International Association of Oil & Gas Producers

SPECIFICATION
S-703Q

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Quality requirements for Low Voltage Three Phase Cage Induction Motors

JIP33
JOINT INDUSTRY PROGRAMME

Revision history

VERSION	DATE	AMENDMENTS
0.1	16th September 2019	Issued for public review

Acknowledgements

This IOGP Specification was prepared by a Joint Industry Project 33 Standardization of Equipment Specifications for Procurement organized by IOGP with support by the World Economic Forum (WEF).

Foreword

This specification was prepared under Joint Industry Programme 33 (JIP33) "Standardization of Equipment Specifications for Procurement" organized by the International Oil & Gas Producers Association (IOGP) with the support from the World Economic Forum (WEF). Companies from the IOGP membership participated in developing this specification to leverage and improve industry level standardization for projects globally in the oil and gas sector. The work has developed a minimized set of supplementary requirements for procurement, with life cycle cost in mind, resulting in a common and jointly approved specification, building on recognized industry and/or international standards.

Recent trends in oil and gas projects have demonstrated substantial budget and schedule overruns. The Oil and Gas Community within the World Economic Forum (WEF) has implemented a Capital Project Complexity (CPC) initiative which seeks to drive a structural reduction in upstream project costs with a focus on industry-wide, non-competitive collaboration and standardization. The CPC vision is to standardize specifications for global procurement for equipment and packages, facilitating improved standardization of major projects across the globe. JIP33 provides the oil and gas sector with the opportunity to move from internally to externally focused standardization initiatives and provide step change benefits in the sector's capital projects performance.

This specification has been developed in consultation with a broad user and manufacturer base to realize benefits from standardization and achieve significant project and schedule cost reductions.

The JIP33 work groups performed their activities in accordance with IOGP's Competition Law Guidelines (November 2014).

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Introduction

The purpose of this quality requirements specification (QRS) is to define quality management requirements for the supply of low voltage motors in accordance with IEC 60034-1, Rotating electrical machines — Part 1: Rating and performance for application in the petroleum and natural gas industries.

The QRS includes definition of a conformity assessment system (CAS) which specifies standardized purchaser interventions against quality management activities at four different levels. The applicable CAS level is specified by the purchaser in the equipment data sheet or purchase order.

This QRS shall be used in conjunction with the supplementary requirements specification IOGP S-703, the information requirements specification IOGP S-703L and the equipment data sheet IOGP S-703D which together comprise the full set of specification documents. The introduction section in the supplementary requirements specification provides further information on the purpose of each of these documents and the order of precedence for their use.

JIP33 Specification for Procurement Documents
Quality Requirements Specification

1 Scope

To specify quality management requirements for the supply of low voltage motors to IOGP S-703 Supplementary Specification to IEC 60034-1 Low Voltage Three Phase Cage Induction Motors including:

a) manufacturer quality management system requirements;

b) purchaser conformity assessment (surveillance and inspection) activities;

c) traceability requirements;

d) evidence of conformance;

e) factory acceptance.

2 Normative References

ISO 9001:2015	Quality management systems - Requirements
ISO 29001	Petroleum, petrochemical and natural gas industries — Sector-specific quality management systems — Requirements for product and service supply organizations
API Specification Q1	Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry
IEC 60034-1:2017	Rotating electrical machines — Part 1: Rating and performance
IOGP S-703	Supplementary Specification to IEC 60034-1 Low Voltage Three Phase Cage Induction Motors

3 Terms and Definitions

3.1 Conformity assessment

Demonstration that requirements relating to a product, process, system, person or body are fulfilled.

NOTE 1 Conformity assessment (or assessment) includes but is not limited to review, inspection, verification and validation activities.

NOTE 2 Assessment activities may be undertaken at a manufacturer/sub-supplier's premises, virtually by video link, desktop sharing, etc. or by review of information formally submitted for acceptance or for information.

3.2 Conformity assessment system (CAS)

System providing different levels of assessment of the manufacturer's control activities by the purchaser (second party) or independent body (third party) based on evaluation of the manufacturer's capability to conform to the product or service specification and obligatory requirements.

NOTE CAS A reflects the highest risk and associated extent of verification. CAS D is the lowest.

