

Bear™ Pumps — BD-60 Triplex Pump

PUMPS FOR THE MOST DEMANDING APPLICATIONS

Bear Pumps: Series BD-30, BD-60 and BD-85

This series of pumps utilizes longer strokes and higher rod load ratings to deliver greater performance in a compact design. The BD-30 has two fluid cylinder sizes and eleven plunger sizes from which to choose. The BD-60 and BD-85 are identical except for the stroke. The BD-60 has a 3.00" stroke and the BD-85 has a 3.50" stroke. Both pumps feature the same compact design and quality construction. Fluid cylinders are available in five sizes with a choice of more than twenty plunger sizes. The largest fluid cylinder is also available with pistons and liners to meet maximum flow rate requirements.

APPLICATIONS

- Blowout Preventer Controls
- Chemical Injection
- Gas Treatment
- Hydraulic Power Units
- Hydrostatic Testing
- Mud Slurry
- R.O. Water Treatment
- Salt Water Disposal

STANDARD FEATURES OF NOV'S BEAR PUMPS:

Power Frames

- Ductile iron one piece construction for added strength and durability
- Symmetrical design allows for left-hand or right-hand drive and easy conversion
- Designed for direct top mount of drivers
- Versatile design accepts V-belt, chain, gear, or clutch drive trains

Crankshafts

- High strength ductile iron construction is standard; forged alloy steel is available for special applications
- Designed for use with tapered roller bearings to carry higher crankshaft/rod loads

Crossheads

- Circular full piston type crossheads evenly distribute rod load to power frame
- Polished stainless steel crosshead stubs for long seal life
- Double sealed crosshead stub seals to prevent oil loss and oil contamination
- Crosshead extensions connect to plungers outside of power frame for easier maintenance

Connecting Rods

- High strength ductile iron construction
- Precision automotive type Babbitt lined journal bearings

Wrist Pins

- Case hardened high strength alloy steel for long life

Lubrication

- Splash and gravity lubrication promotes lubrication to all moving parts, keeping the oil constantly circulated and cooled
- Oil sight gauge allows quick convenient observation of power end oil level when running or idle

Fluid Cylinder

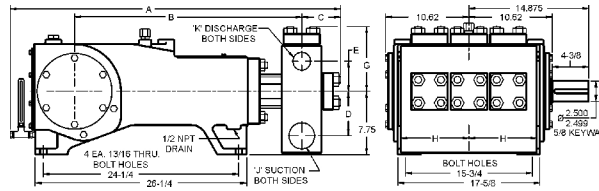
- Carbon steel material is standard; stainless steel and aluminum bronze are available as required
- Threaded NPT connections are standard; flanged or other special connections available upon request
- Suction and discharge ports on both sides of fluid cylinder on most models
- Vertical and L-shaped cylinder designs available
- Hardened stainless steel wing guided valves and seats are standard
- Spring loaded valves for positive closing
- Large volumetric areas through seats for reduced fluid velocity and efficient fluid transfer
- Colmonoy™ coated steel plungers are standard; other coatings and materials are available as required
- Forged steel stuffing boxes are standard

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Sold By:
Rotating Right (2016) Inc.
8310 Davies Road NW
Edmonton, AB, T6E 4Y5
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 **NATIONAL OILWELL VARCO**

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BD-60 Triplex Pump Data — 3" Stroke, 5425 lb. Rod Load

PUMP DIMENSIONS (for reference only and subject to change without notice)

Size	A	B	C	D	E	G	H	J (NPT)	K (NPT)	Weight (lbs)
VH	39 ¹ / ₁₆	28 ¹³ / ₁₆	5 ¹ / ₄	3 ³ / ₄	2 ⁹ / ₁₆	7 ¹ / ₁₆	7 ³ / ₄	1 ¹ / ₂	1	768
H	38 ¹ / ₂	27 ¹⁵ / ₁₆	4 ⁹ / ₁₆	4 ³ / ₁₆	2 ⁷ / ₁₆	6 ¹ / ₂	7 ³ / ₄	2	1 ¹ / ₄	782
M	38 ¹ / ₄	27 ¹⁵ / ₁₆	4 ⁹ / ₁₆	4 ⁷ / ₈	3 ³ / ₁₆	6 ⁷ / ₈	8 ¹ / ₁₆	2 ¹ / ₂	1 ¹ / ₂	800
L	38 ¹ / ₄	28 ⁵ / ₁₆	4 ⁵ / ₁₆	5 ⁷ / ₁₆	3 ³ / ₈	7 ³ / ₈	8 ³ / ₈	3	2	834

