

ENGINEERING DATA SHEET

<i>A.S.M.E. "N" Stamp</i>		
Date	Supersedes	No.
03/26/99	08/01/72	29E

Chempump has maintained the (Nuclear) "N" and "NPT" Stamp for Class 1, 2 and 3 nuclear pumps since 1971, through subsequent requalifications every 3 years. The "N" Stamp pumps are manufactured in accordance with the A.S.M.E. Boiler and Pressure Vessel Code. An authorized inspection agency is the underwriter for the Chempump Division and is involved with the inspection, testing and verification of documents. The same codes, testing and documentation is required for parts and service which would receive the "NPT" stamp.

The following is a summary of the requirements for processing Class "N" Stamp pumps or parts.

A. Design - The basic design of the Chempump is such that the entire pump and motor assembly is a pressure vessel. Accordingly, the pressure containing parts are defined as:

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| <ul style="list-style-type: none"> • Pump Casing • Front End Bell • Rear End Bell • Stator Band • Circulation Tube Assembly | <ul style="list-style-type: none"> • Rear Bearing Housing • Motor Lead Nipple • Pump casing Bolts • Rear Bearing Housing Bolts |
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B. Materials - All pressure containing parts must conform to the applicable A.S.M.E. material specifications. A material control system must be maintained.

C. Quality Control

1. Survey and qualification of material suppliers and services.
2. Formulation of controlled quality and manufacturing system procedures.
3. Welders must be qualified to A.S.M.E. welding requirements.
4. In-process inspections with documentation.
5. Liquid penetrant inspection of the pressure boundary welds by qualified personnel.
6. Traceability and identification of the pressure boundary parts.
7. Chemical and physical test certifications on all pressure containing parts.

- D. Testing - All pressure containing parts must be subjected to a pressure test witnessed by an authorized nuclear inspector (ANI). Because the stator band assembly (motor section) is a pressure boundary part, this must be pressure tested after it is assembled to the pump and witnessed by the ANI.

- E. Final Inspection - The authorized nuclear inspector (ANI) reviews the documentation for each pump. If documentation is acceptable, completed Form NPV-1 is signed by the Chempump Division Quality Control Manager and the authorized inspector. Chempump Division is then authorized to apply an "N" Stamp on the pump. A copy of the completed Form NPV-1 is retained at Chempump Division.

- F. Pricing - The additional requirements outlined above require price additions to cover corresponding quality control and manufacturing costs. In addition, a direct charge is incurred for each visit by the authorized (Hartford) inspector. Customers can specify A.S.M.E. requirements with or without the "N" Stamp. When the "N" Stamp is not required, the authorized inspector's services and corresponding costs would not apply.

- G. Spare Parts - The pressure containing replacement parts for "N" Stamp pumps must be processed in accordance with the same A.S.M.E. specifications of the original pump. Corresponding price additions apply. Component parts are marked with an "NPT" Stamp.

- H. Service - Chempump offers a complete Service Department capable of repairing all nuclear grade pumps.