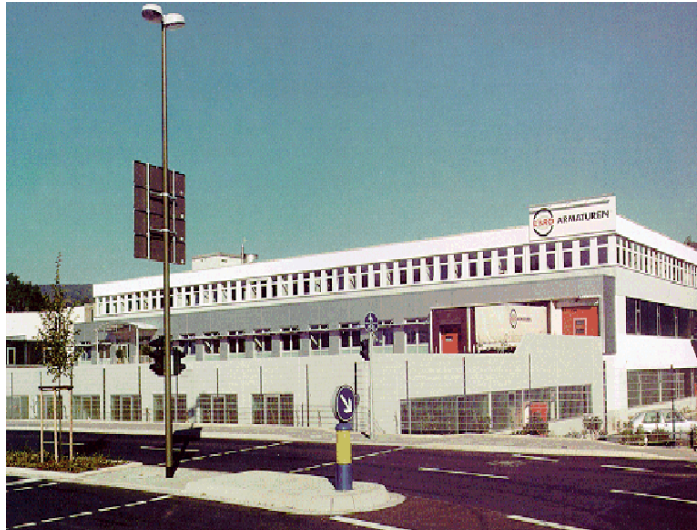



Quality Management DIN EN ISO 9001:2008



Serving our customers since 1972

EBRO ARMATUREN
Gebr. Bröer GmbH
Karlstr. 8
58135 Hagen

 02331/904-0

www.ebro-armaturen.com

Practical and effective solutions from the professionals

Our experience – Your success

- Qualified personnel
- On-site technical assistance
- Consultancy and design
- Innovation
- Flexibility

- Latest machinery and equipment
- Customer support
- DVGW, Vds TÜV, LROS, BV, GL and DNV authorised components
- Compliance with Pressure Equipment Directive (97/23/EC)

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0 Introduction

This Quality Management Manual describes the additional requirements imposed by the Pressure Equipment Directive (PED). The provisions it contains are mandatory for all employees of EBRO ARMATUREN Gebr. Bröer GmbH. EBRO Armaturen is certified under Module H of the PED.

The Quality Management Manual explains the company's structural and procedural organisation as required by ISO 9001. Its aim is to help the company develop and manufacture products that meet the demands of the market and to provide all customers with details of our quality control procedures, thus promoting confidence in the company's products. Furthermore the Quality Management Manual is intended to inform our suppliers about our quality policy and also quality objectives in order to meet the product requirements.

1 Scope of application

The Main Quality Management Manual is intended for use at the Hagen manufacturing plant including the sales office in Hamburg.

The Main Quality Management Manual is also valid for use at the EBRO Valves Thailand manufacturing plant in Chonburi and the head office in Samut Prakarn. Elsewhere the supplementary national Quality Management Manual is valid.

2 Other applicable industry standards and legislation

ISO EN DIN 9001:2008

Pressure Equipment Directive (97/23/EC)

Machinery Directive (2006/42/EG)

3 Terms used and definitions

This international standard uses the quality management system concepts and terminology found in ISO 9000:2008.

4 Requirements of the Quality Management System

4.1 Requirements of the Quality Management System

The Quality Management System is composed by the quality policy, the quality targets and its documentation, implementation, maintenance and the continuous improvement of the company. The implementation of the Quality Management System is managed by procedure, testing and work instructions.

The effectiveness of the Quality Management System and its documentation is monitored, analysed and continuously being improved by regular internal and external audits, controls, inspections and reviews. The Quality Management System includes all business units and employees of the parent plant and all other EBRO locations.

5 Management responsibility

The senior management has determined a mission, a vision and values for the organisation in order to achieve sustainable success. The senior management is also engaging itself to ensure that these are clearly understood, accepted and supported both by the employees and also by other interested parties outside the organisation.

The senior management is responsible for the determination and implementation of the quality policy and quality targets.

Senior management is responsible for compliance with and monitoring of the requirements contained in the Quality Management Manual. They view the application of the DIN EN ISO 9001:2008 as a task to evaluate and improve the quality policy and targets through organisational procedures (processes).

Hagen, 01.07.2010

Approved by the Board



Peter Bröer



Dirk Mischnick

5.1 General

EBRO ARMATUREN Gebr. Bröer GmbH is a leading manufacturer of butterfly valves, electric and pneumatic actuators for positioning and control, including switch boxes and positioners.

Our website at www.ebro-armaturen.com contains the following details about the company:

- Profile and history of the company
- Products
- Contacts
- Branches

Visitors to the site can submit approval, suggestions and criticism using a special on-line form.

5.2 Customer expectations and requirements

The determination to fulfil customer expectations and requirements lies at the heart of the company's philosophy.

The company's senior management is dedicated to making continuous improvements in quality at every stage of the production process – from product development to customer support – thus allowing us to manufacture highly reliable products that meet the demands of the market at an appropriate price.

5.3 Compliance with official and legislative provisions

The company undertakes to ensure that all business and commercial activities are carried out in accordance with the provisions of the law and official regulations.

