



## Submittal Data

### Geo-Flo Magna3D Dual Head Insulated Pump w/ Isol. Valves



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

## Technical Data

Circulator:	Grundfos MAGNA3 Variable Speed, ECM Motor, 30% GF PES impeller
Cabinet:	ABS plastic
Mounting:	Standard wall mounting; optional powder-coated 10 ga. steel floor mounting stand
Insulation:	CFC-free, polyurethane foam
Pump Housing:	Cast iron (optional stainless steel)
Connections:	3" or 4" ANSI 150# flange connections (includes butterfly isol. valves)
Butterfly Valves:	Cast iron body, aluminum-bronze disc, EPDM seat
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. Oper. Press. (65): 5.8 psi [0.4 bar]<sup>1,2</sup>  
Min. Oper. Press. (80-100): 7.3 psi [0.5 bar]<sup>1,2</sup>  
Ambient Air Temp: 32 to 104°F [0 to 40°C]  
Max. Sound Pressure: ≤ 43 dB(A)

#### NOTES:

- At 167°F [75°C].
- Min. pressures apply to a single pump operating. Increase min. pressure by 1.45 psi [0.1 bar] for dual pump operation. 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

## Model Nomenclature

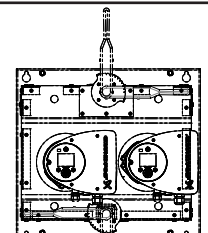
1-3	4 - 10	11	12	13 - 15
M3D	065-150	B	F	-HR

Examples: M3D065-150BF-HR  
M3D080-100BC

1-3	Pump series:	M3D	=	Grundfos Magna3 Dual Head
4-10	Available models:	065-150	=	65-150 dual head, 3" butterfly isol. valves, 3" flange connections
		080-100	=	80-100 dual head, 3" butterfly isol. valves, 3" flange connections
		100-120	=	100-120 dual head, 4" butterfly isol. valves, 4" flange connections
11	Voltage:	B	=	208-230/1/60
12	Mounting Options:	C	=	Standard product (cast iron volute), factory insulated cabinet, wall mounted
		F	=	Std product (cast iron volute), factory insulated cabinet, floor mounting stand
13 - 15	Flow direction:		=	Standard product, vertical flow (no digits after digit 12)
		-HR	=	Horizontal, flow to the right (see illustration, physical data)
		-HL	=	Horizontal, flow to the left (see illustration, physical data)

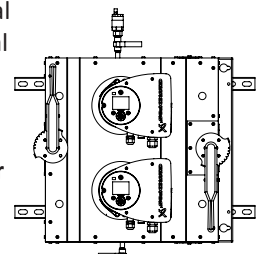
## Mounting

Pumps must be oriented as shown on the right. Flow path may be vertical or horizontal, but pump heads must remain in the orientation shown.



Vertical Flow

Pump shaft must always be horizontal (cabinet in a vertical plane, as shown).



Horizontal Flow

Insulated pump is designed for **indoor installation only**.

## Electrical Data (per pump)

Model	Speed	Voltage / Frequency	Amps (Min. - Max.)	Watts (Min. - Max.)
065-150	Variable	208-230/50-60	0.30 - 5.68	29 - 1301
080-100	Variable	208-230/50-60	0.32 - 4.62	32 - 1052
100-120	Variable	208-230/50-60	0.35 - 6.98	35 - 1582

#### Notes:

- Above data is per pump.
- Pump motor incorporates overload protection.
- Approvals are ETL and FCC W\_RADIAL.
- 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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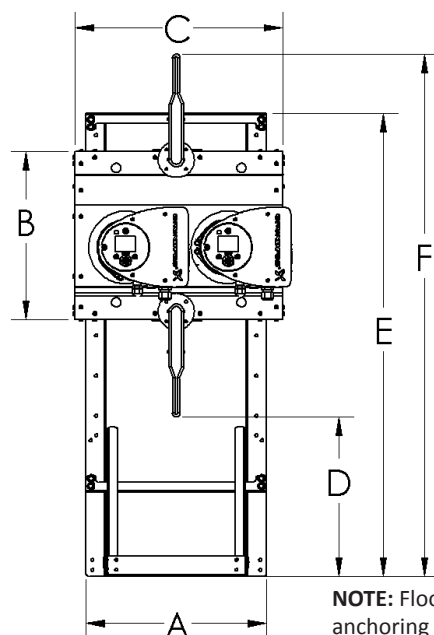
# Physical and Dimensional Data: MAGNA3 Dual Head Pump

