

CONTENTS

PUMPING PRINCIPLES

ENGINE COOLING

ENGINEERING TABLES

TROUBLE-SHOOTING GUIDE

INDEX

HOME

NEXT

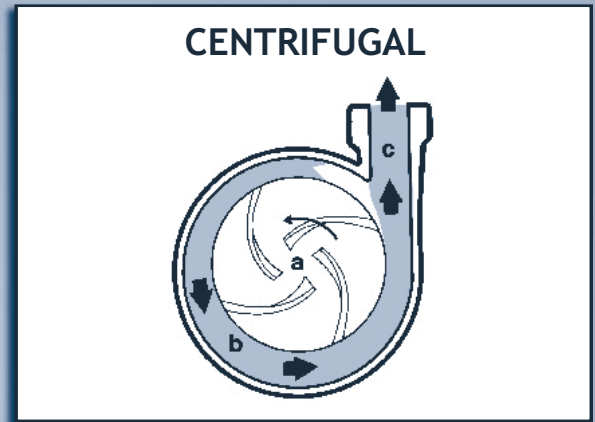
BACK

## HOW IT WORKS:

- Liquid enters the inlet port of the pump through gravity or priming and is directed towards the center of the impeller.
- The rotating impeller uses centrifugal force to add velocity to the liquid as it is slung off the edges of the blades into the volute casing.
- The volute configuration converts the velocity energy into static pressure or available pump head as the liquid leaves the discharge port.

## FEATURES:

- High Volume Flow:** centrifugal pumps deliver a high volume of flow with smooth, non-pulsating delivery
- Low Maintenance:** wear due to operation is minimal, are easily disassembled and have few moving parts
- Low Power Consumption:** most efficient pump for moving large volumes of liquid

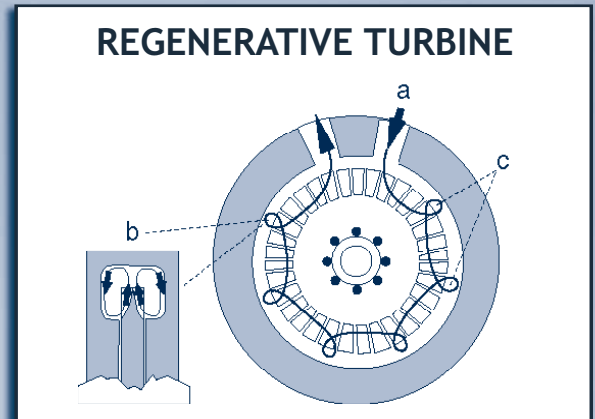


## HOW IT WORKS:

- Liquid enters the suction port (a) and is pushed forward by the blades of the impeller (b) in an orderly circular flow around the periphery of the housing.
- The circular liquid flow in the side channels (c) occur many times during one revolution resulting in 10 times or more discharge pressure than from a similar diameter impeller turning the same speed in a centrifugal pump.

## FEATURES:

- High Head/Low Flow:** Produces high head at low flow without damaging pump components
- Continuous Duty:** Designed to run 24 hours a day, 7 days a week
- Compact:** More compact than multistage centrifugals that deliver the same flow and head
- Entrained Air Handling:** up to 20%

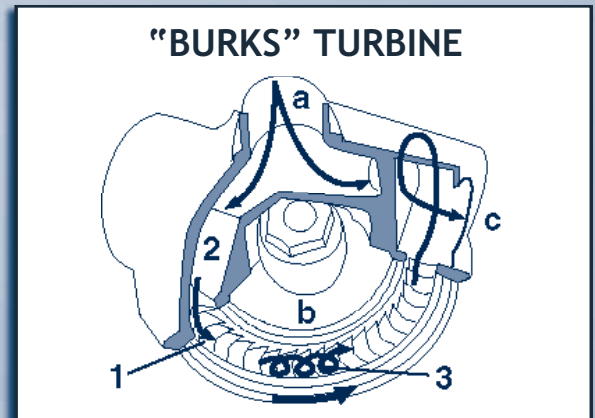


## HOW IT WORKS:

- As the liquid is removed by the impeller (1) from the inlet raceway (2), additional liquid is drawn in.
- The blades of the impeller (1) capture liquid from the inlet raceway (2) adding energy to the liquid (3) as the liquid is propelled toward the outlet.
- Liquid is forced out through the outlet port as additional liquid is deposited by the impeller.

## FEATURES:

- High Pressure:** turbine pumps will deliver non-abrasive, low viscosity liquids in applications requiring high pressure and low flow
- Low Maintenance:** with its seal being the only contacting part, little maintenance is required, even in continuous duty applications
- Self-priming Option:** configurations are available that include a liquid chamber that enables self-priming



## HOW IT WORKS:

- As the crankshaft (1) rotates, the connecting rod (2) pulls back the plunger (3) from the liquid chamber (4) within the manifold which increases the chamber's size. This creates a vacuum that draws in liquid through the inlet valve (5).
- As the crankshaft's rotation continues, the connecting rod (2) pushes the plunger (3) toward the liquid chamber (4) reducing the chamber's size. This forces the liquid out the discharge valve (6).

## FEATURES:

- High Pressure:** pressures of up to 15,000 psi can be achieved
- Clean Liquids:** closed fitting components require clean non-abrasive liquids
- Durable:** ceramic plungers and an oil filled crankcase ensures a long operating life

