

Order Code				Pump Construction			
Base Code		Gear Set	Drive Mount				
G	A						
1	2	3	4	5	6	7	8
Model		Wetted Materials		Options			
				O/C: Pump S/K: Service Kit			



Base Code Select a code character for each numbered position to configure the product.

1	Code	Product Type	Specifications	Notes
	G	Gear Pump		
2	A	Series GA	Max System Pressure (MAWP) 21 Bar (300 psi)	Ports 1/8-27 (F) NPT Side Ports
3	-	Standard Design		
4	Gear Set (Width/N°Gears/Pitch)		Displacement	Max Differential Pressure
	X21	0.063/2/120	0.017 ml/rev (.0045 gal/1000*rev)	1.4 Bar (20 psi)
	V21	0.063/2/48	0.042 ml/rev (0.01 gal/1000*rev)	2.8 Bar (40 psi)
	T23	0.125/2/40	0.092 ml/rev (0.02 gal/1000*rev)	5.2 Bar (75 psi)
5	Gear Material		Max Differential Pressure	Temp Range
	C8	Carbon Graphite	2.8 Bar (40 psi)	-46/177°C (-50/350°F)
	P9	PPS (carbon fiber/ptfe)	5.2 Bar (75 psi)	-46/177°C (-50/350°F)
	J9	PEEK (carbon fiber/ptfe)	5.2 Bar (75 psi)	-46/177°C (-50/350°F)
	J8	PEEK-Pin Drive	2.8 Bar (40 psi)	-46/177°C (-50/350°F)
	P8	PPS-Pin Drive	2.8 Bar (40 psi)	-46/177°C (-50/350°F)
6	Static Seals			Temp Range
	F	PTFE		-46/232°C (-50/450°F)
	F5	TEV (PTFE encap Viton®)		-29/204°C (-20/400°F)
	D	EP		-46/149°C (-50/300°F)
	V	Viton®		-29/204°C (-20/400°F)
	K	Kalrez®		-29/260°C (-20/500°F)
7	Base Materials			
	S	SS316		
	D	Alloy 20		
	T	Titanium		
	C	Hast C-276®		
8	Drive Mount		Max System Pressure (MAWP)	Weight (Pumphead)
	A	MP Housing	21 Bar (300 psi)	0.34 kg (0.75 lbs)
	B	MP Plate	21 Bar (300 psi)	0.34 kg (0.75 lbs)
	C	MP Step Cup (2 oz-in, SS316)	21 Bar (300 psi)	0.31 kg (0.68 lbs)
	M	I-Drive™ IMS	21 Bar(300 psi) SS316	0.37 kg (0.82 lbs)
	SE	EagleDrive™ DEMSx	21 Bar(300 psi) SS316	0.37 kg (0.82 lbs)
	E	NEMA 56C/143/145TC	21 Bar (300 psi)	1.1 kg (2.4 lbs)
	2-6	IEC 56-B14 - IEC 63-B14	21 Bar (300 psi)	1.1 kg (2.4 lbs)

Options Add Option codes after the Base Code to modify features or enhance the product.

Driving Magnet (PC13)		Temp Range	
N0	Ferrite Driving (Ring)	-46/99°C (-50/210°F)	2
N1	SmCo Driving (Segments)	-46/260°C (-50/500°F)	2
N3	NdFeB Driving (Ring)	-46/82°C (-50/180°F)	2
High System Pressure (PC14)			
CH20	137 Bar (2000 psi) Max System Pressure (MAWP)		
CH50	342 Bar (5000 psi) Max System Pressure (MAWP)		

Notes

- Using industrial IEC or NEMA Adapter Kits mounts
- Available only with industrial IEC or NEMA drive mounts

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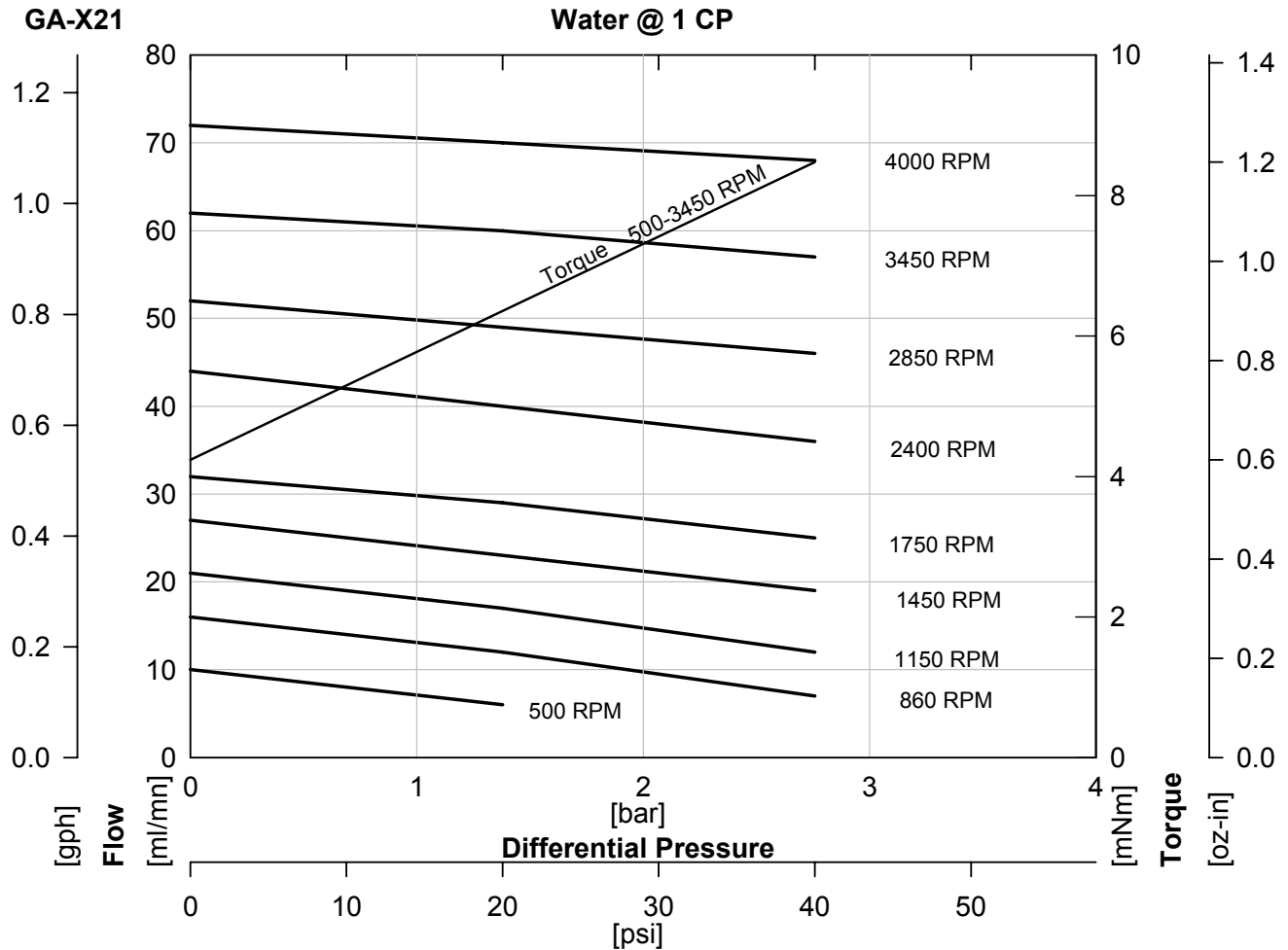
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Base Code		Gear Set		Drive Mount						
G	A	-	X21	C			A			
1	2	3	4	5	6	7	8			
Model			Wetted Materials			O/C: Pump S/K: Service Kit				

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
Stationary Shafts	
PTFE Bevel Seal (Qty 1)	

