Schlumberger

XLG Series Side Pocket Mandrels

APPLICATIONS

- Subsea gas lift installations
- High-pressure deepwater gas lift installations
- High-performance and high-reliability gas lift installations

BENEFITS

- Ability to maintain existing completion practices and surface facilities with no modifications
- Increased operating pressure envelope for deeper gas injection

FEATURES

- Large flow inlet and valve pocket bore to optimize fluid flow path
- Customized flush-mounted cable and control line bypass system
- Simplified hardware with familiar gas lift system techniques, eliminating need for learning curve

High-pressure gas lift completions

The XLG Series side pocket mandrel is an integral part of the XLift* high-pressure gas lift system. The XLG mandrel design features angled injection ports in the mandrel body and pocket to optimize the flow of injection gas, dramatically reducing the flow turbulence impinging on the internal diameter of the well casing and the gas flow path through the valve. The XLG mandrel design also allows for full-length, flush-mounted, cable/control line bypass. Unlike traditional side pocket mandrels that require guard systems that increase their outside geometry, the XLG mandrel allows for multiple cable/control line bypasses without altering the original outside drift diameter of the mandrel body.

The XLG mandrel accepts the XLift flow control system consisting of the 1¾-in XLI gas lift valve, the 1¾-in XLO orifice valve, the 1¾-in XLO-B orifice valve with an integral burst disk, or the 1¾-in XLD dummy valve. The integral valve latch is a ring type. These valve combinations are run and pulled with OXL Series kickover tools designed for the larger valve and latch combination and are based on the field-proven OK/OM type designs. The XLK running tool is similar to the RK running tool, and the valve is pulled with the appropriate JD Series pulling tool.

XLG side pocket mandrel.

XLG Series Side Pocket Mandrels

XLG Series Side Pocket Mandrel Specifications				
Tubing size, in OD; lbm/ft [kg/m]	4½; 12.6 [19]	5½; 17 [25]	5½; 20 [30]	5½; 23 [34]
Min. ID, in [mm]	3.933 [100]	4.834 [123]	4.695 [119]	4.587 [117]
Internal drift, in [mm]	3.833 [97]	4.767 [121]	4.653 [118]	4.545 [115]
Max. OD, in [mm]	7.515 [191]	8.473 [215]	8.296 [211]	8.346 [212]
External drift, in [mm]	7.625 [194]	8.525 [217]	8.379 [213]	8.525 [217]
Recommended casing, in OD; lbm/ft [kg/m]	8⅝; 38 [57]	9.625; 47 [70]	9.625; 53.5 [80]	9⅝; 47 [70]
Length, in [mm]	117.557 [2,986]	125 [3,175]	134 [3,404]	132.000 [3,353]
Pocket size, in [mm]	1.75 [44]	1.75 [44]	1.75 [44]	1.75 [44]
Cable bypass envelope, in	See footnote†	1.046 × 0.614 (both sides)	1.000 × 0.482 and 0.640 × 0.600	1.500 × 0.500
Material†	410SS/13Cr	410SS/13Cr	INCONEL® alloy 718	410SS/13Cr
Internal test pressure at ambient temperature, psi† [kPa]	8,745 [60,295]	7,740 [53,365]	12,000 [82,737]	7,500 [51,711]
External test pressure at ambient temperature, psi† [kPa]	8,570 [59,088]	6,290 [43,368]	11,000 [75,842]	8,000 [55,158]
Tensile strength at ambient temperature, lbf [N]	288,000 [1,281,088]	397,000 [1,765,944]	641,000 [2,851,310]	466,000 [2,072,871]
Thread weight†, lbm/ft	12.6	17	20	23.0
Thread type†	New VAM®	Tenaris®-3-SB	VAM Top Hc	KS Bear®
Thread configuration†	Box × pin	Box	Box	Box × pin
Thread recuts	See footnote†	0	2	2
XLG Series Side Pocket Mandrel Accessories				
Pulling tool	2.000-in JDC type			
Mandrel series	XLG			

†Alternative specifications, materials, sizes, and pressure ratings available on request.

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