WIRE CUTTING

Omni Valve
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HWX

REQUEST FOR QUOTE omnivalve.com/rfq.php

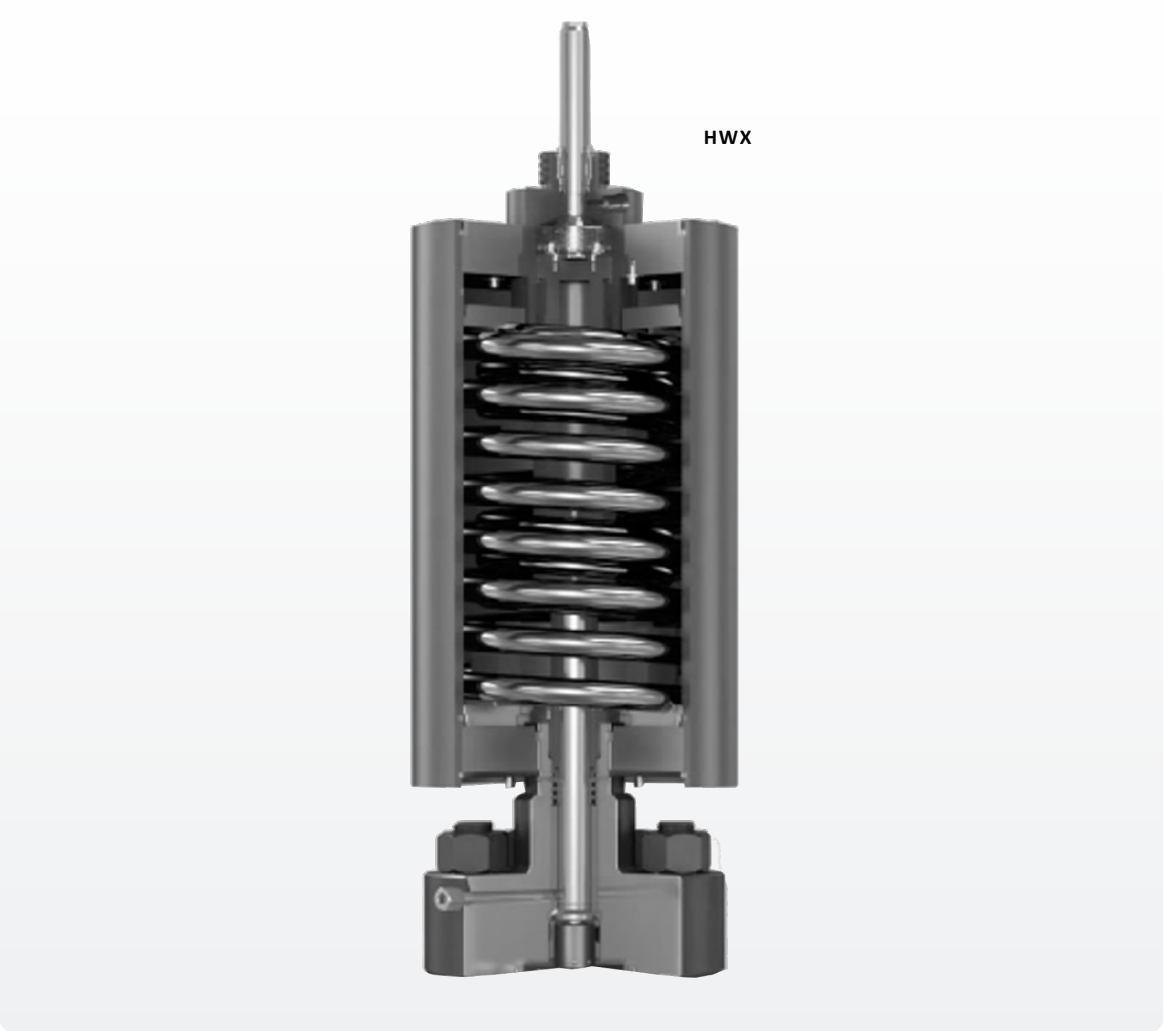
Product Warranty
All products quoted are subject to Omni Valve's limited product warranty available at: omnivalve.com/warranty.php

Model HWX - Hydraulic Wire Cutting Actuator

The Model HWX actuators feature a robust dual spring system, engineered to deliver the necessary return force for reliably shearing slickline, wireline, logging cable, or stainless steel cable in standard wellhead applications, even with zero valve body pressure.

