



## “BDRO” “BDRD” “BDRA” Sliding Sleeve

The BDWS Sliding Sleeve is comprised of full-opening devices with an inner sleeve that can be opened or closed, using standard wireline methods to provide communication between the tubing and the tubing/casing annulus. They feature the BDR nipple profile above the inner sliding sleeve and a polished area below as an integral part of the assembly. This provides for an additional landing nipple on the tubing string for a wide variety of BDWS Flow Control Equipment, plus the option to pack it off, if desired.

The **“BDRO” Sliding Sleeve** by design allows 85% of the tubing flow area. It is used for heavy weight tubing with the “one shift up to close and down to open” version.

The **“BDRD” Sliding Sleeve** by design allows 100% of the tubing flow area. It is used for heavy weight tubing with the “one shift up to close and down to open” version. The BDRD Sliding Sleeve reduces the pressure loss over the flow ports in heavy crude oil wells. It is identical in design and operation to the BDRO Sliding Sleeve except for its larger port areas.

The **“BDRA” Sliding Sleeve** by design allows 85% - 100% of the tubing flow area depending on size and grade of material. It is used for heavy weight tubing with the “one shift down to close and up to open” version. The BDRA Sliding Sleeve opens up, opposite to the BDRO and BDRD Sliding Sleeve, which makes it easier to open in heavy oil or drilling mud, upward jar action being more effective. The disadvantage is that the shifting tool is above the flow ports when the sleeve is opened and if there is a pressure differential across the Sliding Sleeve, there is a greater risk of being blown up the hole.

### BENEFIT

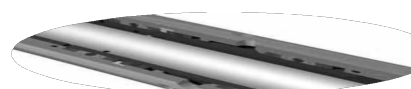
- Sliding Sleeve rated for differential pressure up to 10,000 psi dependant on sizes.
- Designed to permit shifting of sleeve - even when outside of sleeve is packed with sand, as packing is retained in the polished bore and does not move when the sleeve is shifted.
- Compression, tensile and burst strength of the sliding sleeve are equal to or greater than N80 Tubing. Models are also available in strengths equal to or greater than P110 tubing.
- Two-position collet lock helps to keep sleeve in full-open 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 the Sliding Sleeve may be run in a single tubing string and all opened or all closed on a single trip of the wireline. Individual sleeves may also be opened or closed selectively as desired
- The use of stationary Vee-Packing is designed to permit greater clearance between the inner sleeve and outer housing. This design permits the inner sleeve to be shifted many times with ease and minimizes the possibility of malfunction.



**BDRO  
Sliding Sleeve**



**Section View**





# Black Diamond WELL SERVICES

TUBING							HEAVY WEIGHT NIPPLES ID		PART NUMBER		
SIZE		WEIGH	ID		DRIF						
Inch	mm	Inch	Inch	mm	Inch	mm	Inch	mm	RO Profile	RD Profile	RA Profile
1.050	26.67	1.20	0.824	20.93	0.730	18.54	AVAILABLE ON REQUEST		AVAILABLE ON REQUEST		
1.315	33.40	1.80	1.049	26.64	0.955	24.26	AVAILABLE ON REQUEST		AVAILABLE ON REQUEST		
		2.25	0.957	24.30	0.848	21.54					
1.660	42.16	3.02	1.278	32.46	1.184	30.07	1.125	28.58	SD112RO	SD112RD	SD112RA
1.900	48.26	3.64	1.500	38.10	1.406	35.71	1.375	34.93	SD137RO	SD137RD	SD137RA
2.375	60.33	5.30	1.939	49.25	1.845	46.86	1.781	45.204	SD178RO	SD178RD	SD178RA
		5.95	1.867	47.42	1.775	45.09	1.710	43.43	SD171RO	SD171RD	SD171RA
		6.20	1.853	47.07	1.759	44.68					
		7.70	1.703	43.26	1.609	40.87	1.500	38.10	SD150RO	SD150RD	SD150RA
2.875	73.03	7.90	2.323	59.00	2.229	56.62	2.188	55.58	SD218RO	SD218RD	SD218RA
		8.70	2.259	57.38	2.165	54.99	2.125	53.98	SD212RO	SD212RD	SD212RA
		8.90	2.243	56.97	2.149	54.58					
		9.50	2.195	55.75	2.101	53.37	2.000	50.80	SD200RO	SD200RD	SD200RA
		10.40	2.151	54.64	2.057	52.25					
		10.70	2.091	53.11	1.997	50.72	1.875	47.63	SD187RO	SD187RD	SD187RA
		11.00	2.065	52.45	1.972	50.06					
		11.65	1.995	50.67	1.901	48.29					
3.500	88.90	12.80	2.764	70.21	2.639	67.03	2.562	65.07	SD256RO	SD256RD	SD256RA
		12.95	2.750	69.85	2.625	66.68					
		15.80	2.548	64.72	2.423	61.54	2.313	58.75	SD231RO	SD231RD	SD231RA
		16.70	2.480	62.99	2.355	59.82					
		17.05	2.440	61.98	2.315	58.80					
4.000	101.60	11.60	3.428	87.07	3.303	83.90	3.250	82.55	SD325RO	SD325RD	SD325RA
		13.40	3.340	84.84	3.215	81.66	3.125	79.38	SD312RO	SD312RD	SD312RA
4.500	114.30	12.75	3.958	100.53	3.833	97.36	3.688	93.68	SD368RO	SD368RD	SD368RA
		13.50	3.920	99.57	3.795	96.39					
		15.50	3.826	97.18	3.701	94.00					
		16.90	3.754	95.35	3.629	92.18	3.437	87.30	SD343RO	SD343RD	SD343RA
		19.20	3.640	92.46	3.515	89.28					
5.000	127.00	15.00	4.408	111.96	4.283	108.79	4.125	104.78	SD412RO	SD412RD	SD412RA
		18.00	4.276	108.61	4.151	105.44	4.000	101.60	SD400RO	SD400RD	SD400RA
5.500	139.70	23.00	4.670	118.62	4.545	115.44	4.313	109.55	SD431RO	SD431RD	SD431RA
7.000	177.80	17.00	6.538	166.07	6.413	162.89	5.250	133.35	SD525RO	SD525RD	SD525RA

OD will vary depending on threads, material and desired pressure rating. If OD dimensional restrictions apply, consult with our BDWS Sales representative to confirm outside diameter available for your application.