



Tri-Rotor® PUMPER

ISSUE
NO
2

PUMP AND SYSTEM ANALYSIS SHEET

Figuratively and actually the heart of a system is its pump. For so vital a role, this necessitates careful selection, else the system will not be a success.

We manufacture the **Tri-Rotor®** pump, a **Positive Displacement [PD] class**, featuring a unique rotary piston design, in a wide range of sizes, material and construction configurations and internal modifications to satisfy almost every application requiring a **PD class** pump.

The engineer in need of a pump must provide us with some rather exacting information. **Four items** are particularly essential for:

SELECTING THE PUMP

GPM
GALLONS
PER MINUTE

Flow rate [GPM] required establishes the model size pump, its shaft speed, and port size.

VIS
VISCOSITY
(SSU/CPS/OTHER)

Nature and composition of the pumpage, most importantly the **viscosity [VIS]**, also enter into determination of shaft speed, pump size, etc. as well as dictating pump make-up (pH, temperature, et al, call out materials of construction).

PSI
LBS. PER
SQ. IN.

We adjust relief valve setting based on **total pumping pressure [PSI/TDH]** of the system, which in turn enables us to calculate horsepower of motor to be used, and so on.

**TYPE
OF
HEAD**

Our competitors furnish only two alternative pump variations per model, **solid head** for simple transfer service, or bypass head, (we call ours "**X-Head**") incorporating an integral relief valve for system protection. **Tri-Rotor®** users enjoy a third choice - the "**V-Head**", providing automatic variable control of volume or pressure, multi-viscosity capability, remote and/or computer feedback governing, all at constant pump shaft RPM.

MOUNTING PUMP WITH MOTOR AND DRIVE

**TYPE
OF
DRIVE**

Tri-Rotor® can do it all, **in house**, with rugged design mounts, bases, risers, chain couplings, arc guards and V-Belt drives. **Style "M"** designates direct connected integral or gearhead motor drive. **Style "SM"** uses gearmotor drive, "**CFM**" incorporates a "**C**" Flanged adaptor. For footed double shaft enclosed helical gear reducer drive, **Style "GR"** or "**SGR**" [In-line]. **Style "BD"** indicates belt driven.

**TYPE
OF
MOTOR**

Available from stock are standard horizontal motors from 1/3 HP to 25 HP, 1140 RPM and 1725 RPM in Single and Three phase, 60 Hertz in popular Voltages and NEMA frame sizes. Where low pump shaft speeds are required, we carry a wide range of gearhead and gearmotor drives.

Inserting the above essentials into **Pumper Issues Nos. 3 & 4**, we, or our user, easily targets the **Tri-Rotor®** pump model for the application.

For submitting the above information, we supply on the back of this page, our **Pump and System Analysis Sheet**. Make copies, fill out, and fax back to us. We respond with recommendations and formal quotation in 24 hours.



Pump and System Analysis Sheet

Tri-Rotor can help with your pump needs! Please provide the information requested below so we can determine the appropriate pump for your application.

- Fill out the information requested
- **FAX** this page along with a dimensional layout of piping systems and equipment arrangement to **Tri-Rotor** at **860-482-8435**

Name: _____ Title: _____ Company: _____
 Address: _____ City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____ Email: _____

Pump being replaced: _____ Pump shaft RPM: _____
 Flooded or Suction Lift Old Pump New Pump Age (in yrs. - if known) _____ System: Old New
 Indoor Outdoor Pump required: Bare Mounted
 Required gallons per minute (GPM) _____ Maximum system pressure (PSI/TDH) _____

LIQUID HANDLED

Describe liquid being handled: Clean Gritty Volatile Shear Sensitive Semi-solid Sticky
 Entrained Air Other (Describe): _____
 % Solids in Liquid: _____ % Water: _____ Liquid Temp at pump (°F): _____ Liquid pH: _____
 Specific Gravity: _____ at _____ °F
 Viscosity (SSU): _____ at _____ °F CPS/Other: _____ at _____ °F
 Abrasive Content: _____ % Material: _____ Particle size: _____

SUCTION CONDITIONS

Pipe size (in.): _____ Total length (ft.): _____
 Suction lift (ft.): _____
 Pos. Suction Head (ft.): _____
 No. of Elbows: 90° _____ 45° _____
 Valves: _____ / _____ (in.)
 Strainer (Type / Mesh / PSI Dif.) / Other: _____

DISCHARGE CONDITIONS

Pipe size (in.): _____ Total length (ft.): _____
 Discharge Head [Vertical Rise] (ft.): _____
 No. of Elbows: 90° _____ 45° _____
 Flow Meters: _____ / _____ (in.)
 Valves (Relief or Other – State number and size [in.]): _____

 Filter (PSI DIF): _____

TYPE OF PUMP DESIRED

Simple Transfer (SOLID HEAD)
 Integral Relief Valve ("X-HEAD")
 Stroked or Derated"
 Metering ("V-HEAD")
 Variable Volume and/or Pressure ("V-HEAD")
 Other: _____

TYPE OF OPERATION

Batching Drum Filling Proportioning
 Blending Metering Tank Truck
 Circulating Portable Transfer
 Other: _____

DRIVE POWER

Motor make: _____ HP: _____ RPM: _____ Phase: _____ Hertz: _____ Volts: _____
 NEMA frame: _____ TEFC Explosion Proof Other: _____
 Direct Connected Styles: "M" (Gearhead or VFD) "SM" (Gearmotor) "CFM" ("C-Faced Flanged Adaptor")
 Footed Double Shaft Enclosed Helical Gear Reducer Styles: "GR" "SGR" V-belt Style "BD"

Tri-Rotor can custom-engineer installations & proportioning / blending / batching systems. Contact us for more information.