Model HWX Applications

Omni Model HWX actuators are designed to operate surface safety or shutdown valves on oil & gas wellhead, transmission, storage, manifold or other applications where fail-safe and wirecutting capabilities are required.



Flexibility

The HWX actuator can be adapted to operate valves from any manufacturer (interface information is required) and can be delivered with alternate materials of construction if required by field conditions.

Wire Cutting Capability

The HWX provide return force capable of shearing slick-line, wire-line, logging or stainless steel cable in typical wellhead applications with zero valve body pressure.

Non-Pressurized Actuator Housing

The HWX actuators have outer housings that are structural and protective only – they are not under hydraulic pressure. This helps protect personnel and equipment in the event of damage to the outer housing.

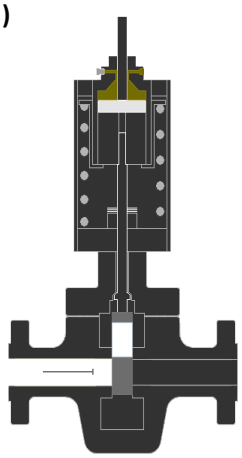
Corrosion Protection

The HWX's are internally and externally coated to prevent corrosion due to environmental conditions. All internal components are either stainless steel or are coated to prevent corrosion due to any contamination that might be present in the control pressure source.

Model HWX - Hydraulic Wire Cutting Actuator

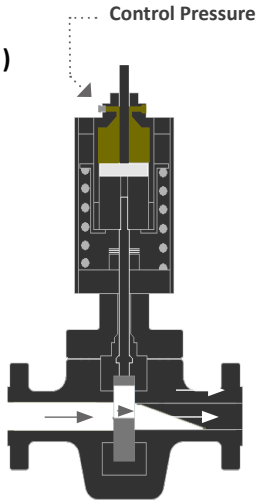
Fail "**CLOSED**" operation is depicted. Fail "**OPEN**" operation is available upon request.

1)



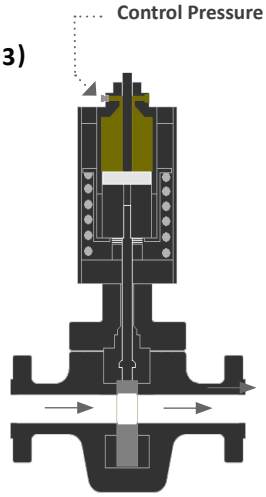
When no control pressure is applied to actuator, valve is in **CLOSED POSITION** (Gate all the way up)

2)



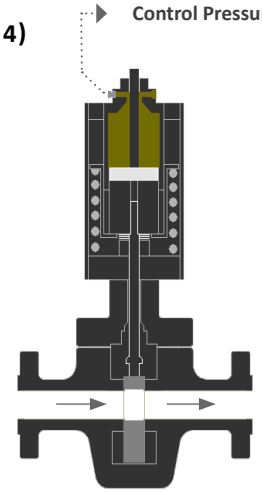
Upon application of adequate control pressure to the actuator, valve begins **OPENING** (Gate moving down)

3)



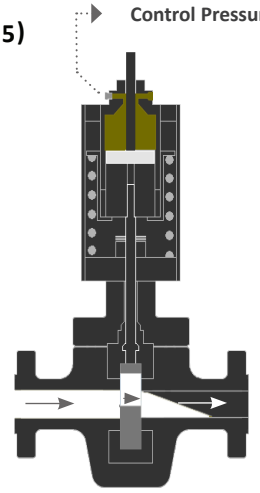
With continued application of adequate control pressure, valve moves to the **FULLY OPEN** position (Gate all the way down)

4)



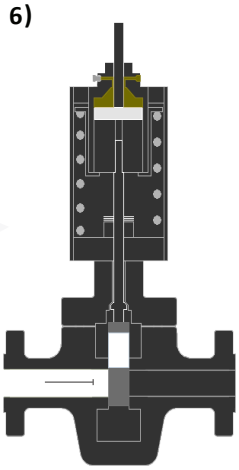
Valve remains in **FULLY OPEN** position as long as adequate control pressure is present (Gate all the way down)

5)



Upon loss of control pressure, valve begins **CLOSING** (Gate moving up)

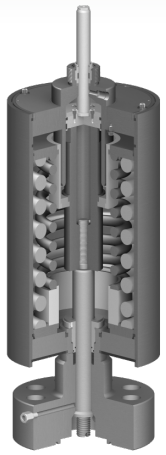
6)



Valve **FULLY CLOSES** & remains closed until application of control pressure to the actuator (Gate all the way up)

