



Spec Sheet 103-002

Section: 103

Effective: October 2015

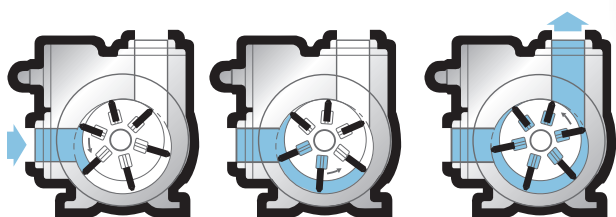
Replaces: February 2013



NPH Series Fluid Processing and Transfer Pumps



NPH4F Sliding Vane Pump



How Blackmer's sliding vane action works

Unique Features

Based on Blackmer's standard NP series transfer pump, the NPH series provides the same performance, applications, and operating limits as the NP series with the exception of having 180° ports compared to the NP's 90° ports. The entire NPH series pumps feature an optional ductile iron construction with an internal relief valve that protects against excessive pressures, ensuring performance and reliability even under the most severe service conditions.

Efficiency Means Energy Savings

The high volumetric efficiency and symmetrical bearing support of the NPH pumps means they require less horsepower than other PD pumps and up to 50% less power when handling viscous fluids. This means cost savings on both motors and electricity to operate the pumps.

Self-Priming and Dry Run Capability

The NPH pumps are self-priming, and the self-adjusting vanes help maintain this capability. NPH pumps can run dry for short periods of time for priming and line stripping.

High Viscosity

The NPH pumps are ideal for handling viscous or shear sensitive fluids. The key to the NPH series' versatility is Blackmer's unique sliding vane rotor design that provides sustained, high level performance over a wide viscosity range. Slow operating speeds and non-pulsating flow minimizes shear and agitation of the fluid. Optional Heating Jackets are available if required.



NPH Series Fluid Processing and Transfer Pumps

Pump Performance Data*

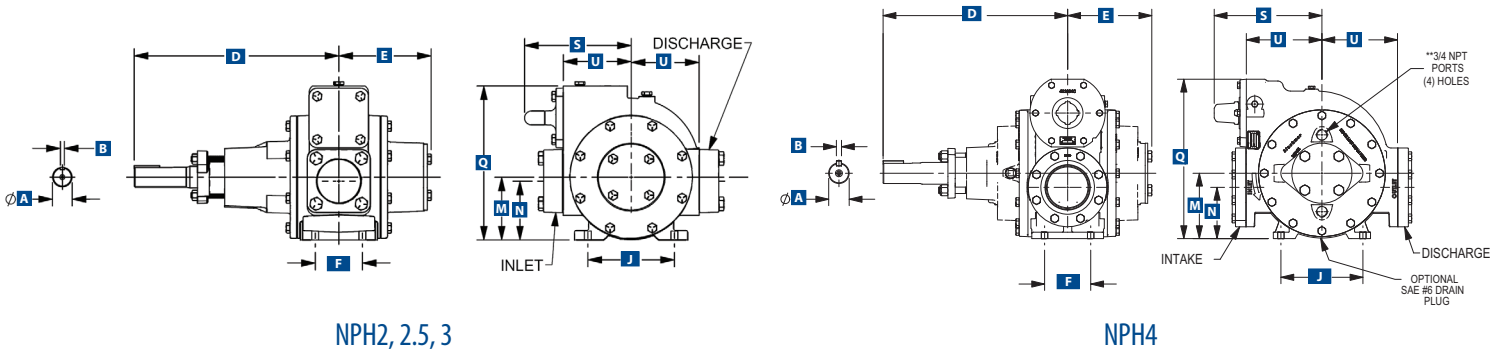
Pump Model	NPH2				NPH2.5				NPH3				NPH4			
	31	1,000	20,000	50,000	31	1,000	20,000	50,000	31	1,000	20,000	50,000	31	1,000	20,000	50,000
ssu	31	1,000	20,000	50,000	31	1,000	20,000	50,000	31	1,000	20,000	50,000	31	1,000	20,000	50,000
cP	1	210	4,200	11,000	1	210	4,200	11,000	1	210	4,200	11,000	1	210	4,200	11,000
gpm	60	70	38	16	110	122	64	28	252	268	135	61	512	525	355	155
L/min	227	265	144	61	416	462	242	106	954	1,014	511	231	1,938	1,987	1,344	587
Max rpm	640	640	350	155	640	640	350	155	640	640	350	155	640	640	350	155
bhp	2.8	2.8	2.6	1.2	4.7	5.1	4.3	2.1	11.5	12.1	8.8	3.8	20	27	22	9
kW	2.1	2.1	1.9	0.9	3.5	3.8	3.2	1.6	8.6	9	6.6	2.8	14.9	20.1	16.4	6.7

* Approximate capacities and horsepower (bhp) are for the conditions specified at 50 psi (3.45 bar) differential pressure. Refer to Blackmer Characteristic Curves for capacities and horsepower at other operating conditions.

Maximum Operating Limits

Pump Model	Nominal Flow Rate		Pump Speed rpm	Viscosity		Differential Pressure		Hydrostatic Pressure		Temperature	
	gpm	L/min		ssu	cP	psi	bar	psi	bar	°F	°C
NPH2	77	291	640	100,000	22,000	200	13.79	300	20.68	500	260
NPH2.5	136	515	640	100,000	22,000	200	13.79	300	20.68	500	260
NPH3	276	1,045	640	100,000	22,000	200	13.79	300	20.68	500	260
NPH4	525	1,985	500	100,000	22,000	200	13.79	300	20.68	500	260

Note: Optional materials of construction may be required to meet specific application requirements – refer to Blackmer Material of Construction Sheets. For operating limits that exceed those listed – consult factory.



NPH2, 2.5, 3

NPH4

Pump Model	A	B	D	E	F	J	M	N	Q	S	U	Pump Weight	With STD Flanges	With Jacketed Heads	
NPH2	in.	1	1/4	11 1/4	4 3/4	1 5/8	5	4	3 1/2	8 7/8	6	4	64 lbs	68 lbs	74 lbs
	mm	—	—	285.8	120.7	41.3	127	101.6	88.9	225.4	152.4	101.6	29 kg	31 kg	34 kg
NPH2.5	in.	1 1/4	1/4	13	5 7/8	3	5 1/2	4	3 3/4	9 13/16	6 3/4	4 5/16	92 lbs	98 lbs	96 lbs
	mm	—	—	330.2	149.2	76.2	139.7	101.6	95.3	249.2	171.5	109.5	42 kg	44 kg	44 kg
NPH3	in.	1 1/4	1/4	13	5 7/8	2 1/2	6	5 3/8	4 5/8	12 1/16	8 1/2	5	131 lbs	139 lbs	145 lbs
	mm	—	—	330.2	149.2	63.5	152.4	136.6	117.5	306.4	215.9	127	60 kg	63 kg	66 kg
NPH4	in.	2	1/2	18	8 1/8	4 1/2	8	6 3/8	5	15 1/2	10 1/2	7 3/8	296 lbs	314 lbs	310 lbs
	mm	—	—	457.2	206.4	114.3	203.2	161.9	127	393.7	266.7	187.3	134 kg	142 kg	141 kg

Note: Please refer to Blackmer catalog Dimension Sheets for optional jacketed head dimensions and NPT, weld neck, or ANSI compatible companion flange dimension.



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