

Centrifugal pumps for petroleum, petrochemical and natural gas industries

1 Scope

This International Standard specifies requirements for centrifugal pumps, including pumps running in reverse as hydraulic power recovery turbines, for use in petroleum, petrochemical and gas industry process services.

This International Standard is applicable to overhung pumps, between-bearings pumps and vertically suspended pumps (see Table 1). Clause 9 provides requirements applicable to specific types of pumps. All other clauses of this International Standard are applicable to all pump types. Illustrations are provided of the various specific pump types and the designations assigned to each specific type.

Relevant industry operating experience suggests pumps produced to this International Standard are cost effective when pumping liquids at conditions exceeding any one of the following:

— discharge pressure (gauge)	1 900 kPa (275 psi; 19,0 bar)
— suction pressure (gauge)	500 kPa (75 psi; 5,0 bar)
— pumping temperature	150 °C (300 °F)
— rotative speed	3 600 r/min
— rated total head	120 m (400 ft)
— impeller diameter, overhung pumps	330 mm (13 in)

NOTE For sealless pumps, reference can be made to API Std 685. For heavy duty pump applications in industries other than petroleum, petrochemical and gas processing, reference can be made to ISO 9905.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 262, *ISO general purpose metric screw threads — Selected sizes for screws, bolts and nuts*

ISO 281:2007, *Rolling bearings — Dynamic load ratings and rating life*

ISO 286 (all parts), *ISO system of limits and fits*