

ALL TYPES & MAKES OF CENTRIFUGAL PUMPS REPAIRING, SERVICING, MOTOR WINDING INSTALLATION & COMMISSIONING.



# 24 X 7 X 365 DAYS AVAILABLE YOUR PRODUCTION LINE IS OUR RESPONSIBILITY! ALSO PROVIDE SUPPORT ON WHATSAPP CHAT & VIDEO SUPPORT.

WHO WE ARE....
&
HOW WE DO IT....

### **VARMINE H20 SOLUTIONS**

"LET'S DECODE WATER"

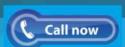
COMPLETE ON SITE & IN HOUSE PUMP SERVICE & REPAIRS.

OUR PUMP MAINTENANCE
PROGRAMS ARE COST-EFFECTIVE
& COST-SAVING AND ARE AVAILABLE
WITH A WARRANTY.

We as VH2OS are one of the leading suppliers for all reputed makes of Centrifugal Pumps/ Chemical Pumps/Air Operated Pumps/ Self Priming, Food Grade Pumps, and many more along with the dignity of providing the 100% authentic product and with the pre-eminent price in order to satisfy & achieve the customer's desire and our aim of being in the market and stand-alone and along with Indian industry.

Being worked in both industrial and commercial sectors for a long period we have noticed that our elite customers were used to spending and paying unnecessary charges to the local service provider for the servicing, repair, winding, and changing of spare parts in the pumps, and we have also recognized that the parts which were used to repair the pumps were not 100% authentic and definitely leaves a bad impression for the supplier when it comes to the performance of the product.

Now, no need to worry about the service and repairs of the pumps as we have designated and established a team of the best service engineers and experts to walk in through and take care of all related issues in a linear and logical way to provide the long-life span to your pumps and products regardless of any make or model.



## GET THIS DONE BY EXPERT SERVICE ENGINEERS WE HIRED FOR YOU USING UNMATCHABLE ABILITY & EXPERIENCE.....

#### WHAT WE ARE & HOW DO WE DO THIS?

- As a leading supplier of the spare parts that drive the Indian industry, Varmine H2O Solutions offers a high level of service support to help you optimize the performance of your critical production and support systems. Using vibration analysis diagnostic equipment, we can analyze machine dynamics and performance, identifying misalignment, imbalance, and other problems that cause excess vibration and wear on rotating equipment.
- varmine H2O Solutions can troubleshoot mechanical problems, including the condition of bearings, belts, pulleys, shafts, pumps, gearboxes, fans, motors, cooling towers, chillers, and more. Our services include laser shaft alignment, vibration analysis, and dynamic balancing.
  - Protect the value of your equipment and maximize its output by identifying and correcting machinery problems before they cause further damage and expense. Experienced VH2OS technicians can provide complete onsite inspection, analysis, diagnosis, and repair services. This can range from a one-time repair to a monthly predictive maintenance program.

#### **OUR SERVICES FOR THE INDUSTRY**

- Troubleshooting and Repair Service: Around-the-clock diagnostic and repair services to help you get your systems back in service fast.
- Vibration Analysis: Data collectors are used to analyzing vibration problems in rotating equipment.
- Dynamic Balancing: Correct imbalance conditions in rotating equipment.
- Precision Laser Shaft Alignment: Align motors, pumps, couplings, and sheaves in integrated components.
- Bearing, Coupling, Sheave Installation: Complete teardown and component replacement services.
- Predictive and Preventive Maintenance: Avoid catastrophic failure and costly downtime through a regular maintenance program.
- Failure Analysis: Analyze equipment failure to determine the root cause and prevent costly reoccurrence.
- Component Repair and Overhaul: Prolong the service life of costly equipment by repairing and/or overhauling serviceable components.
- Mechanical Upgrade and/or Reconfiguration: Update mechanical systems with newer technology components or re-task existing systems and equipment.
- Facility Maintenance Assessment: Keep your plant operating at peak performance by analyzing overall maintenance procedures and schedules.

## ON-SITE INSTALLATION, COMMISSIONING & SERVICE REPAIRS



































# WHAT TYPE OF PUMP CAN WE INSTALL?

The list of pumps that we're not able to install is very short. But here are just a few of the types of pumps we can install for you.



