

Well Construction

Cementing Technologies

Full-Open Isolation Valves | One Piece, Two Piece, Automation Package

Expro's One-Piece, Two-Piece Full-Open Isolation Valves can be run in conjunction with Expro's Automated and Wireless cement heads or as a standalone Isolation valve.

Full-open isolation valve automation package

Our fully-automated, Full-Open Isolation Valve package adds safety to the rig floor by reducing workers' exposure to high-pressure elements and by adding full isolation to a remote operator. When added to the Expro Cement head, the top full-open isolation valve helps isolate the top drive from any unexpected flow backs and pressure surges. It can then be opened and closed to displace the job. The valve can be functioned an unlimited number of times, even when rotating the cement head during a job. All of the rugged control lines and valves actuators are protected by heavy-grade shielding to reduce the chances of damaging any critical components while handling this equipment. Every automation package also has a manual override for complete redundancy and reliability.

Features

- LITE-TORC™ feature allows operator the ability to close the valve under significant flow. Once closed, the valve can be reopened with less than 30 ft-lbs of torque
- SURE-STOP™ feature prevents over rotation of the ball valve, providing a fully-opened or fully-closed position, preventing damage to the darts due to ledges created by partially-opened valve.
- Dart-friendly funnel allows darts to be pumped through the ID of the Isolation Valve without damage to the dart fins.
- 15,000 psi working pressure
- High-Yield material is ideal for deepwater applications where high pressure and high tensile strengths are needed.
- Isolation Valve can be used in conjunction with Automated or Wireless package with manual backup.
- Modified API middle connection with high torque capability to prevent premature breakout (Two Piece)

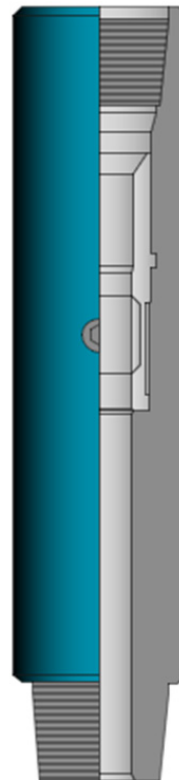
Full-open isolation valve automation package

- Fits the One-Piece and Two-Piece Full-Open Isolation Valves
- Runs on hydraulic power for maximum amount of torque transfer to the valve
- Can open and close in 5.4 seconds for complete isolation

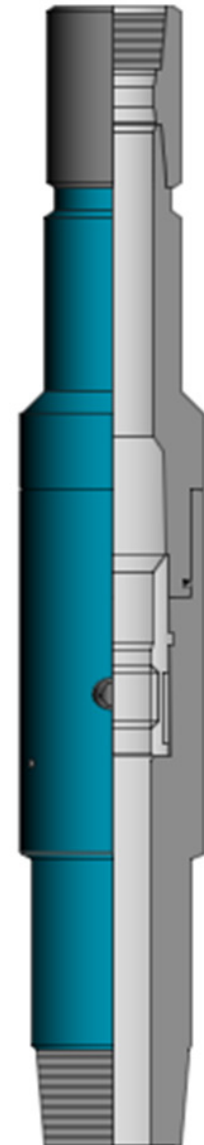
Benefits

- Increased ease of operation with LITE-TORC™ feature when utilized in an isolation scenario.
- Reduced likelihood of plug/dart/ball damage improves cementing efficiency.
- When used in conjunction with the Expro Top Drive Cement head, isolates the top drive during cementing operations and isolates flow from the wellbore.
- Larger ID to allow passage of larger OD setting balls and darts. (Two Piece)

One-Piece



Two-Piece



Full-open isolation valve automation package





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Specifications

One-Piece Valves

OD	ID	Max tensile load	Connection
6 5/8 in.	2 13/16 in.	1,233,831 lbs @ 15K psi	4 1/2 in. IF (NC50)
7 3/8 in.	3 5/64 in.	1,389,004 lbs @ 15K psi	5 1/2 in. FH
8 1/2 in.	3 1/16 in.	2,569,401 lbs @ 15K psi	6 5/8 in. FH
9 3/4 in.	3 1/16 in.	3,502,824 lbs @ 15K psi	6 5/8 in. FH

Note:

- A) The mating connection could be the governing member for max tensile load and is outside control of this document.
- B) Connection ratings, when used as governing member for max tensile load, are in accordance to the latest revision of API RP7G and API 7-1.
- C) Max tensile load ratings do not include safety factor. Expro Specialty Tools recommends using a 1.5 SF for max working load.

Specifications

Two-Piece Valves

OD	ID	Max tensile load	Connection	Middle Thread Make-Up Torque
6 3/8 in.	2 11/16 in.	587,561 lbs @ 15K psi	3 1/2 in. IF (NC38)	31,940 ft-lbs
6 3/8 in.	2 9/16 in.	1,057,026 lbs @ 15K psi	4 XT39	42,078 ft-lbs
6 3/8 in.	2 13/16 in.	924,898 lbs @ 15K psi	4 1/2 in. XH (NC46)	31,940 ft-lbs
8 3/4 in.	4 in.	1,802,589 lbs @ 15K psi	5 1/2 in. HT-55	97,451 ft-lbs
9 1/8 in.	4 1/4 in.	1,375,162 lbs @ 15K psi	5 7/8 in. XT 57	94,764 ft-lbs
9 1/8 in.	4 1/4 in.	1,375,162 lbs @ 15K psi	5 7/8 in. XTM 57	94,764 ft-lbs
9 3/4 in.	4 1/4 in.	2,032,776 lbs. @ 15K psi	6 5/8 in. FH	143,815 ft-lbs
9 3/4 in.	4 5/8 in.	740,000 lbs. @ 15K psi	5 1/2 in. GBCDE	32,604 ft-lbs

Note:

- A) The mating connection could be the governing member for max tensile load and is outside control of this document.
- B) Make-up torque for middle thread to be the lesser of the value listed above and 1.1 times the maximum recommended make-up torque of the end connection.
- C) Connection ratings, when used as the governing member for max tensile load, are in accordance to the latest revision of API RP7G and API 7-1.
- D) Max tensile load ratings do not include safety factor. Blackhawk Specialty Tools recommends using a 1.5 SF for max working load.