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Performance



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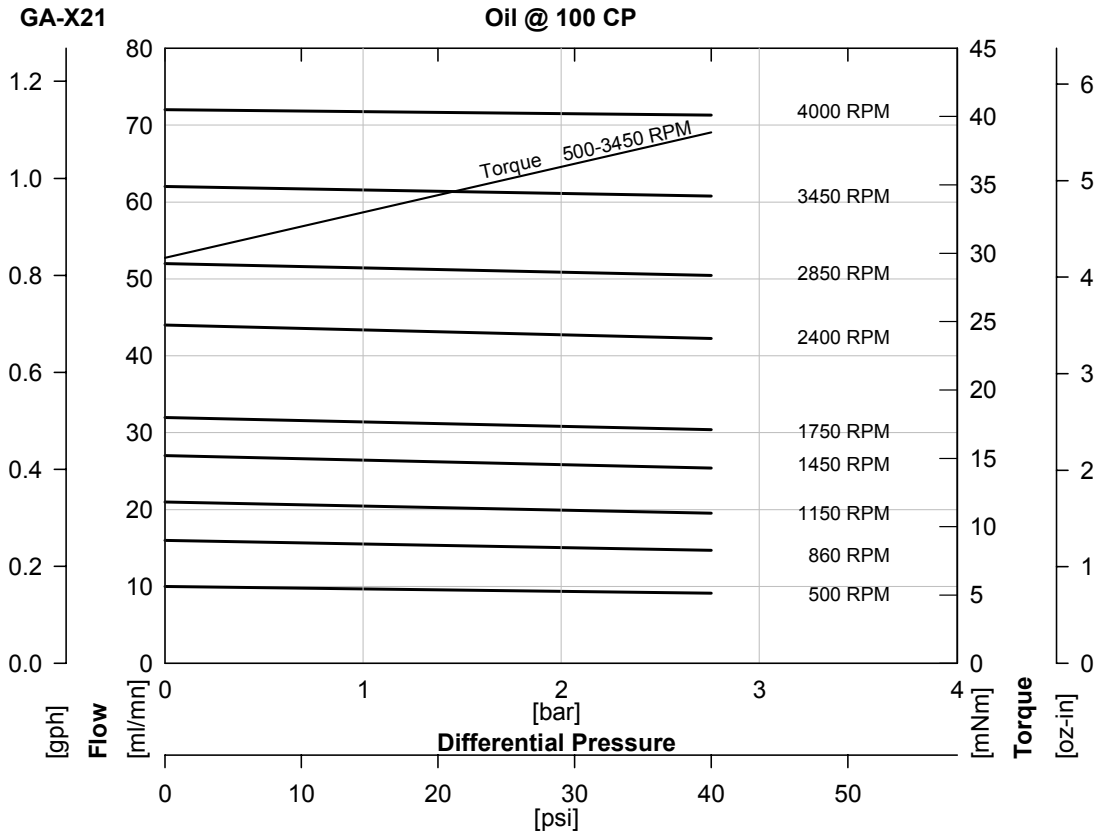
Order Code								Options		
Base Code		Gear Set		Drive Mount						
G	A	-	X21	C			A			
1	2	3	4	5	6	7	8			
Model			Wetted Materials					O/C: Pump S/K: Service Kit		

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
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Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Performance-High Viscosity



$$\text{Watts} = \frac{\text{Torque [mNm]} \times \text{Speed [RPM]}}{9555}$$

$$\text{HP} = \frac{\text{Torque [oz-in]} \times \text{Speed [RPM]}}{1.008 \times 10^6}$$

To calculate torque, multiply correction factor by torque from viscosity curve above.

Torque Correction Factors: For Higher Viscosity Liquids				
Viscosity [cp]		1	100	1500
Max Speed [RPM]		8000	3450	1750
[Bar]	[psi]			
0.3	5	0.1	1	1.8
0.7	10	0.2	1	1.8
1.4	20	0.2	1	1.7
2.1	30	0.2	1	1.7
2.8	40	0.2	1	1.6

Magnet Decouple Torque			
Driven Magnet	Driving Hub	Torque [mNm]	Torque [oz.in]
Ferrite	Ferrite	78	11

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<u>Order Code</u>								<u>Pump Construction</u>		
Base Code		Gear Set		Drive Mount		Options			Magnetic Drive Gear Pump	
G	A	-	X21	C			A		Suction Shoe Style	
1	2	3	4	5	6	7	8		Two Spur Gears/DP120, 48 or 40	
Model				Wetted Materials				O/C: Pump S/K: Service Kit	Stationary Shafts	
									PTFE Bevel Seal (Qty 1)	

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Specifications

	SI	US
Displacement	0.017 ml/rev	.0045 gal/1000*rev
Max Flow (4 Pole Speed)	30 ml/mn 1450 RPM (50Hz)	0.5 gal/hr 1750 RPM (60Hz)
Max Flow (2 Pole Speed)	50 ml/mn 2850 RPM (50Hz)	0.9 gal/hr 3450 RPM (60Hz)
Max Differential Pressure	1 2.8 Bar	40 psi
Max System Pressure (MAWP)	5 21 Bar	300 psi
NIPR (Absolute)	180 mBar	2.5 psia
Wet Lift (Typical)	2 51 cm.H ₂ O (1450 RPM)	24 in.H ₂ O (1750 RPM)
Temp Range	3 See Gear Material	See Gear Material
Viscosity Range	4 0.2 to 1500 cp	0.2 to 1500 cp
Max Speed	8,000 RPM	8,000 RPM
Rotation (Facing Motor Shaft)	CW	CW
Weight (Pumphead)	0.34 kg	0.75 lbs
Dimensions (LxWxH)	See Drawing	See Drawing
Ports	1/8-27 (F) NPT Side Ports	1/8-27 (F) NPT Side Ports
Driven Magnet (Standard)	Ferrite	Ferrite
Optional Internal Bypass	No	No

Notes

- 1 See Product Options. Max pressure depends on gear material.
- 2 Priming ability varies with operating conditions.
- 3 See Product Options for specific temp limits.
- 4 See Performance-High Viscosity for viscosity limits.
- 5 MAWP may be higher for specific product versions.

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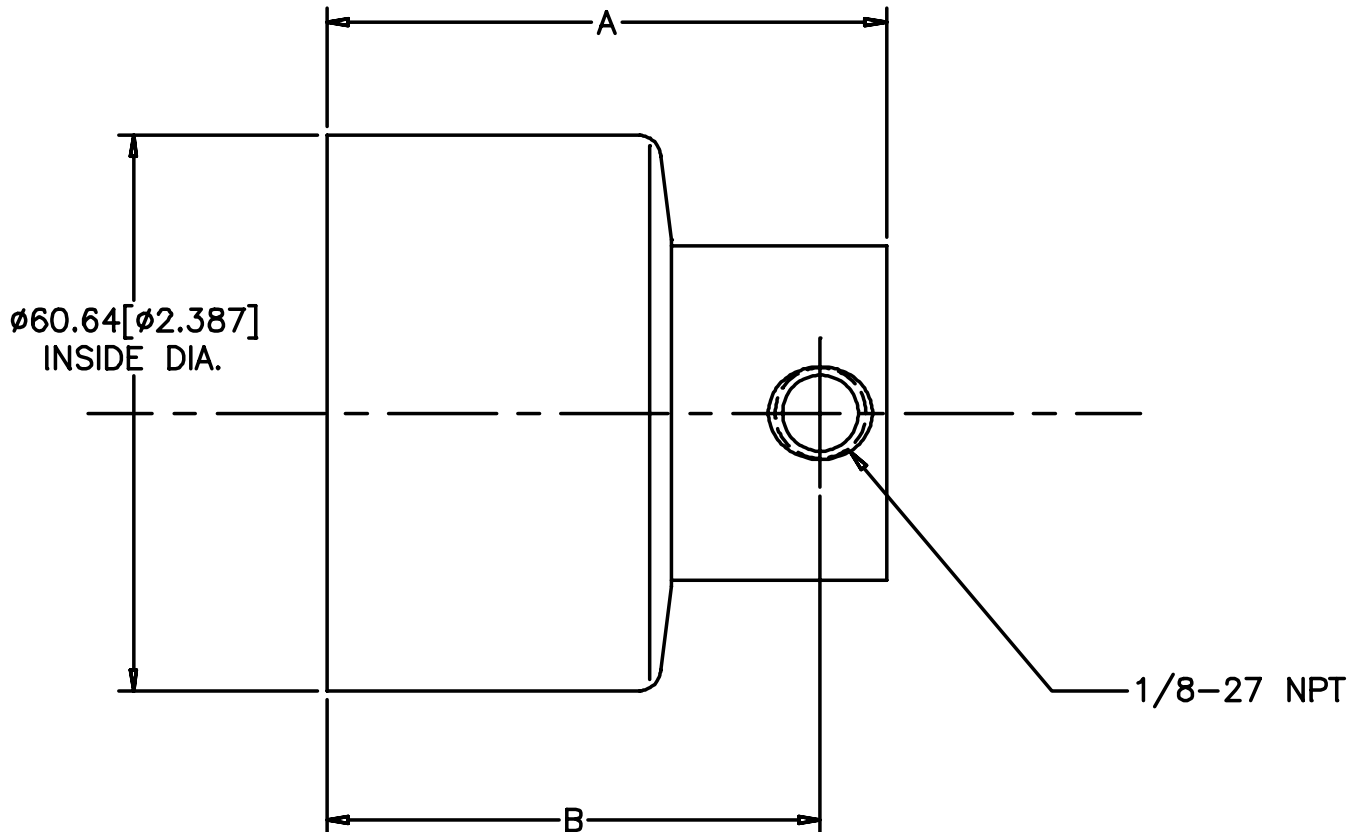
PROCON

