



ARTIFICIAL LIFTING EQUIPMENTS

Introduction

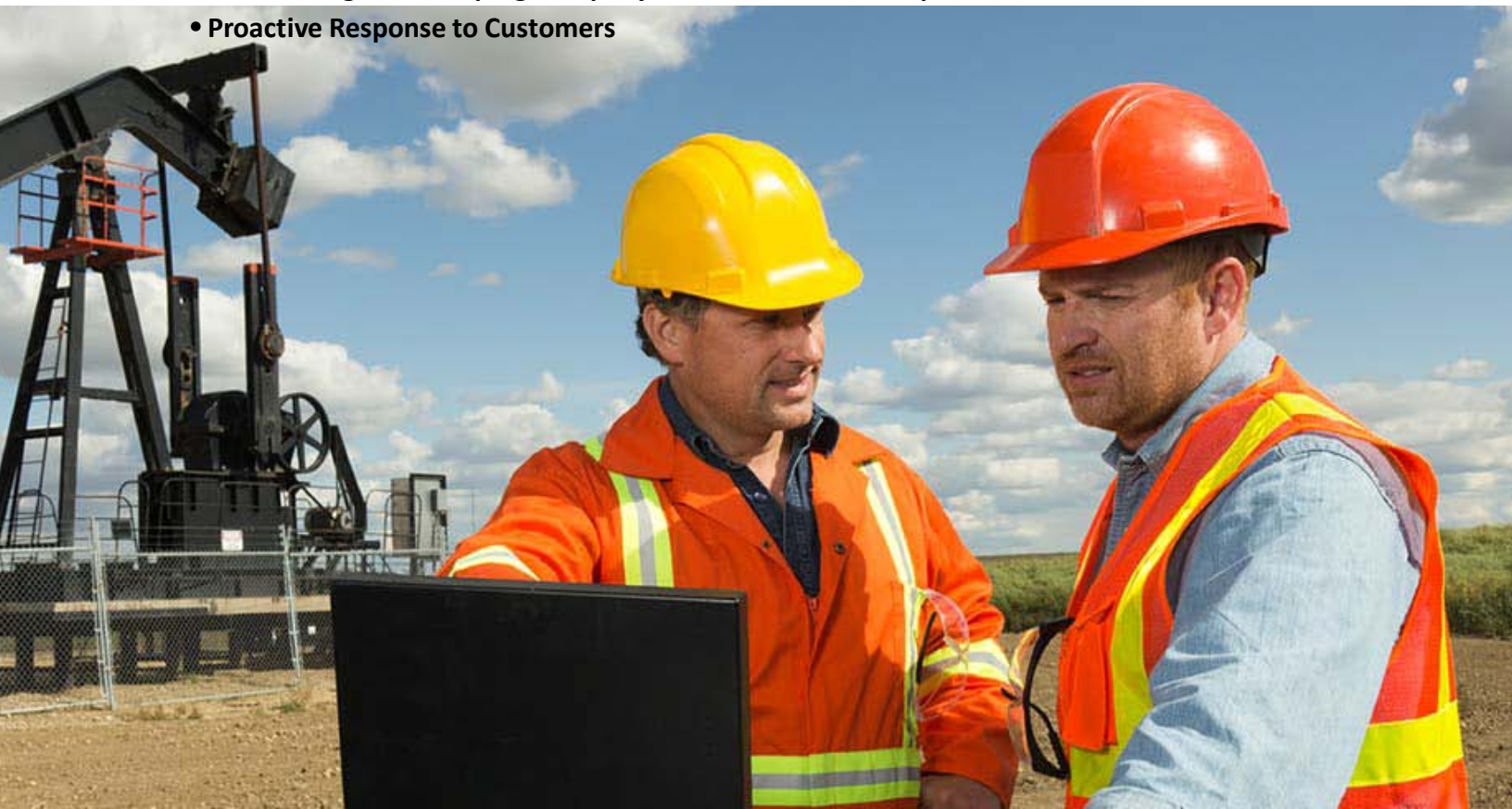
CPS is one of the leading certified company based in Vasai – Maharashtra. **CPS** is involved in manufacturing of Oil and Gas Equipments, with a state of art facility having the latest machineries to meet the quality standard of Oil and Gas industry.

