

# HPTO System Components

Product Specification Sheet

Hydraulic Gear Pump

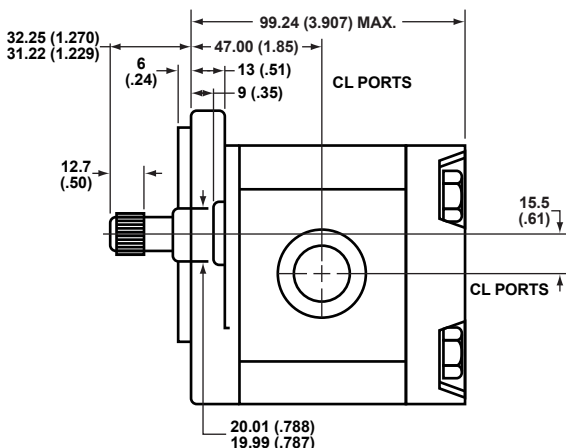
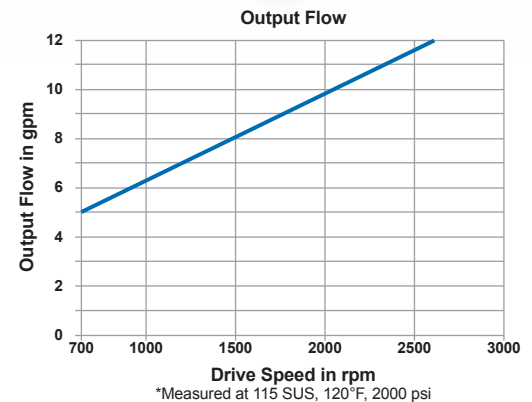


## Hydraulic Gear Pump

PT Tech p/n:	CHYGP-003
Manufacturer:	Bosch Rexroth
Manufacturer p/n:	9-510-290-010
Model:	G2/50 series
Rotation:	Left Hand (Counter-Clockwise) (As viewed from shaft end)
Mounting Flange:	SAE A, 2-bolt (3-1/4" diameter pilot)
Input Spline:	SAE A (see specs below)
Inlet Port:	SAE O-Ring Size 12 UNF
Outlet Port:	SAE O-Ring Size 10 UNF

**Description:** Fixed displacement, external gear pump designed for medium pressure applications. Power is applied to the splined center shaft thus turning the gears. Hydraulic fluid is drawn into the input port of the pump and discharged from the output port.

Displacement	in <sup>3</sup> /rev	1.16
	cm <sup>3</sup> /rev	19.4
Pressure (maximum continuous pressure)	PSI	3500
	bar	250
Speed (maximum) (minimum)	rpm	3300
	rpm	700

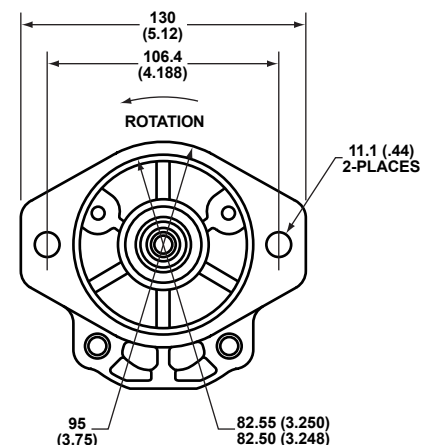


### Spline Shaft, Type R

Spline type:	Flat Root Side Fit
Number of teeth:	9
Spline pitch:	16/32
Pressure angle:	30°
Pitch diameter:	0.56250" ref.
Major diameter:	0.6035" - 0.6085"
Form diameter:	0.5049

### Circular Tooth Thickness:

Maximum effective:	.0967"
Minimum actual:	.0941"



## Storage:

Product should be stored in a solid, dry area that has constant temperature.

Temperature changes in the storage area cause condensation to form inside the pump. This condensation then causes corrosion which causes product failure. This failure is not covered under warranty.

The pump should be left in the factory packaging for as long as possible. The packaging provides a separating layer between the pump and the air.

### Storage Term:

**0-12 Months:** Drain the pump and plug all connections air-proof. Pack the pump air-proof in a corrosion protection film.

**13-24 Months:** Drain the pump and fill with approx. 10-20 ml of the corrosion protection VCI 329. Plug all connections air-proof. Pack the pump in a corrosion protection film.

The manufacturer generally does not recommend storing for longer than 24 months.

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## Installation:

**Mounting:** The pump should be mounted in a way that keeps the suction line as short and straight as possible. When installing the pump to the housing, a gasket or O-ring must be used to prevent leakage. Silicone sealants should not be used as they can get into the oil system and clog the filters. Ensure that the correct spline adapter is used to connect to the housing gears.

**Piping:** The suction hose must be as short and straight as possible to prevent cavitation. A minimum hose diameter of 1-1/4" (32mm) is recommended. Consult pump manufacturer to ensure suction head does not exceed their recommendation for all operating conditions. Pump inlet port should be no more than one size smaller than the suction hose size being used.

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## Maintenance:

Regular cleaning is necessary in order to maintain the pump. Visible coarse dirt must be removed.

**External Cleaning:** Since seals can be damaged during cleaning, high pressure washers are not recommended. Any corrosive substances should not be used.

External gear pumps are usually maintenance free. However, the service life also depends heavily on the quality of the hydraulic fluid. The pump should be checked regularly for leakage, unusual noise development, and loosened fixing elements.



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