equipment with machined surfaces up to 15,000 PSI.



- Yancheng Cyber's proprietary elastomeric compounds are utilized on S-seals
- They can be used in H₂S, or CO₂ service and are amine resistant
- Are rated for all API material classes including HH
- Are rated for temperature class L-U (-50° F to 250° F)
- Have been performance qualified for API 6A, PR-2, Appendix F

Typical "S" Seal applications are shown below:



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CS-Seals

The CS seal is designed to be used on non-machined, rough surfaces such as that found on the O.D. of oilfield casing. They utilize continuously coiled springs that are scaled to the specific sealing requirement and then integrally bonded to the elastomer during the molding process. These seals are capable of providing a seal across a larger range of tolerances and extrusion gaps than the S seal. CS seals are available for all API 5CT casing sizes.

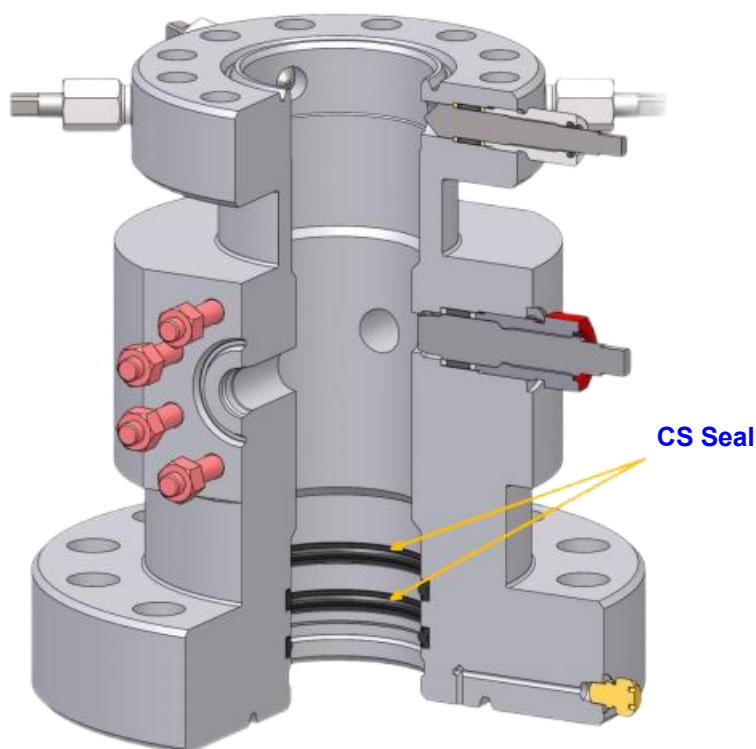


I.D. CS-seal

- Yancheng Cyber's proprietary elastomeric compounds are utilized on CS-seals
- They can be used in H₂S, or CO₂ service and are amine resistant
- Are rated for all API material classes including HH
- Are rated for temperature class L-U (-50° F to 250° F)
- Have been performance qualified for API 6A, PR-2, Appendix F

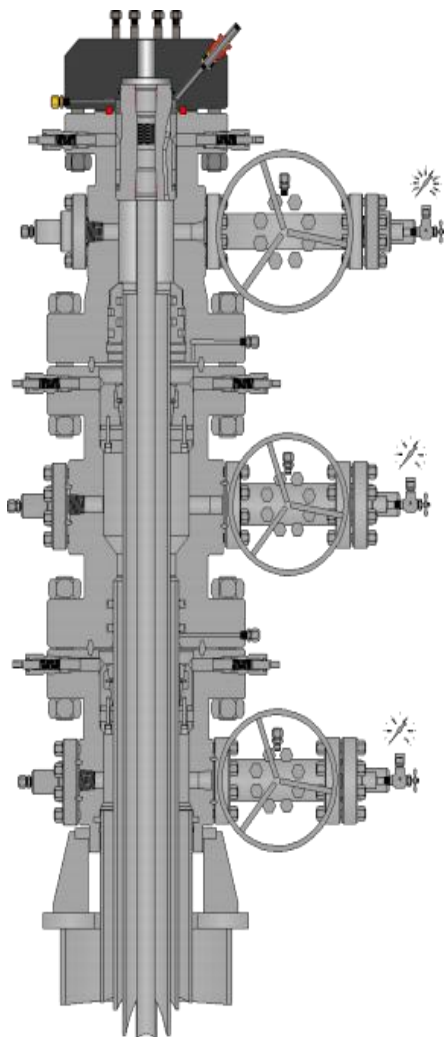
FS-Seals

A typical CS Seal application is shown below:



