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Vertical In-Line Centrifugal Pumps for Chemical Service (ASME B73.2)

Group Instruction for Supply

**BP GROUP
ENGINEERING TECHNICAL PRACTICES**

Foreword

This issue of Engineering Technical Practice (ETP) GIS 34-203 incorporates the following revisions:

- a. Relaxation of temperature limits back to those of the base standard.
- b. Modification of motor power requirements to coincide with GP 34-00.
- c. Lifting ring requirement for assemblies with mass greater than 25 kg (55 lb).
- d. Increase hydrostatic test time from 10 min to 2 hr.

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Introduction

- a. Requirements for vertical in-line centrifugal pumps are based on American Society of Mechanical Engineers (ASME) B73.2-2003.
- b. Requirements of this GIS are modifications to ASME B73.2.
- c. Modifications to ASME B73.2 are identified as Add, Modify to Read, or Delete.
- d. Paragraph numbers in this GIS correspond to ASME B73.2.
- e. Paragraphs of ASME B73.2 that are not revised remain applicable.



4 Design and construction features

4.1 Pressure and temperature limits

Add

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

4.2 Flanges

Add

Flanges, except cast iron flanges, shall be raised face.

4.3 Casing

4.3.1 Drain connection boss(es)

Add

Drain connections shall comply with the following:

- a. Casing drain shall be routed to edge of baseplate (or casing perimeter if no baseplate), with DN 15 (NPS 1/2) or larger schedule 80 pipe that terminates in gate valve.
- b. Casing drain and valve shall be supported and protected to prevent damage from vibration:
 1. During shipment.
 2. From operation and maintenance.
- c. Casing drains shall comply with the piping clauses of this GIS.

4.3.2 Gage connection bosses

Add

Nozzle gage connection bosses shall not be drilled and tapped.

4.3.3 Support

Add

- a. If specified, vertical in-line pumps shall have rigid mounting plate integral with or welded to pump casing. Mounting plate shall include at least four anchor bolt holes.
- b. Grouted pump baseplates shall have soleplates that are:
 1. Separate.
 2. Machined flat.
 3. Made of steel.
 4. Coated with preservative.
- c. If specified for higher temperature applications (greater than 93°C [199°F]), pumps may be:
 1. Pedestal supported with a steel support plate embedded in a concrete base.
 2. Allowed to slide or move with piping.