MODEL	DIM	A	B	C	D	E	F	G
M3D065-150	IN	18	16-7/8	20-3/4	15-7/8	46-1/4	52-1/8	20-1/4
	CM	45.7	42.9	52.7	40.3	117.5	132.4	51.4
M3D080-100	IN	18	17-5/8	22	15-1/2	46-1/4	52-1/2	21-1/4
	CM	45.7	44.8	55.9	39.4	117.5	132.4	51.4
M3D100-120	IN	18	22-1/8	22-3/4	12-1/2	46-1/4	53-1/2	21-3/4
	CM	45.7	56.2	57.8	31.8	117.5	132.4	51.4

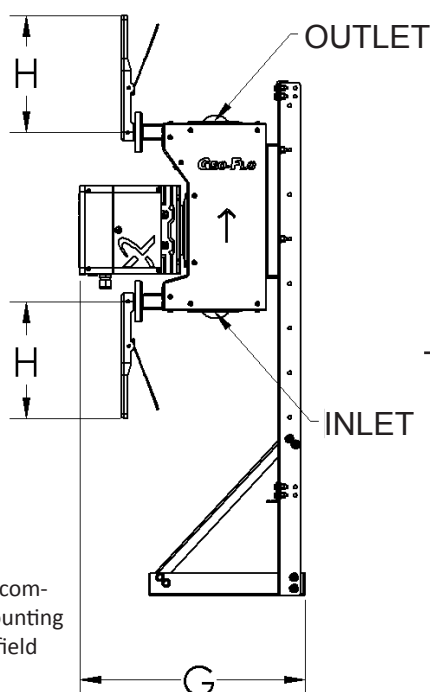
## NOTES:

1. Floor stand is optional (digit 12 = F). Standard product is wall mounted (digit 12 = C).
2. Dimensional data provided for informational purposes and is rounded to nearest 1/16".
3. Metric data is a simple conversion of imperial data and should not be considered more accurate.

MODEL	DIM	H	I	J	K	L	Q
M3D065-150	IN	10-1/2	11-1/4	10	14	3/8	5/8"-11 TAPPED
	CM	26.7	28.6	25.4	35.6	1	
M3D080-100	IN	10-1/2	11-1/4	10	14	3/8	5/8"-11 TAPPED
	CM	26.7	28.6	25.4	35.6	1	
M3D100-120	IN	10-1/2	11-1/4	10	14	3/8	5/8"-11 TAPPED
	CM	26.7	28.6	25.4	35.6	1	



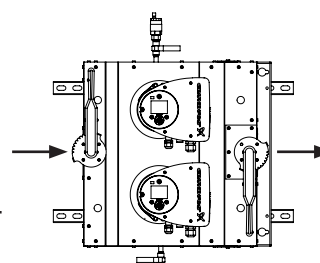
**NOTE:** Floor anchoring recommended. Mounting hardware is field supplied.



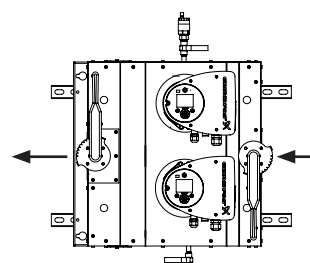
## OTHER CONFIGURATIONS AVAILABLE:

(see nomenclature on page 1)

1. Horizontal right (see below)
2. Horizontal left (see below)

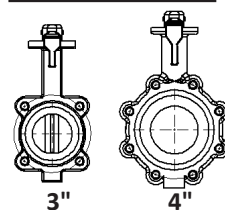


Example of horizontal right flow.  
M3D100-120BC-HR shown (without floor stand)

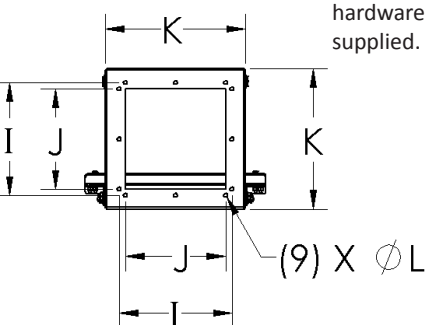


Example of horizontal left flow.  
M3D100-120BC-HL shown (without floor stand)