<u>Order Code</u>								<u>Pump Construction</u>		
Base Code		Gear Set		Drive Mount		Options			Magnetic Drive Gear Pump	
G	A	-	X21	C			A		Suction Shoe Style	
1	2	3	4	5	6	7	8		Two Spur Gears/DP120, 48 or 40	
Model				Wetted Materials			O/C: Pump S/K: Service Kit		Stationary Shafts	
PTFE Bevel Seal (Qty 1)										

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Dimensions



A (MAX) mm [in]	B mm [in]
63.5 [2.50]	56 [2.20]

NOTES:

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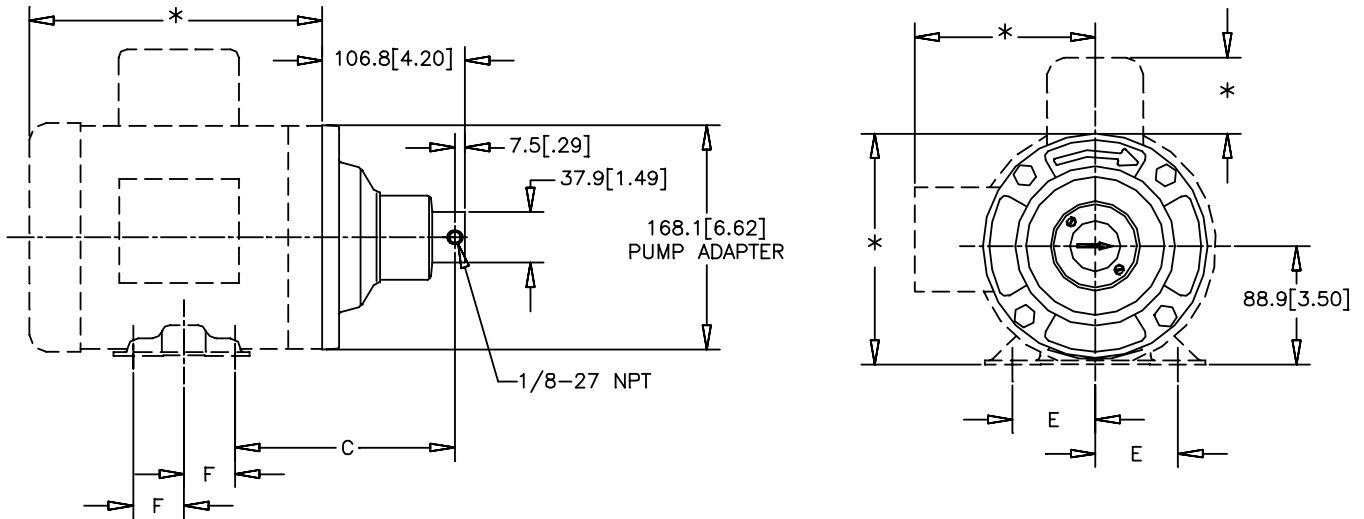
Order Code										Options		
Base Code			Gear Set		Drive Mount							
G	A	-	X21	C			E					
1	2	3	4	5	6	7	8					
Model			Wetted Materials						O/C: Pump S/K: Service Kit			

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
Stationary Shafts	
PTFE Bevel Seal (Qty 1)	

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Dimensions



MOUNT	C mm [in]	E mm [in]	F mm [in]
NEMA ^E 56C	164.6 [6.48]	61.9 [2.44]	38.1 [1.50]
NEMA ^K 143TC	159.9 [6.30]	69.9 [2.75]	50.8 [2.00]
NEMA ^K 145TC	159.9 [6.30]	69.9 [2.75]	63.5 [2.50]

NOTES:

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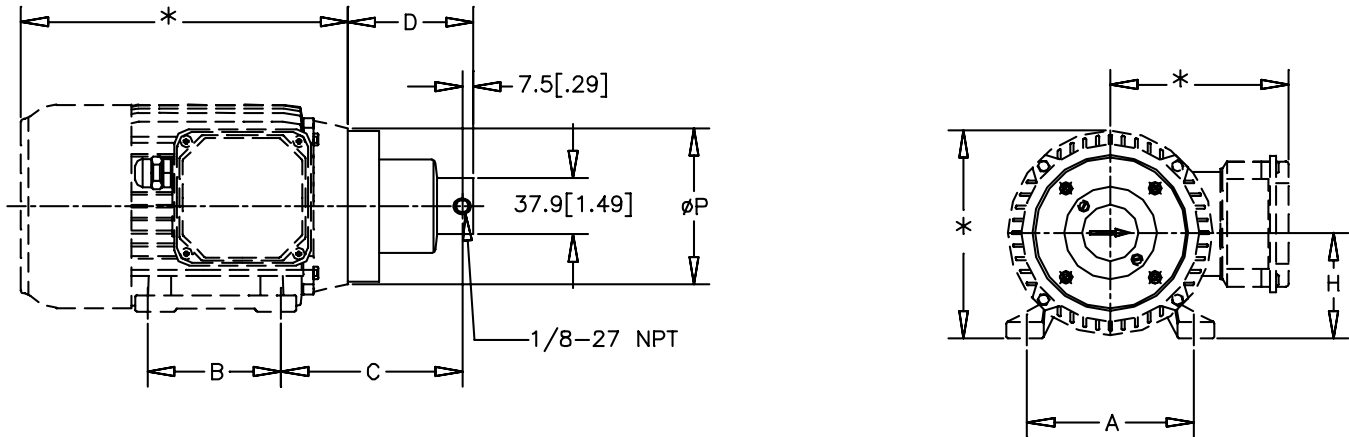
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<u>Order Code</u>										<u>Pump Construction</u>		
Base Code			Gear Set		Drive Mount						Magnetic Drive Gear Pump	
G	A	-	X21	C			2			Suction Shoe Style		
Model			Wetted Materials							Two Spur Gears/DP120, 48 or 40		
										Stationary Shafts		
										Options		PTFE Bevel Seal (Qty 1)
										O/C: Pump S/K: Service Kit		

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Dimensions



MOUNT	A mm [in]	B mm [in]	C mm [in]	D mm [in]	H mm [in]	P mm [in]
2 IEC56B14B3	90 [3.54]	71 [2.80]	100.5 [3.96]	71.8 [2.83]	56 [2.20]	80 [3.15]
4 IEC63B14B3	100 [3.94]	80 [3.15]	110.1 [4.33]	77.5 [3.05]	63 [2.48]	90 [3.54]
6 IEC71B14B3	112 [4.41]	90 [3.54]	122.1 [4.81]	84.5 [3.33]	71 [2.80]	105 [4.13]