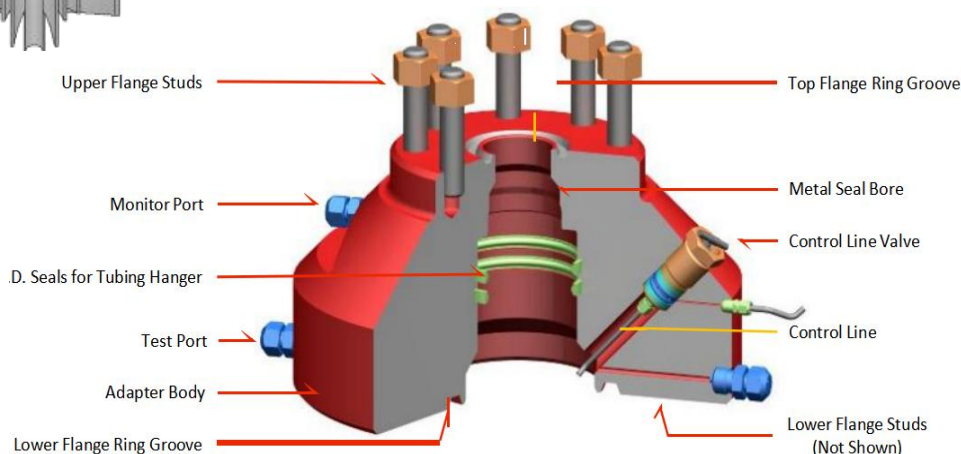
Tubing Head Adapters

The Tubing Head Adapter is the component that allows for the Christmas tree or other completion equipment to be connected to the tubing head. The designs and types of tubing head adapters are continually evolving in order to meet the new technological needs of the customer's completion requirements. Tubing head adapters:



- Can provide both the primary production tubing seal and the secondary annulus seal on the completion tubing string
- Can be used to actually suspend the weight of the tubing string
- Can be manufactured for single or multiple string tubing completions
- Can be manufactured in configurations including but not limited to, DHCV ports, Chemical Injection ports, Fiber Optic Instrument ports and multiple ESP Penetrator profiles

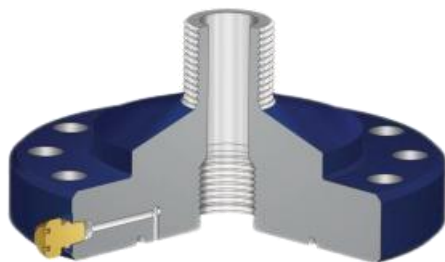
Tubing Head Adapter Components



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B-1 Tubing Head Adapters

Yancheng Cyber's B-1 adapters can hang tubing utilizing tubing threads machined into the bottom ID of the flange. These are employed when an operator wants to reciprocate tubing as part of the completion process. Additionally they can be used as a non-suspension adapter when employed with the TC-1A or TC-1A-BP tubing hangers. They are used with threaded valves in low pressure applications.



- Are normally used in conjunction with the TC-1W wrap-around or TC stripper pack-off
- Are for use with threaded valves
- Can be utilized with the TC-1A, or TC-1A-BP tubing hanger and seal sleeve
- Are equipped with a test port for testing the flanged connection utilizing the TC-1A or TC-1A-BP tubing hanger and seal sleeve
- They cannot be used for multiple tubing string completions
- Cannot accommodate ports for hydraulic, power supply or instrumentation

Type	Flange Size	Tubing Size	WP	PSL Levels	Material Classes
B-1	7"	2-3/8" thru 3-1/2"	2K, 3K, 5K	PSL 1 thru 3	AA, DD, EE

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B-2-P Tubing Head Adapters

Yancheng Cyber's B-2-P adapters can also suspend tubing utilizing threads machined into the bottom ID of the flange. They are employed when an operator wants to reciprocate tubing as part of the completion process, or can be utilized as a non-suspension adapter when used with the TC-1A or TC-1A-BP tubing hanger. They are used with flanged gate valves in low to medium shut-in pressure applications.

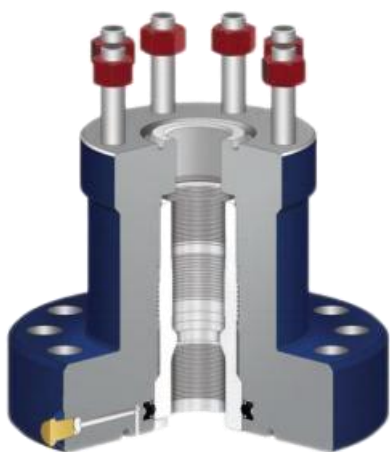


- Are normally used in conjunction with the TC-1W wrap-around or TC stripper pack-off
- Are for use with flanged valves
- Can be utilized with the TC-1A, or TC-1A-BP tubing hanger and seal sleeve
- Are equipped with a test port for testing the flanged connection utilizing the TC-1A or TC-1A-BP tubing hanger and seal sleeve
- They can not be used for multiple tubing string completions
- Can not accommodate ports for hydraulic, power supply or instrumentation

Type	Bottom Flange Size	Tubing Size	Top Flange Size	WP	PSL Levels	Material Classes
B-2-P	7"	2-3/8" thru 3-1/2" EUE	2-1/16" thru 3-1/8"	2K, 3K, 5K	PSL 1 thru 3	AA, DD, EE

BO-2 Adapters

Yancheng Cyber's BO-2 adapter is another example of a suspension adapter. It is designed with an internal ACME thread that allows for the Sentry BO-2 coupling to be threaded in the bottom of the adapter and sealed with an internal O-ring. These adapters also employ the TC-1W wrap-around pack-off. They are employed when an operator wants to reciprocate tubing as part of the completion process.



