

VERSA-CHOKE

FEATURES

- 5K, 10K, and 15K MAWP (maximum allowable working pressure) ratings
- P-X temperature rating: -20° to 350°F
- Position-based control (worm-gear or piston-style hydraulic actuators available)
- Hot-swappable actuators
- Reversible 1½, 2 and 3-in trim sizes
- Modular design and easily replaceable components
- API 6A Performance Requirement PR2 (optional)
- All available actuators will withstand full MAWP applied to the outlet of the choke
- API flange sizes up to 4½ in
- Quick-change internal components
- Designed, manufactured, and monogrammed in accordance with API 6A and 16C
- Optional certifications available: API 6A PR2, PSL3G, ABS CDS, DNV, CE and PED marked, NORSOK Z-015 and D-002
- Designed in accordance with API 6A and NACE MR0175 for H2S service to Material Class EE-NL

BENEFITS

- Effective in wide range of pressures and temperatures
- Ability to reverse trim significantly improves choke operation life and reduce maintenance costs
- Spool length and size can be configured to meet custom applications

The highly flexible VERSA-CHOKE[†] drilling choke is ideally suited for high-end pressure management during managed pressure drilling (MPD), underbalanced drilling (UBD), frac plug drill-outs, frac flowback and well control.



15K VERSA-CHOKE unit shown with worm-gear hydraulic actuator

The 5K (345 bar), 10K (689 bar) and 15K (1,034 bar) VERSA-CHOKE units are engineered for advanced well-control applications, requiring large orifice with high pressure and temperature ratings.

The position-based VERSA-CHOKE unit is controlled by a specially designed hydraulically driven worm-gear actuator. Unique to the modular VERSA-CHOKE unit is the capacity to easily “hot swap” the actuator without having to disassemble any internal components, thereby reducing maintenance time. Two styles of hydraulic actuators are available, a piston-style actuator for use on the 5K VERSA-CHOKE unit and a worm-gear style for use on any pressure VERSA-CHOKE unit. In case of extreme situations, both actuator styles are designed to withstand, without failure, the full working pressure on the outlet of the choke. Available in reversible 1½, 2 and 3-in. trim sizes, the VERSA-CHOKE unit carries an API P-X (-20°F to 350°F) temperature rating.

BENEFITS (CONTINUED)

- Trim can be changed from 1½ to 2 to 3 in by only changing internal components
- Gantry arm promotes ease of maintenance
- Actuators withstand full back pressure
- Safe solution for high-pressure applications

APPLICATIONS

Multiple highly pressure-sensitive applications, including:

- Critical pressure control
- Managed pressure drilling
- Underbalanced drilling
- Frac plug drill-out
- Frac flowback

How it works

The VERSA-CHOKE unit utilizes a hydraulic actuator (worm-gear or piston-style) which connects to and controls movement of the internal trim components of the VERSA-CHOKE unit. An axially moving gate engages a stationary seat (together the trim components), which creates an annular orifice that varies in area as the gate moves in and out from the seat.

The VERSA-CHOKE Console

The VERSA-CHOKE console is constructed of stainless steel and includes forklift pockets and lifting eyes. It is supplied with drillpipe and casing-pressure gauges with an optional offering of digital gauges. The console includes a hydraulic accumulator, rig air gauge and hydraulic system pressure gauge and is equipped with an electronic position indicator display, digital pump-stroke-rate meter, timer and clock. The stroke-rate meter allows for the connection of up to four limit switches, giving the ability to read up to four separate pumps. Major system components can be quickly isolated for maintenance ease. The system also features air and hydraulic filters to improve service life. Consoles are certified for NEC Class 1, Division 1 and ATEX Zone 1, and can be monogrammed to API 16C upon request.

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P.O. Box 42842
Houston, Texas 77242-2842
www.miswaco.slb.com
Email: questions@miswaco.slb.com