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Order Code										Options	
Base Code			Gear Set		Drive Mount						
G	A	-	V21	C							
1	2	3	4	5	6	7	8			O/C: Pump S/K: Service Kit	
Model			Wetted Materials								

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
Stationary Shafts	
PTFE Bevel Seal (Qty 1)	

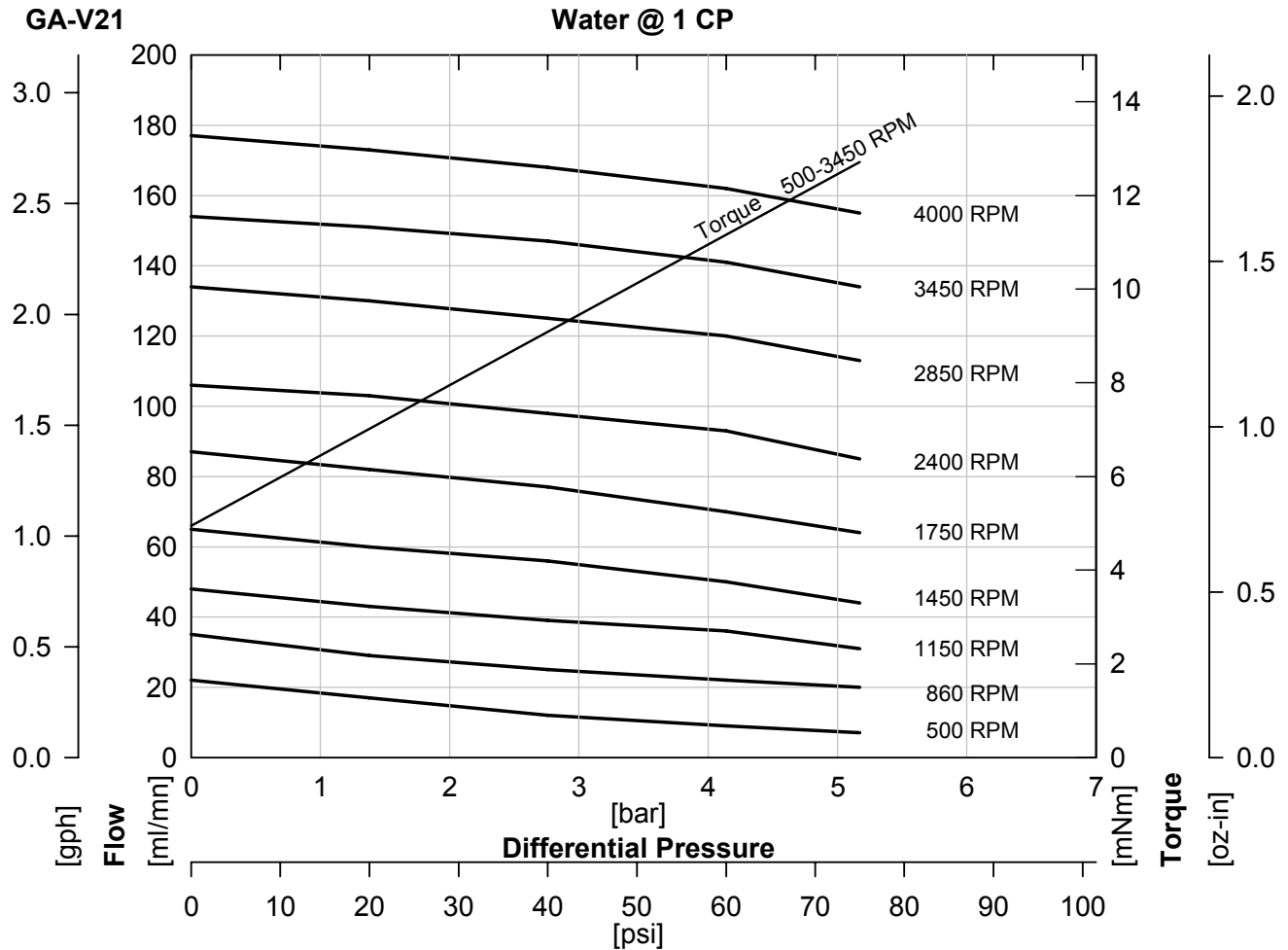


Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)



Performance



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Order Code										Options			
Base Code			Gear Set		Drive Mount						O/C: Pump S/K: Service Kit		
G	A	-	V21	C									
1	2	3	4	5	6	7	8						
Model			Wetted Materials										

Pump Construction

Magnetic Drive Gear Pump

Suction Shoe Style

Two Spur Gears/DP120, 48 or 40

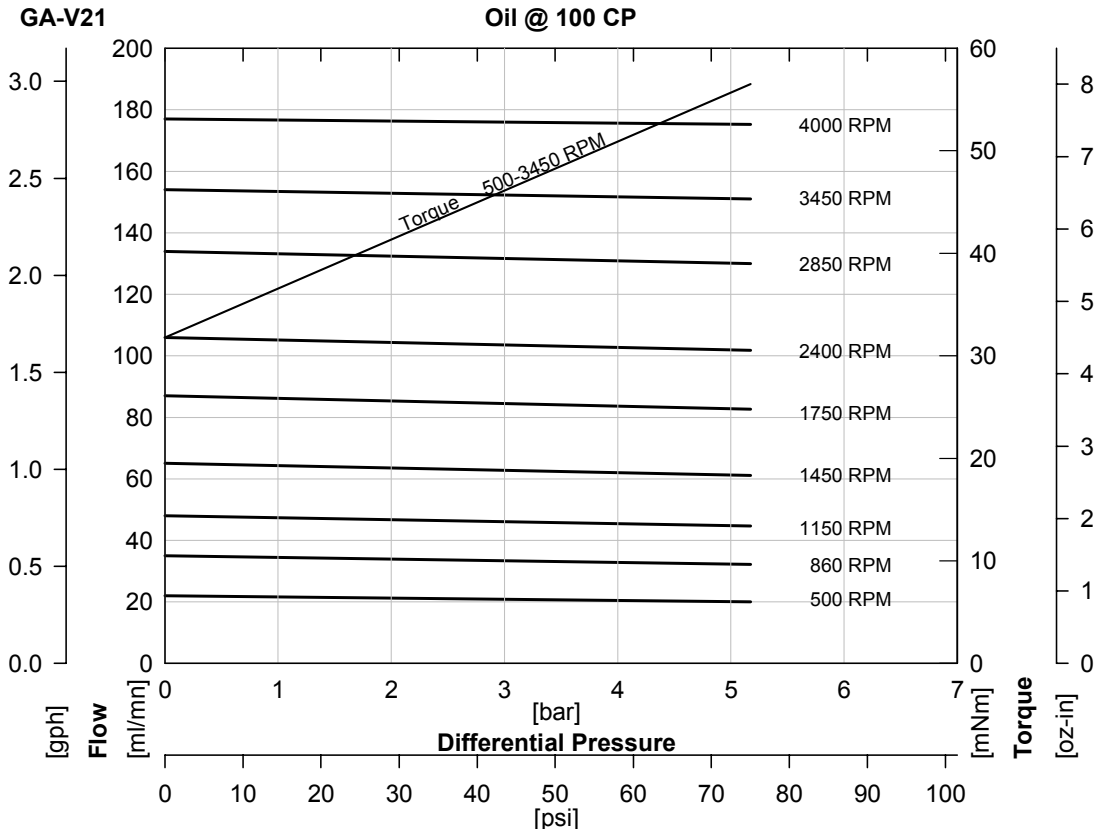
Stationary Shafts

PTFE Bevel Seal (Qty 1)

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Performance-High Viscosity



$$\text{Watts} = \frac{\text{Torque [mNm]} \times \text{Speed [RPM]}}{9555}$$

$$\text{HP} = \frac{\text{Torque [oz-in]} \times \text{Speed [RPM]}}{1.008 \times 10^6}$$

To calculate torque, multiply correction factor by torque from viscosity curve above.

