

# **OMS-100<sup>™</sup>** **Forged Body API 6A Gate Valves**

Product Brochure

# OMS-100 Gate Valves

## High Performance Gate Valves

The OMS-100 API 6A bidirectional gate valves are designed and manufactured to meet the demanding high-pressure-high-temperature (HPHT) requirement of upstream drilling and production. The valves' performance exceed API 6A PR2 Appendix F performance test and OMS 360-cycles endurance test. All tests were witnessed and verified by third parties.

These valves feature forged steel body and bonnet, and full metal-to-metal sealing on gate-to-seat, seat-to-body, and body-to-bonnet. The stem and bonnet design comes with full back-seat capability, providing gas tight sealing at low pressure and rated working pressure.

OMS-100 gate valves are available in various standard sizes from 1-13/16" to 9" bore, and pressure ratings from 2,000 to 15,000 psi. These valves are offered in all API 6A material classes, temperature ratings, and product specification level (PSL) 1 through 4.

When these valves are used in Christmas tree applications, the OMS-100 gate valves are available in individual stacked valves or solid block tree arrangement. They are fully compatible with the OMS-HA hydraulic actuators.

Selecting a suitable and cost effective gate valves is critical in all drilling and production program. Whether they are used as wellhead annulus valves, on production trees, for frac or other applications, the OMS-100 gate valves offers the reliability, field proven design, low maintenance and ease of field service.

## OMS-100 Gate Valve Features

### Forged Steel Body and Bonnet

The body and bonnet are constructed of forged low alloy steel or stainless steel. For severe service application, corrosion resistant alloy (CRA) full overlay are applied on the body and bonnet.

### Metal-to-Metal Sealing

The gate-to-seat, seat-to-body, and body-to-bonnet sealing is metal-to-metal.

### Bi-directional Design

OMS-100 Valves seal in both directions, provides versatility and longer service life.

### High Performance Stem Packing

OMS-100 Valves feature a non-elastomeric, spring loaded stem packing that provides gas tight sealing to 15,000 Psi Working Pressure. The stem packing has passed the API 6A PR2 Appendix F performance validation test.

### Seat Seals

The seat seals feature a non-elastomeric material and spring loaded design, which provide the low pressure sealing and protection against contaminants from entering the valve cavity.

### Backseat Capability

OMS-100 Valves come with a gas tight, metal-to-metal backseat on stem and bonnet. This feature is critical in order to isolate the valve's cavity pressure during stem packing replacement.

### Low Operating Torque

OMS-100 valves' design provides low operating torque at rated working pressure.

### Safety Shear Pin

The pin provides the critical safety feature, by preventing an over-torque that can cause the stem to shear. This shear pin is field replaceable.

### Non-Rising Stem

The stem is rotating at its fixed axis, allowing only the slab gate to travel during the valve's opening or closing. This prevents pressure increase in the valve cavity and minimize grease loss.

### Grease Fitting

It features metal-to-metal sealing fitting, with bleeding capability. The grease fitting is located downstream of the stem's backseat area, provides safe pressure monitoring and venting during maintenance.

### Bearing Lubrication

The bonnet cap comes with an injection port for easy lubrication. The cavity surround the bearing are fully enclosed to prevent unnecessary lubricant leakage.

### API 6A PR2 Appendix F Tested

OMS-100 Valves have been qualified and tested as per API 6A PR2 Appendix F and OMS 360-cycles endurance test.

### OMS-100DS

OMS-100DS Valves features dual stem design with ball screw actuation for high pressure critical application. This arrangement reduces the operation torque up to 90%, compared to standard manual valve.

### Standard OMS Actuators

For safety valve application, OMS-100 valves can be installed with OMS-HA actuators. These actuators come with full set of accessories.

