

Berminghammer Foundation Equipment Hydraulic Equipment Requirements (US Customary Units)

	Type	Flow Range	Extension Speed @ Flow Range	Retraction Speed @ Flow Range	Max Pressure	Hose ID	Hose Pressure Rating	Quick Disconnect
Spotter								
Extend Retract	2-STAGE & 2-STAGE HT 3-STAGE	10 GPM to 26 GPM	0.16 ft/s to 0.43 ft/s	0.26 ft/s to 0.66 ft/s	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
	BK3-2456HD	10 GPM to 26 GPM	0.16 ft/s to 0.43 ft/s	0.32 ft/s to 0.86 ft/s	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
	BK3-2862	16 GPM to 32 GPM	0.18 ft/s to 0.36 ft/s	0.41 ft/s to 0.83 ft/s	2250 PSI Extend. 3000 PSI Retract.	1/2"	3000 PSI	1/2" ISO 16028 (F)
Side Batter	2-STAGE & 2-STAGE HT BK3-1941HD BK3-2456HD BK3-2862	10 GPM to 26 GPM	0.07 ft/s to 0.18 ft/s	0.07 ft/s to 0.18 ft/s	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
	3-STAGE	10 GPM to 26 GPM	0.10 ft/s to 0.26 ft/s	0.10 ft/s to 0.26 ft/s	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
Swivel	All	26 GPM	N/A	N/A	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
Vertical Travel	All	10 GPM to 26 GPM	0.16 ft/s to 0.43 ft/s	0.26 ft/s to 0.66 ft/s	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
Gate Cylinders								
Per Function	All	10 GPM to 26 GPM	N/A	N/A	2500 PSI	1/2"	3000 PSI	1/2" ISO 16028 (F)
Hydraulic Trip								
Extend Retract	All	10 GPM to 26 GPM	N/A	N/A	2500 PSI	3/4"	3000 PSI	3/4" ISO 16028 (F)

Gallons per Minute | PSI – Pounds per Square Inch | fpm – Feet per Minute | ft.lb – Foot Pounds

	Type	Flow Range	Line Speed (Bare) @ Flow Range	Drum Pull Range @ Max Pressure	Max Pressure	Hose ID & QTY	Hose Pressure Rating	Quick Disconnect
Low Flow Winch (Spotter & Hose Handler)								
4,500 lb	PL5-12-210-2	6 GPM to 24 GPM	34 fpm to 135 fpm	2,945 lb (Full) to 4,500 lb (Bare)	2100 PSI	1/2" x 2	3000 PSI	1/2" ISO 16028 (F)
12,000 lb	M12-3-97-1	17 GPM to 32 GPM	35 fpm to 66 fpm	7,319 lb (Full) to 12,000 lb (Bare)	2200 PSI	1/2" x 3	3000 PSI	1/2" ISO 16028 (F) 1" TFFSAE (F) (Drain)
25,000 lb	M25-3-86-2 M25-3-86-3	32 GPM	39 fpm	11,821 lb (Full) to 25,000 lb (Bare)	2500 PSI	3/4" x 2 1"(Drain)	3000 PSI	3/4" ISO 16028 (F) 1" TFFSAE (F) (Drain)
	Type	Flow Range	Line Speed (Bare) @ Flow Range	Drum Pull Range @ Max Pressure	Max Pressure	Hose ID & QTY	Hose Pressure Rating	Quick Disconnect
Mid Flow Winch (VTL & Crowd)								
25,000 lb	M25-3-86-2 M25-3-86-3	30 GPM to 66 GPM	37 fpm to 80 fpm	11,821 lb (Full) to 25,000 lb (Bare)	2500 PSI	1" x 3	3000 PSI	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
39,610 lb	M50-3-86-2	30 GPM to 66 GPM	23 fpm to 51 fpm	27,320 lb (Full) to 39,610 lb (Bare)	2500 PSI	1" x 3	3000 PSI	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
51,360 lb	SRD F180	8 GPM to 66 GPM	8 fpm to 69 fpm	39,680 lb (Full) to 51,360 lb (Bare)	4280 PSI	1" x 3	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
73,634 lb	Lantec 540- 123	25 GPM to 66 GPM	12 fpm to 31 fpm	40,600 lb (Full) to 73,634 lb (Bare)	2500 PSI	1" x 3	3000 PSI	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)

