International Association of Oil & Gas Producers

SPECIFICATION
S-613Q

DECEMBER
2018

Quality Requirements for Air Dryer Packages

Revision history

VERSION	DATE	AMENDMENTS
1.0	December 2018	Issued for Publication

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 a Joint Industry Project 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). Ten key oil and gas companies from the IOGP membership participated in developing this specification under JIP33 Phase 2 with the objective 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, based on the ten participating members’ company specifications, resulting in a common and jointly approved specification, and building on recognized industry and international standards.

This specification has been developed in consultation with a broad user and supplier base to promote the opportunity to realize benefits from standardization and achieve significant cost reductions for upstream project costs. The JIP33 work groups performed their activities in accordance with IOGP’s Competition Law Guidelines (November 2014).

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 vision from the CPC industry is to standardize specifications for global procurement for equipment and packages, facilitating improved standardization of major projects across the globe. While individual oil and gas companies have been improving standardization within their own businesses, this has limited value potential and the industry lags behind other industries and has eroded value by creating bespoke components in projects. This specification aims to significantly reduce this waste, decrease project costs and improve schedule through pre-competitive collaboration on standardization.

Following agreement of the relevant JIP33 work group and approval by the JIP33 Steering Committee, the IOGP Management Committee has agreed to the publication of this specification by IOGP. Where adopted by the individual operating companies, this specification and associated documentation aims to supersede existing company documentation for the purpose of industry-harmonized standardization.

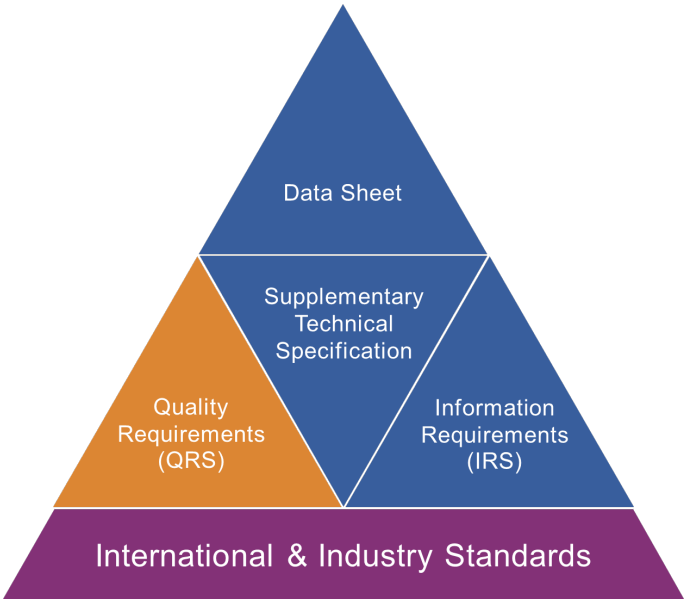
Table of Contents

Introduction

The purpose of this quality requirements specification (QRS) is to define quality management requirements for the supply of air dryer packages in accordance with IOGP S-613 Specification for air dryer packages.

The QRS includes a conformity assessment system (CAS) which specifies standardized user interventions against quality management activities at four different levels. The applicable CAS level is specified by the user in the equipment datasheet.

This QRS shall be used in conjunction with the supplementary requirements specification (IOGP S-613), the information requirements specification (IOGP S-613L) and the equipment data sheets (IOGP S-613D) 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 air dryer packages to IOGP S-613 Specification for air dryer packages:

a) vendor quality management system requirements;

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

c) traceability requirements;

d) evidence of conformity;

e) factory Acceptance.

2 Normative references

For the purpose of this document, the documents referenced in IOGP S-613 and those listed below, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9001:2015	Quality management systems - Requirements
API Specification Q1	Specification for Quality Management System Requirements for Manufacturing Organisations for the Petroleum and Natural Gas Industries
IOGP S-613	Specification for Air Dryer Packages Compressors

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 9000:2015 (normative to ISO 9001:2015) and the following shall apply. To align with the definitions used in IOGP S-613 the term “purchaser” is used in place of “customer” and the term “vendor” in place of “supplier”:

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 vendor or sub-vendor’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)

Systems providing different levels of assessment of the vendor’s control activities by the purchaser (second party) or independent body (third party) based on evaluation of the vendor’s capability to conform to the product or service specification and obligatory requirements. The applicable CAS level is specified by the purchaser in the data sheet.

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

3.3 Conformity assessment – witness point (W)

Inspection or test where the purchaser is notified of the timing of the inspection or test and a hold is placed on the inspection and test until the purchaser or purchaser's representative is in attendance.

3.4 Conformity assessment – observed (O)

Inspection or test where the purchaser is notified of the timing of the inspection or test and it is performed as scheduled regardless of whether the purchaser or purchaser's representative is present.

3.5 Conformity assessment – surveillance (S)

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 (R)

Review of the vendor's documentation by the purchaser or purchaser's representative to determine 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

For purposes of this document, the following abbreviation applies:

CAS Conformity Assessment System

IRS Information Requirements specification

QRS Quality Requirements Specification (this document)

5 Quality Requirements

5.1 Quality management system

The vendor shall demonstrate that the quality management arrangements established for the supply of products or services conform to ISO 9001:2015, API Specification Q1 or equivalent quality management system standard agreed with the purchaser.

5.2 Conformance assessment

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

Controls will address both internally and externally sourced processes, products and services

Quality plans or inspection and test plans shall include provisions for the purchaser CAS; see Annex A, as specified in the data sheet or purchase order.

