



Optimax™ Series Safety-Valve Lock Model OQXSV

Weatherford's *Optimax* series OQXSV safety-valve lock is a large-bore variant of Weatherford's successful Uniset® lock mandrel, which has established an outstanding service record in applications worldwide. The model OQXSV safety-valve lock was developed for use with the *Optimax* series wireline-retrievable safety valve and is installed and retrieved on slickline. It is designed for compatibility with the Weatherford QN nipple profile and can also be designed to suit third-party nipple profiles.

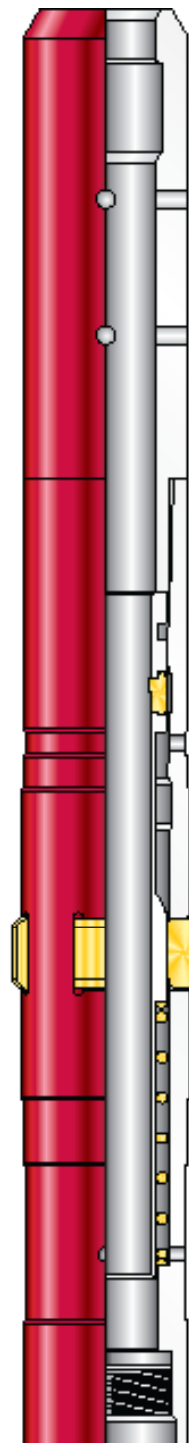
The standard *Optimax* OQXSV safety-valve lock has a maximum temperature rating of 300°F (149°C) and is rated for working pressures of 10,000 psi (68.9 MPa) from below. Because it is a sit-on, no-go design, there is no pressure rating from above. Special clearance locks can be designed with reduced ODs for applications in which running clearance is of particular importance.

Applications

- Fluid and gas environments
- Production and injection applications

Features, Advantages and Benefits

- API Q1 and API 14L quality programs ensure design and manufacturing integrity.
- The OQXSV running tool eliminates uncertainty with a “tell-tale” collet that indicates on retrieval whether the safety-valve lock setting procedure was successful.
- The flush ID inner mandrel minimizes turbulence and scale adhesion, enhancing reliability.



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Features, Advantages and Benefits (continued)

- Design procedures and precision component manufacture prevent the entrance of solids to the lock internals in sandy conditions for trouble-free operation.
- The rigid outer mandrel directly transfers maximum jarring force to overcome seal friction when setting and retrieving the valve. Minimal downward jarring is required to set the lock.
- The box connection down connects directly to the packing mandrel, eliminating potential leak paths to the safety-valve hydraulic control system.
- Each basic tubing size is gas-slam tested at a minimum flow velocity of 100 ft/sec, three times the API requirement for maximum reliability.
- Retention of design, material, manufacturing, assembly, and test documentation ensures full conformance to industry standards.
- The movement of the upward lock mandrel eliminates the need for a secondary lockdown mechanism, preventing flow-induced vibration from unseating the lock mandrel.
- A significant increase in bore size, and therefore flow area, yields a lower pressure drop for any given flow rate.
- Designed without elastomeric seals for ease of use, the OQXSV safety-valve lock optimizes reliability and simplifies redress.
- Minimal threaded connections reduce the potential for galling on disassembly.
- A wide range of materials are available to ensure fluid compatibility.

Options

- The Model OQXSV safety-valve lock can be supplied in any seal-bore size to suit Weatherford's QN nipple or third-party nipple profiles.
- Special clearance OQXSV safety-valve locks can be designed with reduced ODs.



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Specifications

Size (in./mm)	2-3/8 ×	2-7/8 ×		3-1/2 ×			4-1/2 ×		
	1.875 47.62	2.188 55.57	2.313 58.75	2.562 65.07	2.750 69.85	2.813 71.45	3.437 87.30	3.688 93.67	3.813 96.85
Maximum lock OD (in./mm)	1.930 49.02	2.244 57.00	2.368 60.15	2.617 66.47	2.805 71.25	2.868 72.85	3.500 88.90	3.750 95.25	3.873 98.37
Minimum bore ID (in./ mm)	0.850 21.59		1.291 32.79		1.593 40.46	1.732 43.99	1.861 47.27	2.194 55.73	2.460 62.48
Overall length (in./cm)	19.70 50.04		20.20 51.31	21.28 54.05			23.30 59.18	22.00 55.88	23.05 58.55
Fishing neck profile (in.)	2.00 GS				3.00 GS		3.50 GS	4.00 GS	
Working pressure—above	No pressure from above								
Working pressure—below (psi/MPa)	10,000 68.9								
Test pressure (psi/MPa)	10,000 68.9								
Rated working temperature (°F/°C)	30° to 300° −1° to 149°								
Lower box thread (in.)	1.400 – 14 Stub Acme	1.740 – 14 Stub Acme	1.850 – 14 Stub Acme		2.225 – 14 Stub Acme	2.265 – 14 Stub Acme	2.874 – 12 Stub Acme	3.125 – 14 Stub Acme	3.250 –12 Stub Acme
Metallic materials	13% minimum chrome, 80,000-psi (552-MPa) minimum yield for all body parts. Elgiloy® or MP35N coil springs. All materials heat treated in accordance with NACE MR 01 75.								
Accessory tools	Weatherford <i>Optimax</i> OQXSV running tool Weatherford <i>Optimax</i> OQXSV pinning handle Weatherford <i>Optimax</i> OQXSV pulling probe Otis GS style pulling tool								
Design compliance	API 14L								
Manufacturing compliance	Manufactured in accordance with API Q1 and API 14L								
Class of service	H ₂ S and standard								

