

ISO 15783:2026-05 (E)

Seal-less rotodynamic pumps - Class II - Specification

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Design	4
4.1	General	4
4.1.1	Characteristic curve	4
4.1.2	Net Positive Suction Head (NPSH)	4
4.1.3	Outdoor installation	5
4.2	Prime movers	5
4.2.1	General	5
4.2.2	Magnetic drive pumps	6
4.2.3	Canned motor pumps	7
4.3	Critical speed, balancing and vibrations	8
4.3.1	Critical speed	8
4.3.2	Balancing and vibration	8
4.4	Pressure-containing parts	9
4.4.1	Primary containment	9
4.4.2	Secondary containment	9
4.4.3	Secondary control	10
4.4.4	Pressure-temperature rating	10
4.4.5	Wall thickness	10
4.4.6	Materials	10
4.4.7	Mechanical features	11
4.5	Branches, nozzles and miscellaneous connections	11
4.5.1	Extent	11
4.5.2	Inlet and outlet branches	11
4.5.3	Venting and draining	12
4.5.4	Pressure gauge connections	12
4.5.5	Closures	12
4.5.6	Auxiliary pipe connections	12
4.5.7	Connection identification	12
4.6	External forces and moments on flanges (inlet and outlet)	12
4.7	Branch (nozzle) flanges	13
4.8	Impellers	13
4.8.1	Impeller design	13
4.8.2	Securing of impellers	13
4.9	Wear rings or equivalent components	13
4.10	Running clearance	13
4.11	Shafts	13
4.11.1	General	13
4.11.2	Surface roughness	14
4.12	Bearings	14
4.12.1	General	14
4.12.2	Rolling bearing life	14
4.12.3	Bearing temperature	14

4.12.4	Lubrication	14
4.12.5	Bearing housing design for magnetic drive pumps	14
4.12.6	Sleeve and thrust bearings for the pump shaft	14
4.13	Circulation flow	15
4.13.1	General	15
4.13.2	Circulation plans	15
4.13.3	Magnetic drives	15
4.13.4	Canned motor	15
4.14	Nameplates	16
4.15	Direction of rotation	16
4.16	Couplings for magnetic drive pumps	16
4.17	Baseplate	16
4.17.1	General	16
4.17.2	Non-grouted baseplates	17
4.17.3	Grouted baseplates	17
4.17.4	Assembly of magnetic drive pump and driver on baseplate	17
4.17.5	Tools	17
4.18	Monitoring	17
5	Materials	18
5.1	Selection of materials	18
5.2	Material composition and quality	18
5.3	Repairs	18
6	Testing	18
6.1	General	18
6.2	Material tests	19
6.3	Pump test and inspection	19
6.3.1	Hydrostatic test	19
6.3.2	Hermetic integrity test (optional)	19
6.3.3	Mechanical integrity (optional)	20
6.3.4	Performance test (optional)	21
6.3.5	Canned motor test	21
6.3.6	Inspection of components	21
6.3.7	Final inspection	21
7	Preparation for dispatch	22
7.1	Surface protection	22
7.2	Securing of rotating parts for transport	22
7.3	Openings	22
7.4	Pipes and auxiliaries	22
7.5	Identification	22
8	Information for use	22
	Annex A (informative) Data sheet for magnetic drive pumps and canned motor pumps	24
	Annex B (informative) External forces and moments on flanges	29
	Annex C (informative) Enquiry, proposal and purchase order	30
	Annex D (informative) Documentation after purchase order	31
	Annex E (informative) Typical circulation piping plans and characteristics for canned motor pumps and magnetic drive pumps	32
	Annex F (informative) Internationally accepted materials for pump parts	38
	Annex G (informative) Checklist	46
	Bibliography	48