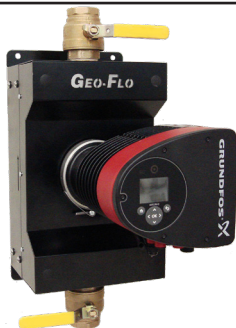




Submittal Data

Geo-Flo Magna3 Insulated Pump with Isolation Valves - 65 series



Project Name:		Representative:	
Contractor:		Engineer:	
Ref/P.O.#:		Date:	
Submitted by:		Date:	
Qty:	Part #:	Description	

Technical Data

Circulator:	Grundfos MAGNA3 Variable Speed, ECM Motor, 30% GF PES impeller
Cabinet:	Powder-coated steel
Insulation:	CFC-free, polyurethane foam
Pump Housing:	Cast iron (optional stainless steel)
Connections:	2" NPT female (ships with two 2" FNPT isolation ball valves, attached)
Application:	Central pumping, primary-secondary, and one-pipe systems using built-in controls. Wireless communication for primary/backup or cascade (lead/lag) control is standard. BMS controls available.

Max. Fluid Temperature: 230°F [110°C]
Min. Fluid Temperature: 14°F [-10°C]
Max. Operating Press.: 175 psi [12 bar]
Min. Operating Press.: 5.8 psi [0.4 bar]*
Ambient Air Temp: 32 to 104°F [0 to 40°C]
Max. Sound Pressure: ≤ 43 dB(A)

*At 167°F [75°C]. Increase the min. pressure by 1.45 psi [0.1 bar] for every 330 ft. (100m) above an altitude of 984 ft. (300m).
Max installed altitude 6560 ft. (2000m).

Approved Antifreeze

Ethanol
Methanol
Propylene Glycol

Mounting

Always install pump with horizontal motor shaft and horizontal control as shown below. Insulated pump is designed for **indoor installation only**.

Model Nomenclature

1-3	4 - 10	11	12	13 - 15
M3H	065-150	B	F	-VL

Example: M3H065-150BF-VL

1-3	Pump series:	M3S = Grundfos Magna3 single insulated pump
		M3C = Grundfos Magna3 single insul. pump w/ check valve
		M3H = Grundfos Magna3 -- two pumps in series
4-10	Available models:	065-120 = 65-120 single head, 2" ball isol. valves, 2" NPT connections
		065-150 = 65-150 single head, 2" ball isol. valves, 2" NPT connections
11	Voltage:	A = 115/1/60 (65-120 only)
		B = 208-230/1/60 (all models)
12	Mounting options:	C = Standard product (cast iron volute), factory insulated cabinet, wall mounted (M3S, M3C, M3H models)
		F = Standard product (cast iron volute), factory insulated cabinet, floor mounting stand (M3H only)
13-15	Flow direction (M3H only):	-HR = Horizontal, flow to the right (see illustrations, physical data)
		-HL = Horizontal, flow to the left (see illustrations, physical data)
		-VR = Vertical flow, "From loop" on right (see physical data)
		-VL = Vertical flow, "From loop" on left (see physical data)

Note: Use model M3C for two pumps in primary/backup or cascade mode. Model 65-150 is also available as a dual head pump (see submittal data for M3D065-150).

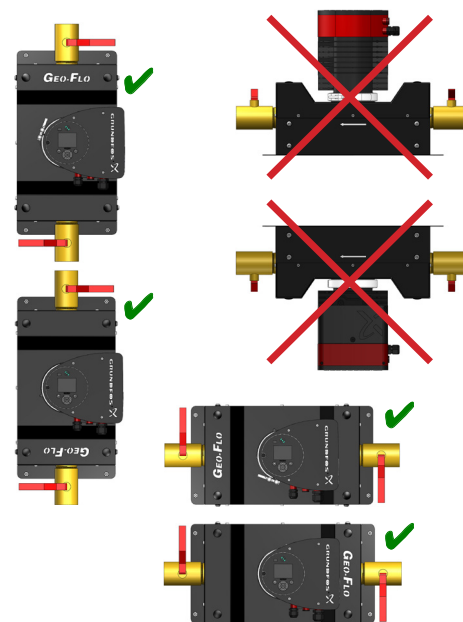
Electrical Data (per pump)

