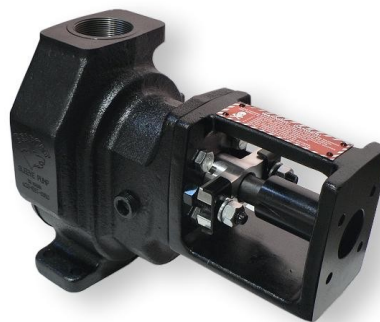


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## **INTRODUCTION**

This manual deals exclusively with the 110/170 series Product Pumps. Included in this manual are most general issues pertaining to this pump. For special applications not covered in the manual, please refer to the factory or authorized service personnel.

### **DANGER**

Before servicing the Pump liquid chamber or Relief Valve ensure that:

- Pressure inside pump has been completely vented through appropriate openings or connections.
- The drive system has been locked out so that it cannot be started while work is being done on the pump.
- Sufficient time has expired for the liquid to cool sufficiently inside the pump. Observe any Material Safety Data Sheets (MSDS) for the liquid to be sure these precautions are understood.

Failure to follow the above listed precautionary measures may result in injury or death.

### **PACKING**

Periodic service of the packing seal can improve pump performance as well as extend service life.

#### **Packing Replacement:**

1. Remove Clips and Gland.
2. Remove old packing. (Use a packing hook, or T-handle cork screw tool). Be sure to remove ALL packing.
3. Install new packing one at a time. Stagger the split of each ring at 180° intervals. Lubricate the rings with oil or grease to aid in assembly. A length of pipe or tubing will help in seating the packing rings.
4. Install the Packing Gland and Nuts. The gland must enter the stuffing box at least one-eighth of an inch after tightening the Packing Gland Nuts. Be sure the glands are tightened evenly. Tighten Packing Nuts to about 1-1/2 turns past figure tight. DO NOT over tighten; further adjustment should be done while pump is operating.

## Trouble Shooting

### Pump will not turn:

- Material is too cold - allow machine to heat longer. It is not uncommon that a machine heat one hour or more before pump will turn.
- Foreign debris locking gears - Reverse pump momentarily, resume forward. Repeat if necessary. If problem remains, the object will need to be removed by other methods - consult with factory
- Hydraulic failure - consult with factory

### Pumps turns but will not prime:

- Material is too cold - allow machine to heat.
- Line blocked - Inlet or outlet could be the cause. Reverse pump momentarily, resume forward. Repeat if necessary. If problem remains, the object will need to be removed by other methods - consult with factory
- Wore out pump - Replace.

### Packing leaks:

- Tighten packing until it leaks one drop per minute. DO NOT OVER TIGHTEN. Too tight will cause shaft seizure. A small material leak is necessary for lubrication.
- Gland is bottomed: Add packing ring. (Consult manufacturer for recommended packing).
- None of the above fix problem: Replace packing - Over time (6-12 months), the packing dries out and will need to be replaced.

### Pump wears prematurely:

- Operator control: There is a balance between good production and back pressure to the pump that is controlled by closing the “re-circulation” valve. The more this valve is closed down, the more volume and pressure will flow from the wand. Consequently, more pressure is imposed upon the pump. More pressure results in more wear. It is the operators’ responsibility to regulate this balance.
- Wand valve regulating: One method of production that has been used in the field is “Wand valve regulating” This is when an operator closes the “re-circulation valve” almost completely, and then controls the wand flow by partially opening his wand valve. It is a method that is NOT recommended or taught by the factory. It will place an abnormal amount of pressure on the pump.
- Set the “re-circulation valve”. Then open the wand valve **completely** when applying material.
- Application line blocked: If a practical partially blocks at some point in the application line, most likely the operator will compensate by further closing the “re-circulating” valve. The consequence is undue pressure to the pump to compensate for the line restriction. Reverse pump momentarily (with re-circulating valve closed and application valve open), resume forward. Repeat if necessary. If problem remains, the object will need to be removed by other methods - consult with factory
- Material: There can be a number of problems related to material that can cause premature pump wear.
  - Cheap material: Tends to have cheap filler such as tire rubber, silica (sand), etc.
  - Heated too long: Material filler can settle if it is heated too long or on consecutive days causing increase in viscosity and ultimately higher pumping pressure.
  - Storage: Storing material out of its box on the ground: Material will cure itself to rocks and debris which will then get tossed into tank.

