

P3-A-003-D10 and ASME B73.1 Comparison



P3-A vs. B73.1

- B73.1 is a dimensional and feature focused broad based specification designed to ensure dimensional interchangeability and operational reliability.
- P3-A clarifies B73.1 for use in API services with the intent to maintain product integrity.

P3-A vs. B73.1

- B73.1 Para. 4.3.1
Drain Connection
Boss(es)
 - Boss size shall accommodate ½ in. NPT min. Boss(es) shall be drilled and tapped when specified by customer.
- P3-A Para. D2.2
 - Casing drain connection, if specified, shall have a full penetration weld ground flush on the product contact surface.
 - Para. D9.1 – There shall be no exposed threads on product contact surfaces.

P3-A vs. B73.1

- B73.1 Para. 4.3.6 – Gaskets
 - The casing-to-cover gasket shall be confined on the atmospheric side to prevent blowout.
- P3-A Para. D7 – Gaskets
 - Gasket retaining grooves in product contacting surfaces.....
 - Gaskets, when used within the pump, shall be self positioning. Mating surfaces shall be within 1/32 inch.

P3-A vs. B73.1

- B73.1 Para. 4.4
Impeller
 - Para 4.4.1 Types - Impellers of open, semi-open, and closed designs are optional.
- P3-A Para. D11.2
 - Closed and semi-closed impellers shall not be used.

P3-A vs. B73.1

- B73.1 Para 4.8
Materials of Construction
 - Simply states that the pump should be available in DI (A395); Carbon Steel (A216, WCB); 316SS (A744, CF8M); Alloy 20 (A744, CN7M); and Other.
- P3-A Para C2.1
 - Metal product contact surfaces shall be specified by the user from among the metals listed in P3-A 002: . Metals shall be suitable for all phase of the process, including cleaning. This specification does not specify the ASTM number, only the Grade.

P3-A vs. B73.1

- B73.1 does not address assembly lubricants and suppliers may use a wide variety of products, i.e., NeverSeize, Molykote, etc.
- B73.1 does not address surface finish
- P3-A Para C4.4 - Lubricants intended for use during assembly shall meet the requirements of P3-A-002 paragraph C8.
- P3-A Para D1.1 allows as cast but allows customer to specify improved finish.

P3-A vs. B73.1

- B73.1 does not address elastomers.
- B73.1 does not address Nonproduct Contact Surfaces and allows painting of alloy parts.
- P3-A Para D1.1 – Nonmetals requires that materials be suitable for cleaning cycles and meet GRAS requirements.
- P3-A Para D1.2 addresses these surfaces.

P3-A vs. B73.1

- B73.1 does not address drainability or cleanability
- P3-A Para D4 and D5 require that product contact surfaces be accessible for cleaning (D4) and be drainable (D5). D6.6 requires drainability of the seal chamber. D8 addresses drainability of internal angles. D9 prohibits threads on product contact surfaces..etc., etc.

P3-A vs. B73.1

- B73.1 Appendix A (Nonmandatory) is a very detailed 3 page data sheet.
- P3-A Annex A (normative) is a P3-A specific data sheet that deletes the B73.1 options not used by P3-A and adds features unique to P3-A, i.e., CIP/SIP and Product Contact Surface Finish.

P3-A vs. B73.1

- B73.1 Para 7 defines minimum required documentation. Includes basic drawings, curve, instruction manual. Other data as requested by the customer.
- P3-A Annex C addresses engineering Design and Technical Construction File required from authorization to the P3-A symbol.

P3-A vs. B73.1

Questions?