Model	Speed	Voltage / Frequency	Amps (Min. - Max.)	Watts (Min. - Max.)
065-120	Variable	115/50-60	0.36 - 6.67	21 - 772
		208-230/50-60	0.18 - 3.38	21 - 769
065-150	Variable	208-230/50-60	0.30 - 5.68	29 - 1301

Notes:

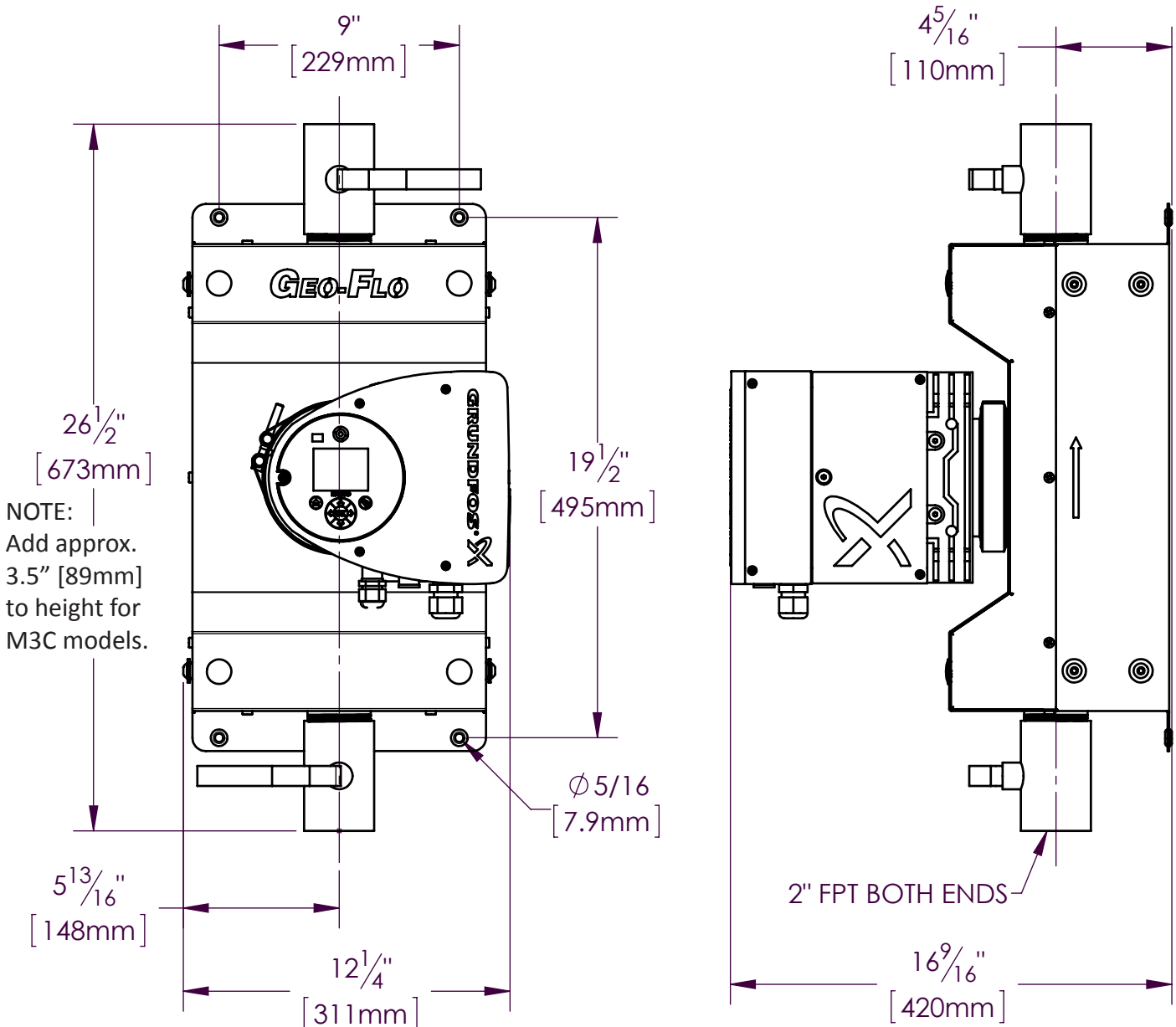
1. Electrical data is per pump (2 for M3H series)
2. Pump motor incorporates overload protection.
3. Approvals are ETL and FCC W_RADIAL.
4. Enclosure class Type 2, IEC 34-5: X4D; Insulation class Type F, IEC 85: F.