# Model Number and Configuration Example

Some options may not be listed, and can be discussed through a factory representative.

## BC-110HR

### Make

- BC = BearCat
- CI = Cimline
- CR = Crafcro

### Displacement option

- 110 = 0.11 Gal/Rev (20GPM)
- 170 = 0.17 Gal/Rev (30GPM)

### Housing Type option

- H = Heated
- X = Non-Heated (assume X if left blank)

### End Plate option

- R = Heated with Relief Valve
- X = No Heat, No Relief (assume X if left blank)

Does not include motor

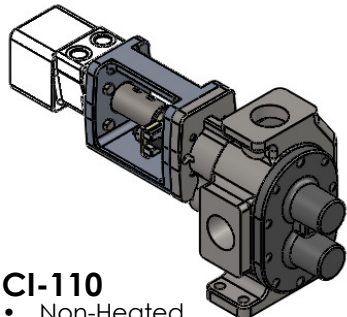
Base model includes motor mount, coupling, gland

Fittings sold separately

CR-170HR (shown)

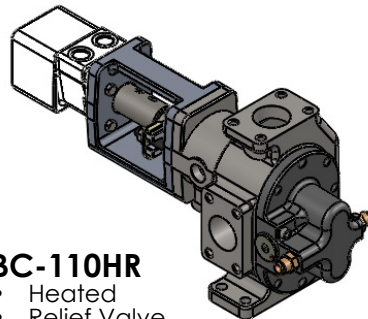
R - option endplate will include jump hose and fittings

