CHEMPUMP
A DIVISION OF TEIKOKU USA INC.

ENGINEERING DATA SHEET

Horsepower, Efficiency & Temperature		
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Standard centrifugal pumps require two separate sizing selections -- one for pump and one for motor. This requires typical performance curves incorporating liquid horsepower, pump efficiency, and brake horsepower on standard motors.

Chempump is a one-unit, integrally built motor and pump. The motor is liquid-cooled and, theoretically, the pump is built inside the motor. Because of the liquid cooling, the Chempump motor may produce more horsepower than the brake horsepower output of a standard air-cooled motor. The limiting factor for the Chempump motor is not brake horsepower, but the temperature of the windings.

The significant efficiency factor is the overall wire-to-water efficiency of the ratio of liquid horsepower output over electrical horsepower input. Many pump experts believe this to be the significant efficiency measurement for any type of pump or pumping system.

As stated above, temperature of stator windings is a most important limiting factor on Chempump output. Misapplication often places too great a load on the pump motor, and the windings overheat and fail. Misapplication takes many forms: undersizing the pump, not taking fluid specific gravity into consideration, over-rating heaters in the starter box, improper thermal cut-out connections, circulating tube plugged by fluid particles, etc.

To minimize winding overheating problems, many precautions are taken. All windings are equipped with thermoswitches (thermal cut-outs) which must be wired in series with the starter box holding coil (See Engineering Data Sheet 11E). Where the application requires, the pump is fitted with a water jacket or heat exchanger surrounding the stator band to remove heat (See Engineering Data Sheet 15E). For high temperature fluids, Series GT pumps are available with their special cooling circuit.