Additional Motor Information: Magna3 insulated pumps use ECM motor technology. Therefore, horsepower is not shown on the submittal, as it is not pertinent to pump performance, as compared to standard pumps with variable frequency drives. Contact Geo-Flo for more information.



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Bedford, Indiana 47421 U.S.A.
Phone: 812-275-8513 Fax: 812-275-8523
www.geo-flo.com

Physical and Dimensional Data: MAGNA3 Insulated Pump - 65 Series



Physical Data

Model	Connections**	Shipping Weight, lbs. [kg]
M3S065-120	2" NPT Female	83 [42.2]
M3C065-120		88 [39.9]
M3S065-150		95 [43.1]
M3C065-150*		100 [45.4]

* Model 65-150 is also available in a dual head configuration. See M3D065-150 submittal.

** 2" NPT female isolation ball valves are provided with M3S and M3C insulated pumps. Field connections are 2" NPT female. M3C insulated pump also ships with a 2" brass spring check valve on the discharge of the pump.

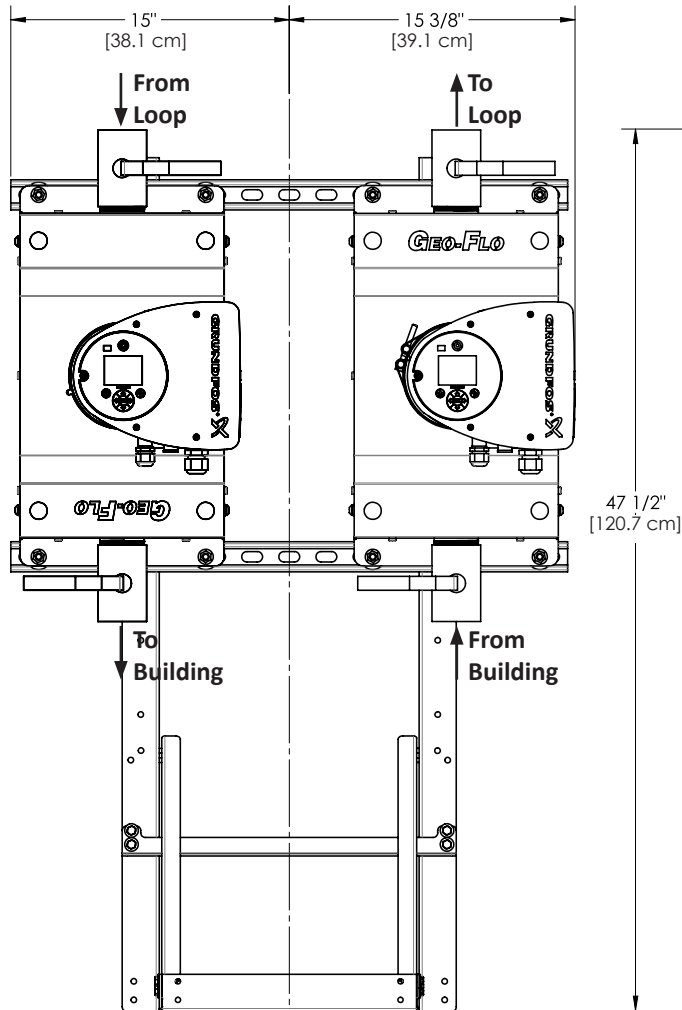
NOTES:

1. Dimensional data provided for informational purposes and is rounded to nearest 1/16".
2. Metric data is a simple conversion of imperial data and should not be considered more accurate.

