

Q10.09028-2101

Quality Assurance and Quality Documentation for Stationary Plant Components

Specification of material number 61.60000-0001

Document no. Q10.09028-2101

Revision 8.0

Date 24.11.2014

Valid for BU/GF/SF SBU P

Valid for sites All sites

Context of use..... External use

Language..... EN

Translation Yes

Release Table

| Rev. | Author | Approved | Released |
|------|-----------------------|-----------------------|----------------------|
| 1.0 | PPQO: Thomas Lauchner | PPQO: Thomas Lauchner | PPQ: Gerhard Schießl |

History of Changes

| Rev. | Description | Date | Edited by | Department |
|------|---|------------|---|---------------------|
| 9.0 | New department names of 04/17/2015 | 17.04.2015 | Gertrud Altmann | PPQM |
| 8.0 | New: chapter "Note to suppliers with headquarters outside the EU" | 24.11.2014 | Moreno Frieske, Gertrud Altmann | PPQO, PPQM |
| 7.0 | Document adapted to current organizational structure. | 17.10.2013 | Moreno Frieske, Oliver Thiel, Schmitt, Dirk | PPQO, PPQO, PPQM |
| 1.0 | First release as Quality Guideline (File format: docx) | 04.06.2013 | Thomas Lauchner | PPQO |
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Quality Assurance and Quality Documentation for Stationary Plant Components



1 General part

MAN Diesel & Turbo SE (MDT) orders the required scope of quality documentation for selected components under 61.60000-0001. This scope will be ordered as an additional item, subordinated to the component.

As a rule, the responsibilities with regard to the components as well as the procedure for the related quality assurance are defined in the quality agreements concluded between MDT and the supplier.

In the case that a quality agreement has not been concluded, Sections 1.2 "Manufacturer's responsibility" to 5 "Contact information" apply for the quality assurance of the ordered components/services/hardware (each of the items ordered under 61.60000-0001 is preceded by these, e.g. tank, module).

Concerning the scope of supply of 61.60000-0001, please refer to Section 2.5 "Quality documentation (order-specific)" of this guideline. Insofar as this is specified in the order, Q10.09028-2132 is agreed.

The following are responsible for the contents of the guideline:
Head of Quality Dept. (Power Quality), MAN Diesel & Turbo SE Augsburg.

1.1 Scope

This quality guideline applies to, and is an integral part of, the purchase order. The requirements which the Purchaser stated in the purchase order for the component placed with the supplier, apply additionally and/or take priority. The supplier's liability resulting from warranty and claims for damages owing to faulty supplies or services is not affected by this quality guideline. This guideline defines the technical and organizational basic conditions and processes of the business partners to ensure that the shared quality objective – zero defects – is met. If the supplier fails to adhere to these requirements, and if MDT is disadvantaged by said failure, the supplier shall be required to compensate MDT.

1.2 Manufacturer's responsibility

If the ordered scope of supply is not based on a development/design of MDT, manufacturing is assigned to the supplier and he is responsible for the manufacture of the ordered scope. As a rule, the supplier's scope consists of a number of components which are arranged in such a way that they function as a unit.

1.3 Quality system of the Supplier

The supplier has set up a quality management system according to ISO 9001. If the supplier is not certified to ISO 9001, he may alternatively prove to the Purchaser (SBU POWER QUALITY) by presenting suitable documents that he has an appropriate quality management system. The Purchaser (SBU POWER QUALITY) will then check the supplier's suitability and approve the supplier accordingly.

The products must be in accordance with the state of the art. All steps during manufacture (design, construction, procurements, production, assembly work, tests, etc.) are to be carried out according to ISO 9001.

The Purchaser is entitled to determine by means of an audit whether the quality assurance measures of the supplier fulfill his requirements.