Completion Equipments act as a barrier between the Surface and Reservoirs as they are heart of every completion. We at **CPS** understand the philosophy that any Loss of Production or Well Integrity can be saved with a proper selection of tool. With complete integrity, **CPS** has rights to manufacture Conventional Gas Lift Valve, Conventional Gas Lift Mandrel, Wireline Gas Lift Valve, Wireline Dummy Valve, Latches, Floating Equipments and centralizers to meet the demand of the global oil & gas market.

CPS has a well established testing facility includes TRO testing, Aging , hydro and shelf test to validate our products in different necessary aspects needed to fulfill the product requirements. We are in process for setting up flow loop facility, and High Temperature and High Pressure Testing cell to test our products in real environment.

We are focused on

- Quality of Products
- On time Delivery
- Fair Product Price
- Maintaining & Developing Company-Customer Relationship
- Proactive Response to Customers



Why us

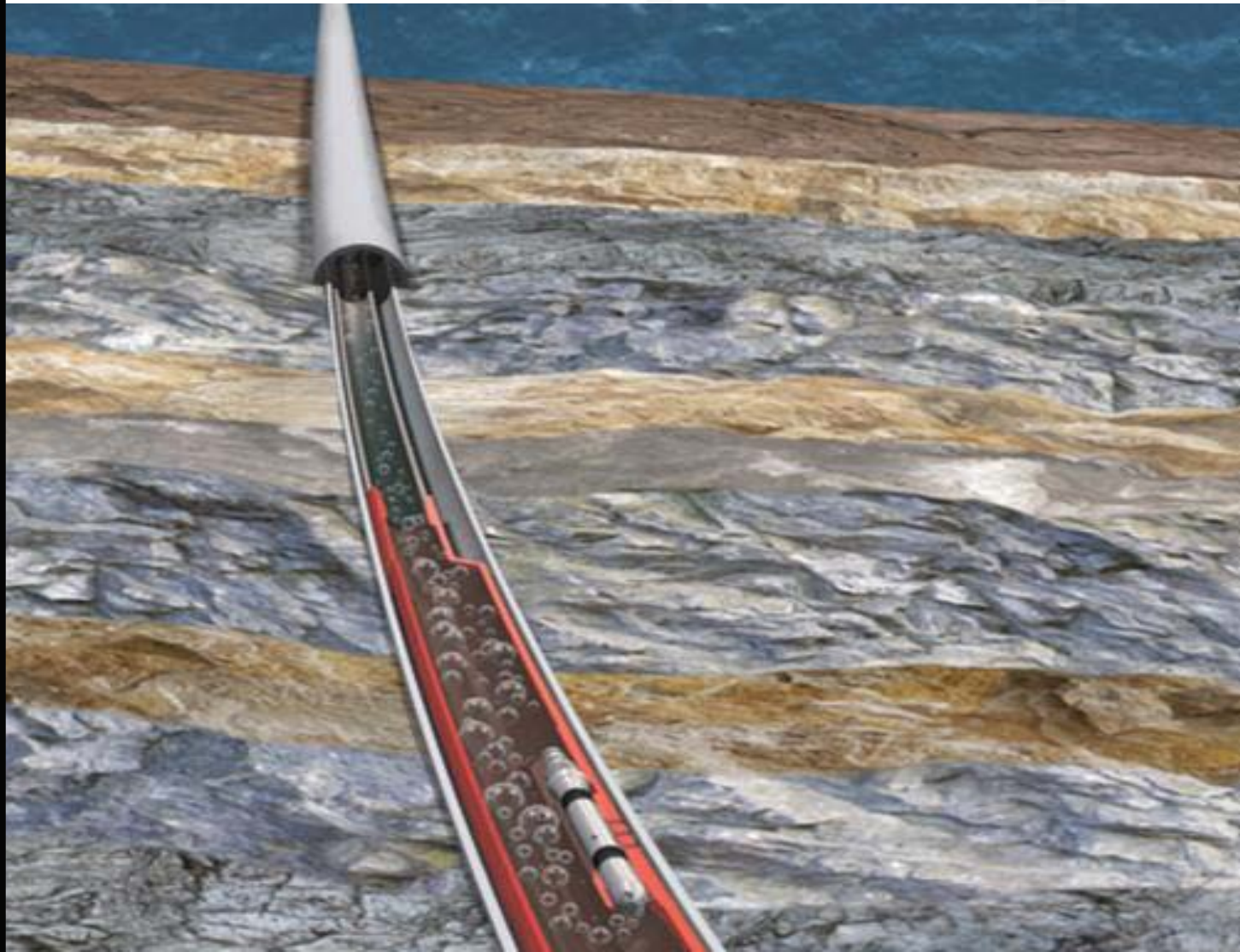
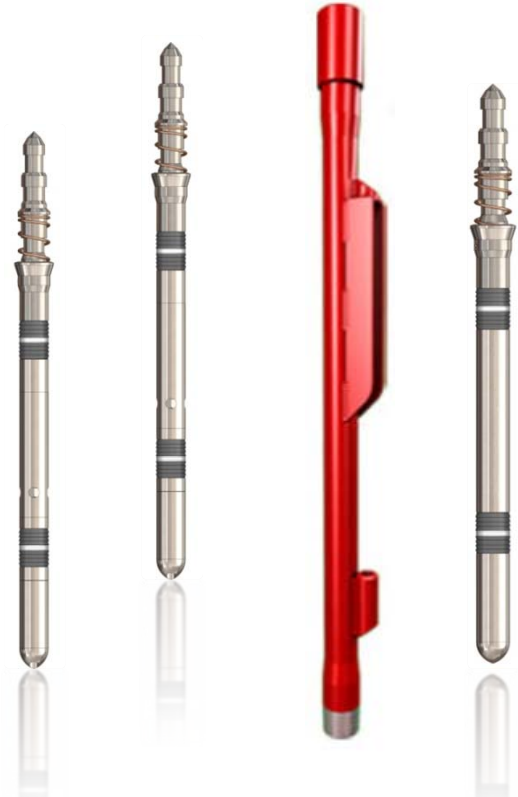
- CPS has implemented Quality Management System compliance to API Spec Q1 9th Edition and has zeal to improve in all aspects to provide best products and services.
- CPS competitive thrust has been achieved by some stringent quality programs.
- CPS has installed quality checks coupled with the best testing facilities and have invested in the latest testing equipments.
- CPS has Innovative and well qualified passionate team to provide engineered solutions to all customer requirements.
- CPS has latest machineries and quality instruments to meet the manufacturing requirements along with desired quality .
- CPS has Testing unit to test and validate products to various API specification.