## Common Models



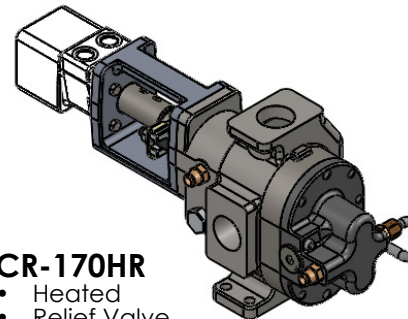
### CI-110

- Non-Heated
- Fits Cimline and Crafcro
- Mualdin/Calder Bros



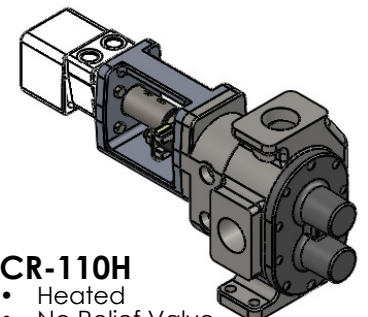
### BC-110HR

- Heated
- Relief Valve
- Fits BearCat



### CR-170HR

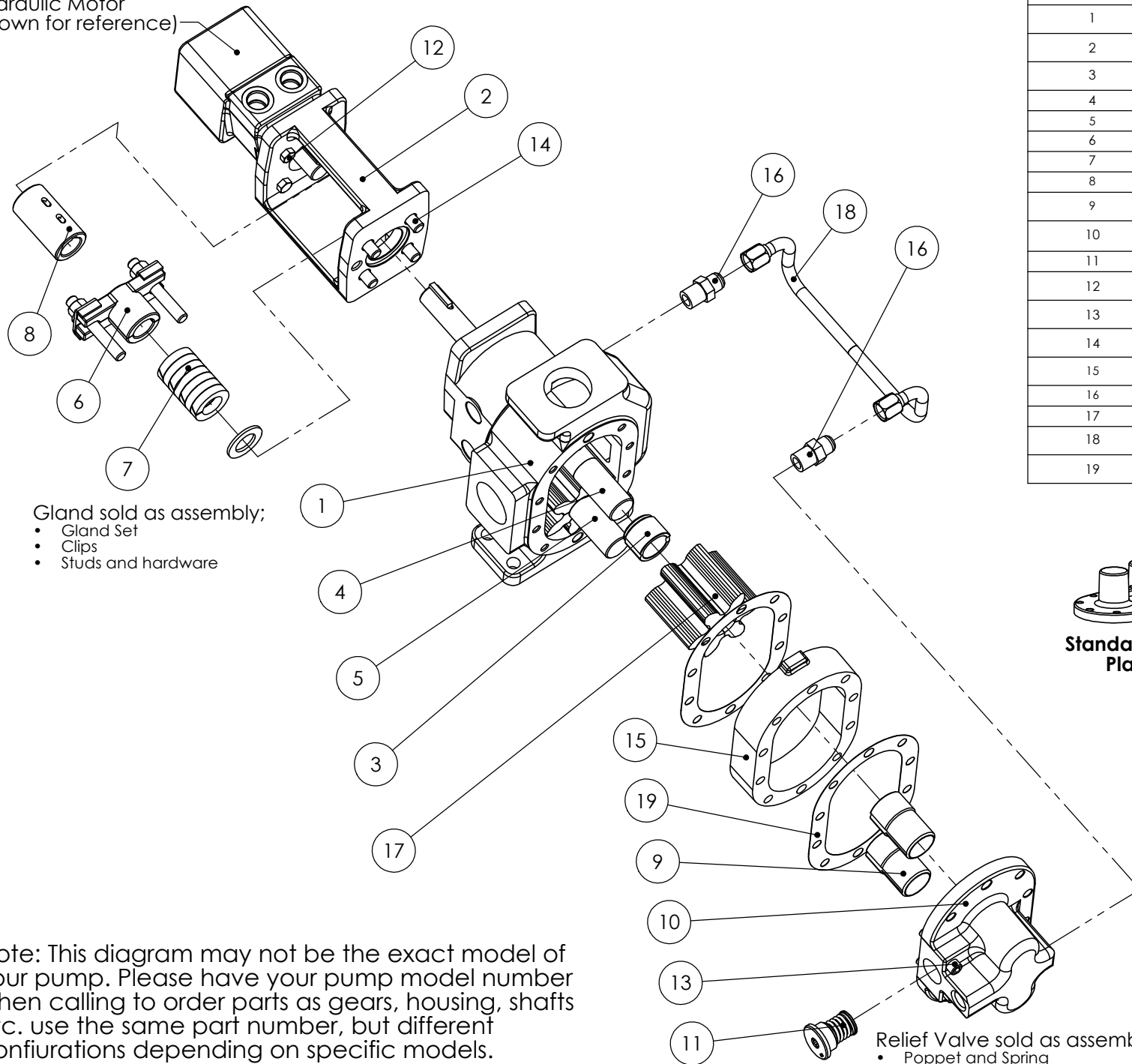
- Heated
- Relief Valve
- Fits Crafcro EZ-Pour



### CR-110H

- Heated
- No Relief Valve
- Fits Crafcro EZ-Pour

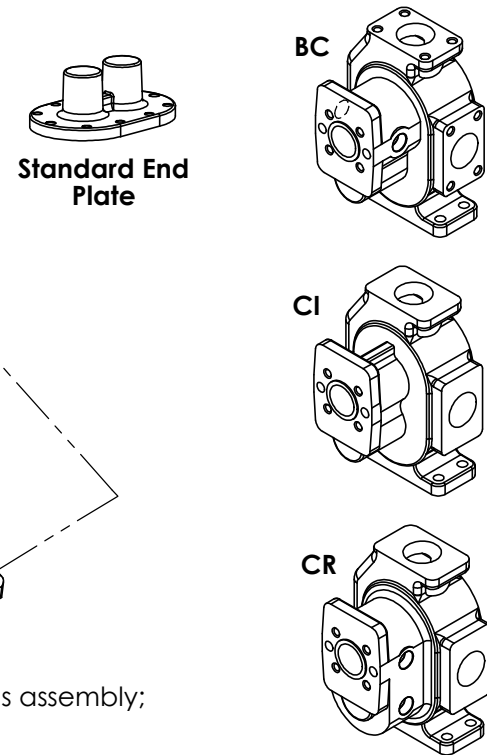
Hydraulic Motor  
(shown for reference)



ITEM NO.	PART NUMBER
1	Housing
2	Motor Mount
3	Short Bushing, 1-req'd
4	Drive Shaft
5	Idler Shaft
6	Gland Assembly
7	Packing (sold in sets)
8	Coupler, Crack Sealer
9	Long Bushing, 3-req'd
10	End Plate (specify heated RV or standard)
11	Relief Valve Assembly
12	HBOLT 0.3750-16x1.25x1-N
13	HX-SHCS 0.375-16x2x1.5-N
14	HBOLT 0.5000-13x1.25x1.25-N
15	Extension Housing, 1.5in
16	#8 JIC Straight, NPT
17	Gears (sold in sets)
18	Jump Hose, Crack Sealer
19	Gasket