1.4 Standards and directives

Products and assembly sections must comply with current international standards, guidelines and directives. If national standards, directives and laws valid in the end user's country are to be observed for a specific order, or the World Bank guidelines are applicable for the order, the supplier (manufacturer) shall additionally adhere to them. The Purchaser shall specify the end user country and, if relevant, application of the World Bank guideline for the corresponding order. The supplier will provide suitable evidence for the conformity of his scope with these specifications [additional document to explanations in Section 2.5 "Quality documentation (order-specific) "]. Should the execution of the order require special authorizations and their maintenance, these shall be the responsibility of the supplier. He will only accept the order if he has the required authorization and can prove it by means of the corresponding documentation. Proof of compliance with these specifications will be submitted to the Purchaser on request.

1.4.1 EU laws and directives

The supplier shall ensure compliance with all EU directives applicable to his product. Harmonized standards are to be applied for preference. He is to assume manufacturer's responsibility for his product, perform the conformity assessment, create risk assessments/analyses and submit them to MDT, and draft an operating manual/assembly manual with indication of the residual hazards. He shall confirm conformity with/adherence to the EU directives by means of the documents stipulated for this purpose by the EU. He shall also provide MDT with all individual documents/calculation and construction documentation, test logs and authorizations required/created in conjunction with proof of conformity. If inspection and approval by independent experts (NOBO) is required for his product, the supplier shall ensure that this is carried out and submit the corresponding logs to MDT. He shall only be deemed to have discharged his obligations when MDT has received the correct documentation in full.

1.4.2 Special regulation with regard to power plants outside the EU

The supplier shall ensure compliance with all legal and official regulations applicable to his product in the country of the end user. He is to assume manufacturer's responsibility for his product. The country of the end user will be specified on placement of the order. He shall, in any case, create risk assessments/analyses and submit them to MDT, and draft an operating manual/assembly manual with indication of the residual hazards. These must meet at least the standards specified in the latest version of the EU Machinery Directive 2006/42/EC or, if this is not applicable to the product, the applicable EU directive. If, in the country of the end user, other documents/tests/certification or the application of particular standards are required for his product, he shall submit these to MDT. He shall only be deemed to have discharged his obligations when MDT has received the correct required documentation in full.

1.4.3 Note to suppliers with headquarters outside the EU

If suppliers have their headquarters outside the EU and supply CE-compliant components for power plant sites in the EU, they must have a European guarantor/acceptance in accordance with EU law.

1.5 Quality responsibility

Irrespective of any inspection, construction supervision or consultation by the Purchaser during the construction phase, the responsibility for order-compliant execution in accordance with the corresponding rules and regulations lies with the supplier. The supplier is obliged to gear his QM system towards the zero defects strategy and to take all measures required for quality assurance. Should the supplier notice any quality deficiencies, he shall immediately inform the Purchaser accordingly and advise him of the planned remedial measures.

1.6 Quality tests

The supplier is responsible for carrying out suitable tests, for recording quality-influencing process parameters and the results of quality tests, and for keeping said records available for a period of 13 years (30 years in the case of safety-relevant documents). In the case of an urgent requirement, these records or parts thereof will be made available to the Purchaser.

1.7 Marking

Marking of the products, components and the corresponding quality documentation must permit reliable identification. Traceability of the materials and subcomponents used must be possible. If special Purchaser requirements and/or EU directives/standards are applicable, these are to be complied with.

All documents/logs/certificates/test reports/confirmations and all order-relevant records must be marked, at the very least, with the MDT purchase order no. and item no., the component description/identification, the company identifier and the serial number of the supplier as well as the date of manufacture.

1.8 Process changes

The supplier is to ensure that changes/disruptions to the processes in the overall order processing chain will not affect the entire system ordered and its reliability (quality with regard to time).

Changes, disruptions and problems regarding delivery date or capacity which may affect processing of the Purchaser's customer order (construction of the overall power plant) must be reported to the Purchaser without delay.