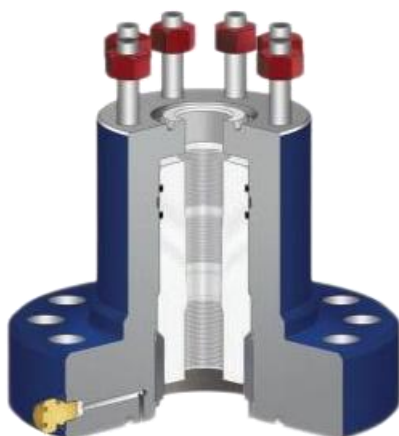
- Is utilized for medium to high shut pressure applications
- Is designed with an internal O-ring seal
- Is supplied with test ports for testing
- They do not allow for multiple tubing string completions
- Are not used for severe service completions

Type	Bottom Flange Size	Tubing Size	Top Flange Size	WP	PSL Levels	Material Classes
BO-2	7"	2-3/8" thru 3-1/2" EUE	2-1/16" thru 3-1/8"	2K, 3K, 5K, 10K	PSL 1 thru 3	AA, DD, EE
BO-2	11"	4-1/2" EUE	4-1/16"	5K, 10K	PSL 1 thru 3	AA, DD, EE

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BO-10 Adapters

Yancheng Cyber's BO-10 adapter is the solution for extreme tubing string weight applications for a coupling type adapter. This adapter is designed with an ACME load nut for larger trees. This allows for the tree to be made up without rotating the tree and prevents any thread galling that may occur between dissimilar NACE coupling and adapter materials. Additionally, it incorporates internal "S" seals on the upper extended neck. Like the BO-2 these adapters also employ the TC-1W wrap-around pack-off. This system is employed when an operator wants to reciprocate tubing as part of the completion process.



- Is utilized for critical high shut pressure applications
- Is designed with the internal S-seal good to 15K
- Is supplied with test ports for testing
- They do not allow for multiple tubing string completions

Type	Bottom Flange Size	Tubing Size	Top Flange Size	WP	PSL Levels	Material Classes
BO-10	7"	2-3/8" thru 3-1/2" EUE	2-1/16" thru 3-1/8"	10K and 15K	PSL 1 thru 3	AA, DD, EE, FF

Yancheng Cyber Oilfield Equipment Co.,Ltd.

A-5-P Adapters

Yancheng Cyber's A-5-P adapter is an economical choice for a seal bore adapter. This assembly has a flanged bottom allowing it to connect directly to a tubing head with a studded top connection. This adapter is best suited for medium to high pressure shut in well pressure applications and is available in larger flange sizes.



- This adapter has a flanged bottom and studded top
- Is available with non-continuous DHCV or Chemical Injection line
- Is available in larger flange sizes
- Is an economical choice for medium (5K) to high pressure (10K) completions

Type	Bottom Flange Size	Top Flange Size	WP	PSL Levels	Material Classes
A-5-P	7-1/16"	2-1/16" thru 4-1/16"	2K, 3K, 5K, 10K	PSL 1 thru 3	AA, DD, EE
A-5-P	11"	3-1/16" thru 5-1/16"	5K, 10K	PSL 1 thru 3	AA, DD, EE
A-5-P	13-5/8"	4-1/16" thru 7-1/16"	5K, 10K	PSL 1 thru 3	AA, DD, EE

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A-4 Adapters

Yancheng Cyber's A-4 adapter is one of the more versatile designs for a seal bore tubing head adapter. It can contain more features than any other design. It allows for elastomeric, metal to metal or a combination of the two seal types to be employed. It can have non-continuous or continuous control lines, in multiple quantities if needed. And these control line, injection or other type ports can be the lockdown screw type, flanged or customized to meet your needs.

