

ESSENTIAL CHARACTERISTICS OF AN ENGINEERED COUPLING:



MATERIAL

VanAire utilizes high-strength ductile coupling material such as 4140QT or 17-4H1150. Using material with higher yield strength prevents shear, deformation, and excessive wear on the mating parts.

TOLERANCES

VanAire designs are derived from industry standards such as ANSI B4.1-1967 Running Class Fits, ANSI B17.1, BS 4235, ASME Y14.5 2018. This helps to ensure alignment and prevent wear in the couplings due to stress concentrations and contact stresses that develop due to the clearances between mating drives.

CONCENTRICITY

All couplings are manufactured using the latest in CNC technology including tooling, fixtures, and jigs to help ensure concentricity between the valve side and actuator side of the coupling. Any misalignment results in a side load on the valve stem resulting in premature failure of the actuated valve assembly.

SINGLE PIECE CONSTRUCTION VS. TWO-PIECE WELDED

For keyed stem applications, VanAire was the first in the industry to standardize on a single-piece coupling instead of the more labor intensive two-piece welded method. This innovation enables VanAire to produce accurate, cost-effective couplings without the worry of warping or distortion due to high temperatures from the welding process and/or possible misalignment both vertically and rotationally due to the manual set up operation.

DESIGNED TO STALL AND NOT SHEAR

Per the stress limits specified in industry standards ISO 12490 and API 6DX, keys are to stall at the maximum torque, and to not permanently deform. Therefore, the keys provided by VanAire are engineered to resist shear and compressive stresses.

ELECTROLESS NICKEL COATED (ENC)

- Corrosion resistance – works hard in even the toughest environments
- Wear resistance – cycle after cycle an ENC part outperforms its competitor due to its increased hardness
- Predictable and consistent coating thickness, regardless of part geometries