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Specifications (continued)

Size (in./mm)	5-1/2 ×					7.00 ×				9-5/8 ×
	4.412 112.06	4.562 115.87	4.578 116.28	4.688 119.07	4.750 120.65	5.813 147.65	5.875 149.22	5.963 151.46	6.000 152.40	8.410 213.61
Maximum lock OD (in./mm)	4.471 113.56	4.622 117.40	4.638 117.80	4.735 120.27	4.810 122.17	5.894 149.71	5.955 151.26	6.043 153.49	6.080 154.43	8.510 216.18
Minimum bore ID (in./mm)	2.778 70.56	2.952 74.98				4.000 101.60				6.141 155.98
Overall length (in./cm)	23.10 58.67					22.80 57.91				28.00 71.12
Fishing neck profile (in.)	4.00 GS	5.00 GS				6.00 GS				9.00 GS
Working pressure—above	No pressure from above									
Working pressure—below (psi/MPa)	10,000 68.9									
Test pressure (psi/MPa)	10,000 68.9									
Rated working temperature (°F/°C)	30° to 300° −1° to 149°									
Lower box thread (in.)	3.820 – 12 Stub Acme	3.940 – 10 Stub Acme				5.200 – 10 Stub Acme		5.354 – 10 Stub Acme	5.200 – 10 Stub Acme	7.70 – 12 Stub Acme
Metallic materials	13% minimum chrome, 80,000-psi (552-MPa) minimum yield for all body parts. Elgiloy or MP35N coil springs. All materials heat treated in accordance with NACE MR 01 75.									
Accessory tools	Weatherford <i>Optimax</i> OQXSV running tool Weatherford <i>Optimax</i> OQXSV pinning handle Weatherford <i>Optimax</i> OQXSV pulling probe Otis GS style pulling tool									
Design compliance	API 14L									
Manufacturing compliance	Manufactured in accordance with API Q1 and API 14L									
Class of service	H ₂ S and standard									



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Specifications (continued)

Size (in./mm)	OQXSV Lock	Running Tool	Pinning Handle	Pulling Probe	GS Pulling Tool	Running Prong	Pulling Prong
1.875 47.62	606-1875-000-001	651-1812-000-002	665-2000-03-11	675-1813-01-11	P46.200.00	670-2375-001-410	670-2375-002-410
2.188 55.57	606-2188-000-001			675-2313-000-001		670-2875-001-410	670-2875-002-410
2.313 58.75	606-2313-000-001						
2.562 65.07	606-2562-000-001						
2.750 69.85	606-2750-000-001	651-2812-00-01	665-3000-01-11	675-3510-00-01	P46.300.00	670-3500-001-410	670-3500-002-410
2.813 71.45	606-2813-000-001	650-2813-000-002		675-2813-01-11			
3.437 87.30	606-3437-000-001	650-4010-00-02	665-3500-03-15	675-4010-03-11	P46.313.00	1188481	
3.688 93.67	606-3688-000-001	650-4500-00-03	665-4000-01-15	675-4500-00-01	P46.400.00	670-4500-003-410	670-4500-004-410
3.813 96.85	606-3813-000-001	650-5000-000-006		675-5000-00-01		670-4500-001-410	670-4500-002-410
4.412 112.06	606-4412-000-001	650-5500-00-01		675-5500-00-01		1122114	
4.562 115.87	606-4562-000-001	650-5510-00-02		665-5000-01-15		675-5510-00-01	P46.500.00
4.578 116.28	606-4578-000-001						
4.688 119.07	606-4688-000-001						
4.750 120.65	606-4750-000-001						
5.813 147.65	606-5813-000-001	651-5980-000-002	665-6000-01-15	675-5980-00-01	P46.600.00	670-7000-001-410	670-7000-002-410
5.875 149.22	606-5875-000-001						
5.963 151.46	606-5963-000-001						
6.000 152.40	606-6000-000-001						
8.410 213.61	608-8410-000-001	658-9000-000-001	665-9000-000-001	675-9000-000-001	01115377	670-9000-000-001	670-9000-000-001

For Internal Use

 Link to Endeca assembly part numbers: [OQXSV Lock Mandrel](#)