The table below gives an overview of the legislation and regulations that apply to the company:

Department	Official and legislative regulations	Reviewed / year
CEO	Pressure Equipment Directive (PED)	97/23/EC
Commercial manager	<ul style="list-style-type: none">• Commercial law (HGB, BGB)• Tax law• Social security law• Employment law	Updated by Lexsoft Software 4 times per year
Technical manager	<ul style="list-style-type: none">• Materials recycling law (technical instructions – waste)	Updated by TÜV Rheinland, Environment Agency
	<ul style="list-style-type: none">• Occupational safety law (workplace directive, workplace order, accident prevention regulations)	

5.4 Company policy

The target of our company is the long-term strengthening and securing of our market position, through new developments and continual improvement of our products and services, taking into consideration the latest statutory and regulatory requirements, as well as the required standards.

In order to achieve this, our company pursues the following objectives:

- **Partnership with the customer based on trust**
- **Quality services and products**
- **Qualified and highly motivated personnel**
- **Continuous product development**
- **Development of the quality management system as new guidelines become available**
- **Controlled information flow between all internal and external locations.**
- **Assured high degree of flexibility**

in conjunction with economic considerations.

Appropriate training and resources are provided for staff to help us achieve these aims.

5.5 Quality targets and planning (see 4 + 5)

The overall aim of the quality management system is to implement the company policy of EBRO ARMATUREN Gebr. Bröer GmbH by meeting the quality targets of the company and of its individual departments.

The purpose of the quality management system is to create a transparent system of procedures and rules governing staff duties, skills and responsibilities, and to document all activities, provide support, instruct staff and monitor business processes.

5.5.1 Quality targets

Implementation of Company Policy as established by senior management through the planning, installation, monitoring and maintenance of the quality management system.

5.5.2 Quality planning

The quality management system defines how quality requirements should be met. This is done on the basis of audit schedules. The audit schedules determine responsibilities and actions for all quality management activities in relation to customer orders and for specific projects.

5.6 Quality management system (QM system)

5.6.1 General

The quality management system has been adapted and integrated into the overall organisational structure of the company (see the structural organisation of the company and company group).

All managerial and non-managerial staff are actively involved in the implementation and improvement of our QM system and in implementing the established rules and

processes. Designated Process Managers are responsible for defining a specific process, coordinating inter-departmental elements of that process, integrating the relevant staff and specifying appropriate remedial and preventive action in the event of non-compliance with the standard procedure.

The quality management system includes the following quality-related system documentation (see figure “Management system documentation: hierarchical structure”).

Quality Management Manual (QMM):

The QMH contains the Company Guidelines, defines the structure of the organisation and includes the basic specifications and regulations applicable to the QM system. Responsibility for the Quality Management Manual lies with Senior Management. This QMH describes the quality management system introduced on the basis of DIN EN ISO 9001:2008. The Quality Management Manual is intended as a source of information about the quality management system for both internal and external use, as a training resource (overview for new staff) and as the basis for planning internal audits.

Process overview (PO):

The Process Overview details the inputs required and the resulting procedures for each specific process.

Procedure description (PD):

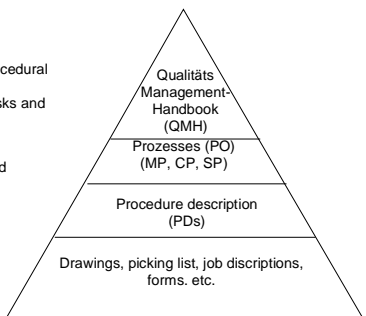
Procedure descriptions provide information about individual elements of a process.

Job instructions, forms, Verification documents (Quality records)

The quality management representative (QMR, see 5.6.5) issues the appropriate QM system documentation (QMH, PDs). These are published on the company intranet. In all cases, the documentation stored in the system is definitive, rather than any hard copies. All employees are obliged to regularly inform themselves about news and changes.

Process, job and audit instructions, forms and checklists are produced and maintained by the relevant departments.

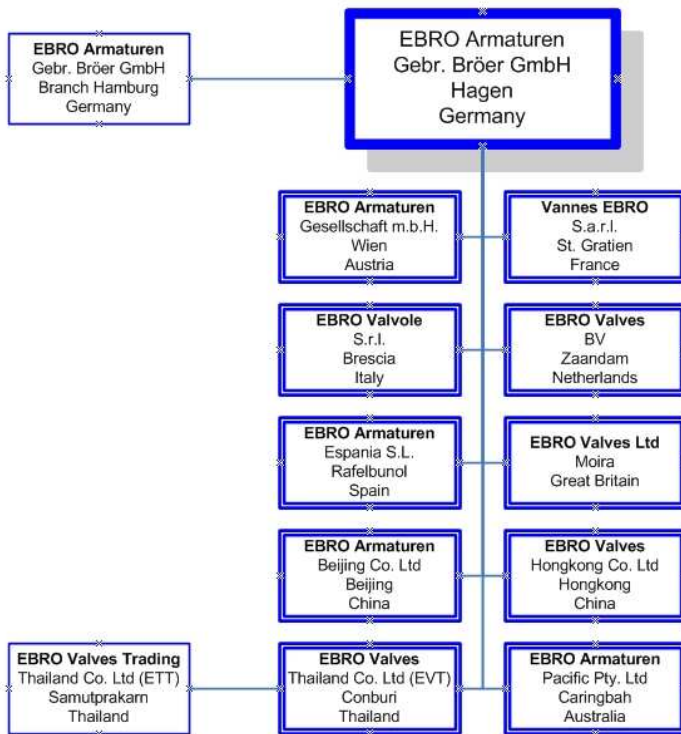
Quality management system documentation: hierarchical structure