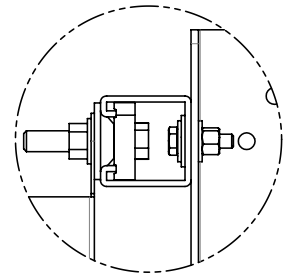
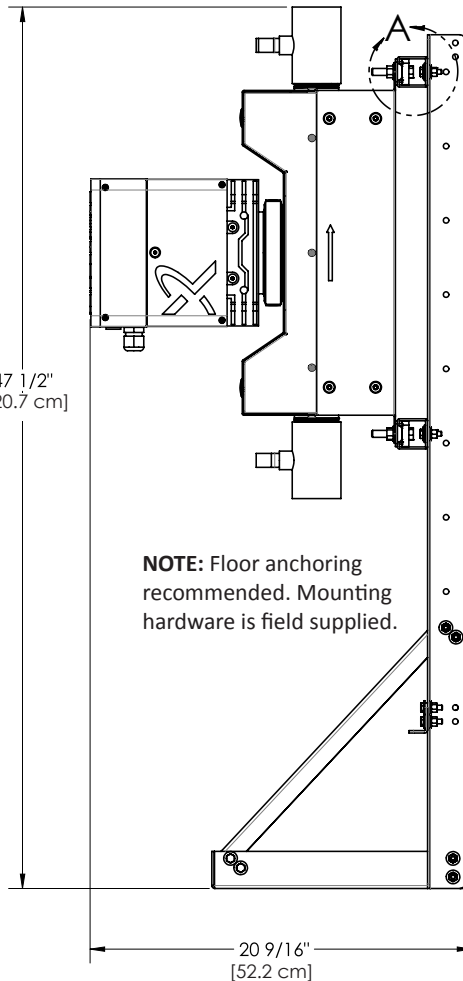
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Physical and Dimensional Data: MAGNA3 High Head Models - 65 Series



Above Example: M3H065-150BF-VL
(shown with optional floor stand)



DETAIL A

OPTIONAL FLOOR STAND:
Powder-coated 10 ga. steel frame with stainless steel hardware.

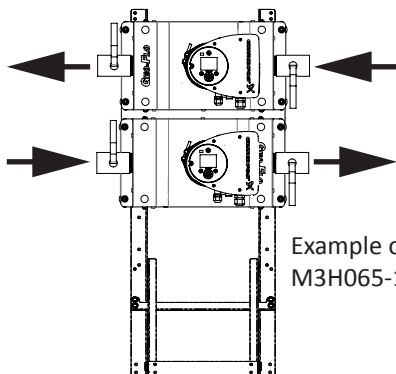
NOTES:

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OTHER CONFIGURATIONS AVAILABLE:

(see nomenclature on page 1)

1. Vertical right, "From loop" on the right (above drawing shows vertical left)
2. Horizontal right (top pump has flow to the right)
3. Horizontal left (top pump has flow to the left -- see below)



Example of horizontal left flow.
M3H065-150BF-HL is shown.

Physical Data

Model	Connections	Shipping Weight, lbs. [kg]	
		w/o floor stand (digit 12 = C)	w/floor stand (digit 12 = F)
M3H065-120	2" NPT female	201 [91.2]	226 [102.5]
M3H065-150		225 [102.1]	250 [113.4]

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MAGNA3 Inputs/Outputs, Communications, and Accessories

MAGNA3 Inputs/Outputs

Two digital inputs:	External potential-free contact Contact load: 5V, 10mA Screened (shielded) cable Loop resistance: Maximum 130Ω
Analog input:	4-20mA (load: 150Ω) 0-10VDC (load >10kΩ)
Two relay outputs:	Internal potential-free changeover contact Maximum load: 250V, 2A, AC1 Minimum load: 5VDC, 20mA Screened (shielded) cable

MAGNA3 Communications (add-on interface modules)

BACnet MS/TP
LonWorks
Modbus RTU
GENibus
Profibus DP
Grundfos Remote Management (Dongle for smart phone)