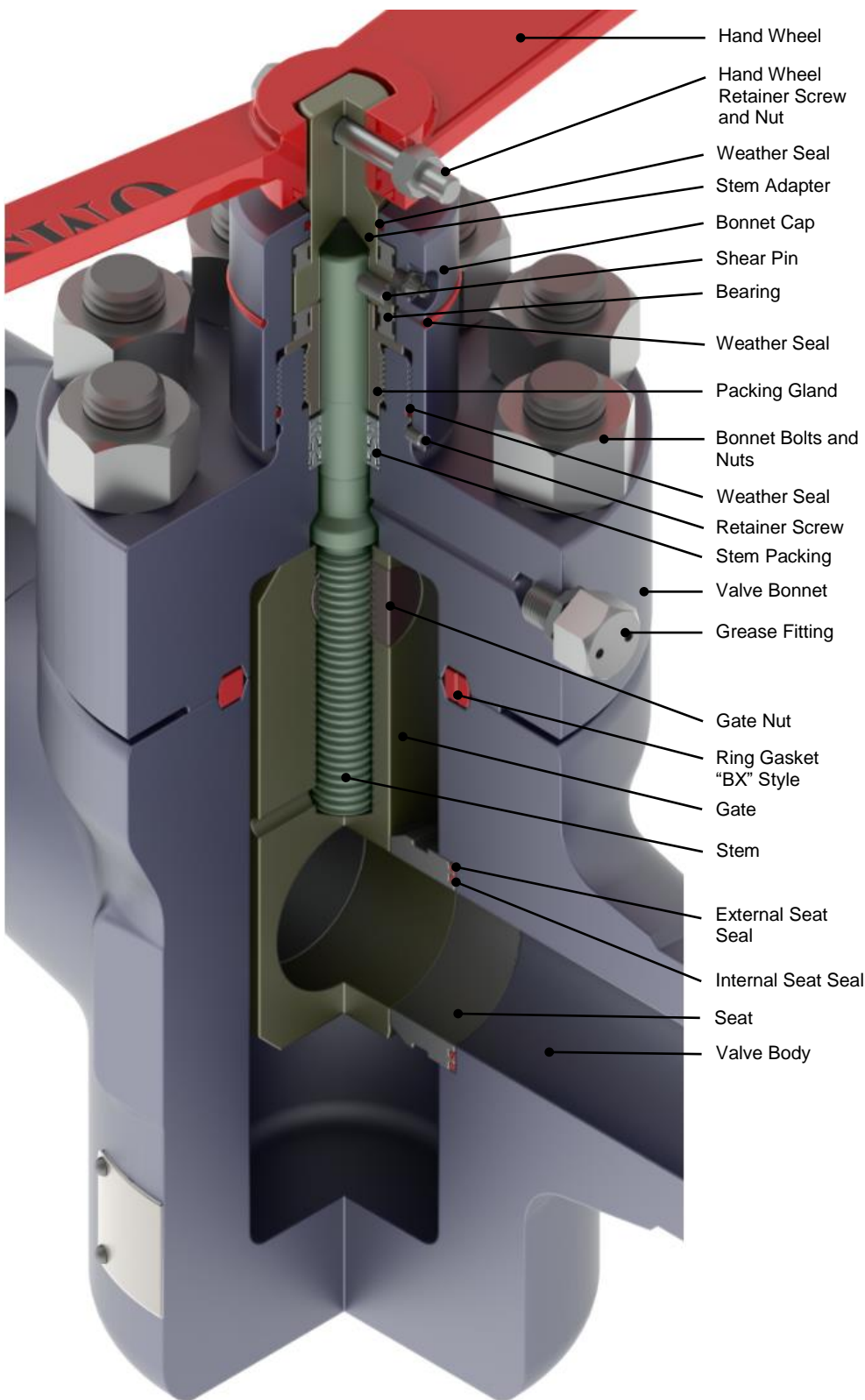
### Fire Safe Valve

Fire safe designs are available to meet API Spec. 6FA and 6FC requirements.

### Valve Applications

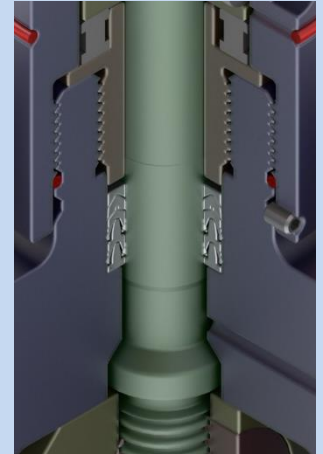
OMS-100 gate valves are suitable for various drilling and production applications:

- Wellhead annulus side outlets
- Christmas tree
- Choke and kill manifold
- Frac operation
- Well test
- Injector tree
- BOP stack or drilling accessories.