Personnel	Content	Purpose	Evaluation of effectiveness
CEO Senior management Department manager Clerical staff Operator	Quality policy, Structural and procedural organisation, Quality-related tasks and responsibilities Organisational and specific technical regulations Job specifications	 Ensure the companies quality capability Ensure staff focus on quality Create quality-focused environment to achieve planned product quality	Management review Key indicators System audit Preventive actions

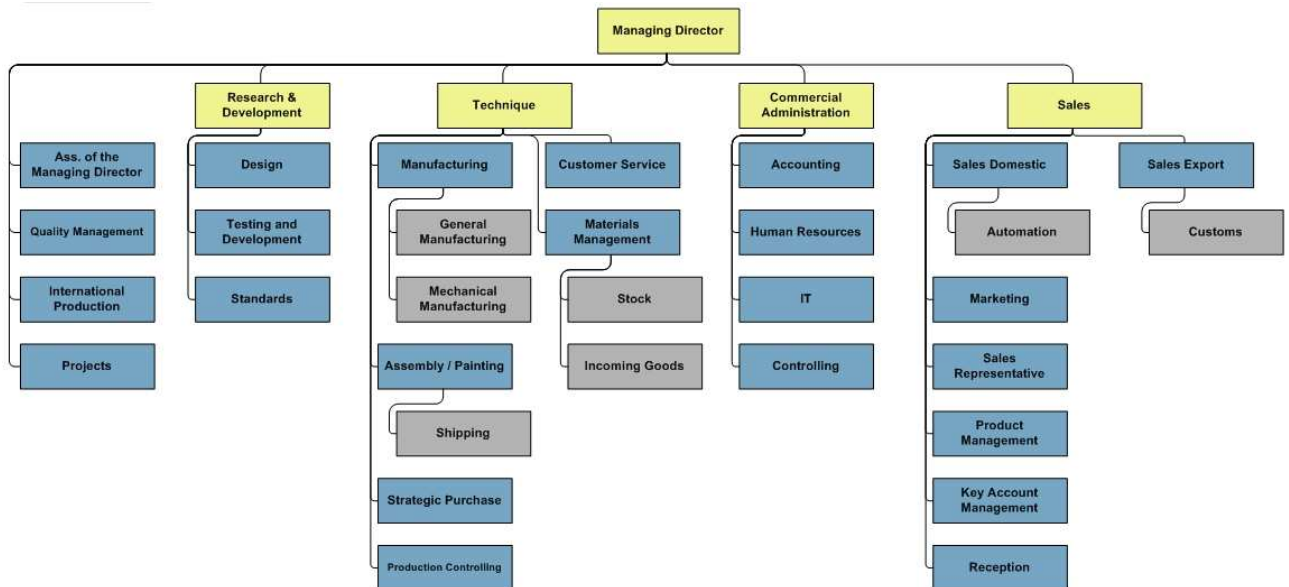
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Organisational structure of the company group



Organisational structure of EBRO Armaturen, Germany



5.6.2 Responsibility and authorisation

The necessary resources are provided to carry out specific tests. Staff are deployed in line with their qualifications and given further training where required. Staff that have

been designated by Senior Management may only approve products. Machine operators themselves in accordance with the audit schedule carry out interim and final tests during the manufacturing and assembly process. Any employee who identifies a fault may Block the fault product.

5.6.3 Quality Management Manual

All processes are described in a Quality Management Manual (QMH) with the aim of meeting customer requirements at all times (see 5.6.1).

5.6.4 System procedures

Process-based classification

- customer-focused target-setting
- flexible organisational structure
- flexible control of operations

Classification of business processes

These are classified on the basis of the company's own business process map.

Management processes (MP)

Management processes are those defined by management that establish process targets that plan resources, i.e. the framework for core and support processes, and evaluation of company and process performances.