## -CALL US TO REGISTER FOR PUMP SERVICE-+91 999-936-2006



## TYPES OF CENTRIFUGAL PUMPS

- ENDSUCTION LONG COUPLED SINGLE STAGE PUMP
- ► ENDSUCTION CLOSE COUPLED SINGLE STSGE PUMP.
- ► ENDSUCTION LONG COUPLED SPLIT CASING PUMP.
- ► ENDSUCTION MULTI STAGE PUMP.
- VERTICAL INLINE MULTISTAGE PUMP
- VERTICAL INLINE SINGLE STAGE PUMP.
- **DOSING/ METERING PUMP.**

- TYPES OF SUBMERSIBLE PUMPS & SYSTEMS.
- VERTICAL/ HORIZONTAL SUBMERSIBLE OPEN WELL PUMP.
- VERTICAL WASTEWATER/ SEWAGE PUMP.
- VERTICAL SUBMERSIBLE GROUND WATER PUMP.
- VERTICAL SUBMERSIBLE PUMP FOR DRY & WET INSTALLATION
- ► IMMERSIBLE/ COOLANT PUMP.
- BOOSTER/ FIRE/ ENCAPSULATED/ DIAPHRAGM/ HYDROPNEUMATIC SYSTEMS/ MACHINE TOOL PUMPS.

### SPARE PARTS AVAILABLE IN READY STOCK

## MAIN PARTS OF A CENTRIFUGAL PUMP WHAT ARE THE MAIN PARTS OF CENTRIFUGAL PUMPS?

- Impeller. An impeller is a rotor used to increase the kinetic energy of the flow.
- Casing (Volute). The casing contains the liquid and acts as a pressure containment vessel that directs the liquid flow in and out of the centrifugal pump.
- Shaft (Rotor). The impeller is mounted on a shaft. A shaft is a mechanical component for transmitting torque from the motor to the impeller.
- Shaft sealing. Centrifugal pumps are provided with packing rings or mechanical seal, which helps prevent the leakage of the pumped liquid.

**Bearings.** Bearings constrain the relative motion of the shaft (rotor) and reduce friction between the rotating shaft and the stator.





# INDUSTRIAL CENTRIFUGAL PUMP SHAFT SEALS MECHANICAL SEALS CENTRIFUGAL PUMP MECHANICAL SHAFT SEALS FOR ALL INDUSTRIAL APPLICATIONS



















## INDUSTRIAL CENTRIFUGAL PUMP OVERHAULING KIT

GRUNDFOS: KIT WEAR PART



> KSB PUMP REPAIR KIT



XYLEM PUMP SHAFT SEAL



> WILO PUMP MECHANICAL SEAL





# INDUSTRIAL GRUNDFOS MAKE CENTRIFUGAL PUMP MECHANICAL SHAFT SEALS

























IMPELLER – SHAFT – BEARING RING –
CHAMBER – BUSH – INLET PART – KIT
WEARING – WASHERS – SPACING PIPE

SPARE PARTS & ACCESSORIES









WE DON'T COMPROMISE WITH THE QUALITY OF SPARE PARTS WE SUPPLY REGARDLESS OF HIGH DELIVERY TIME....

## 

We as a team of VH2OS are abide by the tradition of technological innovation and constantly introduce a new successive generation of products as per the demand's in Industry.

### TYPES OF CONTROL PANELS







MCCs: MCCs are often installed to control numerous motors from a central location, such as a mechanical or electrical room.

Motor Starter Panels: A motor starter panel control the state of the motor, circuit protection components, power distribution, and a power disconnect switch.

HMI Panels or Operator Stations: HMI panels are mounted to or near a machine containing the industrial display, circuit protection, and power distribution devices.

VFD Control Panels: A VFD control panel can consist of a single or multiple VFDs, as well as power distribution components, circuit protection and motor protection devices, line reactors or harmonic filters, motor starters, and a PLC.

PLC Control Panels: A PLC control panel is an enclosure that houses the PLC and the necessary components to distribute power, carry out programmed outputs, and protect the electrical circuits. Additionally, a PLC control panel may contain an ethernet switch for connecting the PLC to a network, external computer, or HMI.











