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POWER TRANSMISSION AND MOTION CONTROL

This section was written by
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Not Together Forever

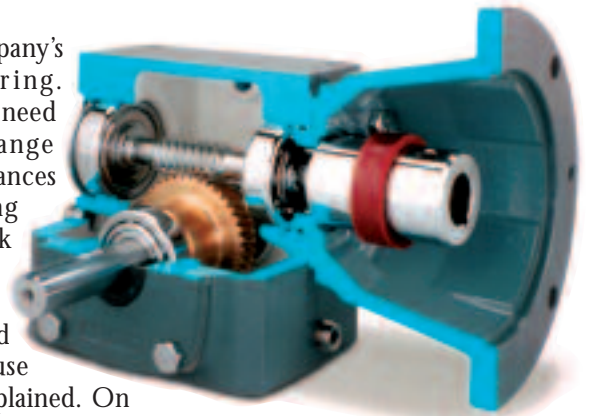
Meat packers and other food processors routinely sanitize their processing equipment with a high-pressure hosing of caustic spray. Fluid can sometimes seep into the seams of coupled machines and corrode their adjoining faces. If a mechanic then must replace a worn motor, for instance, stuck parts at the coupling can hamper his separating the motor from a gear reducer.

Boston Gear of Quincy, Mass., heeded this concern in designing a new quick-connect coupling for a line of worm gear reducers.

A change in shaft and coupling geometry eliminates the step of tightening a key-locking setscrew during assembly, according to

Ralph Whitley, the company's Director of Engineering. That dispenses with the need for openings in the flange and also closes any entrances through which cleaning solution could attack the joint.

On one end, the new coupling fits standard NEMA motors, which use keyed shafts, Whitley explained. On the reducer end, however, Boston Gear mates two milled flats on the worm input shaft with a similarly shaped, broached bore in the coupling. A bullet nose on the input shaft locates the coupling bore during assembly. A mechanic has only to align the flats before sliding the motor and reducer together. Tightening four bolts on the gasketed flange finishes the assembly.



Boston Gear redesigned a coupling to keep it away from the spray of wash-down fluids.

To test their design's resistance to fluid incursion, Boston Gear engineers set a motor and reducer in an automatic car wash, Whitley said. Stormy conditions there loosely imitated a meat packing plant being washed.

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