## Connection Details:



Butterfly Valves



Above Example: M3D065-150BF  
(shown with optional floor stand)

## Physical Data

Model	Connections*	Shipping Weight, lbs. [kg]	
		w/o floor stand (digit 12 = C)	w/floor stand (digit 12 = F)
M3D065-150	3" ANSI 4-bolt flange	192 [87.1]	217 [98.4]
M3D080-100	3" ANSI 4-bolt flange	209 [94.8]	234 [106.1]
M3D100-120	4" ANSI 8-bolt flange	242 [109.8]	267 [121.1]

\*Includes EPDM seat at butterfly valve for flange seal.

# GEO-FLO

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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.
	<b>External Controller for Magna3 for Delta-T Control -- Note 1 (see below)</b>
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
	<b>BMS Interface Modules for Magna3 / Dongle for Grundfos GO</b>
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 most applications, one per pump).
2. 4062 requires two thermistors.
3. Optional if 24VAC is not available near 4062 location.

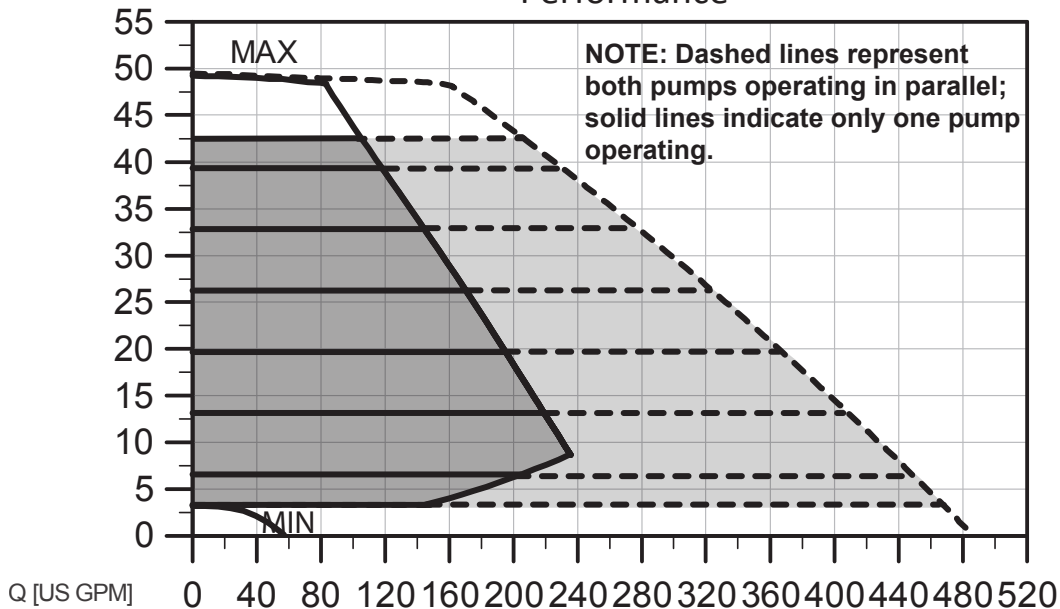
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# Pump Performance Curves -- MAGNA3 M3D065-150

Head (ft)

