



## Submittal Data

### Geo-Flo Magna3 Insulated Pump w/Isol. Valves - 80 & 100 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:	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)
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.: 7.3 psi [0.5 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

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

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

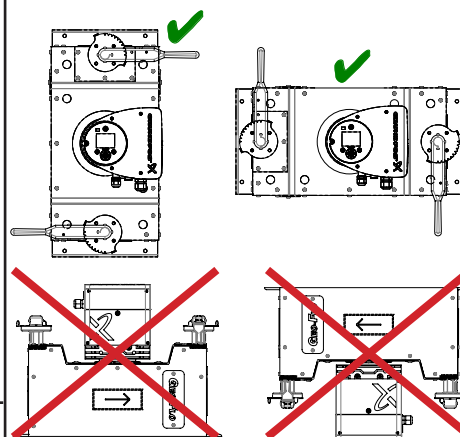
## Model Nomenclature

1-3	4 - 10	11	12	13-15
M3H	080-100	B	F	-VL

Examples: M3H080-100BF-VL  
M3S100-120BC

1-3	Pump series:	M3S = Grundfos Magna3 single insulated pump (all models) M3H = Grundfos Magna3 -- two pumps in series
4-10	Available models:	080-100 = 80-100 single head, 3" butterfly isol. vlvs, 3" flange connections 100-120 = 100-120 single head, 4" butterfly isol. vlvs, 4" flange connections
11	Voltage:	B = 208-230/1/60 (all models)
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 (M3H only):	-HR = Horizontal, flow to the right -HL = Horizontal, flow to the left -VR = Vertical flow, "From loop" on right -VL = Vertical flow, "From loop" on left

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



## Electrical Data (per pump)

Model	Speed	Voltage / Frequency	Amps (Min. - Max.)	Watts (Min. - Max.)
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:

- Electrical data is per pump (2 for M3H series)
- 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.



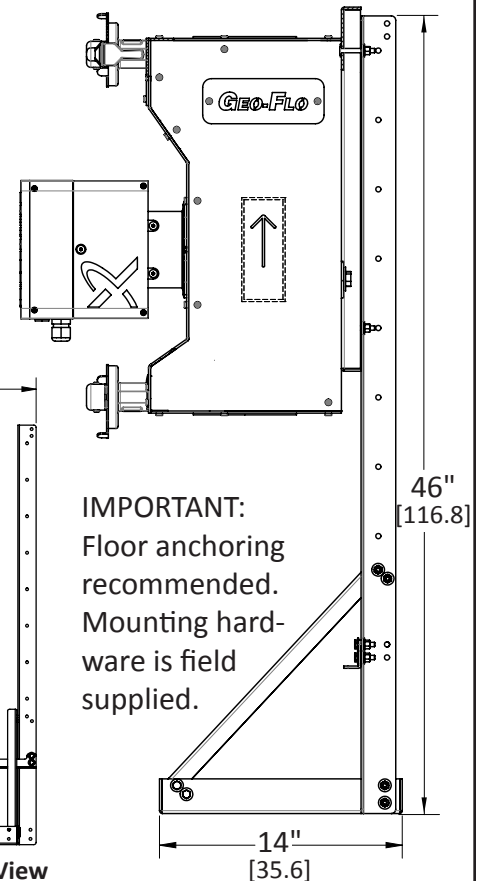
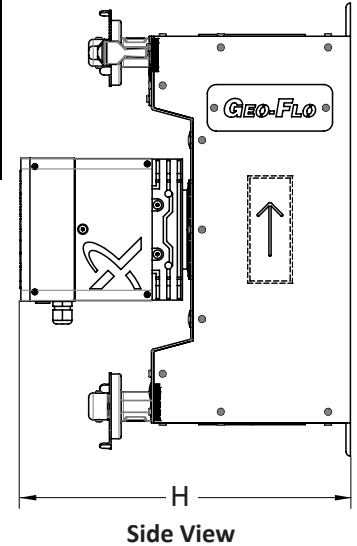
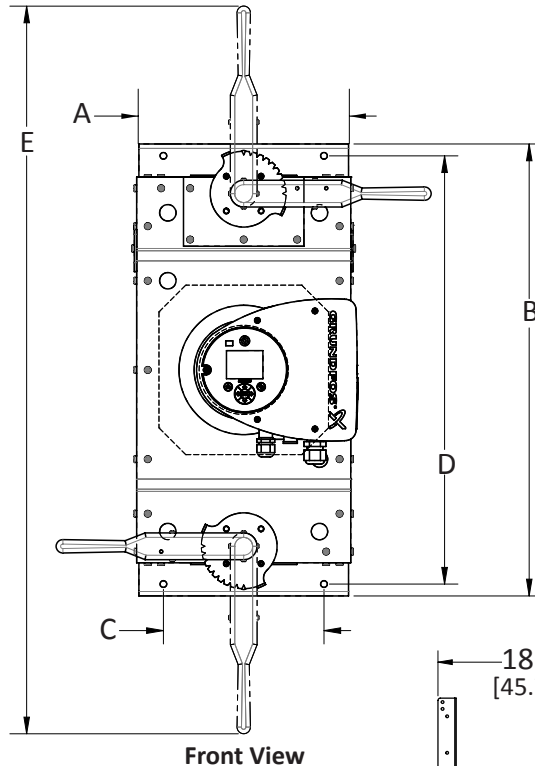
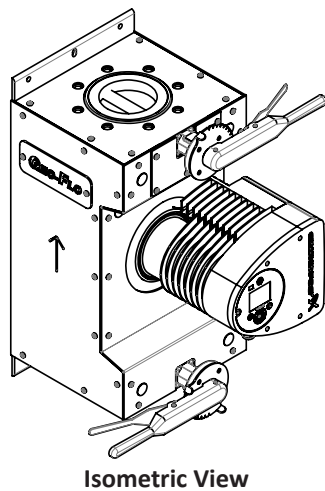
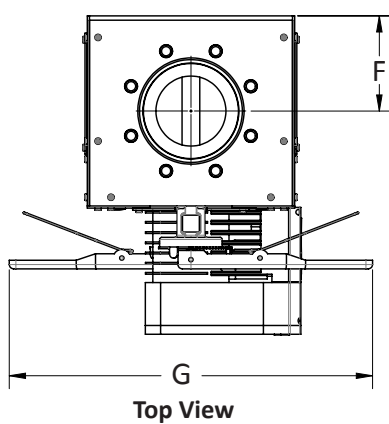
GEO-FLO CORPORATION  
905 Williams Park Drive  
Bedford, Indiana 47421 U.S.A.  
Phone: 812-275-8513 Fax: 812-275-8523  
www.geo-flo.com