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	Type	Flow Range	Line Speed (Bare) @ Flow Range	Drum Pull Range @ Max Pressure	Max Pressure	Hose ID & QTY	Hose Pressure Rating	Quick Disconnect
High Flow Winch (Tool & Pile)								
12,000 lb	M12-3-97-1	17 GPM to 50 GPM	35 fpm to 104 fpm	7,319 lb (Full) to 12,000 lb (Bare)	2200 PSI	1" x 3	3000 PSI	3/4" ISO 16028 (F) 1" TFFSAE (F) (Drain)
25,000 lb	M25-3-86-2 M25-3-86-3	30 GPM to 115 GPM	37 fpm to 140 fpm	11,821 lb (Full) to 25,000 lb (Bare)	2500 PSI	1 1/2" x 2 1"(Drain)	3000 PSI	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
39,610 lb	M50-3-86-2	30 GPM to 115 GPM	23 fpm to 88 fpm	27,320 lb (Full) to 39,610 lb (Bare)	2500 PSI	1 1/2" x 2 1"(Drain)	3000 PSI	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
51,360 lb	SRD F180	8 GPM to 66 GPM	8 fpm to 69 fpm	39,680 lb (Full) to 51,360 lb (Bare)	4280 PSI	1" x 3	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
73,634 lb	Lantec 540- 123	25 GPM to 120 GPM	12 fpm to 56 fpm	40,600 lb (Full) to 73,634 lb (Bare)	2500 PSI	1 1/2" x 2 1"(Drain)	3000 PSI	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
	Motor Type	Max Flow	Max Torque @ Speed (Max Flow)		Max Pressure	Hose ID & QTY	Hose Pressure Rating	Quick Disconnect
Drills								
BRC-32	EG50 x4	66 GPM	35,400 ft.lb @ 31 rpm to 11,800 ft.lb @ 94 rpm		4060 PSI Return P < 290 psi	1 1/4" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BRC-100	A6VM200 x1	105 GPM	103,300 ft.lb @15 rpm to 43,900 ft.lb @ 31 rpm		4640 PSI Return P < 290 psi	1 1/4" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BRC-200	A6VM200 x2	105 GPM	206,500 ft.lb @ 7 rpm to 87,800 ft.lb @ 17 rpm		4640 PSI Return P < 290 psi	1 1/2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
B100	A6VM200 x1	105 GPM	103,300 ft.lb @ 15 rpm to 49,000 ft.lb @ 31 rpm		4640 PSI Return P < 290 psi	1 1/2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
B200	A6VM200 x2	210 GPM	206,500 ft.lb @ 15 rpm to 98,100 ft.lb @31 rpm		4640 PSI Return P < 290 psi	2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (M) 1-1/4" TFFSAE (F) (Drain)

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	Motor Type	Max Flow	Max Torque @ Speed (Max Flow)	Max Pressure	Hose ID & QTY	Hose Pressure Rating	Quick Disconnect
Legacy Drills							
BRC-35	HP67 TS x4	90 GPM	35,400 ft.lb @ 31 rpm to 11,800 ft.lb @ 94 rpm	4060 PSI Return P < 290 psi	1 1/4" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BRC-75	A6VM200 x1	105 GPM	73,800 ft.lb @ 20 rpm to 35,400 ft.lb @ 42 rpm	4640 PSI Return P < 290 psi	1 1/4" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BRC-150	A6VM200 x2	210 GPM	147,500 ft.lb @ 20 rpm to 70,800 ft.lb @ 42 rpm	4640 PSI Return P < 290 psi	2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BHD-40	Hagglunds CA70	87 GPM	40,000 ft.lb @ 30 rpm	3400 PSI Return P < 290 psi	1 1/2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BHD-40	Brevini SH11C 108	87 GPM	67,000 ft.lb @ 30 rpm	5000 PSI Return P < 290 psi	1 1/2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BHD-60	Hagglunds CA50	87 GPM	60,000 ft.lb @ 30 rpm	3400 PSI Return P < 290 psi	1 1/2" x 2 1"(Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)
BHD-80	Hagglunds CA70 x 2	150 GPM	80,000 ft.lb @ 22 rpm	3400 PSI Return P < 290 psi	1 1/2" x 2 1" (Drain)	5000 PSI 3000 PSI (Drain)	1-1/2" TFFSAE (F) 1-1/4" TFFSAE (F) (Drain)

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Please Note:

Quick disconnect and hose diameters for spotters (kickers) vary as they are custom for each application. Please contact Berminghammer Parts directly for more information.

It is recommended to use inherently biodegradable hydraulic oil. DO NOT use readily biodegradable hydraulic oil.

Drill and Winch speeds are linearly proportional to flow. RPM values as a function of flow can be linearly interpolated.

The maximum pressures stated are measured at the actuator ports and do not account for pressure losses across valves, hoses, and fittings

For hose lengths greater than 300 ft, contact Berminghammer for hose size recommendations

For crowd winch application with no electronic input, a fourth hose assembly is required and is sized equal to the drain hose

The recommended Threaded Flat Face SAE (TFFSAE) quick disconnect couplers are the Stucchi VEP/VEPHD and Parker FET Series.

The size and number of hose end connections should correspond to the recommended hose inside diameter (ID).

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