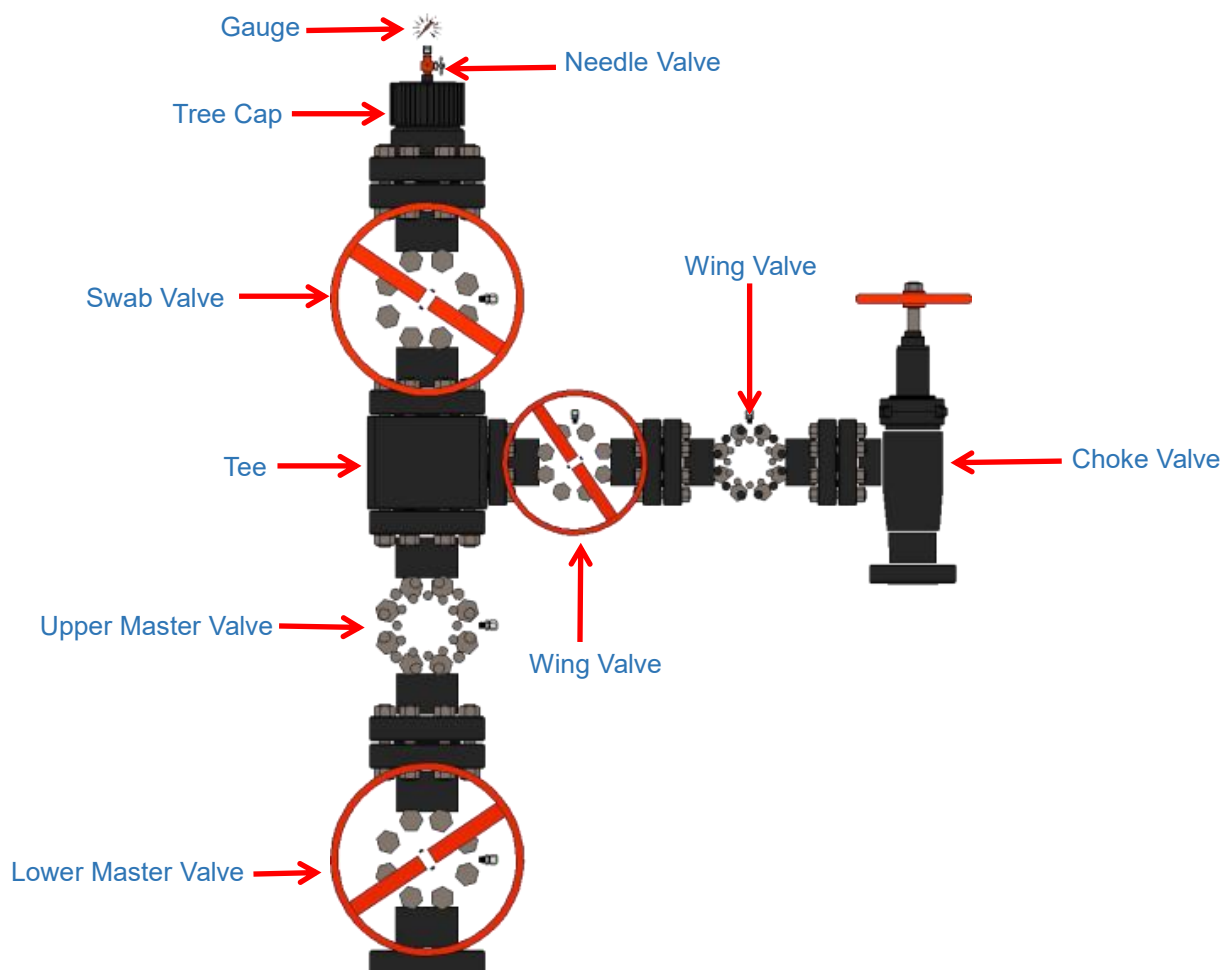


- These adapters are studded top and bottom
- Can have non-continuous or continuous control line ports
- Can have multiple control line ports
- Can include high pressure completions (15K)
- Is available in several NACE corrosive resistant materials

Type	Bottom Flange Size	Top Flange Size	WP	PSL Levels	Material Classes
A-4	7-1/16"	2-1/16" thru 4-1/16"	2K, 3K, 5K, 10K	PSL 1 thru 3	AA, DD, EE, FF
A-4	11"	3-1/16" thru 5-1/16"	5K, 10K	PSL 1 thru 3	AA, DD, EE, FF
A-4	13-5/8"	4-1/16" thru 7-1/16"	5K, 10K	PSL 1 thru 3	AA, DD, EE, FF

Production Trees

For decades the uppermost assembly of gate valves installed on a oil or gas well has been referred to as a "Christmas tree" . A Christmas tree or more generically, a production tree, is used to control the flow of oil or gas from a well during production. Today's oil & gas production tree has become more sophisticated and technologically advanced.

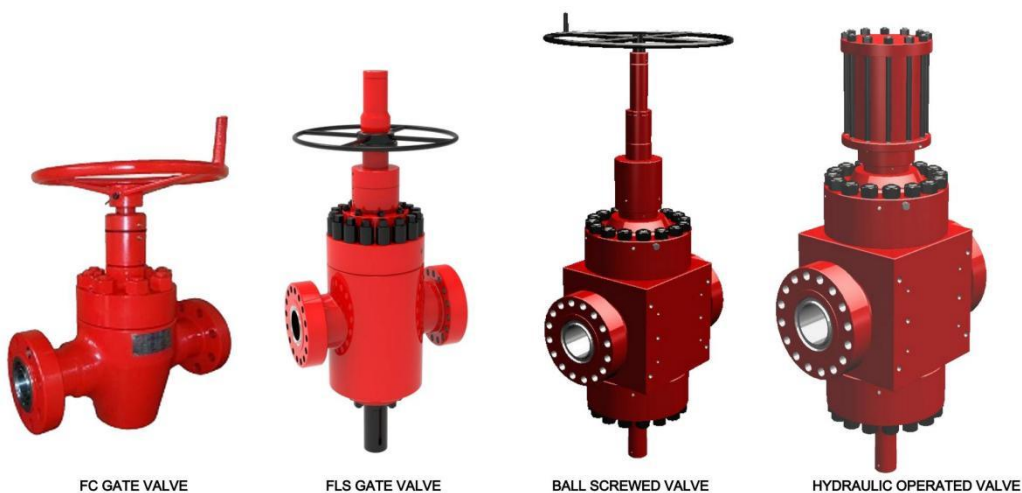


- Can also be used to control the flow of gas, water or steam into a well. These media or others can be used in conjunction with enhanced oil recovery techniques
- Tree design depends on the number of tubing strings used for completion, tubing bore size, maximum anticipated production pressure, trim requirements and flow rates
- The bottom connection of the tree matches the top connection to the tubing head adapter
- The tree and adapter are normally installed as a unit immediately after landing the tubing hanger

API 6A Gate Valves

Gate valves are on/off control devices used during drilling, completion and production of oil and gas wells. They are designed to be operated in either the fully open or fully closed position. Gate valves are not chokes and should never be used for throttling.

