Supplier Quality
Assurance Manual

October 2024

Innovations for a **better world.**

BÜHLER

Content

Supplier Quality Assurance Manual

Bühler is the global leader in food processing and grain management equipment, advanced material applications, and engineering services for various, or gains, in certain segments. Our customers require that we maintain this competitive advantage, continue to innovate, and drive value for their organizations.

Today's supply chains are lean and fast, waste has been reduced to a minimum. This requires that all aspects of the supply chain deliver parts, components, and services when they need them and at an expected level of quality. It is vital to forge closer partnerships and communicate the expectations and requirements. This will allow Bühler to maintain our top position, and ensure our customers succeed with our products, parts, and service.

This manual is to supplement, not replace or alter other terms and conditions covered by purchasing documents, contracts, agreements or any other Bühler requirements. All questions about the requirements outlined in this document should be directed to the Bühler Quality or Supply Chain department.

1. Purpose & Scope

This manual communicates the quality processes, systems, and procedures necessary to ensure all members of the global supply chain meet Bühler's requirements and expectations. The expectations outlined in this manual apply to existing and new suppliers of parts, materials, and services that directly impact the quality of Bühler products.

The goals of this manual are as followed:

- Promote Bühler supplier development, quality improvements and encourage certification according to ISO 9001 requirements.
- Communicate to our suppliers Bühler's expectations, minimum requirements, and common goals to assure the quality of supplier materials or services.
- Communicate supplier awareness to:
- Contribution to product and service conformity
- Contribution to product safety
- Encourage free and open communication of ideas, information, and notification
  of problems involving suppliers, in the spirit of teamwork and cooperation.
- Develop an overall plan to assure smooth production at both Bühler and the supplier based on effective planning and communication.
- Define the quality assurance procedures and documents suppliers must follow and use. Assure the application of an effective quality system that is based on continuous improvement, built-in quality, and problem prevention.
- Improve the performance of Bühler suppliers, through continuous process improvement and monitoring of supplier performance indicators.

2. Limited Scope for MRO and Industrial Norm Parts Suppliers

Application of this manual to suppliers that are providing industrial norm parts (Bühler is not responsible for the design of the product, sold through a distributor, off the shelf parts) or maintenance, repair, and operations products and services is limited. Mandatory sections of this manual apply, regardless of the limited application,

- Bühler's Supplier Quality Expectations
- Sub-Tier supplier management
- Root Cause and Corrective Action (Safety or disruptions to end-user operations)

Purchasing and supplier quality reserve the right to apply this manual to its full extent, if conditions have changed, and/or products and services are no longer catalog or MRO in nature.

3. Quality Level and Associated Requirements

Bühler suppliers may be assigned a quality level, this will be done through an official notification for example via a PO issued by Bühler. The spirit of the quality levels is to provide clear expectations and requirements for suppliers. If there are questions, please reach out to your quality supplier or purchasing representative.

3.1 Level 1 – Industrial and Bühler Norm Components

Requirements to follow see chapters: 11.5, 12.2, 12.6, 12.7, 13.4, 13.6. Bühler norm parts are components specified with a technical norm (e.g. Bühler UNN norm components).

3.2 Level 2 – Bühler Designed Components

Bühler Designed Parts are parts specified with a technical drawing developed and designed by Bühler or in corporation with a supplier.

Requirements to follow – All sub sections under 10, 11, 12, 13.5

4. Bühler Group Quality Policy

Bühler stands for Quality, and we all contribute to it. “We engineer customer success” is our most important promise; “Innovations for a better world” is our vision. Both are only possible based on uncompromising Quality.

Each of us at Bühler is a trusted partner of our customer and Trust is the most important Bühler value that links the customer with ourselves. Our customers trust us, and some of them have done so for generations now.

The basis of this trust is Quality. At Bühler, our Quality Culture and Quality Policy can be summarized as follows:

- Customer Satisfaction
- Compliance
- Risk Management
- 100% Product Quality
- Continuous Improvement

5. Bühler’s Supplier Expectations

5.1 Safety Expectations

Bühler is committed to keeping all its global personnel safe and protected from harm. In addition to following local and governmental safety requirements, Bühler also employs standards above and beyond (US, China, India, EU, etc.) standards. Suppliers are an extension of Bühler; we expect that suppliers have the same commitment made to their personnel. Suppliers must adhere to local and other government safety standards of the country they reside in. In the case that local or governmental safety standards do not exist, suppliers shall refer to Bühler’s safety policy and standards. Any unsafe practice requires immediate countermeasures and long-term corrective actions to prevent additional or future risk of harm.