# Physical and Dimensional Data: MAGNA3 Insulated Pump - 80 & 100 Series

Dimensional Data									
Model	DIM	A	B	C	D	E	F	G	H
M3S080-100	IN	Data not available at time of publication.							
	CM								
M3S100-120	IN	12	25-5/16	9	24	40-13/16	5-1/2	21	18-7/16
	CM	30.5	64.3	22.9	61	103.7	14	53.3	46.8

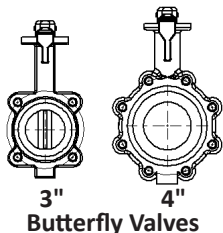
## NOTES:

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.

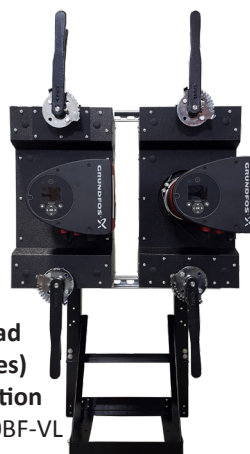


**IMPORTANT:**  
Floor anchoring recommended.  
Mounting hardware is field supplied.

## Connection Details:



Typical High Head  
(2 pumps in series)  
Push/Pull Application  
Shown: M3H100-120BF-VL



Stand Front View

Side View 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)
080-100	3" ANSI 4-bolt flange	172 [78.0]	197 [89.4]
100-120	4" ANSI 8-bolt flange	182 [82.6]	207 [93.89]

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

NOTE:  
Bracketed dimensions above are cm.

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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
	<b>Pump Enable Control</b>
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

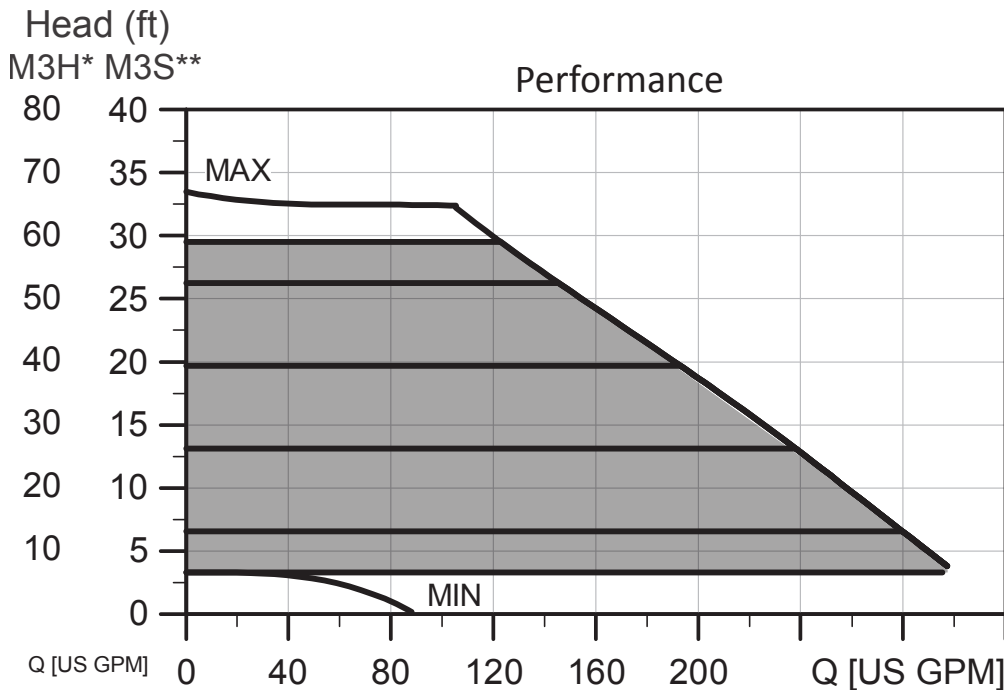
### NOTES:

1. Use external controller for Magna3 Delta-T control for primary-secondary applications to provide separate heating and cooling Delta-T set points.
2. 4062 requires two thermistors.
3. Optional if 24VAC is not available near 4062 location.

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# Pump Performance Curves -- MAGNA3 M3S080-100

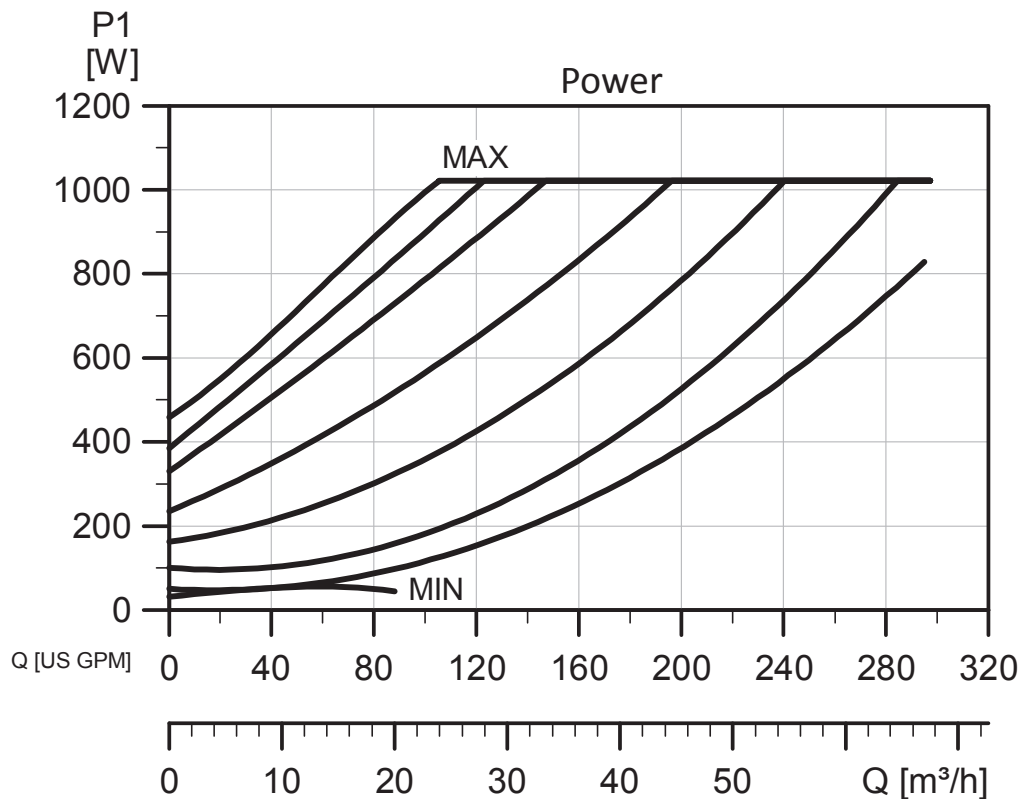


## Pump Curve Usage:

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.