Torque Correction Factors: For Higher Viscosity Liquids				
Viscosity [cp]		1	100	1500
Max Speed [RPM]		8000	3450	1750
[Bar]	[psi]			
0.3	5	0.2	1	2.9
1.4	20	0.2	1	2.8
2.8	40	0.2	1	2.7
4.1	60	0.2	1	2.6
5.5	80	0.2	1	2.5

Magnet Decouple Torque			
Driven Magnet	Driving Hub	Torque [mNm]	Torque [oz.in]
Ferrite	Ferrite	78	11

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Order Code										Options		
Base Code			Gear Set		Drive Mount							
G	A	-	V21	C								
1	2	3	4	5	6	7	8	Wetted Materials				
										O/C: Pump S/K: Service Kit		

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
Stationary Shafts	
PTFE Bevel Seal (Qty 1)	

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Specifications

	SI	US
Displacement	0.042 ml/rev	0.01 gal/1000*rev
Max Flow (4 Pole Speed)	70 ml/mn 1450 RPM (50Hz)	1.2 gal/hr 1750 RPM (60Hz)
Max Flow (2 Pole Speed)	120 ml/mn 2850 RPM (50Hz)	2.3 gal/hr 3450 RPM (60Hz)
Max Differential Pressure	1 2.8 Bar	40 psi
Max System Pressure (MAWP)	5 21 Bar	300 psi
NIPR (Absolute)	180 mBar	2.5 psia
Wet Lift (Typical)	2 51 cm.H2O (1450 RPM)	24 in.H2O (1750 RPM)
Temp Range	3 See Gear Material	See Gear Material
Viscosity Range	4 0.2 to 1500 cp	0.2 to 1500 cp
Max Speed	8,000 RPM	8,000 RPM
Rotation (Facing Motor Shaft)	CW	CW
Weight (Pumphead)	0.34 kg	0.75 lbs
Dimensions (LxWxH)	See Drawing	See Drawing
Ports	1/8-27 (F) NPT Side Ports	1/8-27 (F) NPT Side Ports
Driven Magnet (Standard)	Ferrite	Ferrite
Optional Internal Bypass	No	No

Notes

- See Product Options. Max pressure depends on gear material.
- Priming ability varies with operating conditions.
- See Product Options for specific temp limits.
- See Performance-High Viscosity for viscosity limits.
- MAWP may be higher for specific product versions.

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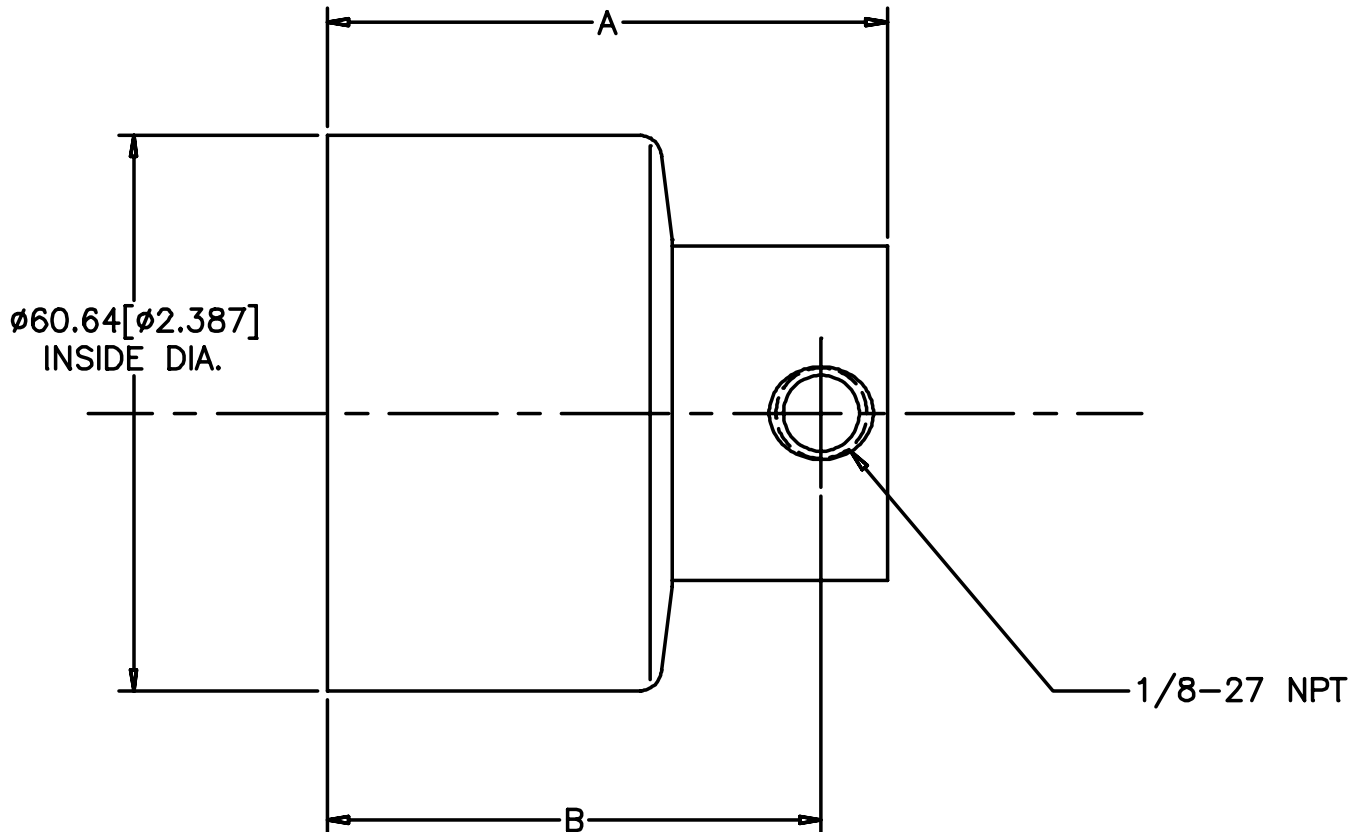
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PROCON

<u>Order Code</u>										<u>Pump Construction</u>		
Base Code			Gear - Set		Drive Mount-			Options			Magnetic Drive Gear Pump	
G	A	-	V21	C			A			Suction Shoe Style		
1	2	3	4	5	6	7	8			Two Spur Gears/DP120, 48 or 40		
Model			Wetted Materials						O/C: Pump S/K: Service Kit		Stationary Shafts	
										PTFE Bevel Seal (Qty 1)		

Dimensions



A (MAX) mm [in]	B mm [in]
63.5 [2.50]	56 [2.20]

NOTES:

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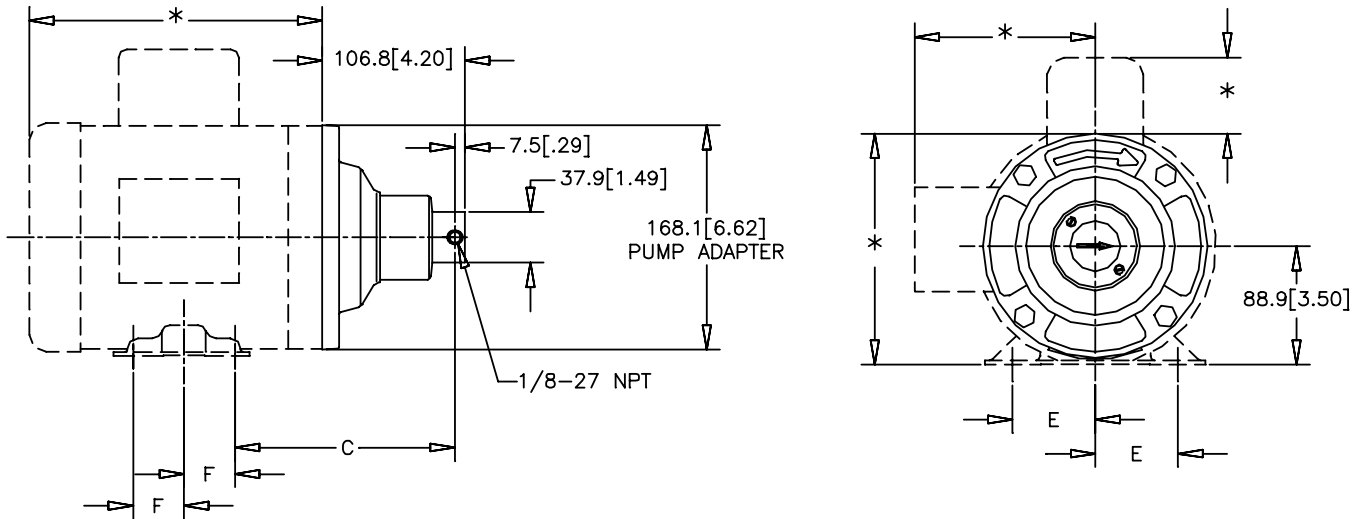
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Base Code			Gear Set		Drive Mount			Options			Magnetic Drive Gear Pump
G	A	-	V21	C			E		Suction Shoe Style		
1	2	3	4	5	6	7	8		Two Spur Gears/DP120, 48 or 40		
Model			Wetted Materials			O/C: Pump S/K: Service Kit			Stationary Shafts		
											PTFE Bevel Seal (Qty 1)

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Dimensions



MOUNT	C mm [in]	E mm [in]	F mm [in]
NEMA ^E 56C	164.6 [6.48]	61.9 [2.44]	38.1 [1.50]
NEMA ^K 143TC	159.9 [6.30]	69.9 [2.75]	50.8 [2.00]
NEMA ^K 145TC	159.9 [6.30]	69.9 [2.75]	63.5 [2.50]

NOTES:

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- ALL DIMENSIONS ARE NOMINAL.

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Mda Business Park, Irishtown,
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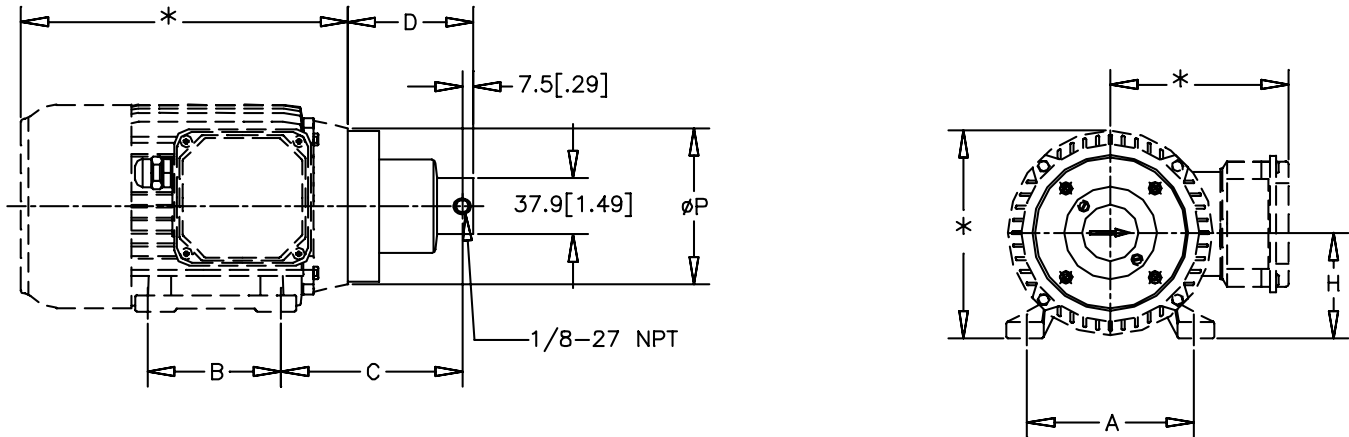
Order Code										Options		
Base Code			Gear Set		Drive Mount							
G	A	-	V21	C			2					
1	2	3	4	5	6	7	8					
Model				Wetted Materials			O/C: Pump S/K: Service Kit					

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
Stationary Shafts	
PTFE Bevel Seal (Qty 1)	

Pump Construction

Magnetic Drive Gear Pump
Suction Shoe Style
Two Spur Gears/DP120, 48 or 40
Stationary Shafts
PTFE Bevel Seal (Qty 1)

Dimensions



MOUNT	A mm [in]	B mm [in]	C mm [in]	D mm [in]	H mm [in]	P mm [in]
2 IEC56B14B3	90 [3.54]	71 [2.80]	100.5 [3.96]	71.8 [2.83]	56 [2.20]	80 [3.15]
4 IEC63B14B3	100 [3.94]	80 [3.15]	110.1 [4.33]	77.5 [3.05]	63 [2.48]	90 [3.54]
6 IEC71B14B3	112 [4.41]	90 [3.54]	122.1 [4.81]	84.5 [3.33]	71 [2.80]	105 [4.13]

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Order Code										Options	
Base Code			Gear Set			Drive Mount					
G	A	-	T23								
1	2	3	4	5	6	7	8				
Model			Wetted Materials								
O/C: Pump S/K: Service Kit											

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
Two Spur Gears/DP120, 48 or 40	
Stationary Shafts	
PTFE Bevel Seal (Qty 1)	



Pump Construction

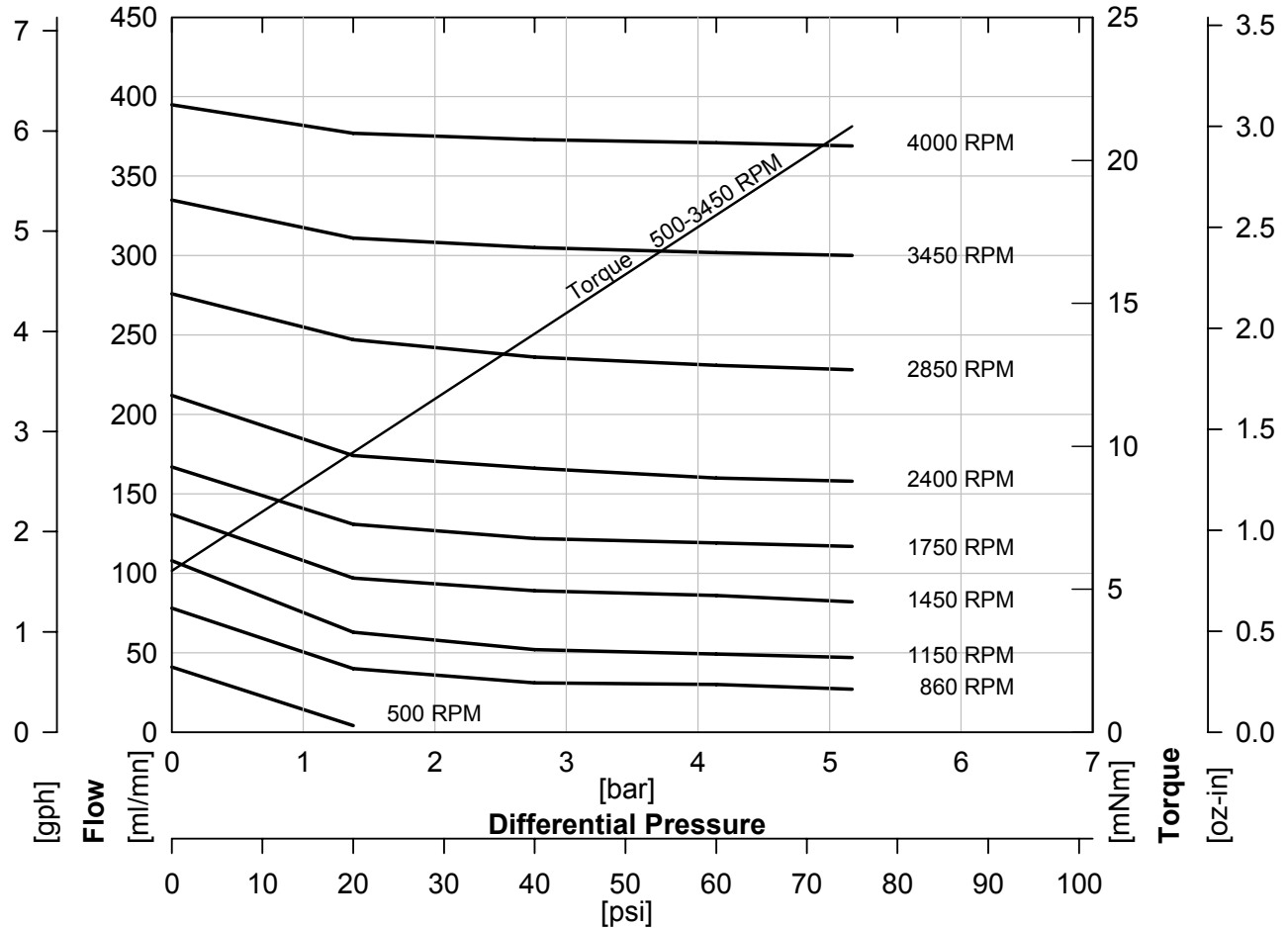
Magnetic Drive Gear Pump
Suction Shoe Style
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Performance