5.2 Quality Expectations

The main quality target is to have zero defects. Specific quality targets (e.g. failure rates) could be defined and agreed upon purchase orders for specific parts.

The supplier shall apply quality planning activities during development and production to assure product quality.

5.3 Communication and Reaction Expectations

Urgency and priority are required for any complaint submitted to supplier. To ensure that Bühler and customer operations are not disrupted or negatively impacted, Bühler’s suppliers are required to:

- Acknowledge quality complaints within 24 hours (1 business day)
- Provide a formal reaction plan within 48 hours (2 business days)
- All other responses to inquiries within 48 hours (2 business days).

If the response of suppliers is deemed insufficient, Bühler reserves the right to escalate accordingly, per the Escalation Management Process (See Chapter 15 Escalation Management).

5.4 Sustainability Expectations

At Bühler Group, sustainability forms an integral part of our business strategy and operations. We expect our suppliers to uphold principles of ethical business conduct, environmental stewardship, and social responsibility. Suppliers are required to comply with all applicable laws and regulations, reduce their environmental footprint, and respect human rights. For detailed guidelines and expectations, suppliers are referred to the Bühler Supplier Code of Conduct (SCoC), which outlines our commitment to sustainability and ethical business practices in greater detail.

5.5 Information Security Expectations

Bühler is ISO 27001 certified. Suppliers unless they are certified themselves, should adhere to strict access controls (physical and digital) and securely store and transfer confidential information. Employees must be regularly trained in security best practices. For detailed guidelines and expectations, suppliers are referred to the Bühler Supplier NDA and the Bühler “Minimum technical an Organizational Requirements for Suppliers” if an exchange of intellectual property (IP) data is necessary.

6. Change Request

6.1 Design Change Request

Prior to a change affecting the product design, it must be submitted to Bühler corresponding Lead Buyer for approval. This is to include but is not limited to:

- Material
- Sub-component
- Drawing
- Product specifications, etc.

The change request shall be submitted using the Bühler change request template. Depending on the change,an assessment of related risks and taken actions for mitigation can be requested.

6.2 Process Change Request

Prior to a change in the manufacturing process, it must be submitted to Bühler corresponding Lead Buyer forapproval. This is to include but is not limited to:

- New machine/ equipment used to manufacture the parts
- New plant layout
- Process relocation, etc.

The change request shall be submitted using the Bühler change request template. Depending on the change, an assessment of related risks and taken actions for mitigation can be requested e.g. process FMEA.

7. Corrective Action & Preventative Action Process

Bühler has a quality system, and relevant complaints may be sent by that system or communicated through procurement or supplier quality. For all quality complaints, Bühler suppliers shall provide results to the suggested actions.

7.1 Management of Quality Complaints

The following are considered as quality complaints:

- Rejections from Bühler customers
- Rejections from Bühler installations
- Rejections from Bühler production

For all rejections, suppliers shall provide root cause analysis, and evidence of effective control plans to prevent re-occurrence.

Suppliers shall name responsible person e.g. Quality Manager as main contact for Bühler quality issues and undertakes to notify Bühler lead buyer immediately and without further request in case of staff change.

In the event of quality concerns the Supplier shall provide Bühler with an initial report (e.g. 8D), identifying containment actions (hereinafter referred to as “Containment Actions”) within 1 (one) working day as from the notification of the concerns by Bühler. Bühler will review the proposed Containment Actions and approve them or ask for amendments or further information.

The Supplier shall take the containment actions immediately. These actions may include, but are not limited to:

- Sorting
- Rework/ marking
- Containment
- Immediate replacement of affected parts

All costs related to rework activities causing by the supplier will be addressed accordingly.

7.2 Repetitive Quality Complaints

Repetitive Quality Complaints indicate that corrective actions were not effective or not implemented.