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Product Range

- **Artificial lifting products**
 - Conventional Gas lift mandrel
 - Conventional Gas lift valve
 - Check Valve
 - Wireline gas lift valve
 - Wireline dummy valve
 - Wireline orifice valve
 - Latches

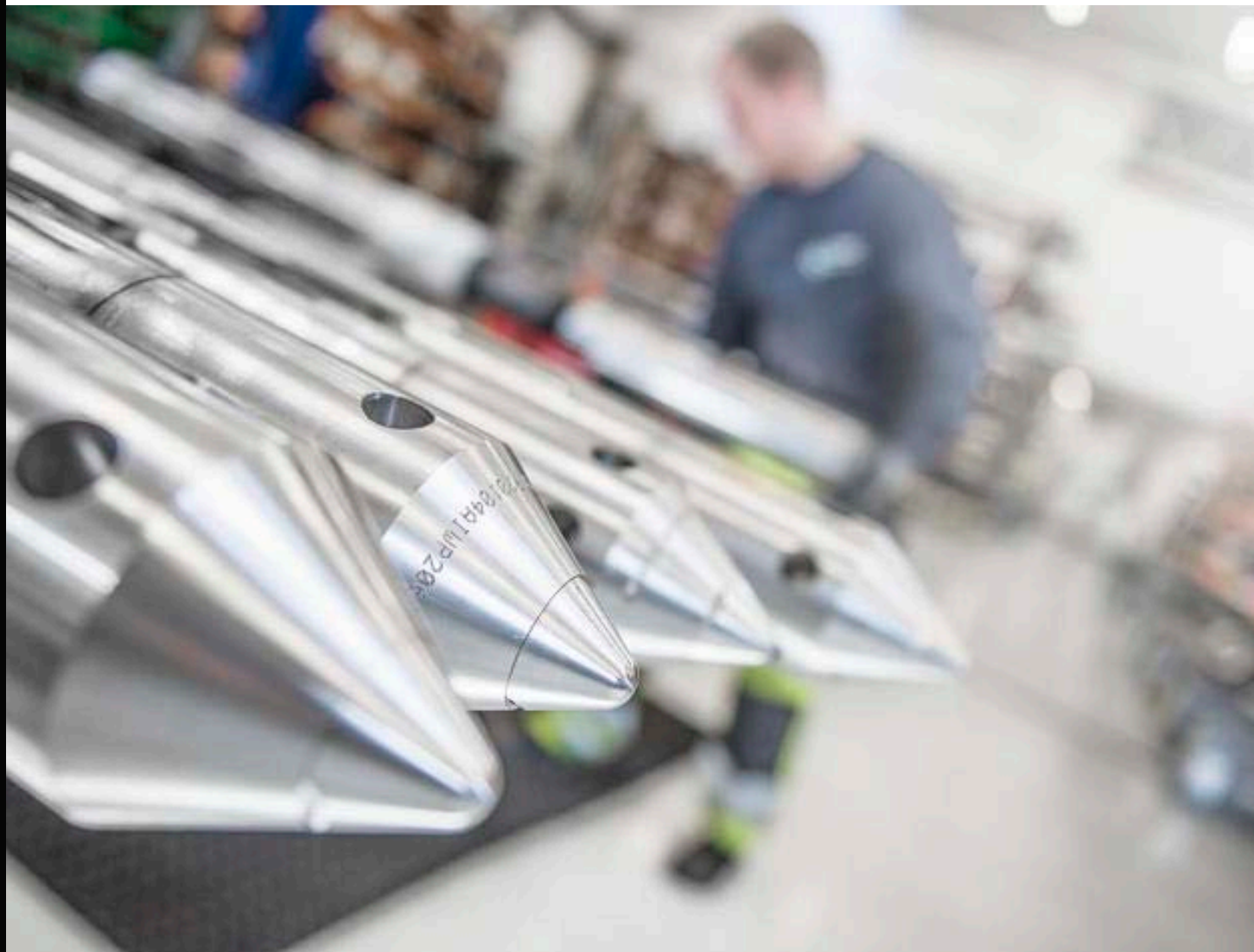


Gas Lift

Gas is injected continuously into the annulus. The gas travels down the annulus, regulated through a gas lift valve and into the fluid column inside the tubing in the well. The injected gas reduces the density of the fluid to a point where the reservoir pressure can push it to the production facility. This application is suited for most any well requiring artificial lift where a supply of pressurized gas is available.

There are two types of gas lift valve:

1. Conventional Gas Lift Valve
2. Wireline Gas Lift Valve



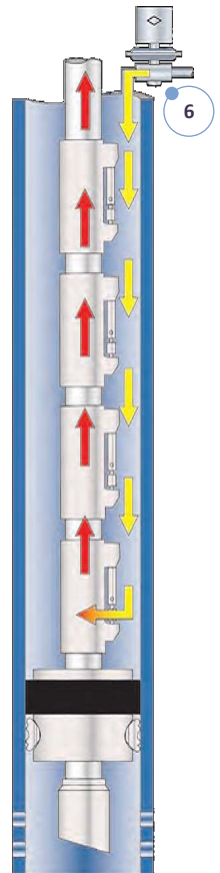
Conventional Gas Lift Valve

The CPS conventional (tubing retrievable) Injection Pressure Operated Gas Lift Valve is manufactured in 1" or 1-1/2" O.D. The Conventional Valve is controlled by injection gas pressure. The valve is used to control gas pressure and its flow from the casing annulus into the tubing during gas lift operations. The valve is installed on a conventional mandrel.

The valve is designed with a sealed chamber, including a bellows assembly that contains a nitrogen charge over damping fluid. The bellows serves as an interface between the dome pressure and injection gas pressure. The dome charge provides the closing force of the valve. When injection gas pressure exceeds the closing force, the bellows compress, lifting the valve stem off of the seat, allowing gas to be injected through the valve and into the tubing.

The CPS Valve consists of a tail plug, bellows assembly with valve core and bellows, bellows housing, stem with tungsten carbide ball, seat housing, floating seat and nose with reverse flow check dart with optional choke sizes. The valve is constructed of premium materials for corrosion resistance in wells with high concentrations of H₂S and/or Co₂.

Elastomeric material for the valve is available for standard and special services.