Standard Actuator Specifications		
Maximum Operating Pressure	4,000 PSI	Pressure relief device on actuator is set at 4,500 PSI
API Material Class	BB	Not appropriate if control source contains H2S (is sour)
API Temperature Rating	P (-20 F to 180 F)	(-29 C to 82 C)

Model HWX with FS-R or CS-R Gate Valves

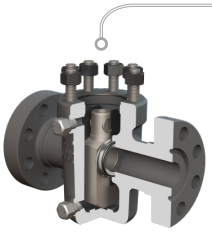


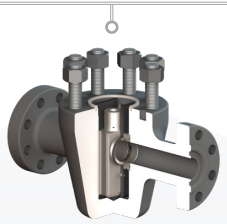
Valve Characteristics

» The Omni Model CS-R is a surface safety valve used for low pressure (2,000 / 3,000 / 5,000 psi) applications. It has single-piece floating seat design with o-ring seat seals. This arrangement provides excellent sealing integrity (even at extremely low bore pressures) and allows for variation in seal material based on the specific attributes of the bore media.

» The Omni Model FS-R is a surface safety valve used for both low pressure (3,000 / 5,000 psi) and higher pressure (10,000 / 15,000 psi) applications. It has a two-piece seat and bushing design that can accommodate a variety of seal designs and materials. This arrangement makes the FS-R an extremely reliable solution for high pressure, critical service deployments in a variety of services.

» **Both the CS-R and FS-R:**
- Are API 6A monogrammed equipment
- Are available in standard PR-2 or PR-2F (API 6A Annex F) configurations
- Have been qualified for API 6AV1 Class I (Standard Service) and Class II (Sandy Service)
- Can be certified SSV for use in Federal Offshore Waters (when provided in PR-2F Configuration)





Model CS-R

Bore Size	Pressure (psi)	API Ring #	Available PSL
2 1/16"	2,000	R23	PSL-1, 2
	3,000 / 5,000	R24	PSL-1, 2, 3, 3G
2 9/16"	2,000	R26	PSL-1, 2
	3,000 / 5,000	R27	PSL-1, 2, 3, 3G
3 1/8"	2,000 / 3,000	R31	PSL-1, 2
	5,000	R35	PSL-1, 2, 3, 3G
4 1/16"	2,000 / 3,000	R37	PSL-1, 2
	5,000	R39	PSL-1, 2, 3, 3G
5 1/8"	2,000 / 3,000	R41	PSL-1, 2
	5,000	R44	PSL-1, 2
7 1/8"	2,000 / 3,000	R45	PSL-1, 2
	5,000	R46	PSL-1, 2

Model FS-R (HIGH Pressure)

Bore Size	Pressure (psi)	API Ring #	Available PSL
1 13/16"	10,000	BX151	PSL-2, 3, 3G
	15,000		PSL-3, 3G
2 1/16"	10,000	BX152	PSL-2, 3, 3G
	15,000		PSL-3, 3G
2 9/16"	10,000	BX153	PSL-2, 3, 3G
	15,000		PSL-3, 3G
3 1/16"	10,000	BX154	PSL-2, 3, 3G
	15,000		PSL-3, 3G
4 1/16"	10,000	BX155	PSL-2, 3, 3G

Model FS-R (LOW Pressure)

Bore Size	Pressure (psi)	API Ring #	Available PSL
2 1/16"	3,000 / 5,000	R24	PSL-1, 2, 3, 3G
2 9/16"		R27	
3 1/8"	5,000	R35	
4 1/16"	5,000	R39	

API Material Classes, Materials, & Temperature Ratings

General Service Trims / Materials			See Notes 1,2,3		Available Temp Ratings	
Material Class (Notes)		NACE	Body / Bonnet	Internals	Low	High
AA	(1 / 2 / 3)	No	Carbon or Low Alloy Steel		L (-50°F / -46°C)	X (350°F / 177°C)
BB		No	Carbon or Low Alloy Steel Steel	Stainless Steel or CRA		
CC		No	SS or CRA (*)		P (-20°F / -29°C)	

