

“BDXD” / “BDRD” Non-Elastomeric Sliding Side Sleeve

The “**BDXD**” / “**BDRD**” **Non-Elastomeric Sliding Side Sleeve** is a full opening device with an inner sleeve that can be opened or closed using standard slickline methods. This sleeve enables communication between the tubing and the tubing/casing annulus for circulation or selective-zone production.

The BDXO or BDRO nipple profile is featured above the inner sliding sleeve and a polished packoff area above the inner sliding sleeve and a polished packoff area below as an integral part of the assembly. This design provides for additional landing nipple in the tubing string for a wide variety of flow control equipment and the option to pack it off.

When desired, the sleeve can be shifted open or closed using standard wireline methods and a BD42BO type shifting tool. The tool is designed such that any lock profile and compatible seal bores can be specified to accept a wide range of wireline locks and accessories.

A three-position collet lock helps keep the sleeve in full open, equalizing or full-closed position. Equalizing ports in the inner sleeve are designed to allow pressure differential between the tubing and casing annulus to equalize while shifting into the full-open or closed position. Any number of circulation equipment pieces may be run in a single tubing string and all opened or all closed on a single slickline trip. Individual sleeves may also be opened or closed selectively as needed.

The BDXD/BDRD Non-Elastomeric Sliding Side Sleeve is equipped with a non-elastomer engineered composite material which is so advanced that temperature and pressure ranged for testing have been expanded drastically, resulting in a new specification for sleeves. During testing, the BDXD/BDRD Non - Elastomeric Sliding Side Sleeve were repeatedly opened with differential pressure with no seal damage.

The nominal working specifications for the sleeve, in most cases, are burst, collapse and tensile equal to N80 tubing, 375°F (190.5°C) service temperature with 1,500 psi (1.0.4 bar) maximum shifting differential. The sleeves have been designed in four standard materials; 4130, 4140, 9Cr-1Mo, 13% Cr and Inconel 718 for a wide range of services.

The BDXD/BDRD Non-Elastomeric Sliding Side Sleeve is used for a variety of installations. It is available in two shifting versions:

- Down to close and up to open
- Up to close and down to open

BDXD Non-Elastomeric Sliding Side Sleeve



Also available for standard and heavy weight tubing and high temperature service. All have a circulation/production area equivalent to the tubing area and have a circulation/production area equivalent to the tubing area.

Please contact our BDWS Sales representative.



Black Diamond WELL SERVICES

APPLICATIONS

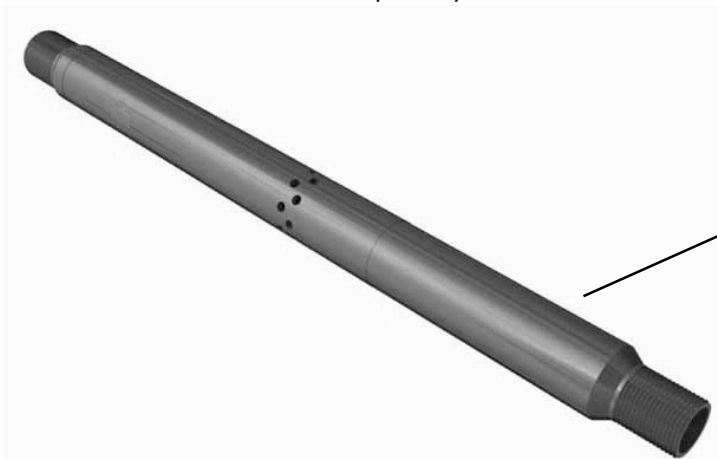
- Communication of flow from individual zones between packers
- Circulation of completion or kill fluids from the annulus to the tubing above the production packer
- Injection of water to individual zone for water flooding
- Single selective completions
- Circulating kill fluids
- Secondary recovery
- Washing above packer

FEATURES

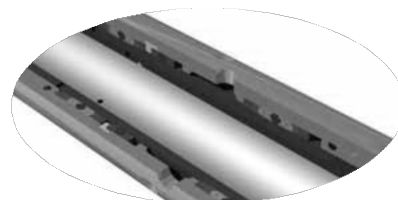
- BDXO or BDRO Nipple profile is standard; other profiles available on request
- Non-Elastomer seals
- Polished packoff area
- Circulation/production area equals the tubing area
- Opens up or down
- Packing does not move when the sleeve is shifted
- Three-position collet lock
- Equalizing ports in the inner sleeve allow equalizing at high differential pressure

BENEFITS

- Two versions for different shifting needs and compatibility with other completion equipment
- Reliable shifting for the life of the well
- Provide reliable sealing at temperature up to 375°F (190°C) and 10,000 PSI (68,948 kPa)
- Sleeve can be shifted even when outside of sleeve is packed with sand
- Several pieces of equipment may be run in a single tubing string
- All the pieces of equipment can be shifted on a single trip of the slickline
- Individual sleeves may also be opened or closed selectively as desired
- Inner sleeve can be shifted repeatedly



Section View





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Tubing Size		Seal Bore		Tool											
				OD		Max Pressure Rating		Max Temperature		Tensile Strength		Differential Opening		Torque Limit	
Inch	mm	Inch	mm	Inch	mm	PS	mPa	°	°	lbf	N	PS	kPa	ft-lb	N-m
2.375	60.33	1.810	46.02	3.080	78.23	5,000	34.473	375	191	96,000	427,029	1,500	10,342	3,500	4,475
		1.875	47.63												
2.875	73.03	2.188	55.58	3.750	95.25	10,000	68.948	375	191	136,000	604,958	1,500	10,342	3,500	4,475
		2.313													
3.500	88.90	2.562	65.07	4.500	114.30	10,000	68.948	375	191	210,000	796,232	1,500	10,342	4,000	5,423
		2.750	69.85												
		2.813	71.42												
4.000	101.60	3.125	79.38	5.250	133.35	10,000	68.948	325	163	210,000	796,232	1,500	10,342	5,700	7,728
		3.313	84.12												
		3.437	87.30												
4.500	114.30	3.625	92.08	5.500	139.70	8,200	56.537	325	163	260,000	1,156,538	1,500	10,342	6,000	8,135
		3.688	93.68												
		3.750	95.25												
5.000	127.00	4.000	101.60	5.900	149.86	7,500	51.710	300	149	315,000	1,401,190	1,500	10,342	5,500	7,457
		4.125	104.78												
5.500	139.70	4.313	109.52	6.500	165.10	7,500	51.710	300	149	351,000	1,561,326	1,500	10,342	6,200	8,406
		4.562	115.87	6.630	168.40	6,300	43.437	300	149	480,000	2,001,700	1,500	10,342	6,500	8,813
		4.750	120.65												