Features

- Stainless steel in SS 316L.
- Three-ply Monel bellows
- Mechanical stop prevents bellows over stroke.
- Viscous fluid shear dampening prevents bellow fatigue and stem pounding
- Tungsten carbide ball and stem assembly
- Replaceable floating Monel seat (also available in tungsten carbide material)
- Silver brazed bellows connections

Valve O.D.	Ab Effective Bellows Area (sq in)	Port Size	Ap Area of Port	Ap/Ab R	1-(Ap/Ab) (1-R)	PPEFT AP/AB 1-(AP/AB)
1"	0.31	1/8"	.013	.040	.960	.041
		5/32"	.019	.061	.939	.065
		3/16"	.028	.091	.910	.099
		1/4"	.049	.158	.842	.188
		5/16"	.076	.245	.755	.325
1-1/2"	0.77	3/16"	.029	.038	.962	.040
		1/4"	.051	.067	.933	.072
		5/16"	.079	.104	.896	.116
		3/8"	.113	.148	.852	.174
		7/16"	.154	.201	.799	.252



Check Valve

The Check Valve is a conventional (tubing retrievable) check valve that comes in 1" or 1-1/2" O.D. The check valve is installed externally on conventional mandrels and chemical injection subs. Reverse flow checks prevent gas and fluid flow from the tubing back into the casing annulus. In operation, the reverse flow check valve utilizes a dual seating system.

A soft seal ring is contacted first by the check dart and as differential pressure increases a metal-to-metal contact acts as a secondary seal.

The Check Valve consists of a check housing, seals, check dart and Inconel spring. The check is constructed of premium material for corrosion resistance in wells with high concentrations of H₂S and/or CO₂. Elastomeric materials for the valve are available for standard service and special service to suit individual well conditions.

Features

- Stainless steel SS 316L
- 5,000 PSI test pressure
- Nickel alloy X-750 spring
- Compatible with other industry standard conventional (tubing retrievable) mandrels
- CV check is required when utilizing flow with a screen orifice



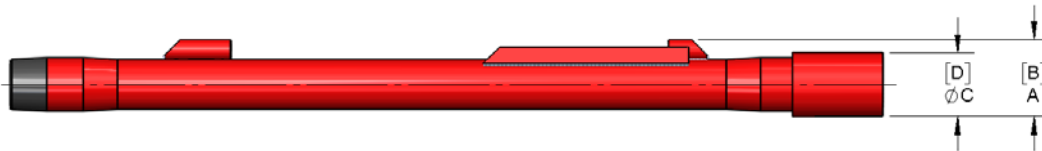
Conventional Mandrel

CPS conventional mandrels are designed to receive 1" and 1-1/2" conventional gas lift valves. These valves are mounted externally on the mandrel body. Our conventional mandrels feature external side guards to protect the gas lift valve and check. Mandrels are available in standard sizes 2-3/8", 2-7/8" and 3-1/2" in J-55, N-80, L-80 and P110 materials. We can also accommodate 4-1/2" and 5- 1/2" sizes along with 13-CR material by special order.

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Dimensions to Inches:

- A - Lug to Collar
- B - Lug to Collar - Special Clearance
- C - Collar Diameter
- D - Collar Diameter - Special Clearance



1" Valve Size	2.375" O.D. 2" Nominal	2.875" O.D. 2.5" Nominal
API EUE	A - 3.783	A - 4.335
	B - 3.706	B - 4.231
	C - 3.063	C - 3.668
	D - 2.910	D - 3.460
API NUE	A - 3.689	A - 4.251
	B - 3.586	B - 4.119
	C - 2.875	C - 3.500
	D - 2.670	D - 3.235

1.5" Valve Size	2.375" O.D. 2" Nominal	2.875" O.D. 2.5" Nominal	3.50" O.D. 3" Nominal
API EUE	A - 4.283	A - 4.835	A - 5.562
	B - 4.206	B - 4.731	B - 5.427
	C - 3.063	C - 3.668	C - 4.500
	D - 2.910	D - 3.460	D - 4.230
API NUE	A - 4.189	A - 4.751	A - 5.262
	B - 4.086	B - 4.619	B - 5.152
	C - 2.875	C - 3.500	C - 4.250
	D - 2.670	D - 3.235	D - 4.030



Wireline IPO Gas Lift Valve

The CPS IPO is a wireline retrievable injection pressure operated gas lift valve that comes in 1" or 1-1/2" O.D. This valve is primarily controlled by injection gas pressure. The valve is used to control gas pressure and its flow from the casing annulus into the tubing during gas lift operations. The valve is installed in side pocket mandrels.

The valve is designed with a sealed chamber, including a bellows assembly that contains a nitrogen charge over dampening fluid. The bellows serves as an interface between the dome pressure and injection gas pressure. The dome charge provides the closing force of the valve. When injection gas pressure exceeds the closing force, the bellows compress, lifting the valve stem off the seat, allowing gas to be injected through the valve and into the tubing.