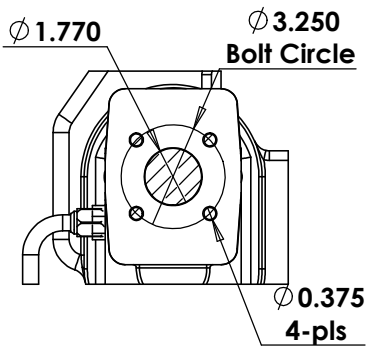
Gland sold as assembly;

- Gland Set
- Clips
- Studs and hardware

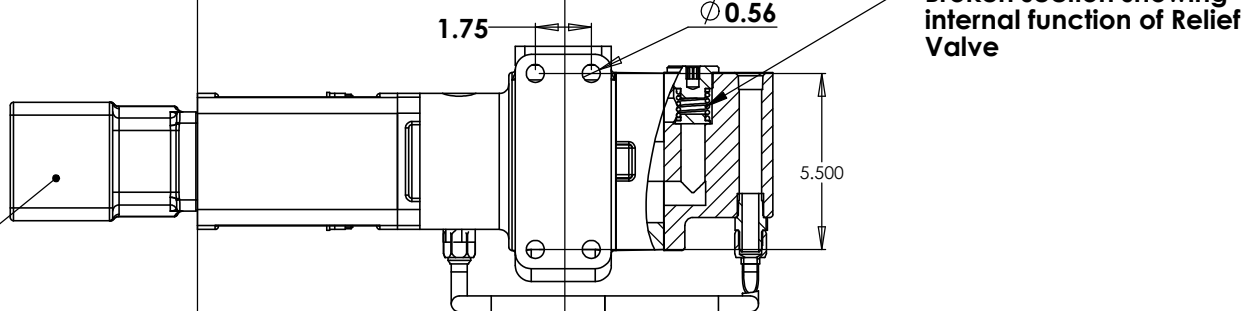
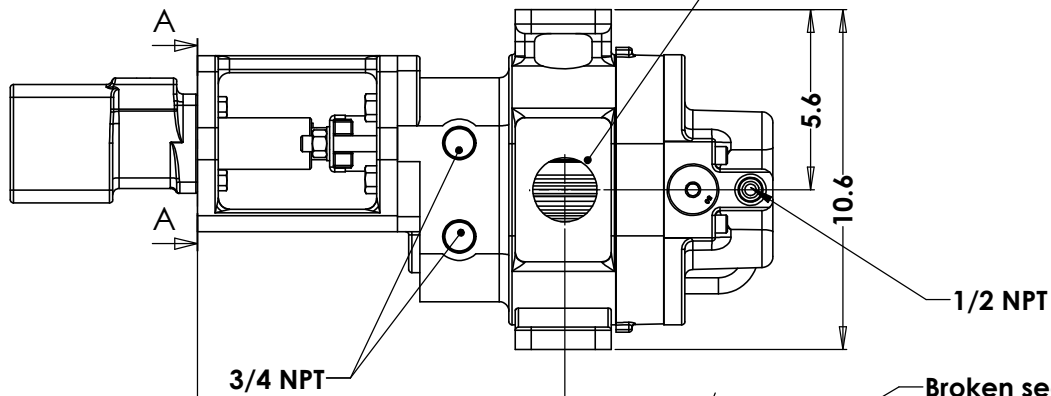


Note: This diagram may not be the exact model of your pump. Please have your pump model number when calling to order parts as gears, housing, shafts etc. use the same part number, but different configurations depending on specific models.