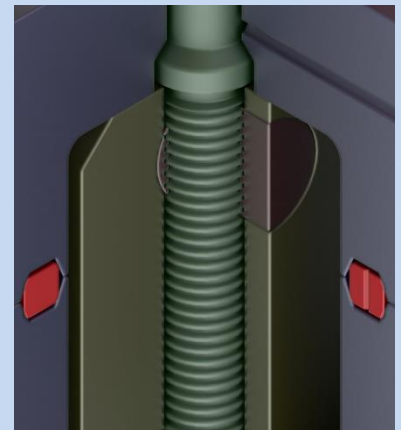


- Hand Wheel
- Hand Wheel Retainer Screw and Nut
- Weather Seal
- Stem Adapter
- Bonnet Cap
- Shear Pin
- Bearing
- Weather Seal
- Packing Gland
- Bonnet Bolts and Nuts
- Weather Seal
- Retainer Screw
- Stem Packing
- Valve Bonnet
- Grease Fitting
- Gate Nut
- Ring Gasket "BX" Style
- Gate
- Stem
- External Seat Seal
- Internal Seat Seal
- Seat
- Valve Body

**OMS-100 Gate Valve**



*The non-elastomeric stem packing features an inert PEEK with Moly Glass base material and Elgiloy spring. The non-rising stem has a gas-tight metal-to-metal backseat that can be engaged to isolate cavity pressure.*



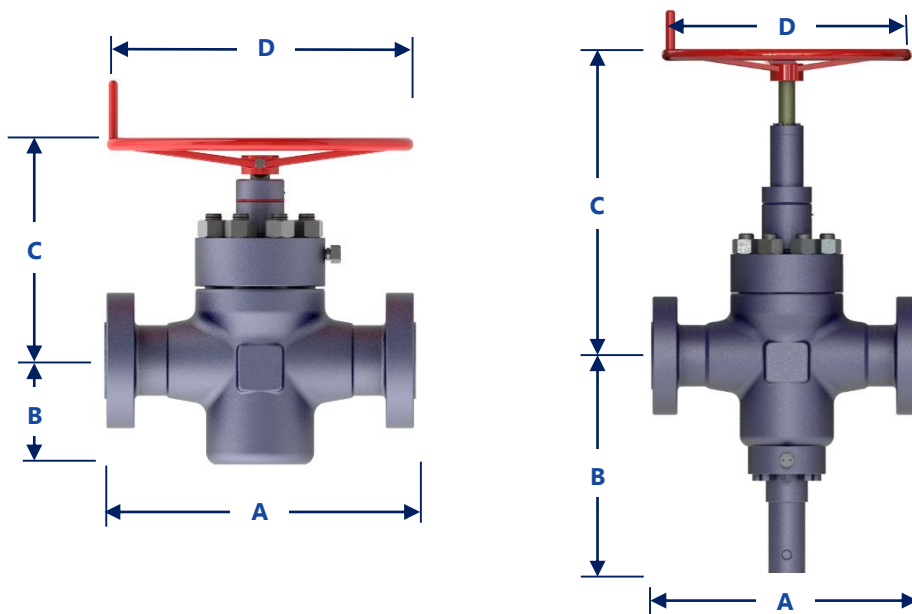
*The gate nut design allows the slab gate to "float" when in contact with bore pressure, ensuring proper gate-seat-body contact.*



*The external and internal seat seals arrangement provides the low pressure sealing and protection against contaminants from entering the valve cavity.*