The CPS IPO valve consists of a tail plug, upper packing, bellows assembly with valve core and bellows, bellows housing, stem with tungsten carbide ball, seat housing, floating seat, lower packing, lower packing retainer, and nose with reverse flow check dart with optional choke sizes. The valve is constructed of premium materials for corrosion resistance in wells with high concentrations of H₂S and/or CO₂. Packing and elastomeric materials for the valve are available for standard and special service.

Features

- Stainless steel in SS 316/316L.
- Three-ply Monel bellows.
- Mechanical stop prevents bellows over stroke.
- Viscous fluid shear dampening prevents bellows fatigue and stem pounding.
- Tungsten carbide ball and stem assembly.
- Replaceable floating Monel seat (tungsten carbide seat available).
- Integral reverse flow check valve.
- Silver brazed bellows connections.
- Compatible with other manufacturers' side pocket mandrels.



Wireline Dummy Valve

The CPS 1.5" and 1.0" Dummy Valves are Wireline Retrievable non-equalizing isolation tools designed to install in a side pocket mandrel. Dummy Valves are in 1.0" O.D. tools and are designed for industry standard 1.0" side pockets. There is a 1-1/2" O.D. tool, which is designed to be installed in industry standard 1-1/2" side pockets.

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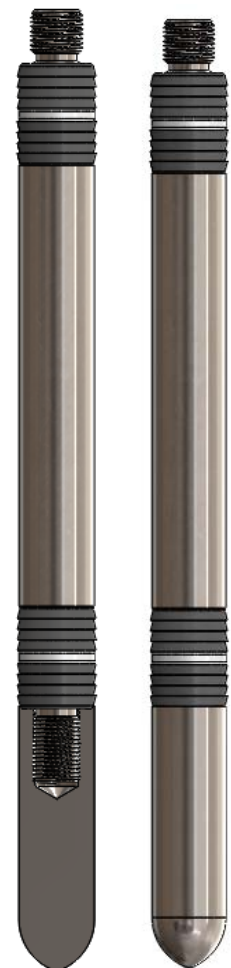
The CPS Dummy is a multi-purpose tool used to blank off the pocket of side pocket mandrels. This allows production operations to be carried out prior to the need for gas lift valves, allow pressurizing of the tubing or casing for setting packers, testing and treatment procedures.

The Dummy consists of two packing sections, which are spaced to fit inside the upper and lower seal bores of industry standard pockets. The dummy valve is available in Stainless Steel and Monel for corrosion resistance in wells with high concentrations of H₂S, CO₂ or corrosion resistant alloys for extreme environments. Packing materials for our dummy valves are available for standard service or special service to suit individual well conditions.

The simple design of the dummy valve allows for easy replacement of the valve packing and for rapid low-cost repair of valve components. The rugged, solid construction and premium materials assure a long service life.

Features

- Stainless steel in SS 316/316L.
- Compatible with other manufacturers' side pocket mandrels.



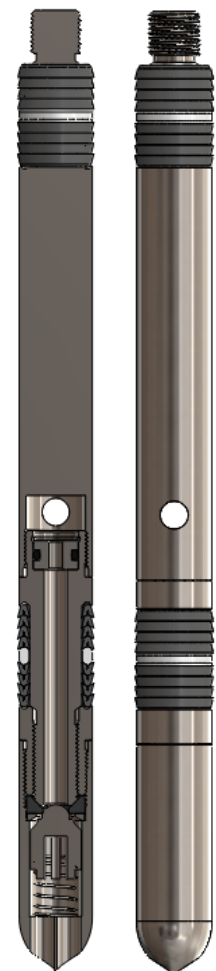
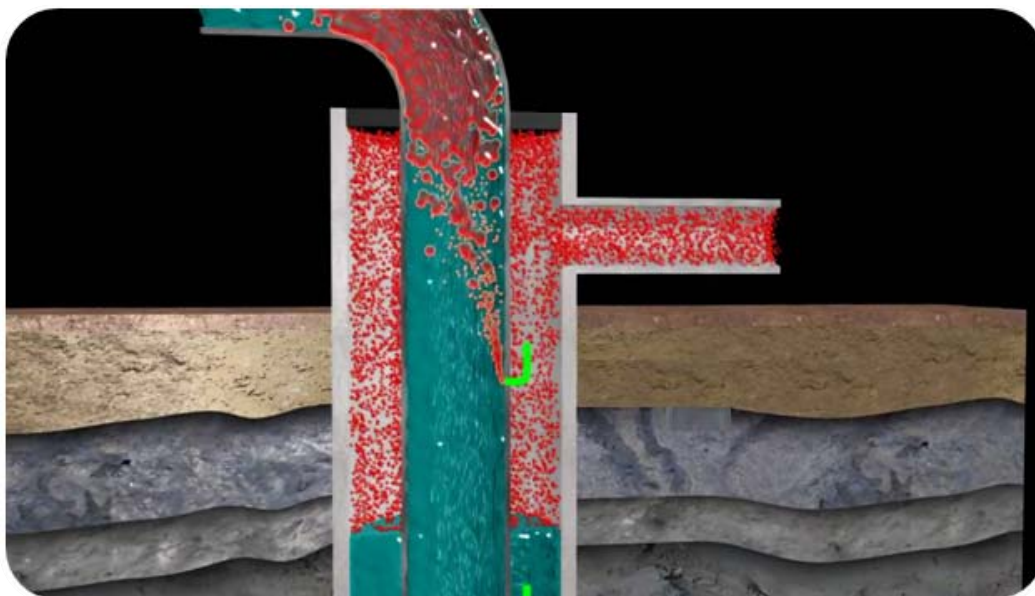
Wireline Orifice Gas Lift Valve

