SUMMIT ™ | **SIXTY SECONDS WITH SUMMIT PUMP : VOL 1-11**

C-Face motor adapter alignment tolerance

Recently, while teaching pump school for a customer, I was asked a question regarding the alignment tolerance on C-face adapters. I quickly stated that they would let you obtain an average of 0.003" on the alignment. I later double checked this and determined I was wrong. The correct nominal alignment tolerance by design is about **0.007" Total Indicator Run-out (T.I.R.)**, but due to the stack-up of manufacturing tolerances, in a worst case scenario, can be as high as **0.015" T.I.R.**, best case scenario being 0.000" T.I.R.
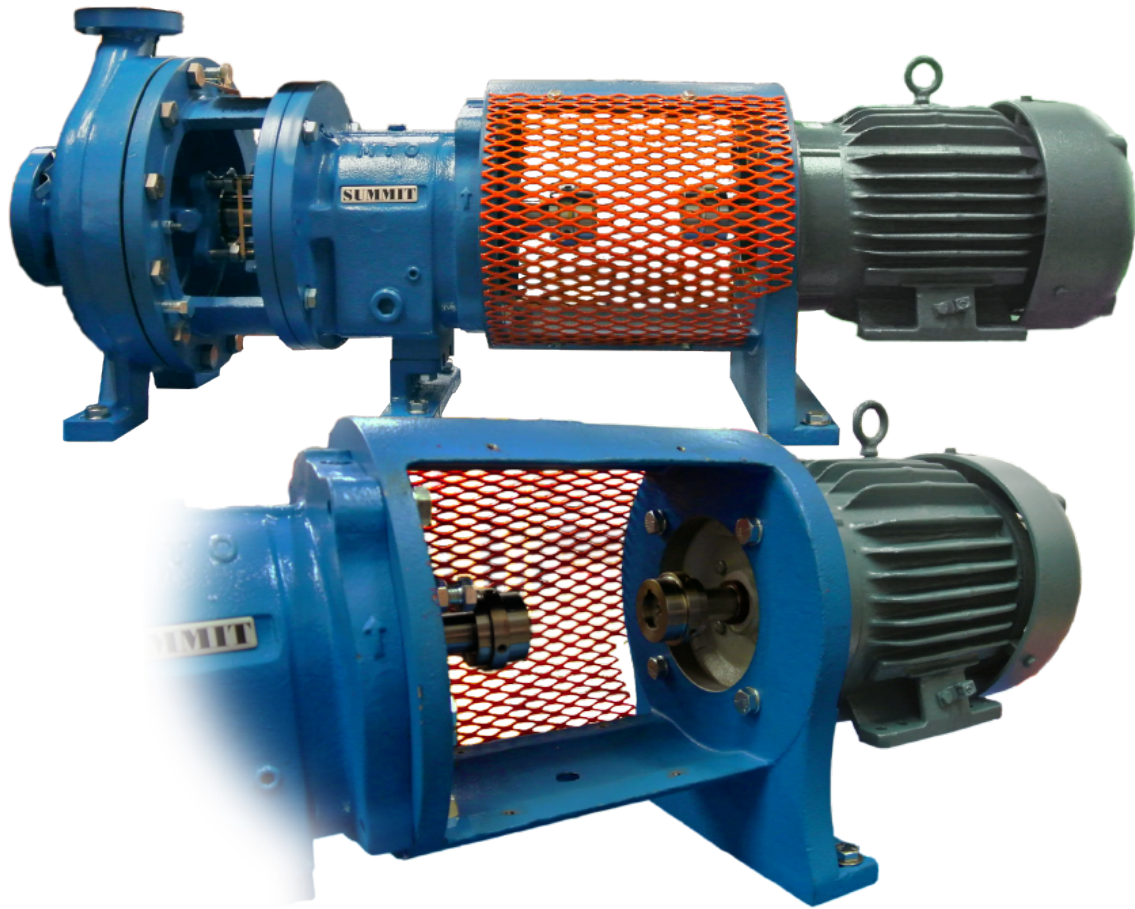
When using *best industry practices* you need less than 0.002" for pump/motor alignment, not the 0.007" to 0.015" T.I.R. The good news is that the C-Face adapter will hold the published alignment. Traditional arrangements, if improperly installed base plate, foundation, piping and piping design can quickly cause large shaft misalignment.