GA-T23

Water @ 1 CP



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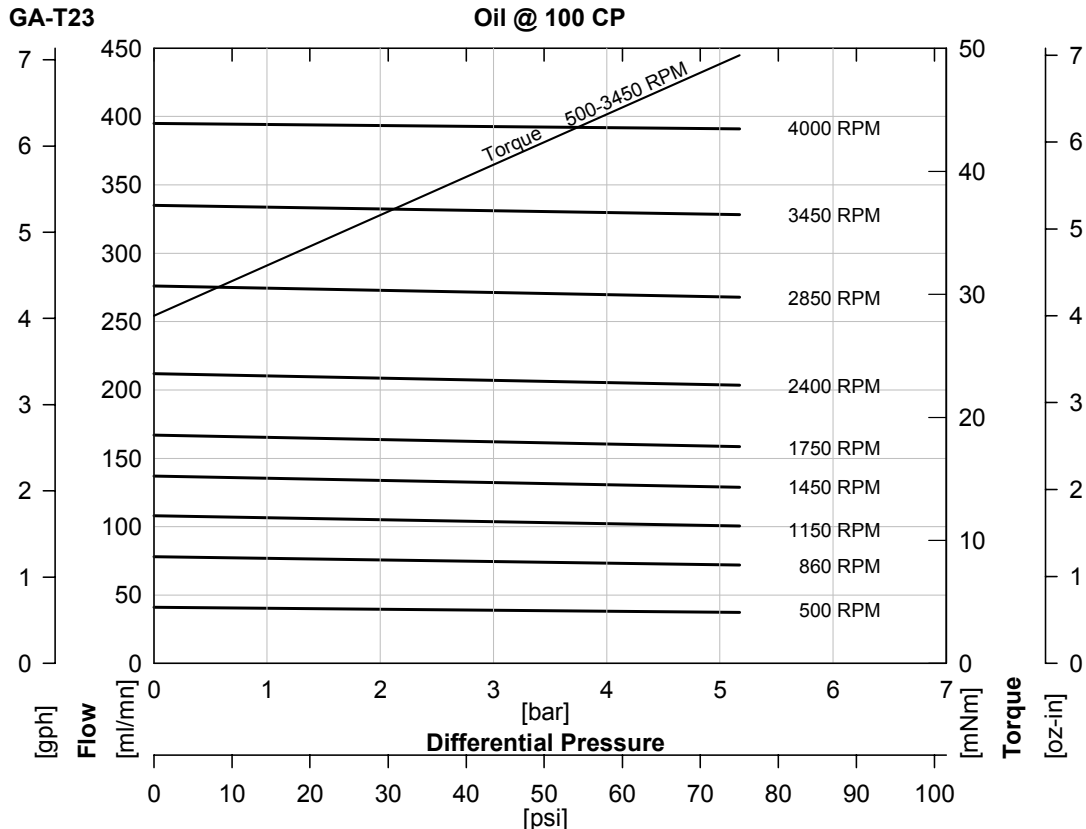
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Order Code										Options		
Base Code			Gear Set		Drive Mount							
G	A	-	T23									
1	2	3	4	5	6	7	8					
Model			Wetted Materials			O/C: Pump S/K: Service Kit						

Pump Construction	
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Performance-High Viscosity



$$\text{Watts} = \frac{\text{Torque [mNm]} \times \text{Speed [RPM]}}{9555}$$

$$\text{HP} = \frac{\text{Torque [oz-in]} \times \text{Speed [RPM]}}{1.008 \times 10^6}$$

To calculate torque, multiply correction factor by torque from viscosity curve above.

Torque Correction Factors: For Higher Viscosity Liquids				
Viscosity [cp]		1	100	1500
Max Speed [RPM]		8000	3450	1750
[Bar]	[psi]			
0.3	5	0.2	1	3.0
1.4	20	0.2	1	2.8
2.8	40	0.3	1	2.7
4.1	60	0.4	1	2.5
5.5	80	0.4	1	2.4

Magnet Decouple Torque			
Driven Magnet	Driving Hub	Torque [mNm]	Torque [oz.in]
Ferrite	Ferrite	78	11

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Order Code										Options	
Base Code				Gear Set		Drive Mount					
G	A	-	T23								
1	2	3	4	5	6	7	8			O/C: Pump S/K: Service Kit	
Model				Wetted Materials							

Pump Construction	
Magnetic Drive Gear Pump	
Suction Shoe Style	
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Pump Construction

Magnetic Drive Gear Pump
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Stationary Shafts
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Specifications

	SI	US
Displacement	0.092 ml/rev	0.02 gal/1000*rev
Max Flow (4 Pole Speed)	140 ml/mn 1450 RPM (50Hz)	2.6 gal/hr 1750 RPM (60Hz)
Max Flow (2 Pole Speed)	270 ml/mn 2850 RPM (50Hz)	5.1 gal/hr 3450 RPM (60Hz)
Max Differential Pressure	1 5.2 Bar	75 psi
Max System Pressure (MAWP)	5 21 Bar	300 psi
NIPR (Absolute)	180 mBar	2.5 psia
Wet Lift (Typical)	2 51 cm.H2O (1450 RPM)	24 in.H2O (1750 RPM)
Temp Range	3 See Gear Material	See Gear Material
Viscosity Range	4 0.2 to 1500 cp	0.2 to 1500 cp
Max Speed	8,000 RPM	8,000 RPM
Rotation (Facing Motor Shaft)	CW	CW
Weight (Pumphead)	0.34 kg	0.75 lbs
Dimensions (LxWxH)	See Drawing	See Drawing
Ports	1/8-27 (F) NPT Side Ports	1/8-27 (F) NPT Side Ports
Driven Magnet (Standard)	Ferrite	Ferrite
Optional Internal Bypass	No	No

Notes

- 1 See Product Options. Max pressure depends on gear material.
- 2 Priming ability varies with operating conditions.
- 3 See Product Options for specific temp limits.
- 4 See Performance-High Viscosity for viscosity limits.
- 5 MAWP may be higher for specific product versions.