Performance

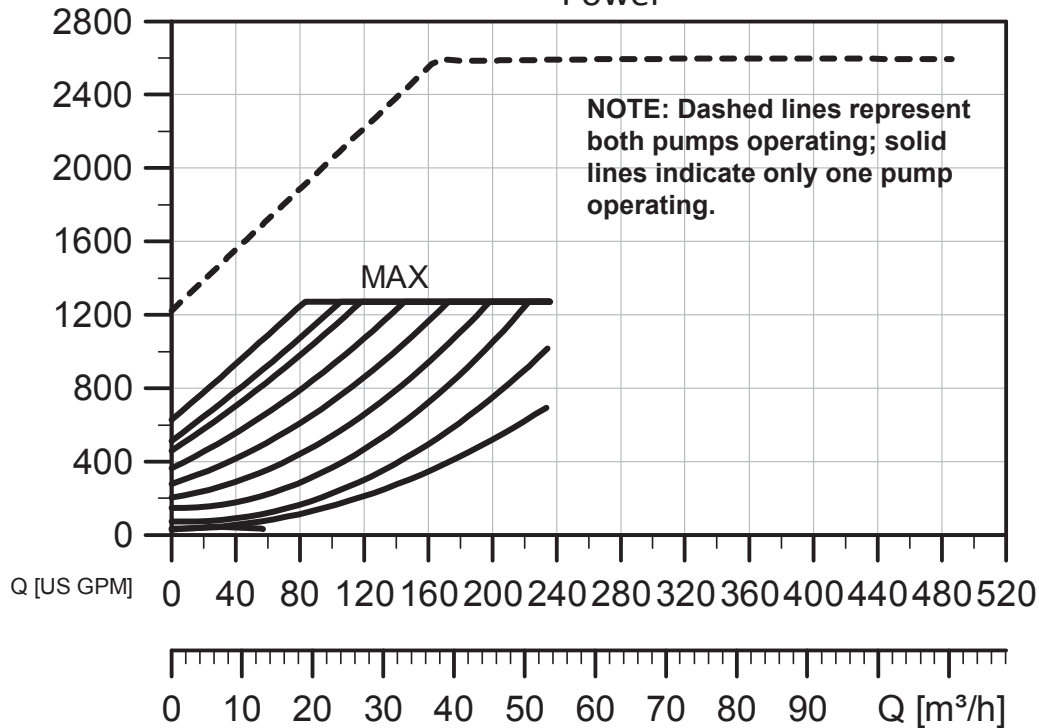


## Pump Curve Usage:

1. In Constant Pressure (Differential Pressure) mode, pump operating range is the gray shaded area. Darker gray area is single pump operation; lighter gray + darker gray area represents both pumps operating in parallel.
2. In Constant Curve mode, pump operates between the MIN and MAX curves.

P1  
[W]

Power

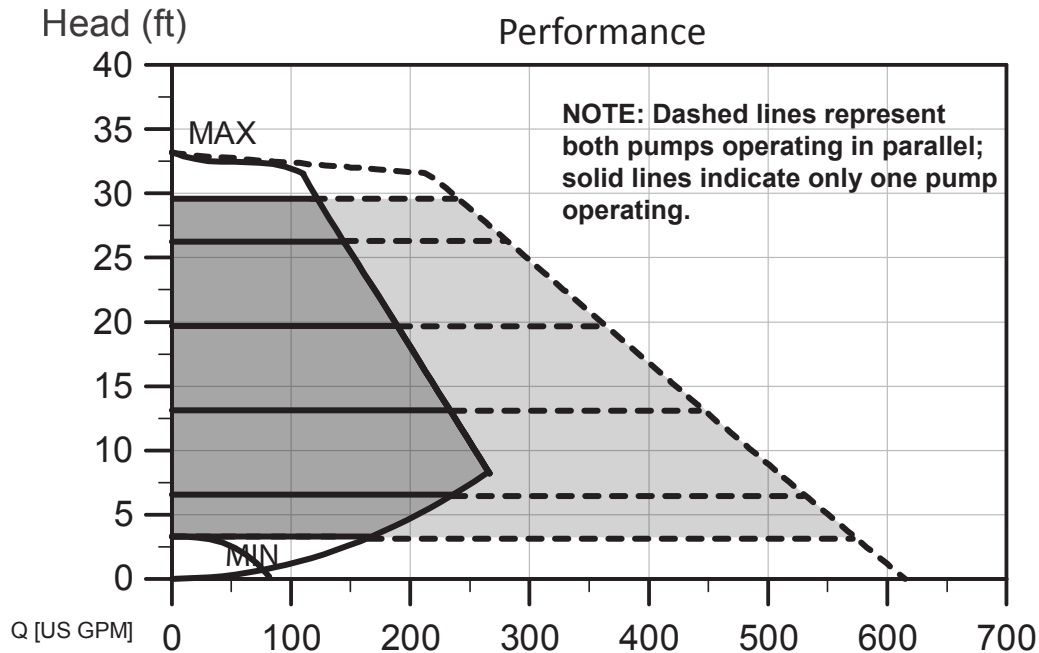


Curves are manufacturer's reported averages using water at 68°F [20°C].