- Gate valves are positioned primarily in two places on conventional wellhead assemblies; in the wing position of casing heads, casing spools, or tubing spools; or in a Christmas tree assembly
- Generally speaking, gate valves that are installed in the wing position of the lower sections of well-head assemblies, are called annulus valves
- The valves that are installed on the upper sections of wellhead assemblies, are called Christmas tree or production gate valves.
- These valves can be either manually operated or mechanically actuated



Yancheng Cyber Oilfield Equipment Co.,Ltd.

Features:

◆ Gate & Seat Design for Slab Gate

Gate Valve was developed to satisfy the need for a high quality reliable valve which is reasonably priced. All Gate valve makes full use of modern materials and manufacturing techniques. It is easy to maintain, conforms to international design requirements and Quality Assurance Programme. All Valves are manufactured to API 6A Specification as a basic minimum, in a Plant that is API Q1 and ISO9001 approved and Certified.

◆ Forged or Cast Body & Bonnet

All type gate valve bodies and bonnets are manufactured from forged or cast AISI 4130/4140 low alloy or AISI 410 SS steel. Other materials for extreme service, such as Inconel or Duplex stainless steel are available to order.

◆ Metal-to-Metal Seat to Body Interface

Precision lapped faces between the gate and seat ensure a metal-to-metal pressure tight seal is maintained. Seat is lapped on both surface to give a true metal to metal seal between the body and seat. This seal is further reinforced and protected by a Teflon or Viton lip seal, giving bubble tight sealing performance at pressure below 10 psi.

◆ Gate & Seat Design for Slab Gate

The seat in the gate valve are fully floating, this combined with a solid slab gate gives a true downstream seal resulting in exceptionally low operating forces.

◆ Bi-directional Sealing

All Gate Valve is a true bi-directional valve. Being fully symmetrical, it will effectively seal pressure from either direction without the risk of pressure lock. If the valve is used in uni-directional application, the gate and seats can be reversed to give a extra service life.

◆ Gate Guided

The gate is guided positively by the valve body and close fitting stainless steel skirts. The skirts minimize the ingress of well fluid mud and sand into the body cavity.

◆ Body to Bonnet Seal

A metal-to-metal seal is achieved between the body and bonnet using metal-to-metal sealing technology. The seal ring is re-useable.

◆ Non-rising Stem with Backseat

The stem used in the Douson gate valve is manufactured from Alloy-Nitrided or 17-4 stainless steel. Being of the non-rising design, valve operation will not increase the pressure in the body cavity. Seal against the bonnet, providing means to replace the valve stem packing with the valve is under pressure.

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◆ Stem Seal

All stem seals are non-elastomeric and are inert to most known liquids and gases. Being made from PTFE/R-PTFE stem frictional resistance is minimized resulting in lower operating torque. The stem seal design is suitable for all temperature range and services. Graphite stem packing is option on user request.

◆ Bearing

Heavy duty thrust bearing are used to absorb stem thrust and reduce operating torque. A grease fitting is located on the bearing cap to allow for lubrication to ensure continued trouble-free operation.

Material Specification for API 6A Valve

Service Condition	Valve Body Description							
	Body	Bonnet	Stem	Gate	Seat	Stem Seal	Seat Seal	Bonnet Seal
API Class AA (Trim A) General Non-corrosive	Alloy Steel Forging or casting	Alloy Steel Forging	Alloy Nitrided	Alloy Nitrided	Alloy Nitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class BB (Trim B) General Slightly Corrosive	Alloy Steel Forging or casting	Alloy Steel Forging	A564Type. 630 (17-4PH)	410 SSNitrided	410 SSNitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class CC (Trim C) General, Moderately Corrosive, CO ₂	410Stainless steel	410Stainless steel	A564Type. 630 (17-4PH)	410 SSNitrided	410 SSNitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class DD (Trim D) Sour Non-corrosive	Alloy Steel Forging or casting	Alloy Steel Forging	Alloy Nitrided	Alloy Nitrided	Alloy Nitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class EE (Trim E) Sour Slightly Corrosive	Alloy Steel Forging or casting	Alloy Steel Forging	A564Type. 630 (17-4PH)	410 SSNitrided	410 SSNitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class EE-1 (Trim E1) Sour Highly Corrosive CO ₂	Alloy Steel Forging or casting	Alloy Steel Forging	Inconel 718	410 SSw/Hard facing	410 SSNitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class FF (Trim F) Sour, Moderately Corrosive, H ₂ S	410Stainless steel	410Stainless steel	A564Type. 630 (17-4PH)	410 SSNitrided	410 SSNitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class FF-1 (Trim F1) Sour Highly Corrosive H ₂ S and CO ₂	410Stainless steel	410Stainless steel	Inconel 718	410 SSw/Hard facing	410 SSNitrided	Teflon FKMGraphite PEEK	Viton	304or 316SS
API Class HH (Trim H) High Corrosion	Alloy Steel w/625 Claded	Alloy Steel w/625 Claded	Inconel 718	Inconel 718/625w/Hard facing	Inconel 718/625w/Hard facing	Teflon FKMGraphite PEEK	Viton	Inconel 718

Yancheng Cyber Oilfield Equipment Co.,Ltd.

FC Type Gate Valves

FC gate valve features a non-rising stem with a slab gate, floating seat ring body bushing design to provide safe dependable service. It is available in flanged ends in standard bore sizes from 1-13/16" through 7-1/16" in working pressures of 3,000 psi ~ 15,000 psi.

