

March 7, 2001

APPLICATION ENGINEERING NEWSLETTER

Standard Impeller Running Clearances

We are often requested to furnish standard running clearances as a measure of the wear pattern for proper maintenance and repair. The following design clearances are listed for your reference. Opening up these clearances due to abrasion, erosion, chemical attack, or general wear, will usually relate to some loss in performance, efficiency, and may also contribute to noise and vibration problems. Except for the turbine type pumps, all axial clearances may be adjusted by means of jacking screws, shims, or threaded collars, depending on the equipment design. Radial clearances, of course, may not be adjusted.

Impeller Clearances:

110-120-130-150 Turbine Pumps

0.004-0.007" – Total axial, each impeller

0.002-0.0035" – Each side, floating impeller

0.004-0.007" – Radial, at stop between inlet and outlet porting

320-340-360-370-380 End Suction, Enclosed Impeller

0.018-0.022" – diametrical, suction an/or back rings

360 End Suction, Semi-Open Impeller

0.015-0.020" – Axial, suction face

410-420-430 Split Case

0.018-0.022 – Diametrical, Suction rings

420-430 Split Case, Two Stage

0.018-0.022 – Diametrical, center bushing, metallic, bronze, iron, stainless steel, etc.

520 Sump Pumps

0.010-0.015" – Axial, suction face, semi-open impeller

APPLICATION ENGINEERING NEWSLETTER

Standard Impeller Running Clearances

Page 2

530 Sump Pumps

Enclosed Comparable to 340-360
Semi-Open Comparable to 360

610 Sewage Pumps

0.025-0.035" – Axial, suction face
0.125-0.187" – Axial, wiper blades

630-640 Sump Pumps

0.015-0.020" – Axial, suction face

650 Sewage Pumps

0.015-0.020" – Axial, suction face

660-670 vortex Pumps

0.020-0.02511" – Axial, wiper blades, back shroud

Sleeve Type Bushings, Sump Pumps 520-530-550-630-640-670

Diametrical, over shaft:

0.004-0.007" – Graphitar, Teflon
0.004-0.008" – Bronze, Iron
0.004-0.010" – Cutless rubber

NOTE:

Parts replacement or adjustment is normally recommended when running clearances are opened up to double (200%) design clearance.