In case of repetitive Quality Complaints Bühler may request the Supplier's senior management to visit the respective Bühler plant to propose and commit to a plan for the implementation of all necessary corrective actions. Additionally, an audit can be requested to verify the status on implemented corrective actions and the effectiveness.

7.2.1 Proof of Quality Check

By request, the supplier shall provide deliveries with 100% inspection for a certain period of time. The time period will be defined by the Bühler corresponding quality representative. Such deliveries shall be identified with a specific label that states "100% Quality Check Required".

In addition, the supplier shall identify the deliveries in a manner that allows Bühler quality personnel to link the delivery to the related complaint number.

7.3 Notice Of Complaint

Bühler quality complaint to suppliers is called Notice of Complaint. The Notice of Complaint is created based on Bühler production, installation and customer rejections described on 8.1 (Management of Quality Complaints).

If Bühler is notified before receiving non-conforming goods or services, that do not cause disruption(s) to assembly/manufacturing or end-users, along with a reaction plan and/or approved deviations or concession, no complaint will be issued, and there will be no impact on the supplier evaluation.

7.4 Bühler's 8D Approach

8D is a problem-solving methodology used for product and process improvement. The 8D methodology (eight disciplines) or similar method to identify root cause and implement corrective actions is to be used by suppliers for problem solving.

It is expected that Bühler's suppliers understand their analysis methodology approach and be able to provide an analysis report accordingly.

8. Supplier Root Cause Analysis and Corrective Action Requirements

Bühler suppliers shall establish an internal root cause analysis and corrective action process and corresponding tools (e.g. 8D, CAPA, A3, etc.) that support Bühler Notification Of Complaint.

Evidences of Bühler specific corrective actions and preventative actions, shall be available during supplier audits or supplier visits.

8.1 Resources

Suppliers shall designate a responsible with appropriate skills to support timely closure of quality complaints.

8.2 Continuous Improvement

It is our suppliers' responsibility and in their best interest, to take it upon themselves to further develop their capabilities to reduce variation, prevent defects, and continuously improve their system. If a process or system does not exist to recognize improvement, implement, and track effectiveness, this should be created at the request of Bühler.

8.3 Suppliers Corrective Action Procedures

Following a root cause analysis, our Supplier shall communicate disposition or documentation of the records.

9. Pre-production Requirements

9.1 Purchase Order, Design and Quality Review

This is a formal process to review Purchase Order and engineering drawing requirements. If requirements or specifications cannot be met, suppliers shall notify Bühler promptly. The following sections will list and describe the steps Bühler suppliers should take. If accepted, it should be noted in a formal record or system accepting these requirements.

9.2 Purchase Order Review

Appropriate individuals reviewing the requirements specified in the Purchase Order e.g. drawings, Norms, and allother related documents

9.3 Design Review

Supplier Engineering and/or Manufacturing review the design for changes to ensure proper revision levels are issued upon acceptance. If new, a thorough review of the features, characteristics, and specifications should be completed.

9.4 Quality Review

Dimensions, tolerances, and other associated callouts should be reviewed to ensure proper interpretation of quality. If unsure, reach out to Bühler engineering and/or supplier quality for clarification.

9.5 Design FMEA

Suppliers with development responsibility must perform a DFMEA. Supplier shall grant access to DFMEA documents anytime on request.

10. Validation of Production Process

This is to ensure that Bühler is receiving a stable predictable level of quality for parts and services delivered during the length of the relationship or life cycle of Bühler products and equipment. The following items are required, if requested.

10.1 Process Flow

The value-added steps to manufacture the parts or services are documented in a process flow. This allows Bühler to understand and identify areas of risk. This information may feed into a process failure mode effects analysis.

10.2 Control Plan

For all dimensions and features on the product or service an inspection plan defining what metrology or measurement equipment is going to be used, and the frequency of random sampling. This will be tied to the drawing, ideally, a bubble drawing to tie to the control plan. Once approved, this should be made available to production personnel and feed into any work instructions.

