



## Quotation

**Superior Industrial Equipment** 1609 Afton Rd. Sycamore, IL 60178

Phone: 815-899-8900

Fax: 815-899-8898

**TO:** Logan Van Rheenen  
CHS Inc  
Annawan, IL

**Date:** June 29, 2015

**Quote No.** QCDC15027

**Ref.** Replacement Methanol Pumps

Item	Qty	Description	Unit Price	Amount
1	2	Flowserve Innomag TB-Mag Sealless Pump -Sized for 26 GPM @ 180' TDH -Teflon Lined, Thrust Balanced Mag Drive -5HP, 3600 RPM, 184TC, CL 1, Div 1, T3C EXP Motor *VFD Rated	\$ 6,672.00	\$ 13,344.00

**Total** \$ 13,344.00

3% FEE WILL APPLY FOR ALL CREDIT CARD ORDERS  
\$5000.00 OR MORE

**Leadtime:** 4-5 Weeks

Lead times are estimated ship dates and do not include transit time. Tax and freight charges not included. Quote valid for 30 days.

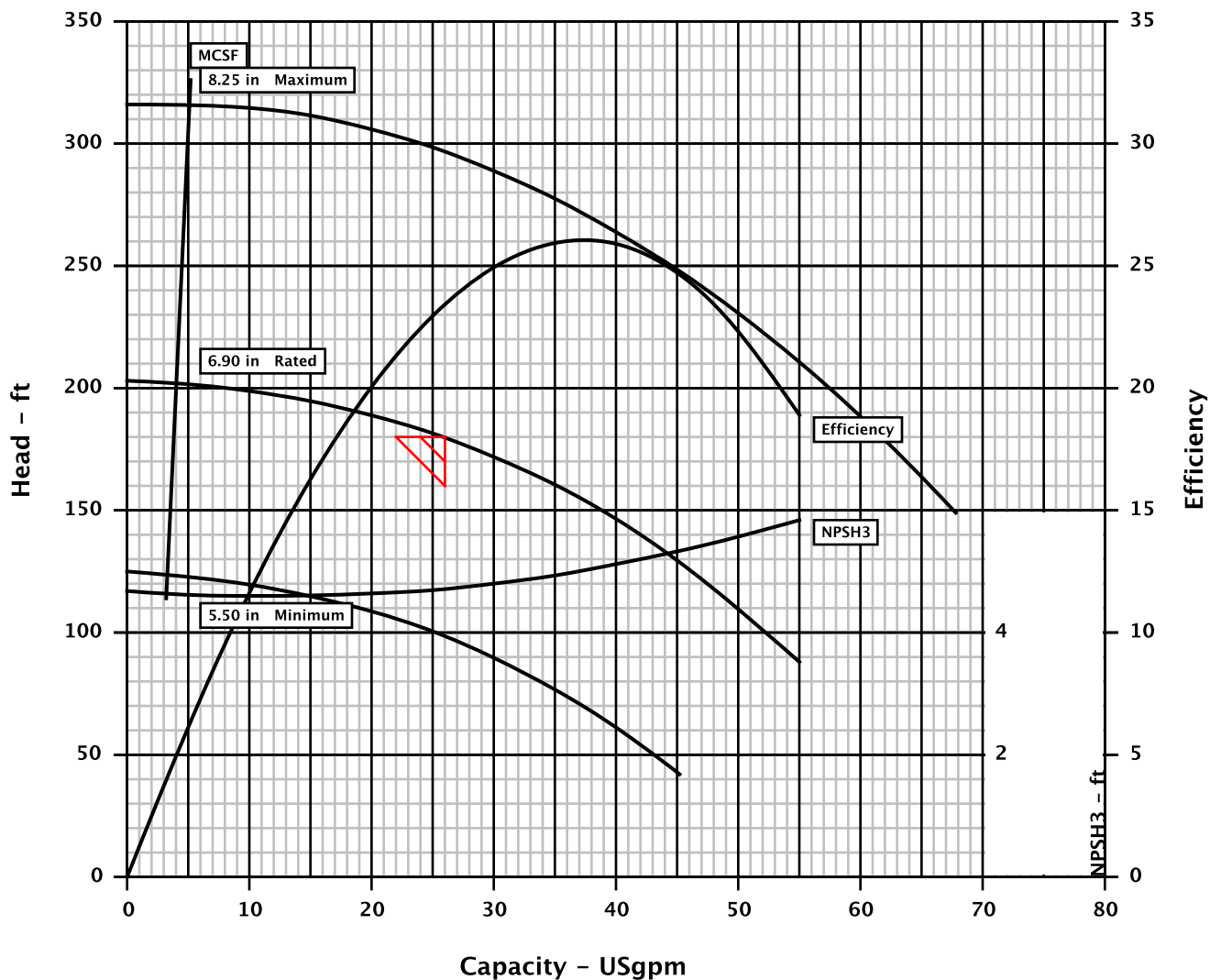
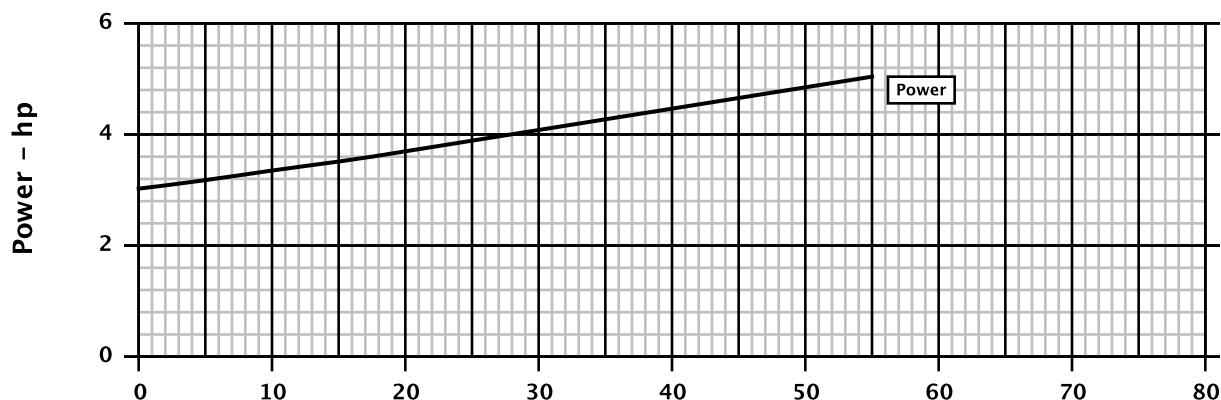