CIM Modules

MAGNA3 Accessories

Geo-Flo Part Number	Description
	Pump Enable Control
3808	Pump enable control (up to 5 units w/one insul. pump or flow center), NEMA encl.
	External Controller for Magna3 for Delta-T Control -- Note 1 (see below)
4062	UPC GEO external controller, 1-10VDC output -- Note 1
3684	10k thermistor, 1/4" NPT insertion type -- Note 2
3760	AC wall adapter for 4062 -- Note 3
3807	Barrel connector for 3760 -- Note 3
	BMS Interface Modules for Magna3 / Dongle for Grundfos GO
CIM100	LonWorks Network Interface Module
CIM200	Modbus RTU Network Interface Module
CIM300	BACnet MS/TP Network Interface Module
MI204	Dongle for iPhone5
MI301	Dongle for Android (see Grundfos catalog for compatible models)



3808: Pump Enable Control



4062: External Controller

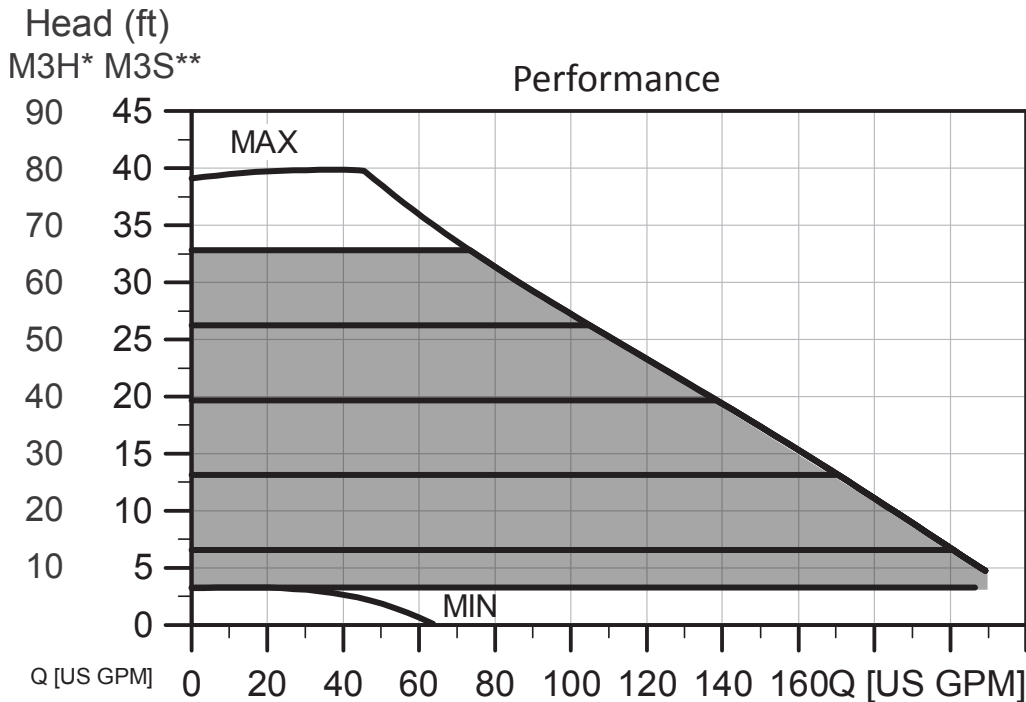
NOTES:

1. Use external controller for Magna3 Delta-T control for primary-secondary applications to provide separate heating and cooling Delta-T set points (2 required for M3H series -- settings must be identical for both pumps).
2. 4062 requires two thermistors.
3. Optional if 24VAC is not available near 4062 location.