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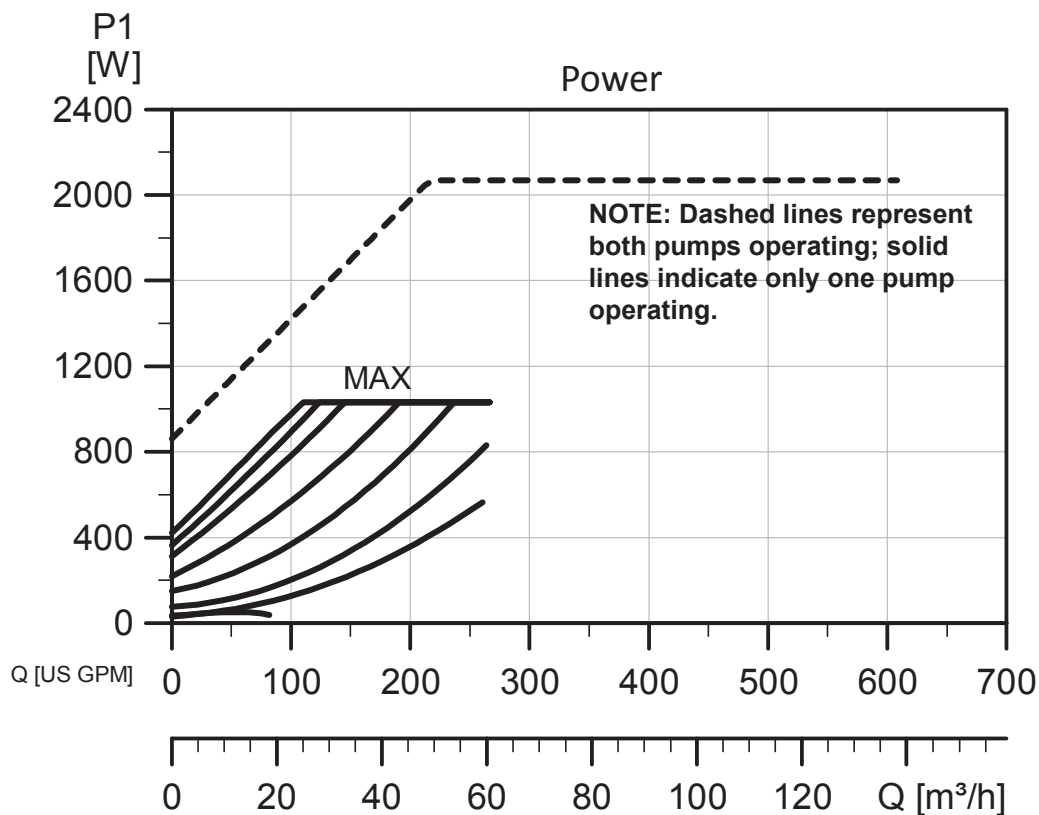
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# Pump Performance Curves -- MAGNA3 M3D080-100



## Pump Curve Usage:

1. In Constant Pressure (Differential Pressure) mode, pump operating range is the gray shaded area. Darker gray area is single pump operation; higher gray + darker gray area represents both pumps operating in parallel.
2. In Constant Curve mode, pump operates between the MIN and MAX curves.