Pump size & type : BM-1.5x1x8LF-TBM  
Based on curve no. : TBMA-BM-2/60  
Number of stages : 1

Customer : Patriot  
Item number : Methanol Seal-Less Pu...  
Service : Methanol  
Flowserve reference : 393261714  
Date : June 25, 2015

Capacity : 26.0 USgpm  
Head : 180.00 ft  
Specific gravity : 0.786  
Pump speed : 3500 rpm  
Test tolerance : Hydraulic Institute Level B

CURVES ARE APPROXIMATE, PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS; CAPACITY, HEAD, AND EFFICIENCY.

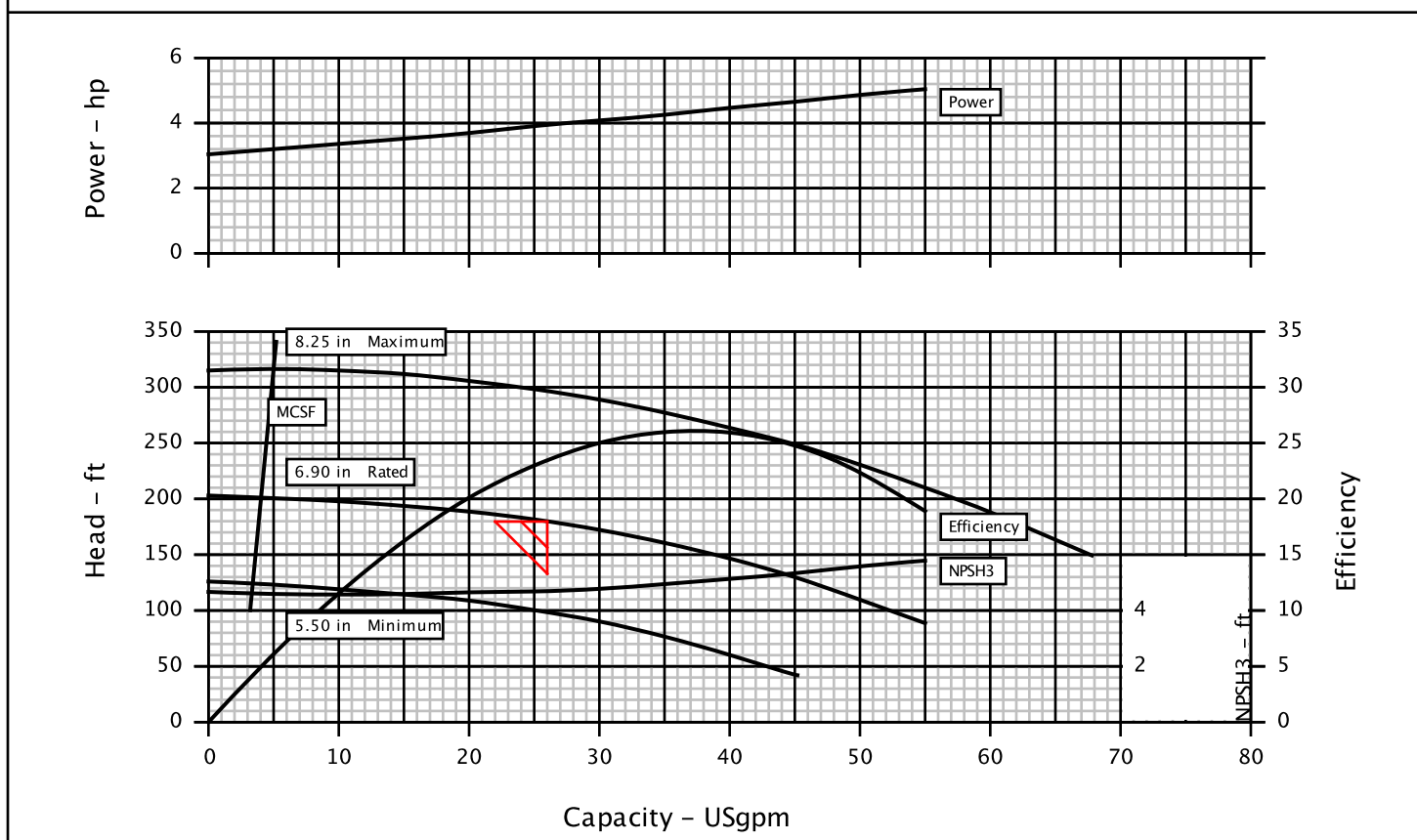


Customer	: Patriot	Pump / Stages	: BM-1.5x1x8LF-TBM / 1
Customer reference	: QCDM15138	Based on curve no.	: TBMA-BM-2/60
Item number	: Methanol Seal-Less Pumps	Flowserve reference	: 393261714
Service	: Methanol	Date	: June 25, 2015

Operating Conditions	Materials / Specification
Capacity : 26.0 USgpm	Material column code : ETF
Water capacity (CQ=1.00) : -	Containment shell mat'l : -
Normal capacity : -	Pump specification : -
Total developed head : 180.00 ft	
Water head (CH=1.00) : -	<b>Other Requirements</b>
NPSH available (NPSHa) : Ample	Hydraulic selection : No specification
NPSHa less NPSH margin : -	Construction : No specification