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Pump Performance Curves -- MAGNA3 M3S065-120, M3C065-120, & M3H065-120

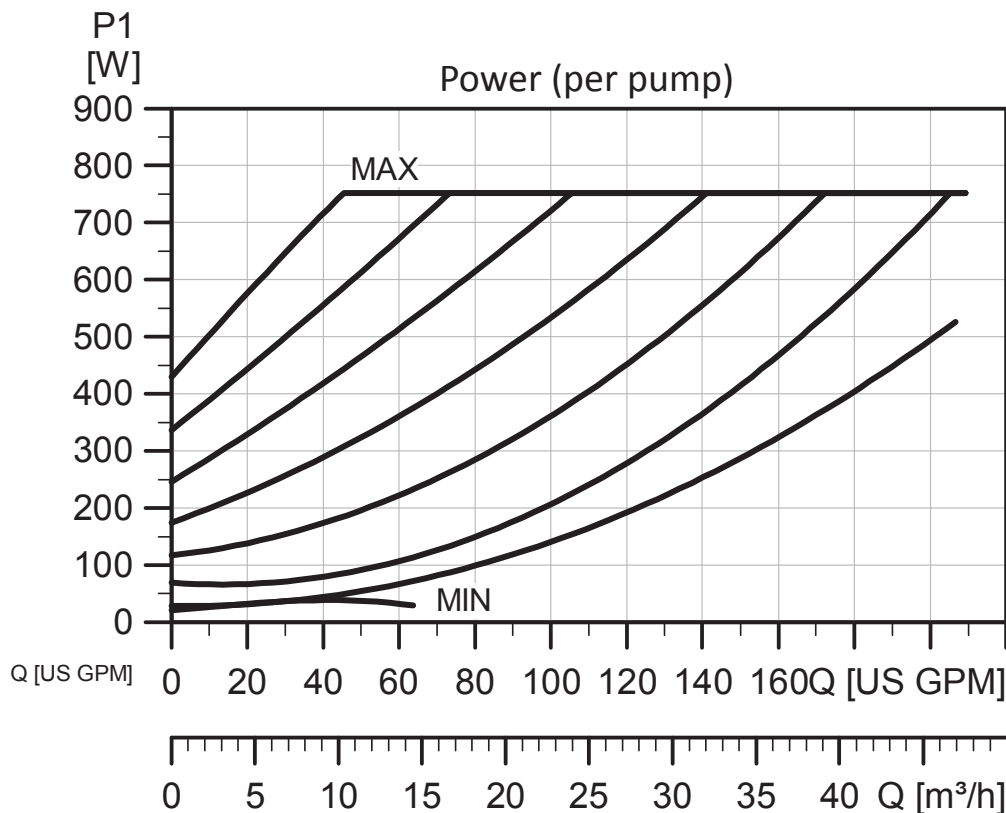


Pump Curve Usage:

1. In Constant Pressure (Differential Pressure) mode, pump operating range is the gray shaded area.
2. In Constant Curve mode, pump operates between the MIN and MAX curves.