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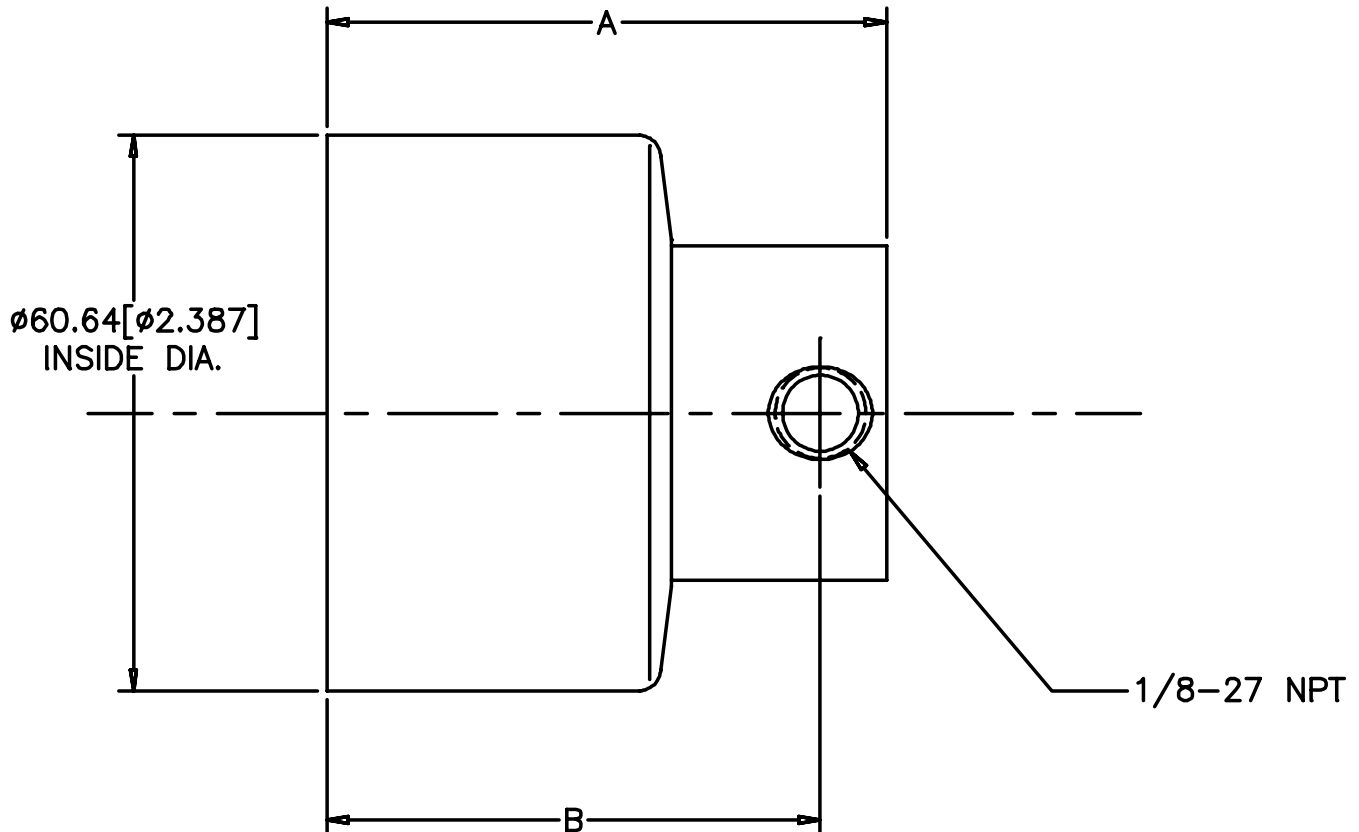
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Base Code			Gear Set		Drive Mount							
G	A	-	T23					A				
1	2	3	4	5	6	7	8					
Model				Wetted Materials						O/C: Pump S/K: Service Kit		

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Dimensions



A (MAX) mm [in]	B mm [in]
63.5 [2.50]	56 [2.20]

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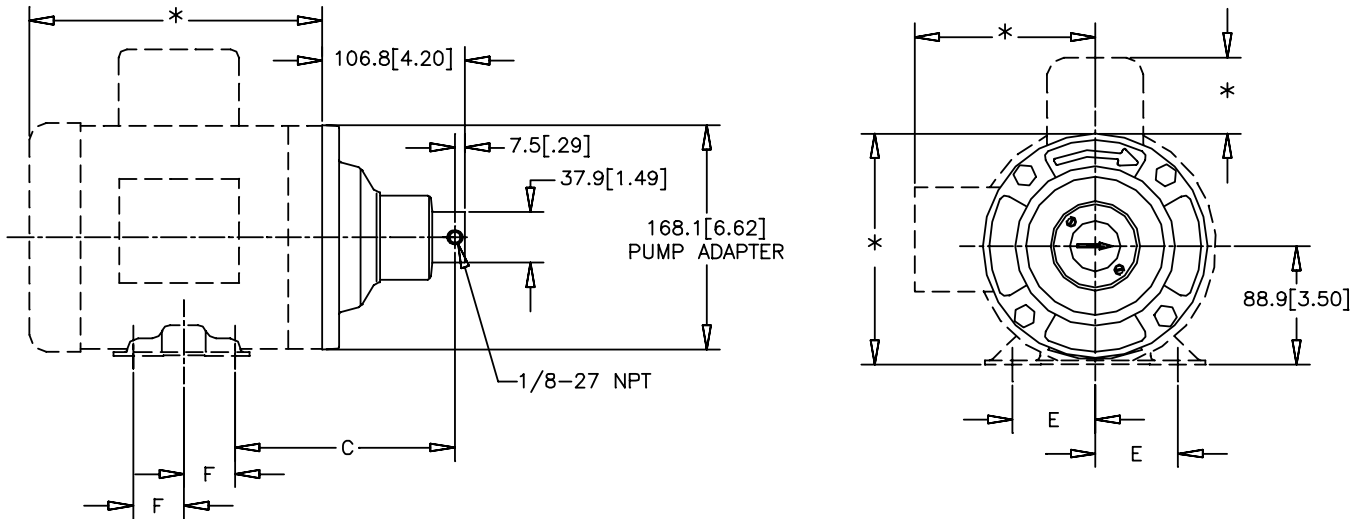
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<u>Order Code</u>								<u>Pump Construction</u>			
Base Code			Gear Set		Drive Mount						
G	A	-	T23				E				
1	2	3	4	5	6	7	8				
Model			Wetted Materials								
								O/C: Pump S/K: Service Kit			
								Magnetic Drive Gear Pump Suction Shoe Style Two Spur Gears/DP120, 48 or 40 Stationary Shafts PTFE Bevel Seal (Qty 1)			

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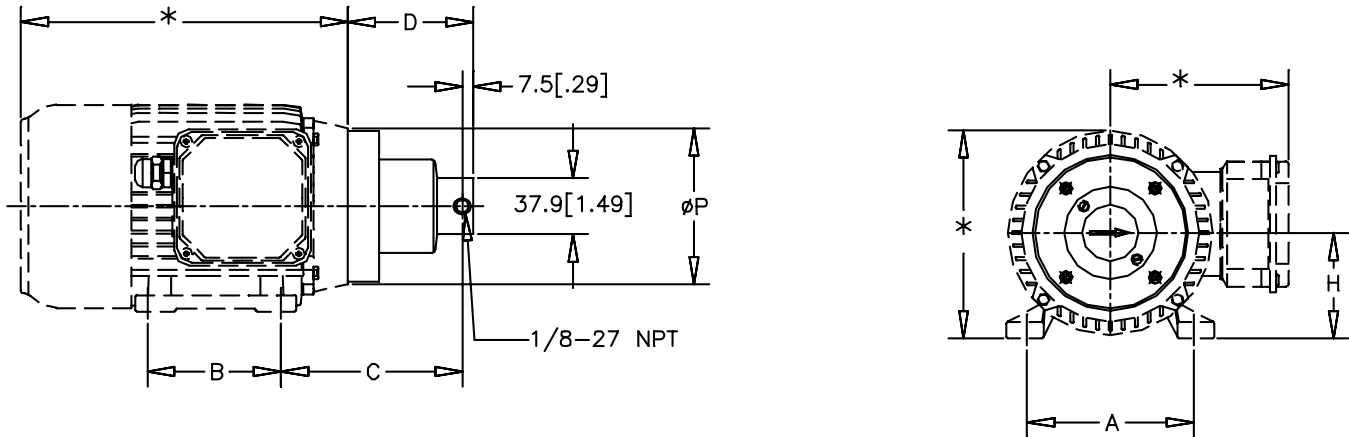
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