# OMS-100 Gate Valves

High Performance Gate Valves



## GATE VALVE DIMENSIONS

Bore Size	Pressure (Psi)	A		B		C		D		Weight		Number of Turns
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Lbs	Kg	
1-13/16"	10,000	18.25	464	5.69	145	14.50	368	14.00	356	230	104	12
	15,000	18.00	457	5.88	149	14.50	368	14.00	356	270	122	12
2-1/16"	2,000	11.62	295	5.25	133	12.75	324	10.00	254	110	50	14
	3,000 / 5,000	14.62	371	5.50	140	12.75	324	14.00	356	170	77	14
	10,000	20.50	571	5.75	146	14.38	365	18.50	470	260	118	14
	15,000	19.00	483	6.00	152	16.75	425	18.50	470	290	132	14
2-9/16"	2,000	13.12	333	6.12	155	15.00	381	10.00	254	160	73	18
	3,000 / 5,000	16.62	422	7.00	178	15.00	381	14.00	356	240	109	18
	10,000	22.25	565	7.00	178	17.50	445	18.50	470	370	168	18
	15,000	21.00	533	7.88	200	18.50	470	18.50	470	550	249	18
3-1/8"	2,000	14.12	357	7.12	181	16.75	425	14.00	356	220	100	22
	3,000	17.12	435	7.50	191	16.75	425	14.00	356	270	122	22
	5,000	18.62	473	7.50	191	16.75	425	18.50	470	330	150	22
3-1/16"	10,000	24.38	619	8.13	207	17.50	445	24.00	610	490	222	22
	15,000	23.56	598	9.25	235	21.50	546	24.00	610	830	376	26
4-1/16"	2,000	17.12	435	9.25	235	19.25	489	18.50	470	380	172	27
	3,000	20.12	511	9.25	235	19.25	489	18.50	470	500	227	27
	5,000	21.62	549	9.25	235	19.25	489	18.50	470	600	272	27
	10,000	26.38	670	10.12	257	20.75	527	24.00	610	810	367	27
5-1/8"	3,000	24.12	613	11.50	292	21.00	533	24.00	610	950	431	30
	5,000	28.62	727	11.50	292	22.50	572	24.00	610	1,050	476	30
6-3/8"	3,000	24.12	613	13.00	330	24.00	610	24.00	610	1,000	454	35
	5,000	29.00	737	13.00	330	24.00	610	24.00	610	1,200	544	35
7-1/16"	3,000	28.12	714	14.75	375	29.50	749	40.00	1,016	1,750	794	45
	5,000	32.00	813	14.75	375	29.50	749	40.00	1,016	1,960	889	45
9"	5,000	41.00	1,041	20.12	511	38.00	965	40.00	1,016	3,950	1,792	60

## DUAL STEM GATE VALVE DIMENSIONS

Bore Size	Pressure (Psi)	A		B		C		D		Weight		Number of Turns
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Lbs	Kg	
4-1/16"	15,000	29.00	737	25.00	635	40.50	1,029	24.00	610	1525	692	20
5-1/8"	10,000	29.00	737	26.88	683	42.25	1,073	24.00	610	1550	703	24
	15,000	35.00	889	26.88	683	42.25	1,073	34.00	864	3200	1451	24
6-3/8"	10,000	35.00	889	30.00	762	48.00	1,219	34.00	864	2950	1338	29
7-1/16"	10,000	35.00	889	30.00	762	48.00	1,219	34.00	864	4250	1928	30

### NOTES:

- Other sizes not listed above are available upon request.
- Specifications are subject to change without notice.

# API 6A MATERIAL CLASS OPTIONS

## Standard Valve Parts Materials

Valve Part Description	API 6A MATERIAL CLASS								
	General Service			Sour Service (as defined by NACE MR0175)					
	AA	BB	CC	DD-NL	EE-1.5	EE-NL	FF-1.5	FF-NL	HH-NL
Body and Bonnet	AISI 4130 Low Alloy Steel	AISI 4130 Low Alloy Steel	AISI 410 or F6NM Stainless Steel	AISI 4130 Low Alloy Steel	AISI 4130 Low Alloy Steel	AISI 4130 Low Alloy Steel	AISI 410 or F6NM Stainless Steel	AISI 410 or F6NM Stainless Steel	AISI 4130 Low Alloy Steel w/ Inconel 625 Overlay
Gate and Seat	AISI 41XX Low Alloy Steel w/ Hard Facing	AISI 410 or F6NM Stainless Steel w/ Hard Facing	AISI 410 or F6NM Stainless Steel w/ Hard Facing	AISI 41XX Low Alloy Steel w/ Hard Facing	AISI 410 or F6NM Stainless Steel w/ Hard Facing	AISI 410 or F6NM Stainless Steel w/ Hard Facing	AISI 410 or F6NM Stainless Steel w/ Hard Facing	AISI 410 or F6NM Stainless Steel w/ Hard Facing	Inconel 625 or 718, w/ Hard Facing
Stem	AISI 41XX Low Alloy Steel, Nitrided	AISI 410 or F6NM Stainless Steel, Nitrided	AISI 410 or F6NM Stainless Steel, Nitrided	AISI 41XX Low Alloy Steel, Nitrided	AISI 410 or F6NM Stainless Steel, Nitrided	Inconel 718, Xylan Coated	AISI 410 or F6NM Stainless Steel, Nitrided	Inconel 718, Xylan Coated	Inconel 718, Xylan Coated
Gate Nut	AISI 410 Stainless Steel	AISI 410 Stainless Steel	AISI 410 Stainless Steel	AISI 410 Stainless Steel	AISI 410 Stainless Steel	AISI 410 Stainless Steel	AISI 410 Stainless Steel	AISI 410 Stainless Steel	Inconel 625 or 718
Stem Packing	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring	PEEK w/ Moly PTFE, Elgiloy Spring
Seat Seals	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring	PEEK, Elgiloy Spring
Bonnet Gasket	AISI 316 Stainless Steel	AISI 316 Stainless Steel	AISI 316 Stainless Steel	AISI 316 Stainless Steel	AISI 316 Stainless Steel	AISI 316 Stainless Steel	AISI 316 Stainless Steel	AISI 316 Stainless Steel	Inconel 825
Bonnet Cap, Stem Adapter, and Packing Gland	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel	AISI 41XX Low Alloy Steel
Bolts	ASTM A193/A193M GR B7	ASTM A193/A193M GR B7	ASTM A193/A193M GR B7	ASTM A193/A193M GR B7M	ASTM A193/A193M GR B7M	ASTM A193/A193M GR B7M	ASTM A193/A193M GR B7M	ASTM A193/A193M GR B7M	ASTM A193/A193M GR B7M
Nuts	ASTM A194/A194M GR 2H	ASTM A194/A194M GR 2H	ASTM A194/A194M GR 2H	ASTM A194/A194M GR 2HM	ASTM A194/A194M GR 2HM	ASTM A194/A194M GR 2HM	ASTM A194/A194M GR 2HM	ASTM A194/A194M GR 2HM	ASTM A194/A194M GR 2HM