## Assessing Pumping System Needs....

#### Assessing Pumping System Needs

There are three principal points in the life cycle of a system that present opportunities to improve pumping system performance:

- During initial system design and pump selection.
- During troubleshooting to solve a system problem.
- During a system capacity change.
- Analyzing System Requirements:

A key to improving system performance and reliability is to fully understand system requirements (peak demand, average demand, and the variability of demand) with respect to time of day and time of year. It is much simpler to design and operate systems with relatively consistent requirements than to have to account for wide variations in demand.

#### Initial Pump Selection

Pump selection starts with a basic knowledge of system operating conditions: fluid properties, pressures, temperatures, and system layout. These conditions determine the type of pump that is required to meet certain service needs. There are two basic types of pumps: positive displacement and centrifugal. Although axial-flow pumps are frequently classified as a separate type, they have essentially the same operating principles as centrifugal pumps.

#### Troubleshooting a System Problem:

Getting the pumps serviced on time can increase the life span of the pump by an extra 65%.

- > Inefficient Operation > Cavitation > Internal Recirculation > Poor Flow Control
- > Excessive Maintenance > Bearing Replacement > Mechanical Seal Replacement
- > Wear-Ring Clearance > Electrical System Wear > System Capacity Increase.



## INDICATIONS OF OVERSIZED PUMPS

#### **Common Indications of Oversizing**

There are five common indications that a pump is oversized: excessive flow noise, highly throttled flow control valves, heavy use of bypass lines, frequent replacements of bearings and seals, and intermittent pump operation.

- Excessive Flow Noise.
- High Throttled Flow Control Valves.
- Heavy Use of Bypass Line.
- Frequent Replacement of Bearing & Mechanical Seal.
- Intermittent Pump Operation.
- Corrective Measures.
- Adjust the Impeller.
- Use of VFD
- Use Smaller Pumps to Augment Larger Pumps.

EFFECT OF OVERSIZED PUMP Pump Curve at Pump Efficiency 77% Const. Speed Partially 70 m closed valve 50 m Full open valve 42 m System Curves Head Meters Static Operating Points Head 300 m<sup>3</sup>/hr 500 m3/hr Flow (m3/hr)

Want to know more call +91 9999362006.....

Indications of oversized pumps

## **BASIC PUMP MAINTENANCE**

### Basic Pump Maintenance

Centrifugal pumps are widely used because of their low maintenance requirements. However, like all machinery, they still require periodic maintenance. Common maintenance tasks on centrifugal pumps include the following:

- Bearing lubrication and replacement
- Mechanical seal replacement
- Packing tightening and replacement
- Wear ring adjustment or replacement
- Impeller replacement
- Pump/motor alignment
- Motor repair or replacement.

#### When To Consider Impeller Trimming

End users should consider trimming an impeller when any of the following conditions occur:

- Many system bypass valves are open, indicating that excess flow is available to system equipment.
- Excessive throttling is needed to control flow through the system or process.
- High levels of noise or vibration indicate excessive flow.
- A pump is operating far from its design point.

To know more call +91 9999362006

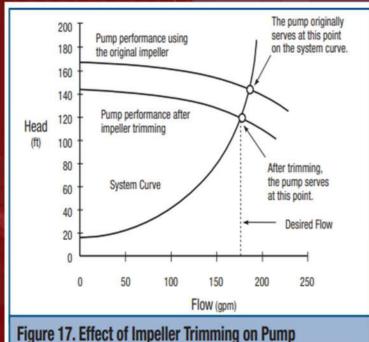


Figure 17. Effect of Impeller Trimming on Pump Performance



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VARMINE H20 SOLUTIONS

SERVICE - REPAIRING - AND SPARE PARTS OF CENTRIFUGAL PUMPS IF YOU WANT CERTIFIED ENGINEER CALL US ...

CALL US !! NOW TO REGISTER YOUR COMPLAINT @ +91 999-936-2006

## GOOD BYE & YOU HAVE A FABOLOUS DAY AHEAD....



Technical assistance from VH2OS Telephonic technical assistance and video call assistance for selection of products, technical information, guidance, wiring diagrams and estimation is now made available to you at each Regional Office. Contact the Technical Officer of VH2OS at the following telephone numbers:

(M) +91 9999362001, +91 7876867421