

# ISO 15136-1:2009-11 (E)

## Petroleum and natural gas industries\_- Progressing cavity pump systems for artificial lift\_- Part\_1: Pumps

---

### 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 .....	10
5.1 General .....	10
5.2 PCP type description .....	10
5.3 Functional requirements.....	10
5.4 Design validation.....	14
5.5 Product functional evaluation.....	15
5.6 Quality control grades .....	15
5.7 Additional documentation .....	15
5.8 Additional requirements .....	15
6 Technical specification .....	15
6.1 General .....	15
6.2 Technical characteristics.....	16
6.3 Design criteria.....	16
6.4 Dimensional information .....	17
6.5 Performance ratings.....	18
6.6 Design verification .....	19
6.7 Design validation.....	19
6.8 Functional evaluation requirements.....	19
6.9 Allowable design changes.....	19
6.10 Scaling of design validation.....	20
7 Supplier/manufacturer requirements .....	20
7.1 General .....	20
7.2 Documentation and data control .....	20
7.3 Product identification.....	22
7.4 Quality.....	23
7.5 Raw materials certification .....	25
7.6 Additional processes applied to components.....	25
7.7 Traceability.....	25
7.8 Calibration systems .....	26
7.9 Examination and inspection.....	26
7.10 Manufacturing non-conformance .....	31
7.11 User/purchaser complaint returns.....	31
7.12 Product functional testing .....	31
8 Repair.....	31
9 Shipping, handling and storage.....	31
9.1 General .....	31
9.2 Preparation for shipment.....	31
9.3 Handling .....	32
9.4 Storage .....	32
Annex A (normative) Requirements for progressing cavity pump elastomers.....	34

<b>Annex B (normative) Design validation .....</b>	<b>38</b>
<b>Annex C (normative) Functional evaluation .....</b>	<b>42</b>
<b>Annex D (informative) Optional information for PCP elastomer testing and selection .....</b>	<b>48</b>
<b>Annex E (informative) Installation guidelines .....</b>	<b>59</b>
<b>Annex F (informative) Operational guidelines.....</b>	<b>62</b>
<b>Annex G (informative) Supplemental information for PCP performance characteristics.....</b>	<b>70</b>
<b>Annex H (informative) Example user/purchaser PCP functional specification form .....</b>	<b>76</b>
<b>Annex I (informative) Analysis after use .....</b>	<b>79</b>
<b>Annex J (informative) Selection and use of drive-string equipment in PCP applications.....</b>	<b>93</b>
<b>Annex K (informative) Repair and reconditioning .....</b>	<b>100</b>
<b>Annex L (informative) Auxiliary equipment .....</b>	<b>103</b>
<b>Bibliography .....</b>	<b>108</b>