### NOTES:

1.	Valve component materials and coatings listed are for standard offering. Special material and/or coating are available on request.
2.	Sour service is as defined by NACE MR0175/ISO 15156. Suffixes used in material class is referring to the H2S partial pressure (Psia)
3.	Temperature ranges: -75 to 350 °F (-60 to 180 °C)
4.	PSL levels available: PSL 1, PSL 2, PSL 3, and PSL 4
5.	Valve available in various types of end connection: flange, studded, threaded and quick union.
6.	Specifications are subject to change without notice.
7.	ASTM A453/A453M GR660 bolts are required for selected sizes and pressure ratings.

# OMS-HA and OMS-HAW ACTUATORS

## Hydraulic Actuators

### OMS-HA and OMS-HAW Hydraulic Actuator

#### Features

##### Fail-safe design

Both actuators are design for a fail-safe application. OMS-HA is the standard actuator offering. OMS-HAW comes with double coil springs for wireline cutting valve application.

##### Flexibility

OMS-HA and OMS-HAW actuators can be adapted to various sizes of OMS-100 manual gate valves. The manual and actuated valves use the same valve body, seats, and seals, providing greater interchangeability.

##### Backseat Capability

OMS-HA and OMS-HAW actuators come with a gas tight, metal-to-metal backseat on stem and bonnet. The grease fitting is located downstream of the stem's backseat area, provides safe pressure monitoring and venting during maintenance.

##### Stem Packing

Stem packing is identical with the OMS-100 gate valve, and it has been tested passed the API 6A PR2 Annex F test.

##### Reliability and Durability

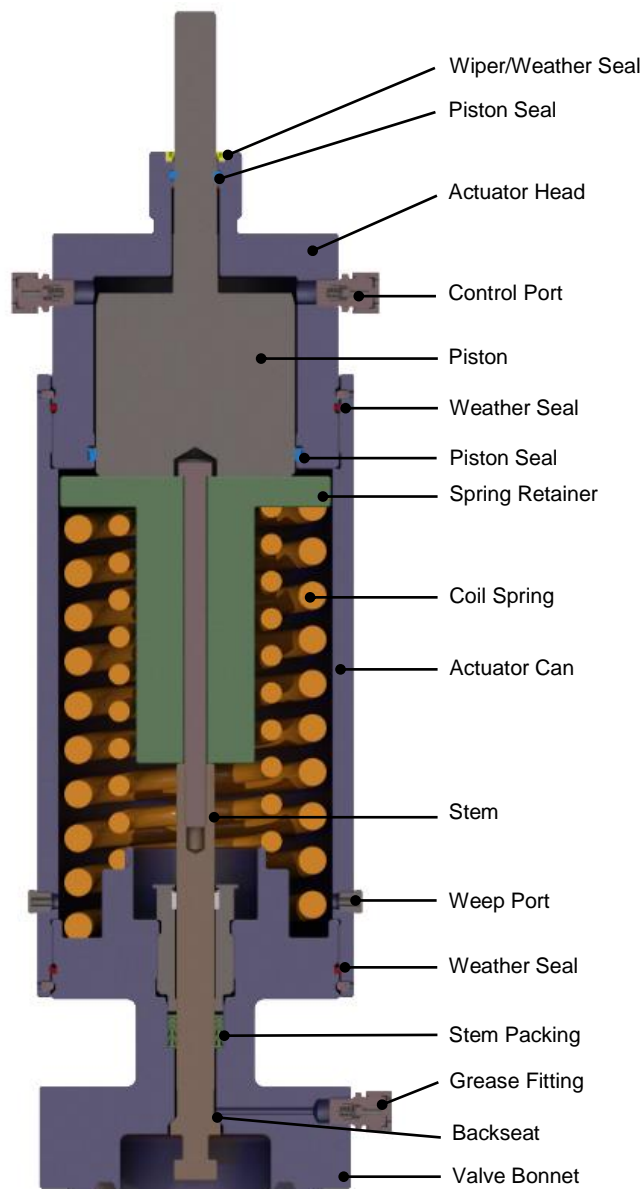
Piston and actuator components are externally and internally coated for corrosion protection. Weather seals enclose the actuator can, ensuring minimum environmental exposure. The seals and actuator assembly have been tested and passed the API 6A PR2 Annex F test.

