

## 1 Scope

The Quality Management System in production of float switches is based on the general Quality Management System of KSR Kuebler AG.

This document is meant to give an overview of the major quality relevant processes used for production and control of float switches. It should be viewed in combination with the Quality manual document as general information.

## 2 Documentation

Document	Definition
Data sheet (DS) Operating manual (OPM)	The data sheet defines technical features of a standard pressure gauge and can be downloaded from KSR's website.
Number / type code	The part number or type code of any part, component or pressure gauge is unique; it is kept under control through revision management.
Drawing (DRW)	The drawing is used to record technical details of parts, components, or float switches and always refers to a part number. It is kept under control through revision management.
Standard operating procedure (SOP)	The SOP defines how to perform each step of a process. The SOP document is kept under control through revision management and only for internal use at KSR.
Work instruction (WI)	The WI defines how to handle or work on parts/ production steps. The WI document is kept under control through revision management and only for internal use at KSR.
Production workplan (WP)	The WP, which is elaborated by the Process Engineering department, defines the different production steps. Every production step is signed by the skilled employee during the production process. The WP document is kept under control through revision management and only for internal use at KSR.
Bill of materials (BOM)	The BOM is a structured list of individual parts/ materials needed for the assembly of a part or product.
Welding procedure specification (WPS)	The WPS defines in detail how to handle the welding process. The WPS document is kept under control through revision management and only for internal use at KSR.

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## 3. Quality Management procedures in production

### 3.1 Quality Management prior to series production

- New products and variation of existing products are developed and validated for series production capability according to the WP.
- Potential new suppliers are evaluated prior to series shipments.
- New parts have to pass the First Article Inspection (FAI) process.
- Preventive quality tools (like FMEA, quality workshops...) are used to define quality specification items.

### 3.2 Quality Management during series production

- Incoming inspection of purchased parts from certified suppliers according to a control plan is done to verify incoming quality.
- Production tests (leakage, pressure test, ...) are documented in the WP to verify the production steps. Product inspections (construction, installation dimensions, identification, documentation, certificates, and completion documentation) are documented in the WP to ensure the product quality.

3.2.1 Quality Management of float switches

Product / step	Process	Specification
Premanufacturing	Production of all parts needed for assembly	DRW, BOM, specification; production order
Cleaning	Cleaning of produced parts	WI, WP,
Preassembly of mechanical parts	Fixing of the elements according assembly construction either by welding, mechanical fixing	DRW, BOM, specification, SOP, WPS, production order
Pressure test (if applicable)	Pressure test	WI, WP,
Preassembly of electrical parts	Fixing of the elements according assembly construction either by mechanical fixing or soldering	DRW, BOM, specification, SOP, production order
Final mounting	Final assembly of float switch	DRW, BOM, WP, production order
Final inspection	Final inspection Functional and visual check, check of dimensions, specification, marking ...	WI, production order, drawing

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