BD-60

PUMP	English Units					100 RPM		200 RPM		300 RPM		350 RPM		400 RPM		500 RPM	
	Plunger Dia. In.	Plunger Area Sq. In.	BPD per RPM	GPM per RPM	Max. Press. PSI	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM
BD-60L	2.500	4.9087	6.5571	0.1912	1105	656	19.12	1312	38.25	1968	57.37	2295	66.94	2623	76.50	3279	95.62
	2.375	4.4301	5.9178	0.1726	1225	592	17.26	1184	34.52	1776	51.78	2072	60.41	2368	69.04	2959	86.30
	2.250	3.9761	5.3113	0.1549	1364	532	15.49	1063	30.98	1594	46.47	1859	54.22	2125	61.96	2656	77.46
	2.125	3.5466	4.7375	0.1382	1530	474	13.82	948	27.64	1422	41.45	1659	48.36	1896	55.27	2369	69.09
	2.000	3.1416	4.1966	0.1224	1727	420	12.24	840	24.48	1259	36.72	1469	42.84	1679	48.96	2099	61.20
BD-60M	1.750	2.4053	3.2130	0.0937	2255	322	9.37	643	18.74	964	28.11	1125	32.80	1286	37.48	1607	46.86
	1.625	2.0739	2.7704	0.0808	2616	278	8.08	555	16.16	832	24.24	970	28.28	1109	32.32	1386	40.40
	1.500	1.7671	2.3606	0.0688	3070	237	6.88	473	13.77	709	20.65	827	24.10	945	27.54	1181	34.42
	1.375	1.4849	1.9835	0.0579	3653	199	5.79	397	11.57	596	17.36	695	20.25	794	23.14	992	28.93
	1.250	1.2272	1.6393	0.0478	4421	164	4.78	328	9.56	492	14.34	574	16.73	656	19.12	820	23.91
BD-60H	1.125	0.9940	1.3278	0.0387	5458	133	3.87	266	7.75	399	11.62	465	13.55	532	15.49	664	19.36
	1.000	0.7854	1.0491	0.0306	6907	105	3.06	210	6.12	315	9.18	368	10.71	420	12.24	525	15.30
BD-60VH	0.875	0.6013	0.8032	0.0234	9022	81	2.34	161	4.69	241	7.03	282	8.20	322	9.37	402	11.71
	0.750	0.4418	0.5901	0.0172	10000	60	1.72	119	3.44	178	5.16	207	6.02	237	6.88	296	8.61
Brake Horsepower Required							14	28	42	48	55	69					

PUMP	Metric Units					100 RPM		200 RPM		300 RPM		350 RPM		400 RPM		500 RPM	
	Plunger Dia. cm	Plunger Area cm ²	M ³ /Hr per RPM	L/Sec. per RPM	Max. Press. kPa	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.
BD-60L	64	31.669	0.0434	0.0121	7620	4.34	1.21	8.69	2.41	13.03	3.62	15.20	4.22	17.37	4.83	21.72	6.03
	60	28.581	0.0392	0.0109	8443	3.92	1.09	7.84	2.18	11.76	3.27	13.72	3.81	15.68	4.36	19.60	5.44
	57	25.652	0.0352	0.0098	9407	3.52	0.98	7.04	1.95	10.55	2.93	12.31	3.42	14.07	3.91	17.59	4.89
	54	22.881	0.0314	0.0087	10547	3.14	0.87	6.28	1.74	9.41	2.62	10.98	3.05	12.55	3.49	15.69	4.36
	51	20.268	0.0278	0.0077	11906	2.78	0.77	5.56	1.54	8.34	2.32	9.73	2.70	11.12	3.09	13.90	3.86
BD-60M	48	17.814	0.0244	0.0068	13547	2.44	0.68	4.89	1.36	7.33	2.04	8.55	2.38	9.77	2.71	12.22	3.39
	44	15.518	0.0213	0.0059	15551	2.13	0.59	4.26	1.18	6.38	1.77	7.45	2.07	8.51	2.36	10.64	2.96
	41	13.380	0.0184	0.0051	18035	1.84	0.51	3.67	1.02	5.51	1.53	6.42	1.78	7.34	2.04	9.18	2.55
	38	11.401	0.0156	0.0043	21167	1.56	0.43	3.13	0.87	4.69	1.30	5.47	1.52	6.25	1.74	7.82	2.17
	35	9.580	0.0131	0.0036	25190	1.31	0.36	2.63	0.73	3.94	1.09	4.60	1.28	5.26	1.46	6.57	1.82
BD-60H	32	7.917	0.0109	0.0030	30480	1.09	0.30	2.17	0.60	3.26	0.90	3.80	1.06	4.34	1.21	5.43	1.51
	29	6.413	0.0088	0.0024	37629	0.88	0.24	1.76	0.49	2.64	0.73	3.08	0.86	3.52	0.98	4.40	1.22
BD-60VH	25	5.067	0.0069	0.0019	47625	0.69	0.19	1.39	0.39	2.08	0.58	2.43	0.68	2.78	0.77	3.47	0.97
	22	3.879	0.0053	0.0015	62204	0.53	0.15	1.06	0.30	1.60	0.44	1.86	0.52	2.13	0.59	2.66	0.74
19	2.850	0.0039	0.0011	68948	0.39	0.11	0.78	0.22	1.17	0.33	1.37	0.38	1.56	0.43	1.95	0.54	
Kilowatts Required							10	21	31	36	41	51					

Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency.

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