The CPS Wireline Retrievable Orifice Valve is a 1.0" or 1-1/2" O.D. valve used to control the flow of gas and/or fluid from the casing annulus into the tubing. The valve is installed in side pocket mandrels. The valve is designed with a square edged orifice which, when properly sized, allows volume control when the casing and tubing pressures are known. An integral reverse flow check prevents gas and or fluid from flowing from the tubing back into the casing annulus. The CPS valve consists of a flow barrel, seat housing and floating square edged orifice, lower packing retainer, and check nose with a reverse flow check drop.

The Valve is constructed of premium materials for corrosion resistance in wells with high concentrations of H₂S or CO₂. Packing and Elastomeric materials for the valve are available for standard service or special service to suit individual well conditions. The CPS Orifice Valve is available with square edged orifice sizes of 1/8" through 1/2" CPS series Orifice has a maximum port size of 7/16" for the CPS 1.0 and 3/4" for the CPS 1.5". In operation, gas and/or fluids that are injected into the casing annulus enter through the ports in the side pocket mandrel. This gas and/or fluid then enter through the ports in the valve that is located in the flow barrel between the two sets of packing. The gas and/or fluid then flows through the seat housing and square edged orifice, past the reverse flow check drop, through the check nose and into the tubing.

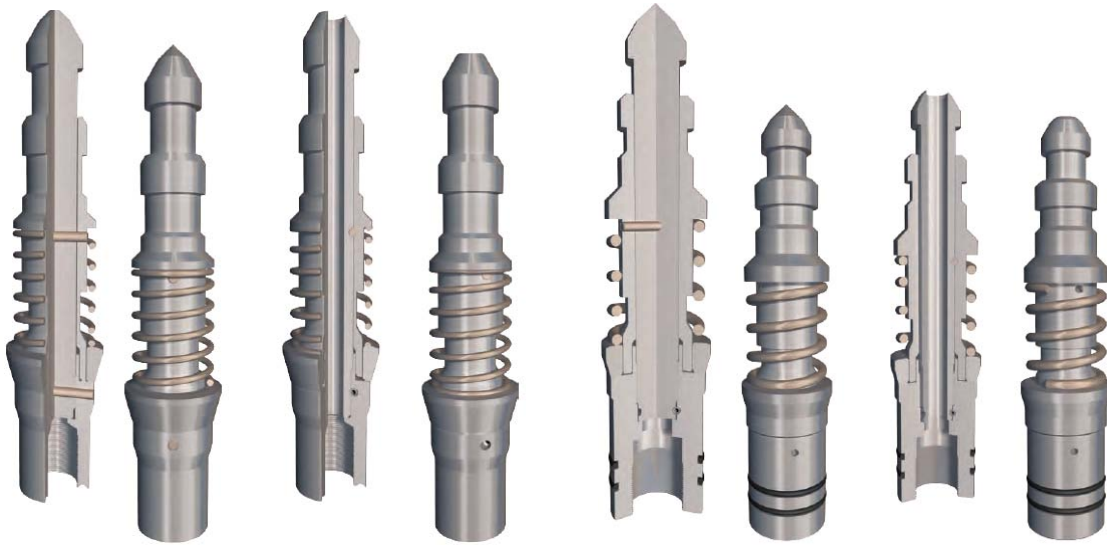
Features

- Replaceable square edged orifice (Tungsten Carbide available)
- Flow capacity determined by orifice sizing.
- Integral reverse flow check valve.
- Compatible with other manufacturers' side pocket mandrels.