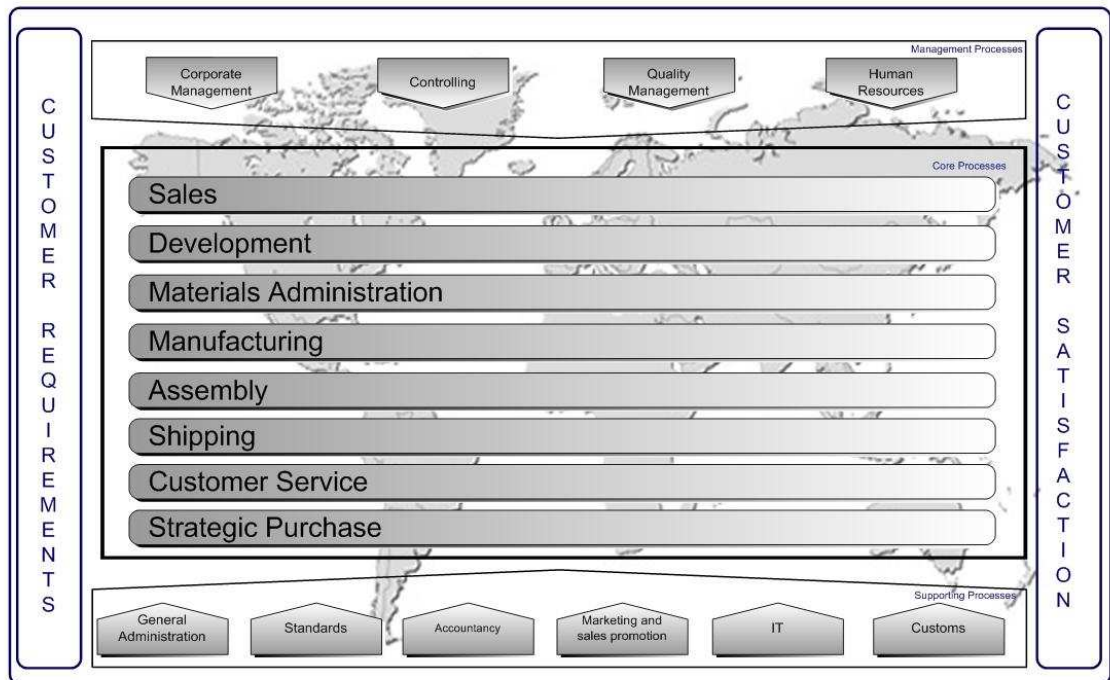
Core processes (CP)

Core processes are those operations that create value across all departments of the company. All core processes are related to customer-focused orders and services.

Supporting processes (SP)

Support processes involve the completion of tasks such as internal audits which do not directly relate to the customer but which are necessary to ensure the best possible functioning of core processes.

The following image shows the process overview of the head office EBRO Armaturen in Hagen, Germany. The process overviews of the offices and manufacturing plants are shown in the respective national Quality Management Manuals.



5.6.5 Senior management representative

The CEO delegates responsibility for the planning, introduction, monitoring, modification and further development of the quality management system and the production and updating of the Quality Management Manual to the Quality Management Representative (QMR). The QMR must notify the accredited audit centre ("designated centre") in advance of any fundamental changes envisaged to the QM system in relation to the PED. These changes are only implemented following their approval by the designated centre.

The QMR reports to the CEO. Irrespective of any other duties, the QMR has the responsibility and authority necessary to ensure the correct operation of the quality management system.

The QMR of the head office delegates the responsibility for planning, implementation, monitoring, modification and further development of the national Quality Management System of the offices and manufacturing plants to the respective national QMR's. These in turn are reporting to the respective General Management and the QMR of the head office.

5.6.6 Document control

The checking, release and storage of system-related documentation are laid out in detail in a Procedure Description (PD).

5.6.7 Administration of quality control records

Quality control records serve to demonstrate the fulfilment of quality requirements and the effectiveness of the quality management system. Appropriate records are therefore

kept as evidence that the necessary quality assurance measures have been taken. Where required, these records are analysed and used to control the quality management system.

Quality records are defined in individual procedure descriptions:

- which documentation is needed for the records
- which office is responsible for drawing up the records
- storage of the records

5.7 Management review

Senior management evaluate the effectiveness of the QM system on the basis of process indicators.

The management review is done at every location and reported to the head office together with set targets of the next evaluation period.

Process	Area of responsibility	Period	Success indicators
1. Customer satisfaction	Sales	Annually Monthly	1. Customer satisfaction survey 2. Number of complaints received
2. Employee satisfaction	Personnel	Annually	1. Employee satisfaction rate 2. Staff fluctuation rate
3. Output	Production, Assembly	3 months	1. Capacity usage 2. Product quality 3. Orders completed by deadline
4. Supplier evaluation	Strategic purchasing	6 months	1. Qualitative performance 2. Delivery performance 3. Price
5. Acceptance of quality-based approach within the company	QM	Annually	1. Internal audit reports 2. Implementation of action plans
6. Achievement of targets	Senior management	Annually	Implementation of planned targets
7. Economic efficiency	Cost accounting	Annually	Comparison of costs with previous year

Allocation of responsibility:CEO

- Release business plan
- Supervise management review
- Sign Pressure Equipment Directive compliance declaration as confirmation that products conform to the requirements of the directive

Senior management

- Business planning

Process managers

- Analyse and detail internal processes
- Report on the status of action plans established at the last review
- Plan specific targets and resources for area's of responsibility
- Propose improvements

Controlling

- Coordinate reports on business performance
- Prepare basic operational data

Quality management representative

- Prepare results of internal and external audits
- Present status report on improvement measures
- Notify designated centre of any fundamental changes to the QM system

Senior management evaluate the information received in order to set new targets for the next evaluation period (1 year). Each process owner then produces a suitable action plan to help achieve those targets. The effectiveness of the action plan is reviewed at the next evaluation.