3.3 Conformity assessment - hold point

The point in the chain of activities beyond which an activity shall not proceed without the approval of the purchaser or purchaser's representative.

3.4 Conformity assessment - witness point

The point in the chain of activities that the manufacturer shall notify the purchaser or purchaser's representative before proceeding. The operation or process may proceed without witness if the purchaser does not attend after the agreed notice period.

3.5 Conformity assessment - surveillance

Observation, monitoring or review by the purchaser or purchaser's representative of an activity, operation, process, product or associated information.

3.6 Conformity assessment - review

Review of the manufacturer's information to verify conformance to requirements.

NOTE Information review requirements are managed on a surveillance basis and as such do not impose schedule constraints, unless specified as hold points in Annex A or as conditions specified in the associated IRS.

4 Symbols and abbreviations

CAS	Conformity assessment system
IRS	Information requirements specification
QRS	Quality requirements specification (this document)

5 Quality requirements

5.1 Quality management system

The manufacturer shall demonstrate that the quality management arrangements established for the supply of products and services conform to ISO 9001, ISO 29001, API Specification Q1 or an equivalent quality management system standard agreed with the purchaser.

5.2 Conformance assessment

5.2.1

Quality and inspection plans and test plans developed as outputs to operational planning and control for the products and services shall define the specific controls to be implemented by the manufacturer and when applicable, their sub-suppliers, to ensure conformance with the specified requirements.

5.2.2

Controls shall address both internally and externally sourced processes products and services.

5.2.3

Quality plans and inspection plans and test plans shall include provision for the purchaser conformity assessment system (CAS) as specified in the data sheet (see Annex A).

5.2.4

Manufacturer performance in meeting the requirements will be routinely assessed during execution of the scope and where appropriate, corrective action requested and conformity assessment activities increased or decreased consistent with criticality and risk.

NOTE 1 For industrial well proven solutions CAS level D is specified unless risk assessment indicates that a more stringent CAS level is required.

NOTE 2 Irrespective of conformity assessment requirements defined by the purchaser, either, by reference to standard or specification requirements or in the scope, the manufacturer remains responsible for operational planning and control and demonstration of the conformity of products and services with the requirements (see ISO 9001:2015, 8.1 and 8.2).

6 Control of nonconforming products and services

Nonconformance with specified requirements identified by or to manufacturer prior to or during the delivery of the products and services shall be corrected such that the specified requirements are satisfied or the purchaser's acceptance of the nonconformance agreed in accordance with purchase order conditions (see ISO 9001:2015, 8.2.3, 8.2.4, 8.5.6 and 8.7).

7 Evidence (records)

Plans, procedures, methods and resultant records shall be provided in accordance with the associated IRS.

Annex A
(normative)
Purchaser conformity assessment requirements

This annex defines four conformity assessment systems (CAS) or levels of purchaser assessment.

The manufacturer shall provide for the specified CAS when developing quality plans and inspection and test plans in accordance with Clause 5.

	PURCHASER ASSESSMENT ACTIVITIES	CAS			
		A	B	C	D
1	**Operational planning and control activities**				
1.1	Quality planning (ISO 9001, 8.1 and ISO 10005)	H	R	-	-
1.2	Inspection and test planning (ISO 9001, 8.1 and ISO 10005)	H	R	-	-
1.3	Pre-Inspection/Pre-production planning	H	R	-	-
2	**Design and development activities**				
2.1	Type test qualification (IEC 60034-1 Clause 8)	R	R	-	-
2.2	Hazardous area qualification (IOGP S-703 Clause 15)	R	R	R	R
2.3	Noise testing (IOGP S-703, 9.13)	R	-	-	-
3	**Control of external supply**				
3.1	External supply scope, risk assessment and controls (ISO 9001, 8.4)	W	R	-	-
4	**Inspection & testing**				
4.1	Routine qualification testing (IEC 60034-1 Clause 9)	W	S	R	R
4.2	Vibration testing (IOGP S-703, 11.7)	W	S	R	-
5	**Release of product or service**				
5.1	Handling, preservation and packaging	W	S	R	-
5.2	Final information review; as per IOGP S-703L	H	H	R	R
5.3	Declaration of conformity	H	R	R	R
5.4	Release equipment	W	W	S	R

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