PUMP TROUBLESHOOTING

CAVITATION

AIR INGESTION

Suction side and pump

- Check stuffing box
- Valves above fluid
- Leaking flanges
- Vortexing fluid
- Low fluid source level
- Air in source fluid

INTERNAL RECIRCULATION

Operating below B.E.P

- Check impeller clearances and design and consult manufac-

TURBULENCE

Fluid velocity not constant in system

- Suction & Discharge pipe must have 10X diam length before change
- Proper submergence at fluid

VANE PASSING SYNDROME

Impeller too close to cutwater

- Keep clearance 4% of impeller diameter when ≤ 14”, 6% ≥ 14”
- Check with manufacturer

VAPORIZATION

Low suction pressure

- Raise source liquid
- Lower pump
- Reduce piping losses
- Install booster pump
- Pressurize source

High fluid temperature

- Inject cooler fluid
- Reduce sun heating

N.P.S.H. too high

- Use double suction pump
- Lower pump speed
- Use multiple pumps

REDUCED PERFORMANCE

SUCTION SIDE

Piping design

- Too much piping from source
- Elbow too close to pump
- Fluid pick-ups too close

Temporary restrictions

- Gasket in pipe
- Throttled valve
- Sticking check valve

Dynamic issues

- See “CAVITATION”
- Solids on pipe wall
- Damaged pipe

DISCHARGE SIDE

Piping design

- Too much piping from source
- Wrong valve installed
- Discharge mounted at base of tank

Temporary restrictions

- Gasket in pipe
- Throttled valve
- Sticking check valve

Dynamic issues

- Solids on pipe wall
- Damaged pipe

IMPELLER ISSUES

- Diameter too small
- Too narrow
- RPM too slow
- Damaged or Clogged
- Cutwater too wide
- Wear ring clearance too high
- Air bubble trapped in eye

PUMP

- Pump too large
- Throttling
- Higher RPM

DAMAGE

- Bent shaft
- Running off B.E.P.
- Misalignment of pump and driver

PRODUCT

- Change in specific gravity

HIGH AMPERAGE