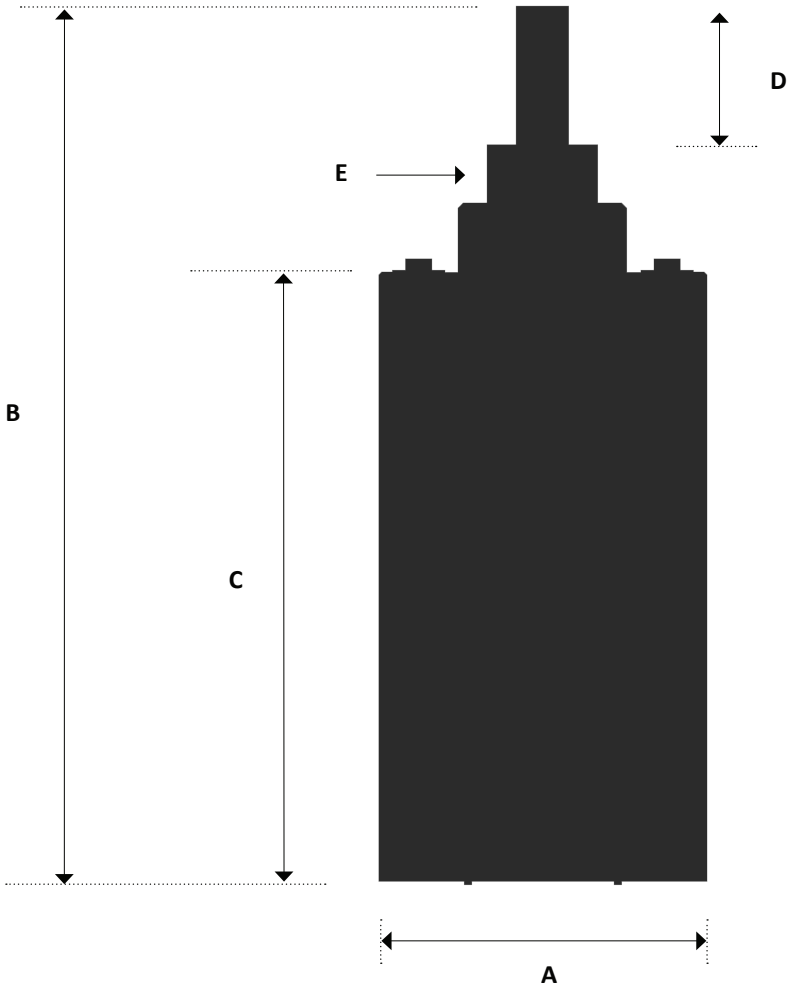
Sour Service Trims / Materials			See Notes 1,2,3,4		Available Temp Ratings	
Material Class (Notes)		NACE	Body / Bonnet	Internals	Low	High
DD	(1 / 2 / 3 / 4)	YES	Carbon or Low Alloy Steel		L (-50°F / -46°C)	X (350°F / 177°C)
EE-0,5			Carbon or Low Alloy Steel	Stainless Steel or CRA		
EE-1,5						
EE-360						
EE						
FF-0,5			Stainless Steel or CRA		P (-20°F / -29°C)	
FF-1,5						
FF-360						
FF						

Technical Notes

1	Nitriding is the standard surface treatment for both NACE and NON-NACE trims. Hardfacing or other treatments are also available.
2	CRA: Corrosion Resistant Alloy per NACE MR0175 / ISO 15156.
3	Some valves with high temp ratings (X) might be subject to de-rated working pressure. Consult Omni for a specific size and pressure.
4	NACE trims are required to have qualifiers indicating acceptable partial pressure of hydrogen sulfide. Common qualifiers are 0,5 / 1,5 / 360. NACE trims listed without qualifiers (DD / EE / FF) are assumed to have no limit (NL) to hydrogen sulfide exposure.

Model HWX - Available Sizes & Details

Actuator Dimensions



Available Sizes

Actuator Model	Size	Max Valve Stroke	A		B		C		D		Thread	Swept Volume		Weight	
			in	mm	in	mm	in	mm	in	mm		in (3)	cm (3)	lbs	kgs
HWX-40	4.5”	4 1/16”	13.73	349	32.21	818	23.50	597	5.51	140	3.0” - 8UNC 2A	70	1,147	565	256
HWX-60	6.5”	7 1/16”	16.50	419	36.00	914	25.00	635	8.10	206	3.0” - 8UNC 2A	258	4,228	842	382
HWX-90	9”	7 1/16”	19.75	502	39.00	991	28.00	711	8.10	206	3.0” - 8UNC 2A	590	9,668	965	438
HWX-110	11”	7 1/16”	22.00	559	42.00	1,067	31.00	787	8.10	206	3.0” - 8UNC 2A	944	15,469	1,289	585

* Actual closing times will depend on the configuration of system used to pipe fluid to and from the actuator as well as whether or not a quick exhaust valve is used.

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