10.3 Process FMEA

Supplier shall perform a process FMEA to evaluate existing weaknesses in the production process

10.4 Sample Production Run

Bühler asks that suppliers prove that their process is stable, minimizes risk, and meets Bühler's expectationsand requirements. A sample production run may be required prior to full serial production. For series parts, the minimum number of parts to be produced is 40 pieces, labeled numerically to identify the order in when they were manufactured. Depending from the annual quantity, the number might be less than 40 pieces. For non- series parts, 100% documented inspection per the control plan is required. This data may be used by Bühler quality personnel for statistical analysis of suppliers' process.

10.5 Initial Sample Inspection Report

The ISIR is a formal process to document and confirm that the setup producing features or dimensions are documented. This document shall be the measurements of production ready pieces from the operation that is being performed. This document should list and identify all the features or dimensions, in addition this should listwhat is used and who inspected the features and signed off on them. By request, this is to be provided to Bühler supplier quality personnel for review and approval.

The supplier ISIR includes but is not limited to:

- Drawings
- Dimensional report
- Material certificate
- Material performance test
- Production validation documents (Process Flow, Control Plan, Process FMEA, Measurement System Analysis, etc.)

10.6 Measurement System Analysis

Supplier shall perform a measurement system analysis (MSA) related with the capability of measuring instruments in terms of accuracy, repeatability, reproducibility and stability.

11. Production Requirements

Suppliers are required to document and manage production related data. The production data should be easily accessible for review and data analysis. Data should be traceable to products or services delivered to Bühler. Upon request, Bühler requires that production data be provided within 24 hours or sooner. The following subsections explain the production requirements of Bühler.

11.1 Quality and Documentation Records

Information and data deemed critical to the success of production or services provided to Bühler, must be stored for at least 13 years. At the 13-year mark, suppliers are then allowed to dispose of the records, with Bühler having the first right of refusal.

Bühler suppliers shall establish objective evidence that products or services meet Bühler specifications. This includes but is not limited to, Inspection data, operation sign off, deviations/concessions, and work instructions.

Suppliers shall establish records of their Quality Management System effectiveness. Evidence includes, but is not limited to, layered process audits, action register for corrective actions, and so on.

Upon request, suppliers shall provide requested evidence of conformity of product or services, within 24 hours.If no records exist, suppliers are immediately required to perform an investigation to collect data to support conformity to Bühler specifications.

11.2 Traceability

Traceability helps tie finished products back to the component's origin. This is especially important when a defect is detected, and containment needs to be implemented. Smaller sized lots. Example data is as follows; Site of manufacture; Date of manufacture; Machines used to manufacture; Employees involved; Material used; Material certifications, and so forth. For molding parts, suppliers are required to mark each
piece accordingly (e.g. stamping showing production date and tool cavity number).

Upon request, suppliers shall provide traceability data and/or analysis within 24 hours. This is to support containment of suspect or non-conforming material.

11.3 Process Checks

Per the supplier's control plan, suppliers must record the result of inspections for future review. This must be random and not influenced by part selection. The data needs to be tied to identifiable to Bühler manufacturing order.

11.4 Setup Signoff

Suppliers are required to keep records of when a job was setup, this must include the setup and management signoff. If there is a change (Tool change, machine crash, job moved to a new machine, etc.), then inspection and signoff is required. This serves as evidence that the necessary checks were performed and a record of a change that
could influence the quality, fit, form and function of the product.

11.5 Final Inspection Report

Suppliers are required to perform a full final inspection. For non-series production, this is to be documented similarly to the Initial Sample inspection

report. This, in conjunction with the ISIR and in-process inspection data, provides a containment window, in the case of suspect material or quality spills.

11.6 Material Certificates

Suppliers must retain raw material certificates; this is to be provided to Bühler upon request. The certificate(s) need to be tied to the production lot(s) that the material was used on. If you provide manufactured parts to Bühler entities, it is expected that sub-suppliers will provide you with this level of traceability.

11.7 Physical Properties Certificates

If requested, the supplier must obtain and store physical properties certifications. Tests are to be requested per the purchase order or per engineering drawings.The certificate(s) need to be tied to the production lot(s) that the material was used on.

11.8 Approval Evidence for Purchased Parts

Sub-supplier monitoring is mandatory. The release of sub-supplier parts have to be proven prior to initial sampling.