6 Resource management

6.1 General

The resources available are checked regularly on the basis of orders and developments. Short-term measures may involve the introduction of overtime, use of temporary staff and the outsourcing of orders; in the long term it may be necessary to make new permanent appointments or increase machine capacity.

6.2 Personnel resources

6.2.1 Appointment of personnel

Job descriptions should contain detailed answers to questions on the organisation of the company, i.e. in relation to decision-making responsibilities, decision-making authority, duties, disclosure requirements, etc. Job descriptions represent permanent written job specifications. The responsibilities of clerical staff and machine operators are laid out in procedure descriptions (PDs) in the Quality Management Manual (QMH) and, where

available, in specific job specifications. Senior Management has integrated the Quality Assurance into the organisational structure (see Organisational Structure).

6.2.2 Training, qualifications and skills

The ability of the company to meet quality standards is dependent in large on its staff. Training is planned and carried out to ensure that staff is well qualified and able to adapt to constantly increasing demands.

6.2.3 Appointment of process managers

Each process has a designated manager appointed by the senior team (see annex). Responsibilities for the individual stages of each process and their corresponding interfaces are laid out in the procedure descriptions.

With regard to all quality-related processes and activities, senior management, middle managers and especially the designated process managers are responsible for ensuring that:

- staff are aware of the impact of their particular tasks on the quality of our overall performance
- all staff are aware of the Company Guidelines and Company Policy
- the applicable system documentation is available for consultation at the workplace
- Processes are introduced in an effective manner and run efficiently.
-

6.3 Other resources

6.3.1 Information

Information procedures have been established so that the information required to control each process and ensure that products are free of defects can be updated:

- Internal notices, circulars
- Displays (notice board)
- Databases
- Professional magazines
- Industry standards, legislation

6.3.2 Infrastructure

The infrastructure required is identified, selected, provided and maintained through a number of mechanisms including investment, machine and operational planning.

This includes:

- appropriate working areas and equipment
- resources, hardware and software
- support services

Machine downtime is minimised by means of regular documented servicing and repair.

6.3.3 Working environment

Action taken to create and improve the workplace environment and to implement safety procedures fosters a positive approach to work within the company.

7 Process management

7.1 General

EBRO Armaturen has established processes covering all aspects of the business, from the initial customer request to the measurement of customer satisfaction, in order to supply the requested product.

7.2 Customer relations processes

7.2.1 Verifying customer requirements

The contract review process takes into account both the customer's requirements and our own quality specifications in relation to products.

The processing of quotations and orders covers both standard products and special products.

7.2.2 Verifying the company's capacity to meet the established requirements

The customer's requirements are checked during preparation of the company's quotation.

Key elements to be checked during preparation of the quotation:

Check requests for technical/commercial feasibility

Clarify which PED category the products belong to

Produce and release the quotation on the basis of the request

Key elements to be checked during processing of the order:

Check the order for specific model required, price and deadline

Produce a job card (JC) on the basis of the order

7.2.3 Communication with customers

The sales department is expected to communicate effectively with customers.

- The Sales department analyses current and potential sales markets and determines customer requirements.
- It processes and assesses customers' requirements and clarifies their feasibility.
- It proposes new products and product modifications to meet the demands of the market.
- It evaluates reports submitted following customer visits.
- Field sales staff visit the premises of key accounts.
- The sales representatives support the customers. In addition to this the Key Account Managers are also in contact with the customers.
- As part of the overall customer support service it is also responsible for evaluating feedback and complaints received from customers.

7.2.4 Customer property

This involves the same organisational process as for EBRO products. Customer property is stored in a separate warehouse or in a designated area.

7.3 Design and development

7.3.1 General

The CEO is responsible for the development of new products. The company's design and also research and development department has the leading role in the realisation and approval of new products.

Design and development projects

A number of teams are set up during the development phase, whose task is to ensure that designs meet requirements. Depending on the complexity of the product, the team is made up of staff from Sales, Development and Design, Testing, Manufacturing, Assembly and Quality Assurance, etc.

The Design manager is responsible for implementation up to release of the initial model and approval of the design by independent companies.

Development order (internal)

New product proposals are collected and evaluated by the Design department. A draft is then presented to senior management, who will decide whether to conduct a market analysis.