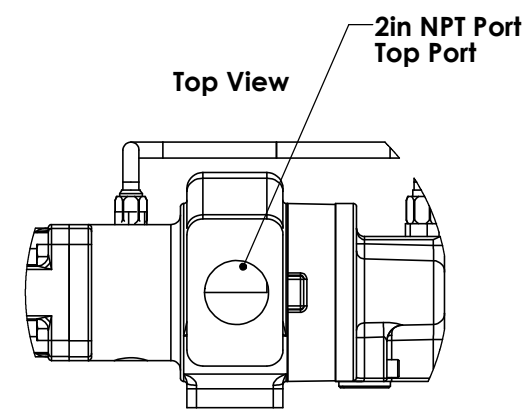
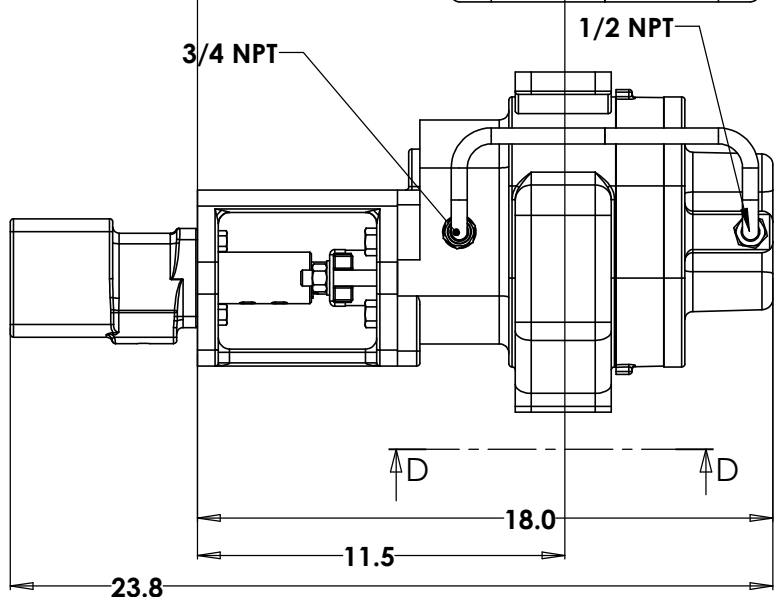
# Crack Sealer Pump Info



SECTION A-A  
 SCALE 1 : 3



**Hydraulic Motor shown for reference only (not included)**



DETAIL D  
 SCALE 1 : 3

**BearCat Pumps, LLC**  
 1954 E. Deer Valley Rd. #103  
 PHOENIX, AZ 85024  
 P623-587-1350  
 www.bearcatpumps.com

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 FRACTIONAL  $\pm 1/32$   
 ANGULAR: MACH  $\pm .5$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