Ultimately, the decision to use a C-face adapter or traditional arrangement should come from the end user.

NPSHr near shutoff

You will notice that most pump manufacturers' do not continue their NPSHr curve(s) when going back (left) towards low flow and shut off condition.

I was recently asked, if one could simply extrapolate the curve back to shutoff. The simple and mathematically correct answer is NO. NPSHr is not linear, and in most pumps increases (exponentially) when moving left to the low flow and

shutoff areas of the curve.
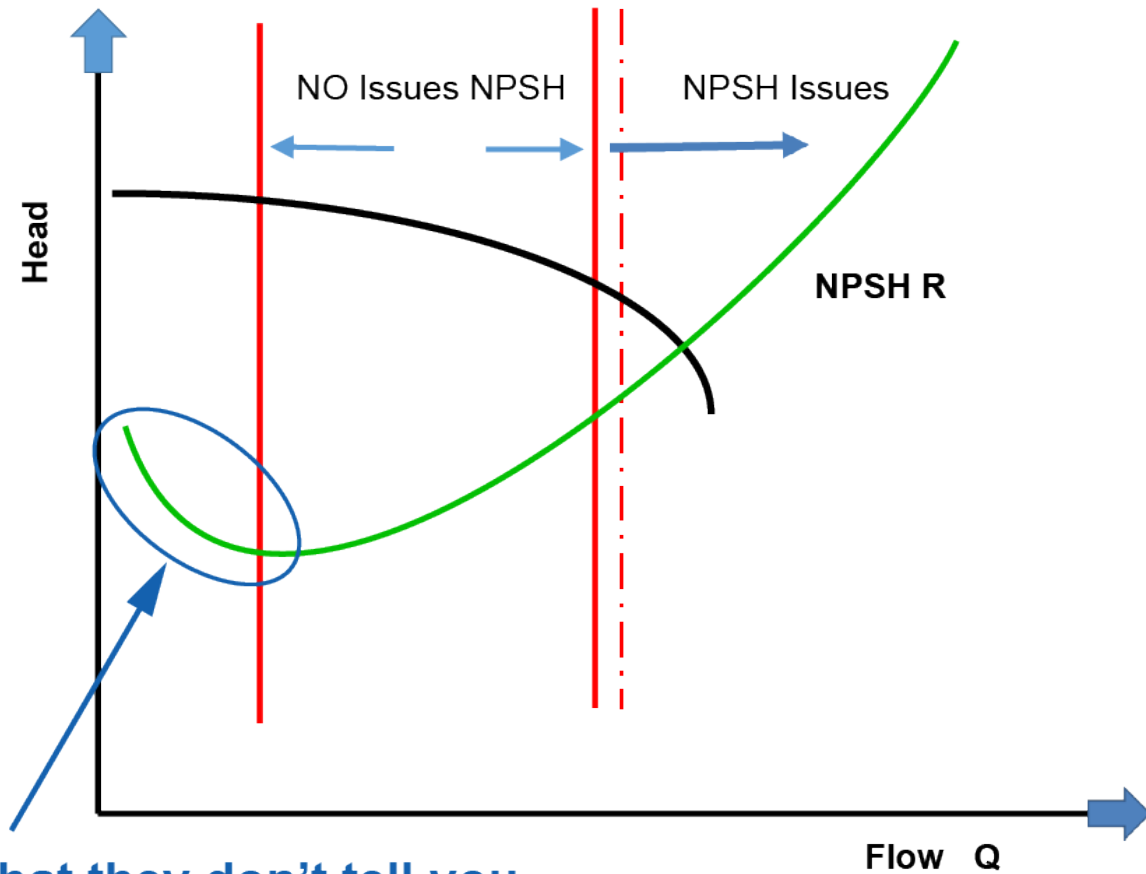
What they don't tell you

Besides this, it is a dangerous area to operate the pump anyway due to issues with high radial thrust loads, thermal considerations and suction re-circulation problems. If you need to operate at low flows, consider a low flow pump model or consult with engineering.

-The Summit Pump Team

Jim Elsey's Pumps and Systems Articles

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