Senior management may then issue a development order. The main product details are summarised in a specifications document.

Development order (external)

For the development of customer-specific products, the Design Manager receives the order, all the necessary documentation and the relevant customer contact details from the Sales department. Where required, the Design manager presents the specifications document/drawings to Sales for their approval by the customer. Further work may not begin until the customer has issued an approval notice.

7.3.2 Design and development: results

The Design manager is responsible for the preparation of a project plan containing details of specific jobs, responsibilities and deadlines. Both the project manager and the head of the design department are responsible for the project management and monitoring. They are directly reporting the current status and targets of the projects to the CEO. New developments are added to the project list as they arise.

7.3.3 Design and development: testing

The role of the Design team in collaboration with Quality Assurance, Production and Assembly is to evaluate the technical and economic feasibility of the product (e.g. tolerances, testing potential) as per the specification documents. The Design department then produces the necessary drawings based on the specification documents.

7.3.4 Design and development: verification

Verification of the design result involves checking that it matches the relevant design specifications.

All development work is documented by means of drawings, calculation records, technical data sheets, testing reports and trial results. All development documentation carries a reference number to ensure that it is uniquely identifiable.

Development documentation is also checked with regard to legal, safety, environmental and other applicable regulations.

Once a project has been completed and approved by EBRO's Senior Management (and where appropriate the customer's management), individual departments will be notified by the Design department.

Approval is documented by signing off the project in the specifications document.

7.3.5 Design and development: modifications

Design modifications are treated in the same way as new development projects. The procedure followed is that described in the sub-sections on Defining Requirements and Producing a Prototype. The new specifications document should refer to the design modification of an existing product.

7.4 Purchasing

7.4.1 General

The company's material administration is responsible for the punctual provision of all materials required by Production and Assembly.

Strategic Purchasing and Quality Management assess new suppliers with regard to their ability to provide materials of the appropriate quality. This is based on delivery possibilities and cost structure. Additionally a positive evaluation of the supplier's quality management system through the analysis of supplier questionnaire and performed quality audit is required. At the same time a positive evaluation of the first sample by the design department is also required. Suppliers may not be approved until a positive report has been issued. Suppliers are continuously monitored with respect to punctuality and quality. Additionally the quality assurance department performs supplier audits.

7.4.2 Purchasing information

In addition to its role of ensuring that materials are purchased with regard to obtaining the best possible financial conditions, the Strategic Purchasing department is also responsible for the evaluation of the supplier's quality capability in cooperation with the quality assurance department, seeking alternative sources and for pricing and contractual negotiations.

Potential suppliers must also be able to provide evidence and certificates of their own quality assurance measures.

7.4.3 Verifying purchased products

The Strategic Purchasing Manager through the application of an internal procedure continuously assesses approved suppliers. Assessment is based on the results of sample deliveries, goods inward checks, and visits to the supplier's premises, past experience and supplier's procedure for handling of complaints.

7.4.3.1 Sample deliveries

First samplings are performed at new suppliers, new articles and change of suppliers and at modifications of the manufacturing process. The strategic purchase department orders first samples.

The quality assurance or research department inspects first samples.

The Design department then issues a definitive approval notice. The strategic purchase department for batch supply then approves the product following satisfactory delivery.

7.4.3.2 Complaints

Where faults are identified in products delivered, Purchasing must be notified immediately by the Quality Assurance department or by the specific department that has procured the goods. Purchasing will then issue a complaint notice to the supplier, request a response to the fault report and appropriate corrective actions in order to avoid mistakes in the future.

7.5 Production and service procedures

7.5.1 General

Appropriate quality assurance measures are in place to ensure that every job and testing stage throughout the entire manufacturing process is conducted in the correct manner. This begins with the selection of materials required from storage up to the point of delivery or return to storage.

Production documentation is based on the drawings and technical data sheets prepared by the Design department and by the technical instructions covering subsequent processing. The Materials Control department prepares the production plans containing the sequence of job and testing steps.

7.5.2 Sequence of processes

The core specification for production and assembly is the 'Job Order', which defines the sequence of tasks and testing to be completed with reference where necessary to additional product-specific assembly, testing and packaging instructions.

7.5.3 Provision of materials

Job order materials are picked in relation to each order for assembly/production. The removal of components from storage is immediately recorded in stock records.

7.5.4 Identification and tracking

All products supplied are uniquely identifiable by type and specific model.

Products and consignments are marked throughout every stage of the production process from the point of receipt to final delivery.

7.5.5 Handling, packaging, storage, preservation and delivery

Only labelled, checked and approved products may be taken into storage. Stock records involve both computerised and manual entries. Regular inventories are carried out.

Warehouse facilities are designed to allow for the appropriate storage and smooth selection of materials with regard to organisation, labelling and packaging.