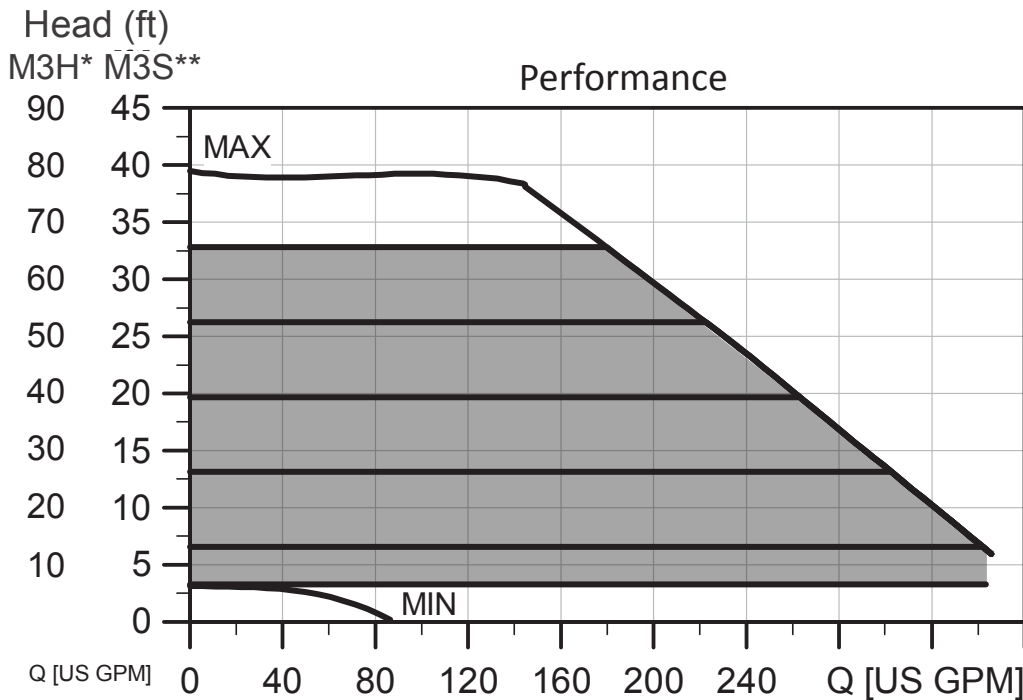


Curves are manufacturer's reported averages using water at 68°F [20°C].

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# Pump Performance Curves -- MAGNA3 M3S100-120

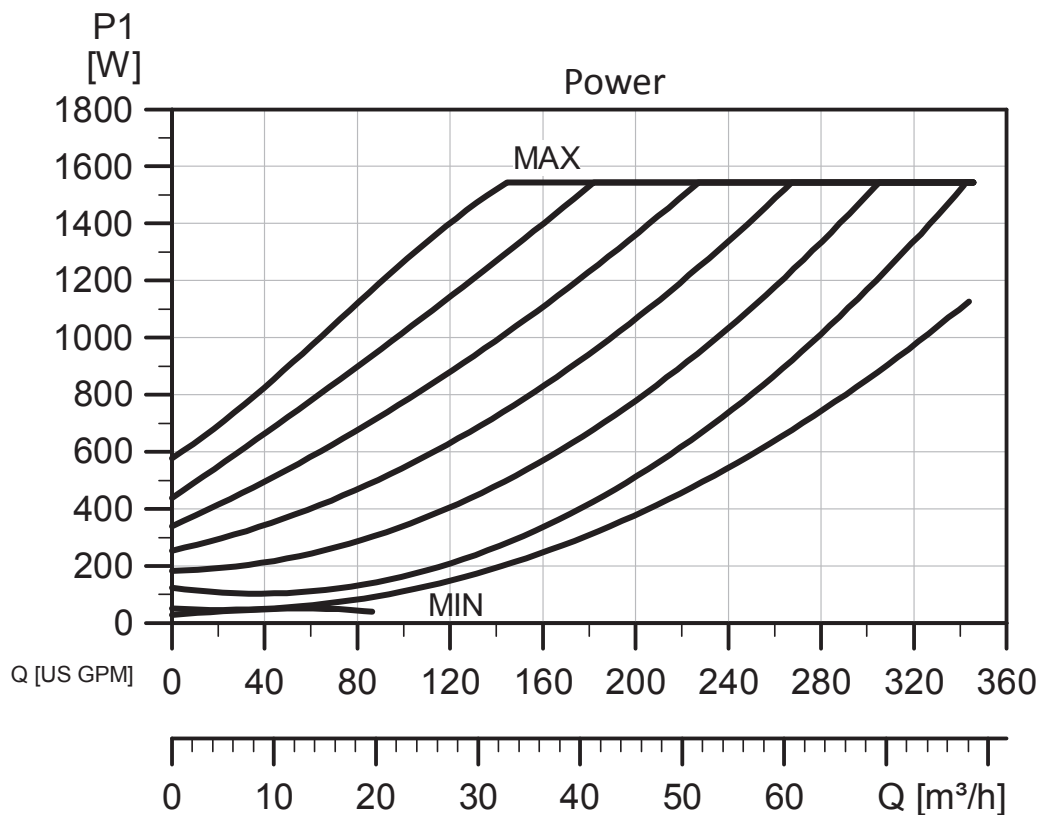


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