##### Ease of Maintenance

All non-metallic seals are field replaceable, without the need of special tooling.

##### Optional Accessories

- Fusible Lock Open Cap, Lock Cap
- Manual override
- Limit switches and position indicators



OMS-HAW Actuator

OMS-100 Solid Block Tree, with OMS-HA Actuators on the Upper Master and Wing Valves



**OMS Oilfield Services**, established in 1976, is a leading oilfield services and manufacturing company. Our services include equipment repairs and remanufacturing, onsite/offsite inspection, welding, machining, and premium threading. We design and manufacture casing connectors, surface wellheads (both conventional and compact type), mudline suspension system, gate valves, and surface Christmas trees for onshore and offshore applications.

Our sales and services operations are located in the major oil centers in Asia Pacific and Middle East, comprising of 11 full-fledged facilities and 1 sales office (Kuala Lumpur).

Quality and Health, Safety, Security and Environmental (HSSE) policies are the critical enabling pillars in making OMS as a "Reliable Partner" of our employees and customers. At OMS we build our products and services with an ingrained Quality and Safety mind-set; and we achieved this through personal commitment driven by strong organizational leadership.

## QUALITY POLICY

It is the policy of OMS Oilfield Services to continually strive to improve the effectiveness of our Quality System to the satisfaction of our customers through teamwork, processes, quality objectives and aligned goals.

We strive to accomplish our Quality Policy by

- Setting specific, measurable and achievable targets, through performance measures for our core processes.
- Conducting regular reviews of our policy to ensure that our goals and objectives are relevant to our business.
- Demonstrating the ability to consistently provide products, services and solutions that match industry standards and customer requirements.
- Planning our business contingencies through our quality management system and associated processes.

## HEALTH, SAFETY, SECURITY AND ENVIRONMENTAL POLICY

We strive on our journey of Sustainable HSSE Excellence, continuously seeking opportunities to improve and build on our HSSE culture and Systems which aim to protect all employees, stakeholders and properties as well as preserve the environment.

To implement this policy OMS will:

- Ensure that occupational health, safety, security and environmental interests of our employees, clients and the public have priority over other business objectives.
- Comply with all applicable laws and regulations while aspiring to achieve or exceed the best industrial standards.
- Implement and maintain a systematic approach to HSSE management according to recognized standards.
- Identify HSSE risks and ensure that appropriate measures are in place to protect and preserve the environment, and to provide a safe and conducive workplace with a commitment to prevention of injury and ill health.
- Set and review regularly HSSE objectives and targets with a goal for continuous performance improvement.
- Foster an inclusive culture that empowers and recognizes everyone who actively engage in HSSE activities and programs.
- Openly recognize and communicate our HSSE performance with our employees and interested parties.

## SERVICE AND AFTERMARKET

Whether its **equipment installation, inspection** or **maintenance services**, we pride ourselves in providing a total solution to our customer drilling and production campaign. Our well-equipped facilities in the regions are geared to provide **Repair and Refurbishment** needs and ready to mobilize within short notice. We also provide a complete range of **Rental Equipment**, including wellheads, flow trees, lubricator tools, and other auxiliaries tooling.





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