Full-Bore Thru-Conduit Design

- Maximizes valve service life
- Eliminates the collection of destructive particles

Floating Slab Gate and Seats

- Produces a positive pressure energized seal
- Body pressure equalizes across the seat ring/ body bushing, eliminating body erosion in the seat pockets

Metal-to-Metal Seals

- Body/bonnet interface, gate/seat ring/body bushing interfaces, body/body bushing interface

In-line Repairability

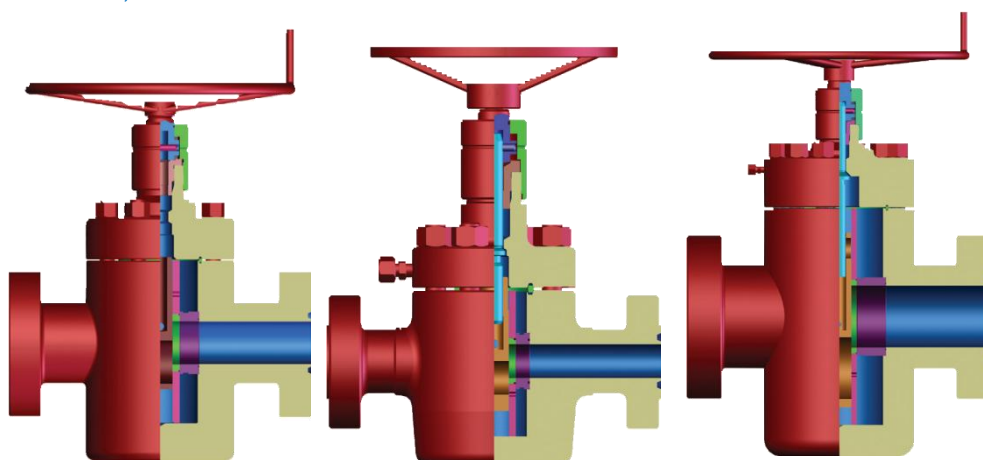
- Seat rings, body bushings, gate, stem are easily replaced in the field

Metal-to-Metal Backseat

- Allows for body pressure containment in the case of stem packing leak

Long Life, Low Maintenance

- Simple routine maintenance program limits repairs, eases operation, protects against corrosion, and extends service life



Yancheng Cyber Oilfield Equipment Co.,Ltd.

High Pressure Gate Valves for Fracturing Service

Yancheng Cyber offers BSO (Ball Screw Operators) on FC/FLS high- pressure gate valves. It is available in flanged ends in standard bore sizes from 2-1/16" through 7-1/16" in working pressures of 10,000 psi and 15,000 psi.

Double acting hydraulic gate valve also available.

Reduced Torque

- Reduces torque as much as 50%
- 2 Heavy duty thrust bearings assist in further reducing overall torque

Fewer Turns to Fully Open/Close Full-Bore Thru-Conduit Design

- Maximizes valve service life
- Eliminates the collection of destructive particles

Floating Slab Gate and Seats

- "T" slotted gate allows the gate to float, reducing deflection and binding
- Produces a positive pressure energized seal
- Body pressure equalizes across the seat ring/ body bushing, eliminating body erosion in the seat pockets

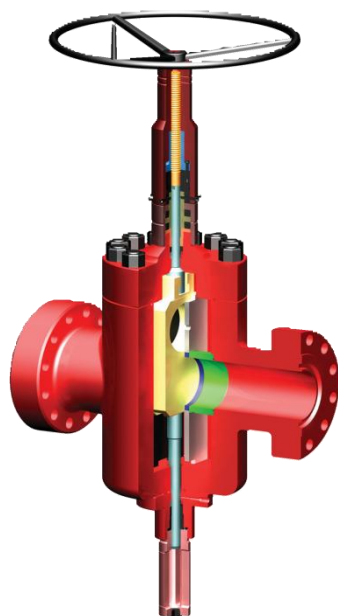
Metal-to-Metal Seals

- Body/bonnet interface, gate/seat ring/body bushing interfaces, body/body bushing interface

In-line Repairability Metal-to-Metal Backseat

Long Life, Low Maintenance

- Simple routine maintenance program limits repairs, eases operation, protects against corrosion, and extends service life



**BSO (Ball Screw Operators)
Gate Valve**



Hydraulic Gate Valve

Yancheng Cyber Oilfield Equipment Co.,Ltd.

WKM Type Expanding Gate Valves

Yancheng Cyber's WKM type gate valve features a non-rising stem with an expanding gate design to provide safe, dependable service in a variety of environments. It is available in flanged or threaded ends in standard bore sizes from 2-1/16" through 4-1/16" in working pressures of 3,000psi through 5,000 psi.

WKM type gate valves in sizes 7-1/16" in working pressures of 3,000 psi through 5,000 psi working pressure are available upon request.