Vendor 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 the CAS level defined by the purchaser, either, by reference to standard and specification requirements or in the scope, the vendor remains responsible for operational planning and control and demonstration of the conformity of products and services with the requirements (ISO 9001, 8.1 and 8.2).

6 Traceability

Material certification and traceability shall be provided in accordance with Annex B.

7 Control of nonconforming products and services

Nonconformance with specified requirements identified by or to the manufacturer prior to or during the delivery of the products and services shall be corrected such that the specified requirements are satisfied or the user's acceptance of the nonconformance agreed in accordance with purchase order conditions.

NOTE See ISO 9001, 8.2.3, 8.2.4, 8.5.6, 8.7.

8 Evidence (conformance records)

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

Annex A Purchaser conformity assessment requirements

This annex defines four CAS or levels of purchaser assessment.

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

	PURCHASER ASSESSMENT ACTIVITIES	CAS			
		A	B	C	D
1	**Planning and Control Activities**				
1.1	Quality plan (ISO 9001,8.1 and ISO 10005)	W	R		
1.2	Inspection and test plan (ISO 9001,8.1 and ISO 10005)	W	R	R	R
1.3	Pre-production meeting and pre-inspection meeting	W	R		
2	**Design and Development Activities**				
2.1	Review of vendor package design	W	R	R	
2.2	Weld procedure specification and procedure qualification records (ASME BPVC IX-2017 or ANSI/ASME B31.3 or AWS D1.1) as per IOGP S-613, 6.1.2	W	R	R	
2.3	Non-destructive examination procedures (ASME BPVC V-2017 Non-destructive Examination, ASTM E94 , ASTM E709, API RP578)	W	R	R	
2.4	Repair procedures for welds	W	R		
2.5	Test procedures: Performance test for Air Dryer (IOGP S-613, 7.10) Noise test for package (if specified in data sheet) Logic and functional test for local control panel Hydrotest procedure Factory acceptance test procedure (IOGP S-613, 7.13) Site acceptance test procedure (IOGP S-613, 7.13)	W	R	R	R
3	**Control of External Supply**				
3.1	*External supply scope, risk assessment and controls (ISO 9001, 8.4)*	W	R	R	
4	**Materials and Component Manufacturing**				
4.1	Review material certification see Annex B. (IOGP S-613, 7.4)	W	R	R	R
4.2	Testing of LV electric motors to IEC 60034-1 -9.1	R	R	R	
4.3	Hydro test of pressure vessels and heat exchangers (IOGP S-613, 7.7)	O	R	R	R
4.4	Review component certification for electrical and control equipment (CE, UL, hazardous area, type tests)	O	R	R	
5	**Fabrication**				
5.1	Baseplate manufacture dimensional verification per drawings	O	S		
5.2	Fabricate piping and assemble components	S	S	S	

6	**Package Inspection, Testing and Verification Activities**				
6.1	Mechanical completion, assembly and material documentation	W	R	R	R
6.2	Hydro and pneumatically test assembly (IOGP S-613, 7.4, 7.5)	S	R	R	R
6.3	Functional and logic check of control panel, valve switching cycle test and external control interfaces (IOGP S-613, 7.6, 7.7)	W	O	R	
6.4	Performance test (IOGP S-613, 7.8, 7.9, 7.10)	W	O	O	R
6.5	Factory acceptance test (IOGP S-613, 7.11)	W	W	O	O
6.6	Site acceptance test (IOGP S-613, 7.11) (Note 2)	W	W	O	O
7	**Release of Product or Service**				
7.1	Final inspection, visual and dimensional inspection completeness against PO and approved drawings and ITP, weight and certificate of conformity.	W	O	S	S
7.2	Preparation for shipment, preservation and storage, and inspection release.	W	O	R	R
7.3	Final documentation review; as per IOGP S-613L	W	O	R	R
	W is witness point, O is observed point, S is surveillance and R is review. Note1: Definitions for these terms are provided in Clause 3 of this document. Note2: Site acceptance test is not applicable, when performance test is carried out at vendor's premises				

Annex B Material traceability and certification requirements

(Normative)

Item		Certificate Type	Material Traceability level	Additional Requirements
Air dryer package	Pressure vessels and heat exchangers	3.1	Level II	
	Remaining materials	2.2	Level III	

Explanatory notes:

Material Inspection Certificates shall be provided in accordance with ISO 10474 or EN 10204.

A. "2.2" Test Report - A document in which the vendor declares that the products supplied are in compliance with the requirements of the PO, and in which test results are supplied based on non-specific inspection and testing.

B. "3.1" Inspection Certificate - A document with test results based on specific inspection and testing, issued by the vendor and validated by the vendor's authorised inspection representative independent of the manufacturing department.

C. "3.2" Inspection Certificate - A document prepared by both the vendor's authorised inspection representative, independent of the manufacturing department, and either the purchaser nominated representative or the inspector designated by the regulations in which they declare that the products supplied are in compliance with the requirements of the order and for which test results are supplied.

D. Additionally, purchaser has specified that all material product testing associated with "3.2" Inspection Certificates be performed in the presence of either a purchaser nominated representative or the inspector designated by the regulations, and the resultant test report stamped as "Witnessed". Failure to adhere to this requirement may lead to rejection of all material(s) being qualified for production.

E. Level I - Full Traceability - Material is uniquely identified and its history tracked from manufacture through stockist (where applicable) to vendor and to actual position on the equipment with specific location defined on a material placement record. (The traceability to a specific location only applies to skids / packaged equipment, not to bulks)

F. Level II - Type Traceability - vendor maintains a system to identify material throughout manufacture, with traceability to a material certificate.

G. Level III - Compliance Traceability - vendor maintains a system of traceability that enables a Declaration of Compliance to be issued.

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