12. Quality Delivery Requirements

Bühler wants to ensure that the products and services delivered to its sites and customers meet the expected level of quality. Suppliers are required to provide the specified documents to Bühler supplier quality personnelfor review and approval and follow the processes listed in this section, if assigned by either the purchase order or the agreed upon quality level.

12.1 Final Inspection Report

By request, suppliers are required to perform a full final inspection of the last piece produced for the production lot. This is to be documented similarly to the ISIR. This document needs to be provided with the shipment, for review upon receipt. If you produce saleable parts, it is expected that you will have copies of final inspections done on parts prior to shipment.

12.2 Sampling Plan/AQL

If required, suppliers are required to perform a predelivery audit of the goods or services at a minimum AQL of 2.5 C=0 of critical to quality features or dimensions. This is to be documented and supplied to Bühler for review,upon receipt.

12.3 Material and Physical Property Testing Certificates

Suppliers are to provide the chemical composition certificate from the raw material supplier. If there are physical properties that are required, suppliers shall provide the physical properties certification from the testing performed. These are required for review, upon receipt.

12.4 Packaging Verification

The Supplier bears sole responsibility for the adequate packaging and labelling in accordance with the Bühler packaging instructions. Unless otherwise agreed, the Contractual Products shall be packaged, labelled and delivered pursuant to the packaging instructions. Contractual Products that are not packaged, labelled and / or delivered accordingly may be refused. The Supplier bears the costs for the redemption and the replacement of the Contractual Products that are not properly packaged, labelled and / or delivered.

12.5 Approval for Delivery

If set as a requirement in the purchase order or by the assigned quality level, suppliers must submit all the delivery requirements listed in this section for review, prior to shipping. If there are missing documents, purchasing and/ or supplier quality is authorized to reject any shipments that have not been approved.

12.6 Special Release

In case of deviations from specifications, the supplier must always apply for a special release prior to delivery. Therefore, the affected parts must be marked accordingly.

13. Supplier Assessment

13.1 Supplier Rating

Bühler supply chain personnel evaluate suppliers on yearly basis according to their business capabilities.Criteria for supplier evaluation include but not limited to:

- Innovation
- Service expertise
- Quality
- Responsiveness
- Delivery/ OTD
- Costs
- Environmental responsibility

The results of the evaluation will be communicated to the suppliers, and an action plan schedule will berequested accordingly.

13.2 Supplier Audit

The purpose of the supplier audit is to check the effectiveness of the quality assurance actions. Supplier will grant the representative of Bühler (e.g. supplier auditor) access to his premises and installations as far it is necessary to check the effectiveness of the quality assurance elements. Supplier will also grant access to procedures documents and records associated to Bühler products. By request, supplier will grant access to his sub-suppliers for an audit.

The total performance rate of the supplier audit leads to a special rating which is independent from the above described supplier rating. The results of the audit will be communicated to the supplier, and an action plan will be requested accordingly.

According to the overall percentage of compliance (x), the suppliers are awarded the following total grading:

- **A Supplier**: 90% ≤ x ≤ 100% → No actions necessary, supplier improvement expectation
- **B Supplier:** 70% ≤ x < 90% → Supplier corrective actions are tracked according to action plan
- **C Supplier:** x < 70% → Supplier is blocked for new acquisitions or rather taken into Bühler supplierdevelopment program

14. Escalation Management

Bühler requests suppliers to provide responsible contact for escalation cases. This person shall ensureproblems are taken into consideration an get resolved with higher priority.

The escalation is applied but is not limited to the following:

- Deviation from agreed processes
- Noncompliance with this instruction
- Missing corrective actions for critical and safety issues
- Missing responses/ feedback to Notice Of Complaints

15. Terms and Abbreviations

Terms	Description
8D	Systematic problem solving method
ISO 9001	Quality Management Systems - Requirements
MRO	maintenance, repair, and operations
SCoC	Supplier Code of Conduct
ISO 27001	Information Security Management Systems - Requirements
OTD	On Time Delivery
NDA	Non-Disclosure Agreement
FMEA	Failure Mode and Effect Analysis
ISIR	Initial Sample Inspection Report
AQL	Acceptable Quality Level

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Change log

V1 | 06.05.2024 | all pages | no detections/additions/changes | Initial version