1.9 Production at affiliated plants

Should production be carried out, in part or in full, at the plants of sister companies, the supplier shall ensure that the same criteria and the stipulations of this contract are also observed there and that the quality requirements are met without restrictions.

The Purchaser must be informed in advance and in due time about significant production transfers. In the case of current orders, the Purchaser has the right of objection.

1.10 Outsourcing, placing of orders with Subsuppliers

The supplier shall procure the components and materials required for manufacture of the scope of the order. In individual cases, free issue supply by the Purchaser is also possible.

The supplier shall carry out an incoming goods inspection. In the case of non-conformances, he shall take appropriate measures with respect to his subsupplier.

If the Purchaser issues instructions regarding the outsourcing of individual components, the supplier shall observe these. These instructions do not release the supplier from his responsibility as manufacturer and/or regarding quality, either for these individual components or for the overall order.

Insofar as the Purchaser has not issued any contrary instructions regarding quality assurance, quality documentation and/or technical documentation for the procurement of components/materials required for building the scope ordered, the supplier shall ensure that the Purchaser receives sufficient quality documentation to prove the delivery quality of his subsuppliers. If technical documentation is required for components, the supplier shall request it from his subsupplier (user manuals, assembly instructions, terminal diagrams, etc.) and shall pass them on to the Purchaser.

The following applies as a standard for procurement: Components in compliance with Sections 1.4.1 and 1.4.2. In particular, reference is made to the rules concerning safety-relevant components and equipment components with safety-relevant functions.

1.11 Environment, legality

The Purchaser aims at minimizing the negative impact of his products on people and the environment, taking technical and economic aspects into consideration. For this reason, he has set up an environmental management system in accordance with ISO 14001. The supplier is also bound to contribute to the protection of the environment.

1.11.1 Materials, substances

The use of certain materials and substances is regulated by law (e.g. prohibition of heavy metals, ban on asbestos, etc.). The supplier is obliged to comply with these regulations. He shall prepare material and safety data sheets for hazardous materials and include these with the technical documentation for the Purchaser.

1.11.2 Emissions

The supplier shall minimize exhaust gas, noise, and substance emissions and radiation in accordance with the state of the art and comply with the applicable regulations.

1.11.3 Recycling

Utilization of materials that cannot be recycled is to be reduced as far as possible. Recyclable materials are to be marked accordingly as far as possible. Components are to be designed in such a way as to ensure that they can be dismantled.

2 Order processing procedure

2.1 General

In many cases, the scope of delivery is delivered directly to the customer's construction site after its completion and commissioning at the supplier's works.

The Purchaser is entitled to attend, at no cost, in-process inspections or final acceptance inspections (together with the customer, if required) on site (generally at the works of the supplier or his subsupplier) and to carry out an order-related inspection (regarding quality, schedule, delivery) and to check the documents.

The basis for quality control by the Purchaser is the test scope agreed upon with the supplier (if applicable), the results of these tests (comparison of nominal/actual values), the results of the in-production inspections/monitoring carried out by the supplier on his own responsibility, the quality documentation, an on-site inspection (if applicable) and the associated release for use of the components by the quality reports signed by the supplier.

2.2 Test scope

The test scope comprises the following:

- Tests carried out during manufacture (e.g. non-destructive material testing, incoming goods inspections, dimensional control, performance testing)
- Outgoing goods inspections, function tests, etc., carried out by the supplier at his works prior to dispatching the equipment parts (factory acceptance tests – FAT)
- Completeness checks carried out by the supplier prior to dispatch
- Incoming goods inspection by the Purchaser at the place of delivery or at the construction site
- Function tests during assembly, e.g. carried out by the Purchaser at the construction site

2.2.1 Tests carried out during manufacture

These tests are generally carried out by the supplier in accordance with inspection plans prepared internally and coordinated with MDT. The documentation of the results shall be provided to MDT.