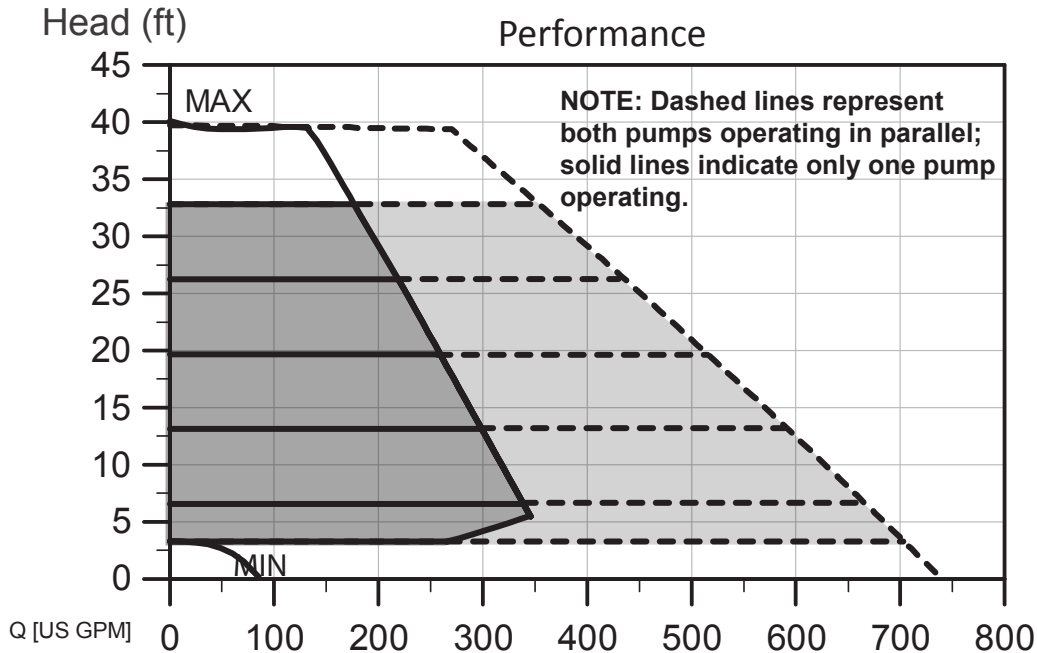


Curves are manufacturer's reported averages using water at 68°F [20°C].

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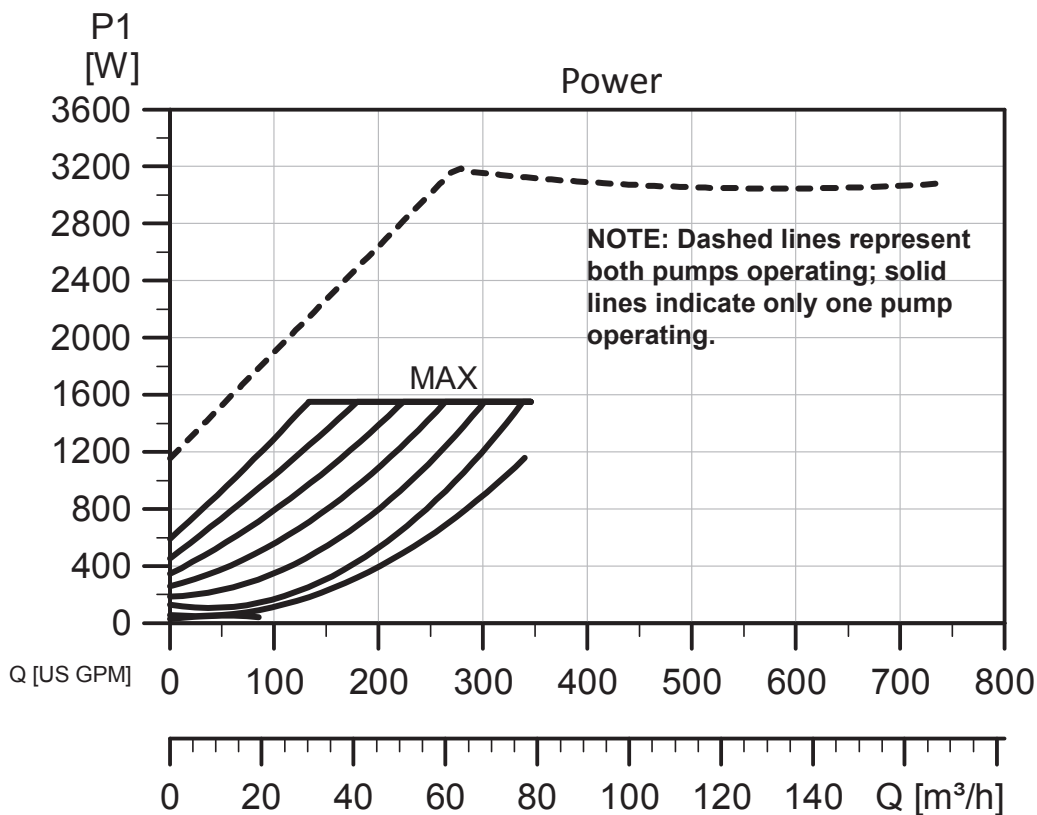
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# Pump Performance Curves -- MAGNA3 M3D100-120



## Pump Curve Usage:

1. In Constant Pressure (Differential Pressure) mode, pump operating range is the gray shaded area. Darker gray area is single pump operation; lighter gray + darker gray area represents both pumps operating in parallel.
2. In Constant Curve mode, pump operates between the MIN and MAX curves.



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

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