Full-Bore Thru-Conduit Design

- Maximizes valve service life
- Eliminates the collection of destructive particles

Expanding Gate

- Produces a positive mechanical seal across the seats
- Isolates the body cavity from bore pressure in both the open and closed position

Press Fit Seats

- Press fit seats allow the seats to be tightly wedged into the seat pockets in the open or closed position

Metal-to-Metal Seals

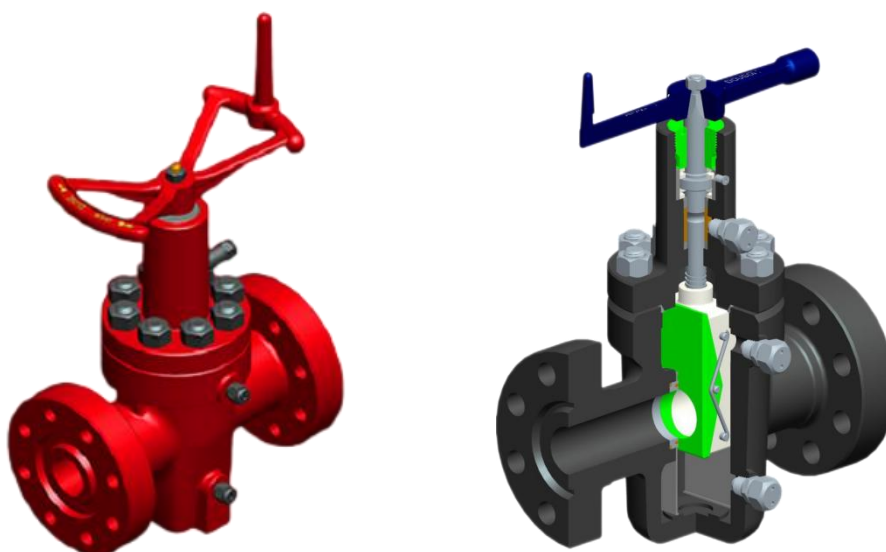
- Body/bonnet interface, and gate/seat interface

In-line Repairability

- Stem packing is re-energize while the valve is under pressure

Long Life, Low Maintenance

- Simple routine maintenance program limits repairs, eases operation, protects against corrosion, and extends service life



Yancheng Cyber Oilfield Equipment Co.,Ltd.

Mud Valves

Mud Valves are solid gate, rising stem, gate valves with resilient seals. They are purpose made for mud, cement, fracturing.

Application

- Oil and Gas lines
- Wellheads
- Manifolds and Pipelines
- Crude Oil and Sour Gas
- Well Treating Chemicals
- Drilling Chemicals
- Water Flood Lines
- Abrasive Drilling Mud



Design Specification

- Design specifically for Abrasive and Erosive use
- All Valves have 17-4 PH Stainless Steel Stems
- API 6A PSL1, 2 and 3 available
- Gate can be supplied in Nickel-plated Carbon Steel, Monel, Aluminum Bronze or Stainless Steel.
- Stainless or Carbon Steel Inserts with Nitrile or HNBR Elastomer
- Pressure Tested in Accordance with API 6A or API 6D
- Sour Service Models to NACR MR-01-75
- Available with Pressure Ratings up to 5000 psi in 2", 3", 4", 5" * 4" and 6" * 4" Valves Sizes
- 75000 psi Valves To Cater for High Pressure Demands Placed open Modern Drilling Mud Systems in Sizes 2", 3", 4", 5" and 6"
- Connection can be flanged, butt-weld, thread, weco union

Choke valve

Yancheng Cyber offers a wide range of surface, subsea, and drilling chokes to suit varying applications and operations.

Choke valves are used to control flow rate and reduce pressure for processing of produced fluids farther downstream. There are two basic body styles (adjustable and positive) and three body types.

Our choke valves have interchangeable bodies. The bonnet can be removed on the adjustable valve and replaced with the positive choke valve bonnet, and vice versa. In most cases users will determine the desired calibrated orifice size using the adjustable valve and then convert this to the positive valve with the corresponding choke bean in place.

Specifications

- Nominal diameter: 2.1/16" ~ 4.1/16"
- Working pressure: 2000 PSI ~ 20000 PSI
- Working media: oil, natural gas, mud
- Working temperature: LU (51 F/-46°C ~ 250 F/121°C)
- Material Class: AA, BB, CC, DD, EE, FF, HH
- Specification level: PLS1 ~ PLS4
- Performance level: PR1 ~ PR2



Adjustable
Choke Valve

Positive
Choke Valve

Features

- Long life and low maintenance
- Body to bonnet contact behind the O-ring seal eliminates bonnet seal extrusion
- A locking device is set on stem
- Ideal for many flow regulating services and easily converted to a positive choke
- The stem of adjustable choke is made of high strength alloy steel. The material has the feature of abrasion resistance, erosion resistance and reliable serviceability
- The valve and seat can be removed by hand, without special tools and without removal of the valve body from the line, by simply removing the bonnet
- Drive has manual, hydraulic and gear transmission forms
- Connections have flange, thread and hub



External Sleeve
Choke Valve



Plug and Cage
Choke Valve



Swaco Orifice
Choke Valve



Hydraulic
Choke Valve

API 6A Check Valves

These valves are manufactured to a high specification from forged steel bodies with stainless internals as standard. They are available from 2000 psi through 20000 psi working pressure in size from 1.13/16" to 5.1/8" depending on pressure range.

Yancheng Cyber's Check Valve is a robust design which incorporates all of the desirable features proven to provide long life and trouble free operation. Designed, manufactured, tested and monogrammed in accordance with API 6A requirements. Fire tested and qualified to API 6FA requirements.

Check valve structure is divided into swing type and lifting type.

End connections are usually flanged in accordance with API 6A, however, other end connections, such as hubs or unions, are also available.

