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GIS 34-202

Horizontal Centrifugal Pumps (ASME B73.1)

Group Instruction for Supply

**BP GROUP
ENGINEERING TECHNICAL PRACTICES**

Foreword

This issue of Engineering Technical Practice (ETP) GIS 34-202 incorporates the following modifications:

- a. Clarification of shim requirements.
- b. Clarification of suction specific speed (N_{ss}) limit.
- c. Correction of reference numbers and titles.

Modifications are identified by a bar in the margin as is normal practice.

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Introduction

- a. Requirements for horizontal centrifugal pumps is based on American Society of Mechanical Engineers (ASME) B73.1-2001, Specification for Horizontal End Suction Centrifugal Pumps for Chemical Process.
- b. Requirements of this GIS are modifications to ASME B73.1.
- c. Modifications to ASME B73.1 are identified as Add, Modify to Read, or Delete.
- d. Paragraph numbers in this GIS correspond to ASME B73.1.
- e. Paragraphs of ASME B73.1 that are not revised remain applicable.



4. Design and construction features

4.1 Pressure and temperature limits

4.1.1 Pressure limits

Add

Stated pressure-temperature limitations of casing shall not be exceeded by maximum discharge pressure with maximum impeller, maximum suction pressure, and maximum pumped fluid density.

4.1.1.1 Modify to Read

Maximum allowable working pressure (MAWP) for design pressure of casing, including stuffing box and gland, shall be at least as great as pressure-temperature rating of ASME B16.5 Class 150 flanges for material used. MAWP shall be equal to or greater than maximum discharge pressure.

4.2 Flanges

Add

Flanges, except cast iron and ductile cast iron, shall be raised face.

4.3 Casing

4.3.1 Drain connection boss(es)

Add

Drain connections shall comply with the following:

- a. Casing drains shall be routed to edge of baseplate with DN 15 (NPS 1/2) or larger Schedule 80 pipe that terminates in gate valve.
- b. For slurry services, casing drain and piping shall be DN 20 (NPS 3/4) minimum, valve shall be ball type, valve shall be as close to casing as practical, drain pipe shall be straight.
- c. Casing drain and valve shall be supported and protected to prevent damage from vibration during shipment or from operation and maintenance.
- d. Casing drains shall comply with the piping clauses of this GIS.

4.3.2 Auxiliary connection boss(es)

Add

Nozzle gage connection bosses shall not be drilled and tapped.

4.3.5 Jackets

4.3.5.1 Modify Second Sentence to Read

- a. Jacket inlet and outlet connections shall be DN 15 (NPS 1/2) and identified immediately adjacent to connections by cast, stamped, or securely attached metal tag designations: "CI" for cooling inlet, "CO" for cooling outlet, "HI" for heating inlet, or "HO" for heating outlet.
- b. Jacket inlet and outlet connections other than DN 15 (NPS 1/2) shall be subject to BP approval.
- c. If connection to pumps is DN 10 (NPS 3/8), a 10 by 15 (3/8 by 1/2) bushing shall be provided.