Materials may only be forwarded where a production or testing job has been completed and this is confirmed in the accompanying documentation. This applies to the receipt of goods, production and delivery. Considering the packaging ordinance, the correct packaging ensures that the quality of the product is not affected during transport. Suitable packaging is provided for overseas transport, with consideration given to international and in the recipient's country valid packaging guidelines. Special customer instructions (e.g. packing lists for international delivery) are attached to the corresponding packaging units. The Delivery department is also responsible for selecting and preparing customer deliveries.

Only goods that have been checked and labelled may be released for delivery. The relevant delivery and transport procedures may be commenced once all the necessary shipping documentation has been received.

7.5.6 Process monitoring

Machine downtime is minimised by means of regular documented servicing and repair. The production process is monitored by the use of fault codes and key performance indicators. Technical Managers issue specific instructions whenever new materials, procedures or systems are introduced.

7.6 Control of non-conforming products

7.6.1 General

Appropriate measures are in place to prevent the further processing or delivery of non-compliant products.

7.6.2 Fault checking and handling

All staff in the Goods Inward, Production, Warehouse, Assembly, Delivery and Quality Assurance departments is required to mark any defective products and any products that cannot be uniquely identified, by labelling them with a "Gesperrt" (Blocked) status card. A fault report is then passed on to the relevant office for further action. After consultation with the departments concerned, a decision may be taken to:

- release the goods by special order
- undertake internal/external remedial work
- return the goods
- reject / scrap the item.

If it is not possible to decide immediately on the action to be taken, the faulty products must be kept in the holding store pending clarification.

 Quality Management	
<h1>Blocked</h1>	
Quantity	<input type="text"/> Pcs.
Reasons: <hr/> <hr/>	
Date:	Inspected by:

7.7 Customer support

Customer support covers:

1. Customer service

Where requested, the company will make relevant product information available to the customer following delivery. Should the customer wish, we can also prepare separate testing and approval certificates for the products ordered.

Product installation and repair can also be carried out on site by our own technical service staff at the request of the customer.

We also offer training on the operation of products. The Sales department and Technical Support service can be contacted by telephone in the case of technical queries.

2. Complaints

Customer complaints must be forwarded directly to Sales. Sales will conduct a fault analysis to identify whether the fault lies in the product itself or in its incorrect handling (faulty installation, incorrect medium, wear or excessive temperatures).

Sales will negotiate the subsequent action to be taken with the customer (e.g. replacement, repair under warranty or paid for by the customer). Where required a customer support technician may be sent to the customer's premises.

Where the fault is due to inferior quality of the product, the details are forwarded to the Quality Assurance manager, who will then devise and implement remedial action with the relevant departments (Design, Production).

Sales will conduct a specific product and fault assessment for all complaints received. The results of this analysis must be presented to senior management and the Quality Assurance manager on a monthly basis.

3. Repair (Customer support)

Defective products may be repaired on site or at the factory. Repair orders are generated by Sales and forwarded to the Repairs department, where staff will coordinate the repair independently and draw up a job report for Sales. The Customer Support manager then assesses the job report.

The assessment is to be prepared and presented to senior management every six months.

4. Obtaining substitute parts

Orders for substitute parts follow the same procedure as that used for standard orders.

8 Measuring, analysis and improvement

8.1 General

Each department has its own statistical methods for the collation, analysis, improvement and documentation of figures, data and facts. The results are used as terms of reference for the Management Review. The respective process owners are responsible for the correct preparation of statistical reports.

8.2 Measuring

8.2.1 Measuring system performance

Measuring and analysis procedures are in place to determine the effectiveness of the Quality Management system (QM system). This includes:

- setting quality targets
- analysing results
- conducting reviews on the effectiveness of the QM system.

Customer satisfaction is also included as a measure of the effectiveness of the QM system.

8.2.2 Measuring customer satisfaction

The Sales department conducts regular customer satisfaction assessments with a view to implementing appropriate measures and setting specific targets.

8.2.3 Internal quality audit

Internal quality audits are carried out to evaluate the effectiveness of the Quality Management system. The aim is to identify weak points in the system, propose improvements, monitor the effectiveness of these measures and assure that the customer's quality requirements are met.

The CEO is responsible for the installation and maintenance of quality audits. Tasks relating to the planning, execution and evaluation of quality audits are delegated to the QMR. Process managers can be used as internal auditors. The QMR will draw up an audit plan for the scheduling of regular audits. This audit plan must be presented to and approved by the CEO. To ensure that the results of the audit are objective, the member of staff responsible for the audit must not have other duties in the area being audited.

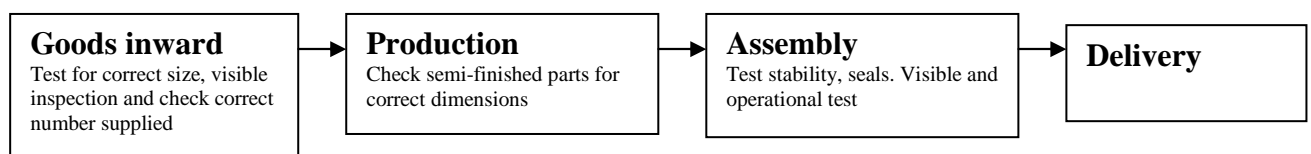
The overall results of the audit are recorded in an audit report on the basis of the audit plan and checklists. At the end of the audit this report is distributed to the departments that have been audited, to all team members and to senior management.

