



Always the Right Solution™

Section:
METERING/DOSING PUMPS

Date: July 2009

Performance Data

Curve 3.0

Model: 4190

NOTE: Pressure limit rated at 300 psi (70 Duro). Some models have additional limits. Please consult factory before making final selection. For NPSH required, consult factory.

	RPM	600	1200	1800
Minimum Recommended Motor HP*	4 STG	1/2	3/4	1

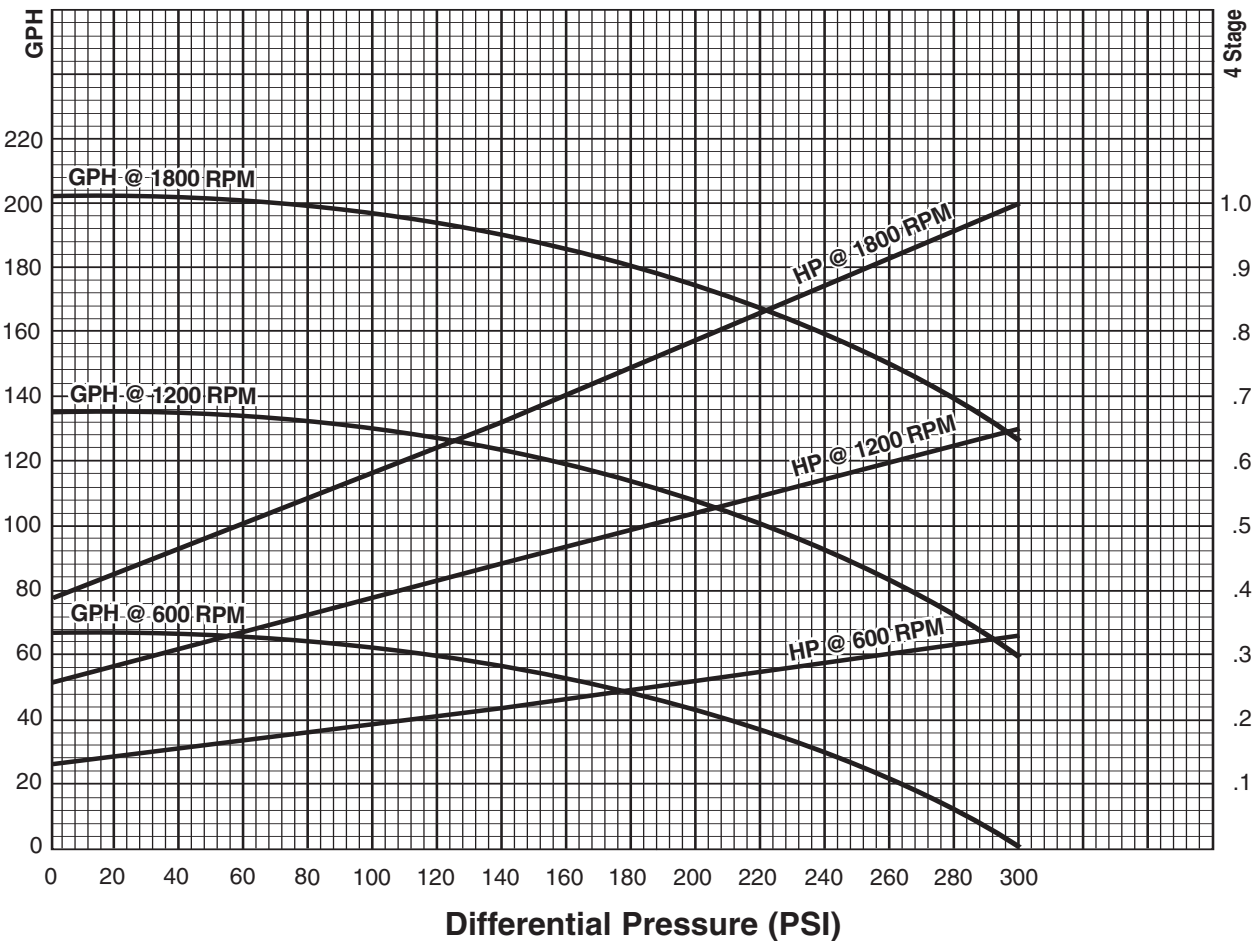
*Based on drives supplying 150% starting torque. Minimum starting torque 36 IN/LB.

Capacity

—— 70 Durometer*

Data Based on Water @ 68°F

Horsepower



(PSI x .069 = BAR) (PSI x .070 = kgf/cm²) (USGPH x .0038 = M³/HR) (HP x .746 = kW)

* Nitrile, EPDM and Fluoroelastomer = 70 Duro.

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HORSEPOWER MULTIPLIERS:

Pump horsepower from the reverse side can be broken into three components: drive end, rotor/stator, and hydraulic.

Temperature affects the rotor/stator HP component only. For applications involving temperatures above 70°F, it is necessary to adjust the rotor/stator HP component of the horsepower obtained from the reverse side (i.e., the greater of the water HP or Minimum Recommended HP). This new horsepower is referred to as the **Temperature Corrected Horsepower**.

Rotor/stator horsepower can be found from the curve on the previous page. It is the HP at zero pressure for the corresponding RPM and number of stages.

To calculate the Temperature Corrected Horsepower, subtract the rotor/stator HP from the greater of the water or minimum recommended HP. This gives you the drive end/hydraulic HP. Multiply the rotor/stator HP by the appropriate temperature multiplier listed below. Add this adjusted value to the drive end/hydraulic HP to get the total Temperature Corrected Horsepower.

(Degrees F = $\frac{9}{5}C + 32$)

FLUID TEMPERATURE	70°F	100°F	125°F	150°F	175°F	200°F
HORSEPOWER MULTIPLIERS - Standard Size Rotor	1.00	1.10	1.30	1.60	2.00	2.50

For applications involving temperatures greater than 200°F, consult the factory.

HORSEPOWER ADDITIVES:

Shown below are HP additives for both water base slurries and for viscous materials. To use these tables, first determine which table applies to your product and enter that table with the appropriate fluid characteristics. Determine the HP additive per 100 RPM and multiply it by the speed of your pump divided by 100. Add the resulting figure to the HP for water from the curve on the preceding page or to the minimum HP for starting from the table at the top of the preceding page, whichever is larger.

If your product is a combination of a slurry and a viscous material, determine the appropriate HP additives from both tables below and use whichever is greater.

TABLE I—WATER BASE SLURRIES:

HP ADDER/100 RPM

% Solids	Fine 16 Mesh (1.0 mm) (.039")	Medium 16 to 9 Mesh (1.0-2.0 mm) (.039-.078")	Coarse 9 to 4 Mesh (2.0-5.0 mm) (.078-.185")
	Number of Stages		
	4	4	4
10	.01	.03	.06
30	.04	.09	.18
50	.07	.14	.28

TABLE II—VISCOSITY (NEWTONIAN FLUIDS):

HP ADDER/100 RPM/STAGE

Viscosity (Centipoise)				
1	2,500	5,000	10,000	20,000
0	.016	.032	.048	.064