

Linear Motion Components Inspire Designs

Inspired By Simplicity

Specialty Motions, Inc., a linear motion components distributorship in California, was inspired by simplicity – the simplicity of creating assemblies that solved motion control problems. The unique characteristics of a tremendous variety of reliable and easy to maintain slide bush components made the assemblies cost effective. Now SMI is both a distributor and a manufacturer.

Printer Loader

A client's need for an inexpensive, easy to maintain way to load material into a printing system led SMI to create a simple, reliable X/Y assembly.

SMI attached aluminum pillowblock slide bush components to a custom machined metal plate. Tom Corey of SMI explains the choice, "If something were to happen – say it (a bearing) wears out over time - and everything wears out – it is so easy to replace the bearings inside an NB (NB Corporation is one of the manufacturers that SMI carries) pillowblock as opposed to the competition.



With NB, all you do is take four fasteners off the bottom, remove a skip plate and the old bearing slides out. You put the new bearing in place, put four fasteners back in and you're off and running again. With the competition on the other hand, they're pinned in place by a roll pin. You have to either destroy the pillowblock or the roll pin to get this thing apart and typically you can't get the new one back in using the same hole. With the NB product you can replace the bearings internally without destroying the block. With the competition you have to replace the whole block and it is twice as expensive."

X And Theta

Another client needed to move X as well as Theta. SMI devised an inexpensive solution by putting a flat washer on a slide bush, slipping a needle bearing on the outside of the very smooth steel housing then putting another flat washer on the top. According to Mr. Corey, the ring groove at the end of the NB SW8 type was best suited to the application as was its extremely smooth exterior - the competition's style has indentations.



Spectroanalyzer Problem Solved

A spectroanalyzer's cartridge bearing, which was in a bore, was not stable while the machine was running. This bearing was composed of a thin walled tube with two bearings in it. The ends of the tube were crimped. The walls were just too flimsy to provide the needed stability.



To problem, SMI used a doublewide slide bush. It incorporates two bearings in a single container that keeps everything aligned. SMI's founder sites its ease of use, "You can slide this whole cartridge into a housing and you are pretty much done." The double width slide bushings were specified for their greater load capacity – necessary especially because a moment load was to be applied. inexpensively solve the a doublewide slide bush.

Linear Digital Measuring Device

SMI needed to measure long flat, square or round materials, such as shafts, right at the shop floor – beyond what the typical vernier caliper could measure. To construct the measuring device, they used the open pillowblock slide bush type TW8UU from NB's TOPBALL self-aligning

slide bush line.



SMI combined a half-inch slide bush with a shaft and incorporated a 120 inch linear scale with a Digital Read Out. The DRO consistently reads where the carriage is relative to the end plate. The LDMD can be fixed or mobil. A "VEE" groove allows the material to accurately nest for measurement. The Linear Digital Measuring Device (LDMD) is capable of accuracies up to +/- .001" and any length up to 110".

Unparalleled Variety Of Slide Bush Products That Inspire Design Solutions

NB's precision slide bushings are available as lightweight, standard, clearance adjustable and open with the highest quality wiper seals. And, NB's round, square or two-side cut Flange Slide Bush line offers the best of both worlds - the benefits of a slide bush with the mounting ease of a flange. Choose from single, double-wide, or center mount. They are available in inch, Asian or European metric dimensions. The three shaft grades have diameters ranging from 3.175mm - 50.8mm; .125 - 2 inches. Slide bush lengths range from 12.7mm - 203.2mm; .5 - 8 inches.

(700 words)

Contact: Brian Pinkham
Director of Sales
NB Corporation of America
www.nbcorporation.com
1-800-521-2045