Maximum suction pressure : 0.0 psig	Test tolerance : Hydraulic Institute Level B
	Driver Sizing : Max Power(MCSF to EOC)with SF
Liquid	
Liquid type : Chemical	
Temperature / Spec. Gravity : 60 °F / 0.786	
Solid Size - Actual / Limit : - / 0.13 in	
Viscosity / Vapor pressure : 0.79 cP / -	

Performance	
Hydraulic power : 0.93 hp	Impeller diameter
Pump speed : 3500 rpm	Rated : 6.90 in
Pump overall efficiency (CE=0...	Maximum : 8.25 in
	Minimum : 5.50 in
NPSH required (NPSH3) : 4.7 ft	Suction specific speed : 7060 (US units)
Rated power : 3.93 hp	Minimum continuous flow : 4.2 USgpm
Maximum power : 5.06 hp	Maximum head @ rated dia : 203.45 ft
Driver power : 5.00 hp / 3.73 kW	Flow at BEP : 37.4 USgpm
Casing working pressure : 69.2 psig	Flow as % of BEP : 69.6 %
(based on shut off @ cut dia/rated SG)	Efficiency at normal flow : -
Maximum allowable : 250.0 psig	Impeller dia ratio (rated/max) : 83.6 %
Hydrostatic test pressure : 450.0 psig	Head rise to shut off : 13.0 %
Est. rated seal chamb. press. : -	Total head ratio (rated/max) : 60.5 %

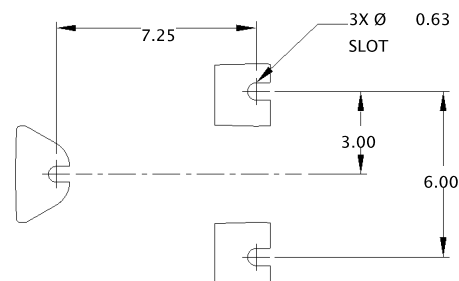
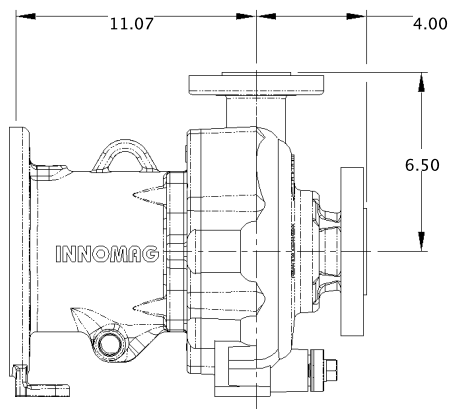
CURVES ARE APPROXIMATE, PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS; CAPACITY, HEAD, AND EFFICIENCY.