2.2.2 Outgoing goods inspections, function tests (factory acceptance tests – FAT)

The supplier shall prepare the inspection plans for the outgoing goods inspections and function tests. The supplier shall coordinate the inspection plans with the Purchaser (SBU POWER QUALITY). The inspection plans shall be released by SBU POWER QUALITY.

The following is to be specified:

- Type of test (what), reference to subordinate inspection plans (if applicable), inspection plans for in-process inspections
- Scope and intensity of inspections (how)
- Place, position, location in which the inspection is carried out (where)
- Inspection point status (Inspection Code, H = Hold point, W = Witness point, R = Review point)*,
- Involvement of a specified third party if required
- Nominal/actual results

*= Inspection Code:

- H = Hold point → The Purchaser is to be informed of the test date; without attendance of the Purchaser during the test or without his previous written release of the test, production is to be stopped.
- W = Witness point → The Purchaser is to be informed of the test date.
- R = Review point → Checking of the documents.

2.2.3 Completeness check prior to dispatch

To be carried out at the sole responsibility of the supplier [generally inspection point in Section 2.2.2 "Outgoing goods inspections, function tests (factory acceptance tests – FAT) "].

2.2.4 Incoming goods inspection at the Purchaser's works

To be carried out by the Purchaser and limited to identity, transport damage and completeness.

2.2.5 Function test during assembly

The Purchaser shall carry out function tests, and an acceptance test if required, at the construction site. The scope of the acceptance tests will generally be agreed beforehand between the Purchaser and the supplier.

2.3 Supplier's release for use, quality report

The quality report (FK 0920) is an order-specific, binding document. The order-specific Quality Report form (FK 0920) is sent to the supplier by the party appointed by the Purchaser. The quality report is to be signed by the supplier after completion and release for use. By his signature, the supplier provides binding confirmation that his assembly sections are in accordance with the Purchaser's order and that the test results related to the individual items of the inspection plans did not reveal any discrepancies (comparison of nominal/actual values). He thereby releases his scope of services for use.

2.4 Order processing procedure regarding quality control

Immediately after receipt of the purchase order, the supplier shall contact the Purchaser (POWER QUALITY dept., see Section 2.4.2 "Contact partner with regard to the Purchaser's quality concerns") in order to clarify whether the required inspection planning for the order has to be coordinated between the two parties.

If coordination of the inspection planning is required, the supplier shall prepare the inspection plans required for the scope of services according to 2.2.2 "Outgoing goods inspections, function tests (factory acceptance tests – FAT)" and schedule the test hold points H = Hold point and W = Witness point.

These inspection plans are to be presented to the party appointed by the Purchaser 5 working days (at the latest) after receipt of the purchase order for coordination/approval (preliminary version if required; subsequent versions to be managed by means of revision marks). The supplier shall take the Purchaser's requirements into consideration and integrate them into the inspection plans.

In each case, at least 10 working days before the respective date for H = Hold point and W = Witness point, the supplier shall inform the Purchaser (SBU POWER QUALITY) of the actual inspection date. The date/visit shall be coordinated between Purchaser and supplier.

Attention: H = Hold point → The Purchaser is to be informed of the test date. Without attendance of the Purchaser during the test or without his previous written release of the test, production is to be stopped.

If the Purchaser attends/carries out an inspection, the supplier shall provide the Purchaser with access to the components and support the inspection, measurement, etc. in accordance with the requirements of the Purchaser. At the same time, he shall make logs/test reports from previous inspections, as well as material certificates and other certification, etc., available to the Purchaser for inspection (the supplier shall bind subsuppliers by the same obligation).

2.4.1 Contact partner of the Supplier

In his inspection plan [cf. Section 2.2.2 "Outgoing goods inspections, function tests (factory acceptance tests – FAT) "], the supplier shall appoint a permanent contact partner for the order who will be responsible for the entire coordination and communication with the Purchaser (MDT) in connection with the order.