Gas Lift Latches

CPS's Wireline Retrievable Latches are designed to secure Retrievable Gas Lift Valves and any other flow control devices, such as chemical injection valves and water flood valves, into the appropriate side pocket mandrels equipped with 1" or 1-1/2" outside diameter receiver pockets. All the running post and bodies for the BK-2 and RK model latches are drilled and pinned.



Side Pocket Mandrel

A completion component that is used to house gas-lift valves and similar devices that require communication with the annulus. The design of a side-pocket mandrel is such that the installed components do not obstruct the production flow path, enabling access to the wellbore and completion components below.

CPS's oval body mandrel configuration is designed to provide a full opening tubing drift while receiving any manufactures 1" or 1-1/2" O.D. Gas Lift Valves. These mandrel feature an orienting sleeve and tool guard above the pocket area. The orienting sleeve allows you an option to use a positive orienting kickover tool to run or retrieve valves. Tool guards are in place to deflect and protect the valve latch.

Tubing Size Inches	Mandrel Pocket I.D. Inches	Mandrel Body Design	Mandrel Type	Major O.D. Inches	Minor O.D. Inches	Drift Inches	Rated Test Pressures					
							Standard Service		Sour Service			
							Internal Test psi/bars	External Test psi/bars	Internal Test psi/bars	External Test psi/bars		
2.375 60.3	1.000 25.4	CPS Oval	SPMO-1NO	4.250 108	2.910 73.9	1.901 48.3	8,000 551.5	6,000 413.7	6,000 413.7	4,000 275.8		
			SPMO-1							5,000 344.7		
			SPFO-1							4,000 275.8		
			SPMO-1CI	4.500 114.3	-	-	-	-	-	-	-	5,000 344.7
			SPFO-1CI									4,000 275.8
			1.500 38.1	CPS Oval	SPMO-2NO	4.750 120.7	4.000 101.6	1.901 48.3	8,000 551.5	6,000 413.7	6,000 413.7	4,000 275.8
SPMO-2	4,000 275.8											
2.875 73.0	1.000 25.4	CPS Oval	SPMO-1NO	4.750 120.7	4.000 101.6	2.347 59.6	8,000 551.5	6,000 413.7	6,000 413.7	4,000 275.8		
			SPMO-1							5,000 344.7		
			SPFO-1							4,000 275.8		
			SPMO-1CI	-	-	-	-	-	-	-	4,000 275.8	
	SPFO-1CI	4,000 275.8										
	1.500 38.1	CPS Oval	SPMO-2NO	5.500 139.7	4.593 116.7	2.347 59.6	8,000 551.5	6,000 413.7	6,000 413.7	4,000 275.8		
			SPMO-2							5,000 344.7		
			SPMO-2WF							7,500 517.1		
SPFO-2			5,000 344.7									
SPFO-2WF	5,000 344.7											
3.500 88.9	1.000 25.4	CPS Oval	SPMO-1NO	5.313 135.0	4.125 104.8	2.867 72.7	8,000 551.5	6,000 413.7	6,000 413.7	4,000 275.8		
			SPMO-1							7,000 482.6		
			SPFO-1							5,500 379.2		
			SPMO-1CI	-	-	-	-	-	-	-	4,000 275.8	
	SPFO-1CI	4,500 310.3										
	1.500 38.1	CPS Oval	SPMO-2NO	5.968 151.6	5.000 127	2.867 72.7	8,000 551.5	6,000 413.7	6,000 413.7	4,000 275.8		
			SPMO-2							6,000 413.7		
			SPMO-2WF							7,000 482.6		
SPFO-2			5,500 379.2									
4.500 114.3	1.500 38.1	CPS Oval	SPMO-2	7.031 178.6	6.080 154.4	3.833 97.4	7,500 517.1	6,000 413.7	6,000 413.7	5,000 344.7		
			SPFO-2	7,500 517.1								
5.500 139.7	1.500 38.1	CPS Oval	SPMO-2	7.938 201.6	6.812 173	4.653 118.2	8,500 586.1	6,000 413.7	6,000 413.7	5,000 344.7		
			SPFO-2	7,000 482.6								



For any further query please contact us on



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