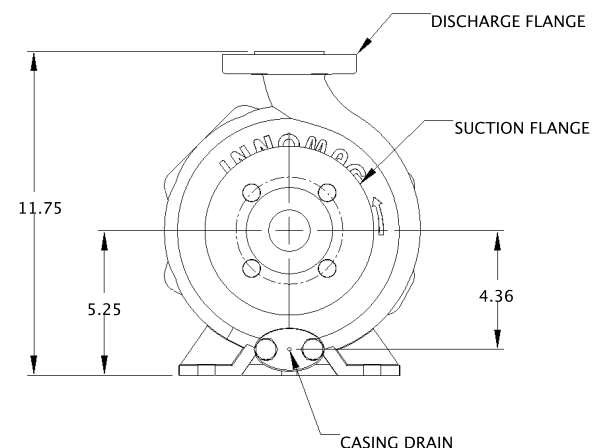
Dimensions certified for construction when properly endorsed below.  
Refer to factory for any "\*" dimensions.  
DO NOT SCALE DRAWING.

Notes:

1. Consult pump U.I.M. before installing the pump.
  2. Installation dimensions are +/- .13" (3 mm), unless otherwise noted.
  3. Foundation bolts and piping should not be set rigidly before receipt of equipment.
  4. Allow a minimum of .75" (19 mm) under baseplate for adjustment and grouting.
  5. All holes in flanges are offset from centerlines.
  6. Piping, foundations, and systems are the responsibility of others.
- Flowserve Pump Division's data and comments are offered as an aid, but Flowserve Pump Division cannot assume responsibility for the system design or operation. It is recommended that a specialist skilled in this area be consulted to ensure a successful installation.



Suction Flange	1.50" 150# RF ANSI 4X 5/8" through holes on 3.88" BCD
Discharge Flange	1.00" 150# RF ANSI 4X 1/2-13 tapped holes on 3.13" BCD



All dimensions are in inches unless otherwise specified

Customer	: Patriot	Pump size & type	: BM-1.5x1x8LF-TBM	Drawing number	: -
Item number	: Methanol Seal-Less Pumps	Pump speed / Stages	: 3500 rpm / 1	Date	: June 25, 2015
Service	: Methanol	Flow / Head	: 26.0 USgpm / 180.00 ft	Certified by / Date :	: -
Customer PO #	: -	Driver power / Frame	: 5.00 hp / 3.73 kW / 184TC	Seal type	: -
Flowserve reference	: 393261714	Volts / Phase / Hz	: 460 / 0 / 60	Seal flush plan	: -

## **Superior Industrial Equipment, LLC**

### **Terms and Conditions**

- A. Shipment:  
Manufacturers Standard
- B. Price (FOB Point):  
FOB point of shipment
- C. Terms of Payment:  
100% Net 30 days with approved Credit
- D. Service / Start Up  
No start up or service time is included in the base price of units.
- E. Warranty  
Superior Industrial Equipment Company warrants the pump package for one (1) year from start-up or eighteen (18) months from shipment, which ever occurs first. All warranties intended by major or sub – components suppliers are included. We do not warrant for corrosion, erosion or normal wear and tear; or fitness for a purpose or merchantability.
- F. Limitation of Liability  
The total liability of the Company with respect to this contract or the equipment or services furnished hereunder, in connection with the performance or breach thereof, or from the manufacture, sale, delivery, installation, repair or technical direction whether based on contract, negligence, indemnity, strict liability or otherwise shall not exceed the purchase price of the unit of equipment upon which such liability is based.  
  
The Company shall in no event be liable to the Purchaser, any successors in interest or any beneficiary or assignee of this contract for any consequential, incidental, indirect, special or punitive damages arising out of this contract or any breach thereof, or any defect in, or failure of, or malfunction of the Equipment hereunder, whether based upon lost goodwill, lost profits or revenue, interest, work stoppage, impairment of other goods, loss by reason of shutdown or non-operation, increased expenses of operation of the Equipment, loss of use of power system, cost of purchase of replacement power or claims of Purchaser or customers of Purchaser for service interruption whether or not such loss or damage is based on contract, warranty, negligence, indemnity, strict liability or otherwise.
- G. Miscellaneous  
  
No taxes, duties, boxing or freight charges are included in the base price. Cancellation charges are at cost plus expenses and pro-rata profit.