2.4.2 Contact partner with regard to the Purchaser's quality concerns

Contact partner regarding all matters relating to this Contract is SBU Power Quality, phone: +49 821 1844, fax +49 821 322-3460

2.5 Quality documentation (order-specific)

In order to prove compliance with the quality features and requirements, the supplier shall internally draft suitable documentation, generally exceeding the scope of the quality documentation to be handed over to the Purchaser, and keep this documentation available for a period of 13 years (30 years in the case of safety-relevant documents). Subject to prior notice, the Purchaser is entitled to view the internal documentation and/or to receive copies therefrom (see also Section 1.4.1 "EU laws and directives").

Whenever a coordinated inspection plan has been agreed upon for an order, the scope of the documentation to be handed over to the Purchaser will also be agreed. The minimum scope and breakdown of the documentation to be supplied is as follows:

- Cover sheet with overview of contents
- Technical documentation (drawings, parts lists, wiring diagram/E-Plan, flowchart [P&ID], type plate)
- Test plan (ITP, inspection plan, quality plan)
- MAN Quality Report
- Welding procedure specifications (WPS)
- Welding procedure qualification records (WPQR)
- Qualifications (welder, NDT inspector, welding expert)
- Welding document
- Testing (non-destructive testing – NDT, sealing tests, pressure testing, test run)
- Notification of non-conformances
- Documents relating to Sections 1.4.1 and 1.4.2
- Certificates (calibration, safety valves and elements)
- Material certificates in accordance with DIN EN 10204 (at least 3.1 Certificates)

For details see FK 3979

If an MAN Diesel & Turbo SE inspection report (checklist/punch list) has been filled out for the supplier's scope of services, including a list of open issues if applicable, the Purchaser shall submit it to the supplier. The procedure for handling the list of open issues shall be agreed upon immediately by the Purchaser and the supplier.

Unless otherwise provided for in the purchase order, the supplier shall supply the documentation to the party appointed by the Purchaser at short notice, max. two weeks after the last inspection/test.

Form of documentation:

In any case, the supplier shall prepare an order-specific document folder for the scope of documentation comprising assignment to the corresponding order, component data (number of QRs) (see also Section 1.7 "Marking"), table of contents and the respective documents, and shall supply it to the party appointed by the Purchaser. The quality documentation is to be provided on a data storage medium in PDF format with bookmarks in a language to be agreed with SBU POWER QUALITY (project-specific). It must be possible to assign the quality documents to the individual units.

Note:

The order is only deemed to have been fulfilled when the Purchaser has received the correct and agreed quality documentation in full. For EDP reasons, the quality documentation may be ordered under a separate purchase order item, which is assigned to the order (in this case, an order confirmation will be required for this item).

Remark:

Instructions for the operating company and operating manuals with safety instructions must be supplied unprompted. The ordered technical documentation is to be handed over to MDT with reference to the specific order. The quality documentation is part of the technical documentation and constitutes a separate type of document. Specifications for these documents are contained in a separate guideline (see separate purchase order item).

3 Procedure in the case of faulty delivery

Incoming goods inspection at the Purchaser's plant is carried out in accordance with Sections 2.2.4 and 2.2.5. Notification of defects regarding deficiencies which already existed at the time the goods/services were provided, but which only became apparent during use, shall be submitted to the supplier without delay and within 5 working days after recognition of the deficiencies at the latest. Legitimate claims shall be acknowledged by the supplier. Further details are governed by the framework agreement or supply agreement.

4 Miscellaneous

If the supplier has not received the form FK 0920 Quality Report, he shall request it from the party appointed by the Purchaser.

The form is also available on the Internet

<http://www.mandieselturbo.com/documentation/>.

The Purchaser has set up a quality management system according to ISO 9001.

5 Contact information

Contact information for the delivery of quality documentation:

CADCON Ingenieurgesellschaft mbH & Co. KG

Dept. QM

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