

E DIN EN ISO 15136-1:2025-09 (E)

Erscheinungsdatum: 2025-08-15

Petroleum and natural gas industries - Progressing cavity pump systems for artificial lift - Part 1: Pumps (ISO/DIS 15136-1:2025); English version prEN ISO 15136-1:2025

Contents

	Page
Foreword.....	v
Introduction.....	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	2
4 Abbreviated terms and symbols.....	8
5 Functional specification.....	9
5.1 General.....	9
5.2 PCP type description.....	9
5.3 Functional requirements.....	10
5.3.1 Application parameters.....	10
5.3.2 Environmental compatibility.....	11
5.3.3 Compatibility with related well equipment and services.....	12
5.4 Design validation.....	13
5.5 Product functional evaluation.....	14
5.6 Quality control grades.....	14
5.7 Additional documentation.....	14
5.8 Additional requirements.....	14
6 Technical specification.....	14
6.1 General.....	14
6.2 Technical characteristics.....	14
6.3 Design criteria.....	15
6.3.1 General.....	15
6.3.2 Metals.....	15
6.3.3 Rotor coating or surface treatments.....	15
6.3.4 Stator elastomer and bond system.....	16
6.3.5 Inner surface treatment of metal stator.....	16
6.4 Dimensional information.....	16
6.4.1 Rotor-stator fit.....	16
6.4.2 Dimensional limits.....	16
6.5 Performance ratings.....	17
6.5.1 Volume capability.....	17
6.5.2 Pressure and head rating.....	17
6.5.3 Design performance curves.....	17
6.5.4 Volumetric efficiency.....	17
6.5.5 Design pump speed, torque and power.....	17
6.5.6 Maximum pump intake gas volume fraction.....	18
6.6 Design verification.....	18
6.7 Design validation.....	18
6.8 Functional evaluation requirements.....	18
6.9 Allowable design changes.....	18
6.10 Scaling of design validation.....	19
7 Supplier/manufacturer requirements.....	19
7.1 General.....	19
7.2 Documentation and data control.....	19
7.2.1 General.....	19
7.2.2 Design documentation.....	19

7.2.3	Delivery documentation	20
7.2.4	Operator's manual	20
7.2.5	Certificate of compliance	20
7.2.6	Product data sheet	20
7.2.7	Elastomer data sheet	21
7.3	Product identification	21
7.4	Quality	22
7.4.1	General	22
7.5	Raw materials certification	23
7.6	Additional processes applied to components	23
7.6.1	Documentation	23
7.6.2	Coatings	24
7.6.3	Welding	24
7.6.4	Heat treating	24
7.7	Traceability	24
7.8	Calibration systems	24
7.9	Examination and inspection	25
7.9.1	General	25
7.9.2	The tube of stator	25
7.9.3	Stator elastomer	25
7.9.4	Stator phasing alignment	26
7.9.5	Rotor coating thickness	26
7.9.6	Rotor surface finish	27
7.9.7	Phasing alignment of welded rotor	27
7.9.8	Visual inspection	27
7.9.9	Weld	27
7.9.10	Core deflection	28
7.9.11	Component dimensional inspection	28
7.10	Manufacturing non-conformance	30
7.11	User/purchaser complaint returns	30
7.12	Product functional testing	30
8	Repair	31
9	Shipping, handling and storage	31
9.1	General	31
9.2	Preparation for shipment	31
9.3	Handling	31
9.3.1	Rotor	31
9.3.2	Stator	31
9.4	Storage	32
Annex A (normative) Requirements for progressing cavity pump elastomers		33
Annex B (normative) Design validation		37
Annex C (normative) Functional evaluation		41
Annex D (informative) Optional information for PCP elastomer testing and selection		47
Annex E (informative) Installation guidelines		57
Annex F (informative) Operational guidelines		60
Annex G (informative) Supplemental information for PCP performance characteristics		67
Annex H (informative) Example user/purchaser PCP functional specification form		72
Annex I (informative) Analysis after use		76
Annex J (informative) Selection and use of drive-string equipment in PCP applications		90
Annex K (informative) Repair and reconditioning		97
Annex L (informative) Auxiliary equipment		100
Bibliography		106