8.2.4 Measuring quality processes

Process owners are required to define a set of indicators in order to derive information on specific processes. These indicators are used for process analysis and optimisation. See 5.7 Management Review.

8.2.5 Measuring product characteristics

A range of quality assurance tests has been specified for all products covering every stage from the receipt of materials to production. Test planning is intended to ensure that the characteristics and functions of individual products match their specifications. Approval is then recorded in the corresponding documentation. Faulty products are blocked and are therefore not forwarded to the next production stage.



8.2.6 Monitoring testing equipment

In order to ensure that only properly calibrated testing equipment is used, all instruments involved in the testing of bought-in parts and company products must be inspected and serviced in accordance with established written procedures.

All testing equipment delivered is subject to an initial inspection before its first use. The results are recorded in a Test Equipment file (IT). The file contains the date and measuring results of the last inspection and the date for the next inspection.

Each item of testing equipment is given a unique reference number, which is recorded in the test equipment file (IT). This number also serves as the identification number for that item.

Correctly functioning test equipment bears an inspection label indicating the period for which its use is authorised.

Only test equipment bearing a valid inspection label may be used. If the validity date has expired, the user has a duty to bring the test instrument to the inspection laboratory for inspection.

8.3 Data analysis

Relevant data must be collected and evaluated in order to analyse and improve the Quality Management system. This includes the evaluation of:

- internal audits
- remedial and preventive action
- non-compliant products
- customer complaints

8.4 Improvement

8.4.1 Remedial action

Specific targeted actions and planned systematic measures are taken to tackle the causes underlying reported faults and to prevent further quality problems.

These measures cover bought-in materials, finished components and products and procedures and processes.

Following analysis of a fault, the Quality Assurance Manager will liaise with the affected departments to decide whether it is necessary or practical, in the case of serious defects, to carry out remedial action.

To help identify systematic faults and prevent new ones arising, the Quality Assurance Manager will conduct a regular evaluation of quality records, check procedures and processes and examine complaints and comments.

Should remedial action be necessary, it will be ordered by the Quality Assurance Manager in consultation with the affected departments? The departments concerned are responsible for the correct execution of any remedial measures and for notifying the Quality Assurance Manager or senior management in the event of any difficulties in their application.

The Quality Management representative (QMR) is responsible for monitoring the implementation and checking the effectiveness of any remedial action.



In the case of remedial action involving suppliers (bought-in parts), the Purchasing department will contact the supplier concerned.

The supplier or sub-supplier will be sent a written notice requesting that remedial action be taken. The effectiveness of this action will be monitored for a limited period by means of stricter controls at the point of receipt (increased number of samples, additional tests).

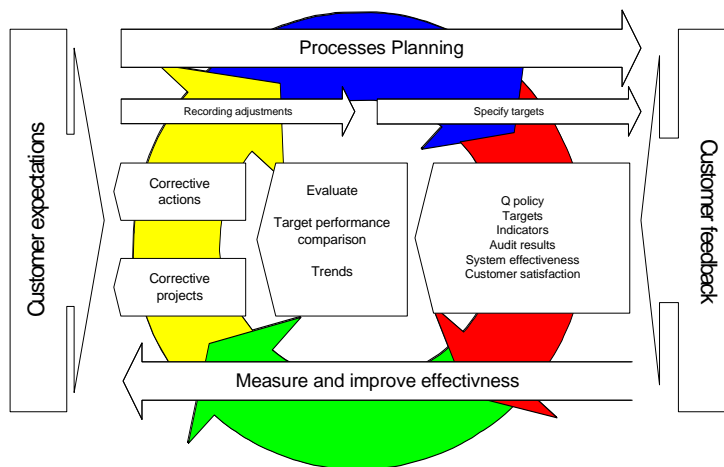
8.4.2 Preventive measures

The purpose of the criteria described in section 7.6 is not only to identify faults where they exist but also to identify the potential sources of faults. This should feed into the introduction of preventive measures, which are then carried out and monitored as per 8.4.1.

8.4.3 Improvement processes

A range of continuous improvement procedures are in place based on company policy, quality targets, internal audit results, data analysis, remedial and preventive action. The following measures are also applicable to the concept of continuous improvement:

- Problem-solving / improvement projects
- Process improvement
- Adoption of an internal customer-supplier chain approach
- Changes in management style



9 Annex

9.1 Abbreviations

DVGW	Deutscher Verein des Gas- und Wasserfaches e.V.
Vd TÜV	Verband der Technischen Überwachungs-Vereine e.V.
LROS	Lloyd's Register of Shipping
BV	Bureau Veritas
GL	Germanischer Lloyd
DNV	Det Norske Veritas