TITLE: C:\Users\Kevin\Documents\A SolidWorks\  
 DRAWN: KTH DATE: \_\_\_\_\_

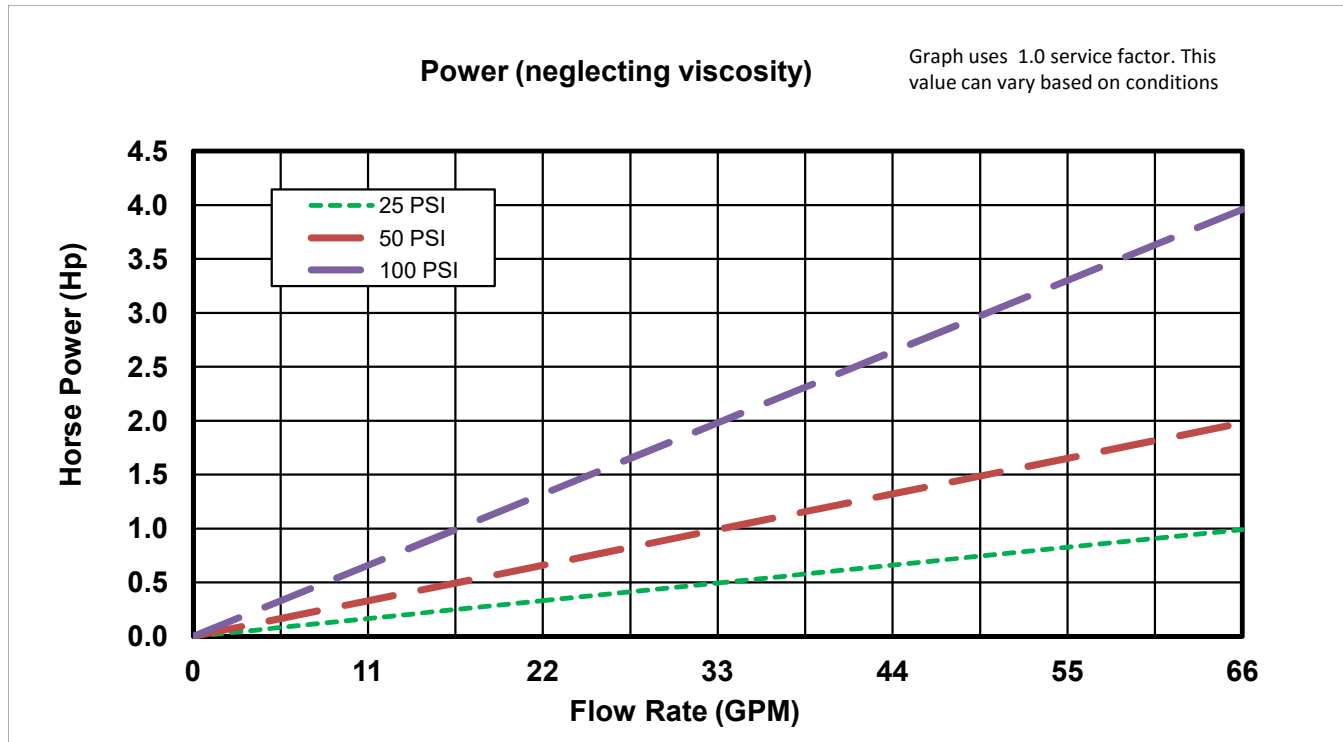
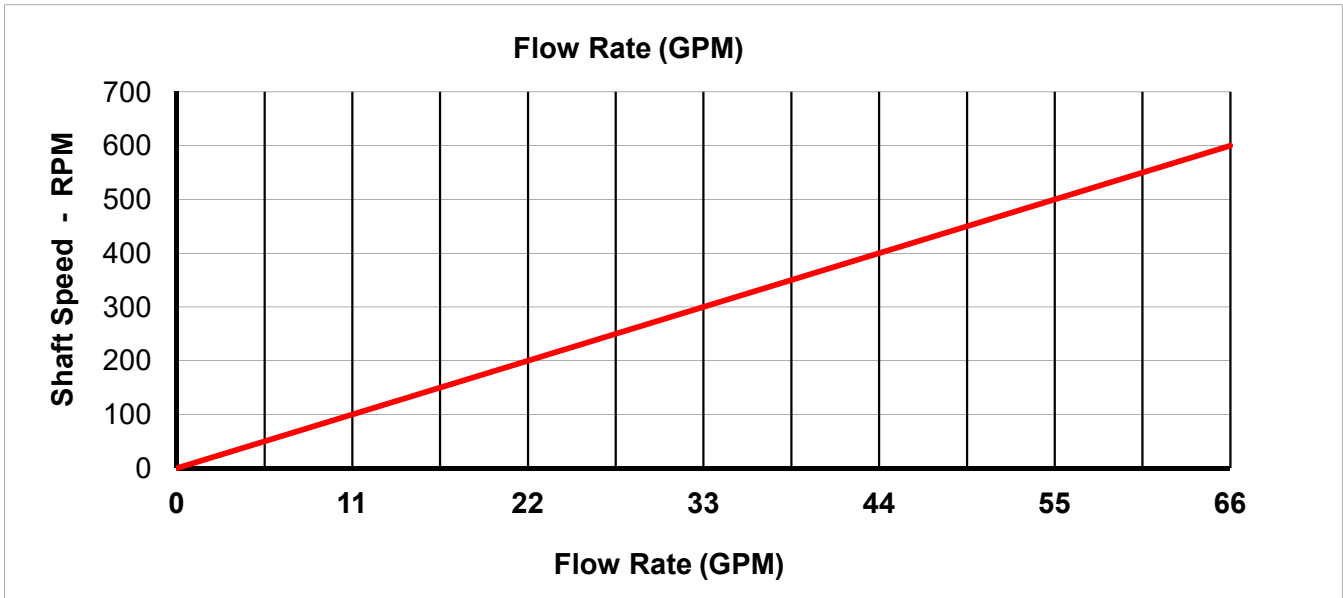
Part Name: 170 With Heated RV Assembly REV F

Customer: \_\_\_\_\_ SHEET 3 OF 4

# BearCat Pumps, Performance Curves

## 110

Pump Disp **110**  
Max RPM 600  
Max GPM 66  
Port Size 2in FPT



# BearCat Pumps, Performance Curves

## 170

Pump Disp **170**  
Max RPM 800  
Max GPM 136  
Port Size 2in FPT

