

# GEM

Pumps & Electric Motors

***In the Business of Problem Solving***

***24/7 Field Service, Custom Skid Fabrication, Pump Rebuilds and Preventive Maintenance Programs.***

***Turn Key Salt Water Disposal Facility Design and Construction***

Manufacturers that GEM Represents

## **Centrifugal Pumps**

Aurora  
Ebara  
AMT  
Myers  
Finish Thompson  
Gardner Denver  
Power-Flo  
Barmesa  
MCM/O'Drill  
Oberdorfer

## **Gear Pumps**

Ranger  
Oberdorfer

## **Electric Motors**

WEG  
Leeson  
North American  
Techtop  
World Wide Electric

## **Compressors/Dryers**

Gardner Denver

## **Sealing Options**

Advanced Sealing International

## **Diaphragm Pumps**

AMT  
VerderAir  
Nomad

## **Vertical Multi-Stage Pumps**

Ebara



*We offer replacement parts, repairs & replacements for our competitors brands. Inquire with one of our sales team members for assistance.*

## **Self-Priming Pumps**

AMT  
Cornell  
Finish Thompson  
Power-Flo  
Barmesa  
Ebara

## **Plunger Pumps**

Myers  
Aplex  
Gardner Denver

## **Accessories**

Bearings (Peer & Amec)  
Sheaves (Amec)  
Couplings (Amec)  
Pulsation Dampeners  
Filters

## **Submersible Pumps**

Ebara  
Power-Flo  
Barmesa  
Myers



## Conversion Chart

<u>From</u>	<u>To</u>	<u>Multiply By</u>	
GPM	BPH	1.42857	HP = GPM X TOTAL HEAD IN FEET / 3960
GPM	BPD	34.28568	
GPM	BPM	0.238095	Piston & Plunger Pump HP Required = BPH x PSI x 0.00045
GPM	GPH	60	
GPM	GPD	1440	
BPD	GPM	0.02917	Plunger Load = Plunger Area x Pressure
BPD	GPH	1.75	
BPH	GPM	0.7	
FT HD	PSI	0.433	
PSI	FT HD	2.31	

Total Dynamic Head (TDH) is the static head and friction loss combined.  
Static head is vertical distance in feet.

Positive suction head is the amount of fluid above the pump and is normally deducted from the TDH.

Friction Loss is the Feet of Head due to friction in pipe, valves and fittings.

## Short Cut Ways to Figure Pump Drives

*D = Diameter of Pump Sheave	$D = \text{RPM} \times d / \text{SPM} \times P$
*d = Diameter of Engine/Motor Sheave	$d = \text{SPM} \times R \times D / \text{RPM}$
SPM = Strokes Per Minute	$\text{SPM} = \text{RPM} \times d / R \times D$
RPM = Engine/Motor Speed	$\text{RPM} = \text{SPM} \times R \times D / *d$
R = Gear Box Ratio	$R = \text{RPM} \times d / \text{SPM} \times D$
*C = Shaft Center Distance	

$$\text{Belt Length} = 2C + 1.57(D + d) + \{(D-d)^2/4C\}$$

\*Need these to figure belt length.

To figure motor or engine sheave diameter, multiply the pump sheave diameter by gear box ration by number of desired stroked and divide by motor RPM

To figure the RPM to run the pump at to get a specific GPM - Figure GPM and divide by displacement of plungers to get pump RPM.

Known Diameter of Big Sheave x RPM of Driven Pump / RPM of Drive = Diameter of Small Sheave

[www.GEMelectricllc.org](http://www.GEMelectricllc.org)