* Two pumps in series

** Single pump or two pumps in parallel. Note: For two parallel pumps, double the flow rate for each head value.

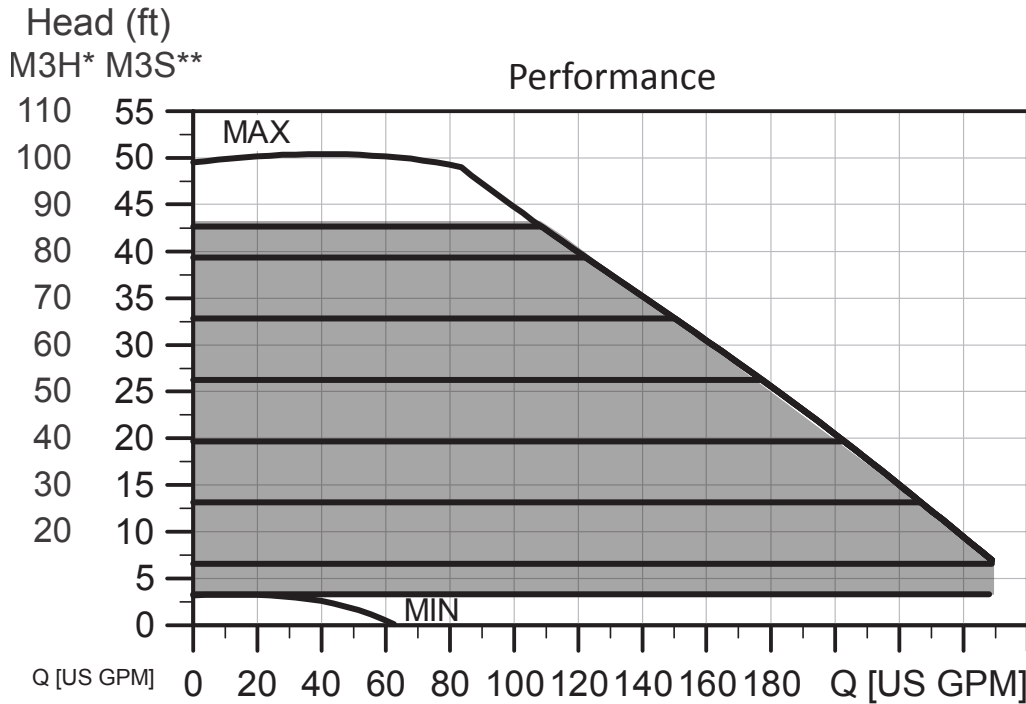


Curves are manufacturer's reported averages using water at 68°F [20°C].

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Pump Performance Curves -- MAGNA3 M3S065-150, M3C065-150, & M3H065-150

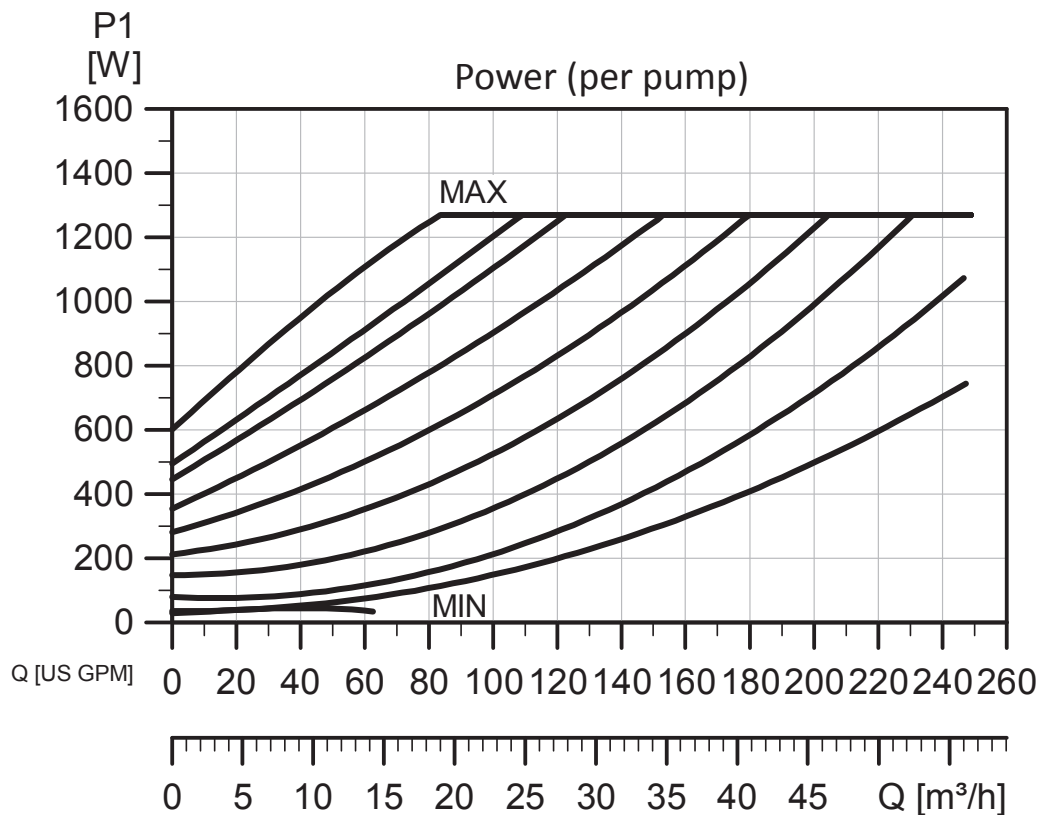


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