Specifications

- Nominal diameter: 2.1/16" ~ 7.1/16"
- Working pressure: 2000 PSI ~ 20000 PSI
- Working media: oil, natural gas, mud
- Working temperature: LU (51° F/-46°C ~ 250° F/121°C)
- Material grades: AA, BB, CC, DD, EE, FF, HH
- Specification level: PLS1 ~ PSL4
- Performance level: PR1 ~ PR2

Features

- Metal to Metal Seal
- Full bore and piggable design
- stainless steel seat and clapper (optional spring loaded clapper)
- Hammer union, hub, or threaded end connections are available



Top Entry
Check Valve



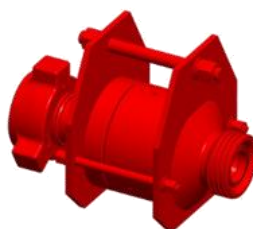
Swing Type
Check Valve



R Type
Check Valve



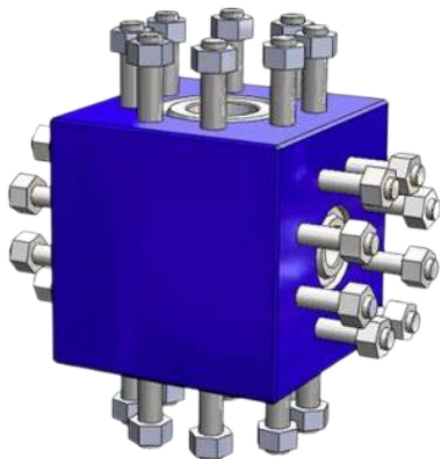
Flapper Type
Check Valve



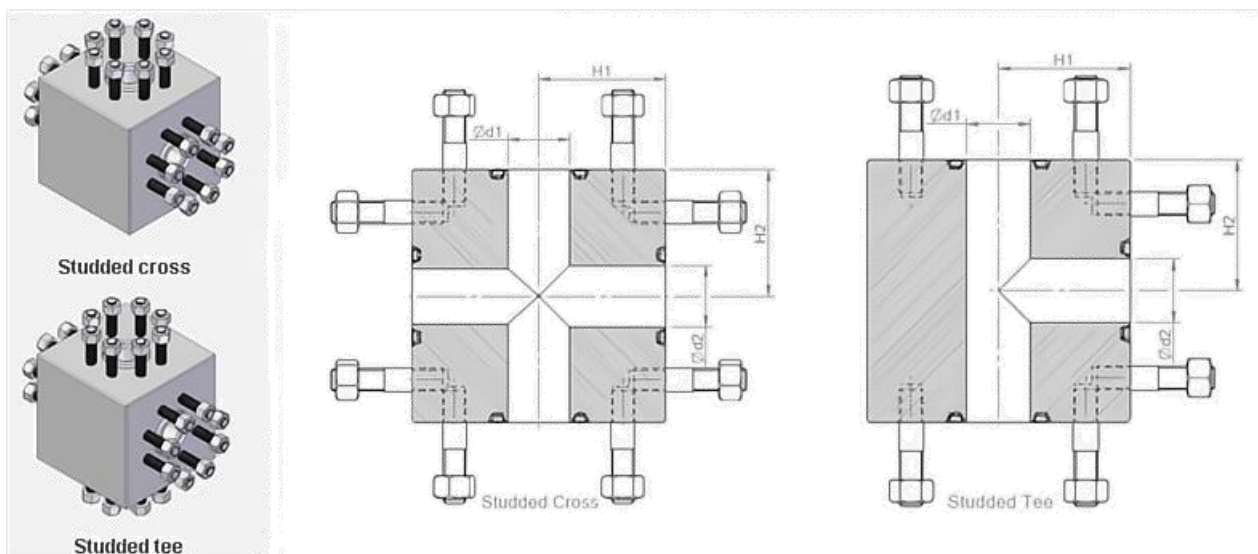
Dart Type
Check Valve

Crosses, Tees & Blocks

Yancheng Cyber manufactures tees, cross and blocks in accordance with API Spec 6A. All nominal API sizes and pressure ranges are available in either studed or flanged configurations. Any special needs for tees will be created utilizing the design criteria provided in API Spec 6A.



- Four separate connections
- The connections can be studed, flanged or threaded
- Can be manufactured in an almost endless combination of connection types, sizes and pressure ranges
- Available in API 6A flange sizes and pressure ranges
- Special designs available on request



Sizes	WP	PSL Levels	Material Classes
2-1/16" thru 7-1/16"	2K, 3K, 5K, 10K, 15K	PSL 1 thru 3	AA, DD, EE, FF

Flanges & Flanged Adapters, Spools

Yancheng Cyber also manufacture and supply all kinds of flanges and flanged products. Such as welding neck flange, companion flange, blind flange, etc. Diameter from PN15 to PN4000. The standards have API 6A, ASME B16.5, JIS, GOST, etc. Flange ends are either bolted or studded.

Special made flange according to customer's requirements.



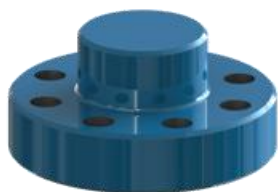
WN Flange



Lifting Flange



Blind Flange



Target Flange



Thread Flange



Union Adapter Flange



Double Studded
Adapter Flange



Adapter Spool



Spacer Spool



Frac Head
Goat Head



Flanged Tee



Drilling Spool