



Initial Sample Inspection Report (ISIR)

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1 DEFINITION

An Initial Sample Inspection Report (ISIR) is a tool for a supplier to demonstrate that they understand and comply with customer requirements.

ISIRs are completed for both parts and complete units

For an ISIR to be an effective tool it is important to correctly complete the ISIR.

1.1 Part ISIR

Part ISIRs are to be completed by the supplier on a part produced using the production process.

Examples of Parts are shafts, spools, housings, etc.

Suppliers may be internal (produced by Sauer-Danfoss) or external

The supplier demonstrates compliance by comparing measurements of the part produced to all requirements shown on Sauer-Danfoss Engineering Print.

This comparison is documented and submitted to Sauer-Danfoss as evidence that the supplier understands the requirements and that the production process created by the supplier produces parts which comply with all requirements.

**Note:** If the supplier mistakenly compares the measurement of the part produced to their own process documents (process drawings, production control plans, etc) they will fail to detect errors made in the creation of the process. See example below

**Part ISIR Example Showing Detection of Error Created in Process Instructions**

<b>Design Engineering Part Print</b>	32.50 +/- 0.1	If Part is ( <b>correctly</b> ) compared to Design Engineering Print the <b>Error is detected.</b>
<b>Process Instructions</b> (Process Drawings, Machining Program, Gage Plans, Control Plans)	<u>35.20</u> +/- 0.1 Note: Error has led to the numbers 2 & 5 to be switched in the supplier's process documentation.	
<b>Output</b> Measured Part Dimension	35.23 Part has been produced to dimension shown in process instructions	If Part is ( <b>incorrectly</b> ) compared to the process documentation the <b>Error is not detected.</b>

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1.2 Product ISIR

Product ISIRs are completed by Sauer-Danfoss on products produced using the production process.

Examples of Products are pumps, motors, valves, controllers, joysticks etc.

Sauer-Danfoss demonstrates compliance by comparing the measurements and attributes of the product produced using production processes to the requirements shown on the customer drawing/specification.

The Sauer-Danfoss standard is to complete an ISIR on 1 piece.

This comparison is documented as evidence that Sauer-Danfoss understands and complies with all requirements shown on the customer drawing/specification.

**Note:** If the Product ISIR mistakenly compares the Product produced to Sauer-Danfoss process documentation, it will fail to detect errors made in the creation of the process. See example below.

**Product ISIR Example Showing Detection of Error Created in Process Instructions**

<p><b>Design Requirement</b> Customer's Drawing/Specifications</p>	<p>Control = LS+PC LS = 20 ± 0.5 Bar PC = 210 ± 5 Bar</p>	<p>If Product is (<b>correctly</b>) compared to Customer's Drawing/Specifications the <b>Error is detected</b>.</p>
<p><b>Process Instructions</b> Sauer-Danfoss Process Instructions (Master Model Code) LS Setting Code = 21 PC Setting Code = 20</p>	<p>Control = LS + PC LS = <u>21</u> ± 0.5 Bar PC = <u>200</u> ± 5 Bar Note: Error has led to the wrong values being entered into the process documentation</p>	
<p><b>Output</b> Measured Part Dimension/Characteristic</p>	<p>Control = LS+PC LS = 21.2 Bar PC = 197 Bar</p>	<p>If Product is (<b>incorrectly</b>) compared to Sauer-Danfoss process documentation the <b>Error is not detected</b></p>

2 PROCEDURE

2.1 Completing a Part ISIR

A Part ISIR study is required on 1 part for each unique manufacturing process. Examples of unique manufacturing processes include:

- Each fixture if multiple fixtures are used
- Each cavity/mould/pattern/die
- Each machine if multiple machines are utilized

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Record date, name of inspector, revision level of engineering print, and revision level of control plan on all documents (including documents like CMM reports, layout sheets, etc.)

The ISIR study should be completed by measurement experts (quality technicians, process engineers, etc.) and not production line personnel.

All dimensions (except reference dimensions), characteristics, and specifications as noted on the engineering print must be checked on one piece for each unique manufacturing process. The results need to be recorded and compared to specification.

**2.2 Completing a Product ISIR**

A product ISIR is required for first time production shipments when requested by our customers. A product ISIR is recommended whenever Sauer-Danfoss delivers a product to any customer for the first time.

Record date, name of inspector and revision level of customer drawing/specification.

Customer interface features, product performance characteristics, and other specifications as noted on the customer drawing/specifications must be checked on a minimum of one piece.

Make all checks to the latest customer drawing/specification. Contact the customer if the customer drawing/specification is not available or might be out of date.

Check to Sauer-Danfoss documentation only if customer has been contacted and has verified that the Sauer-Danfoss documentation correctly shows their requirements.

Record and compare to customer specification all product configuration attributes (shaft type, port type, control type, control connector type,...)

Measure, record, and compare to customer specification all dimensional customer interface features (pilot diameters, port threads, mounting features, ...)

Measure, record, and compare to customer specification all customer defined product characteristics (pressure settings, threshold settings, efficiency, etc.)

Record and compare to customer specification all other attributes features such as paint color, customer nametag, packaging, additional parts (brackets, filters, etc.) installed by Sauer-Danfoss at the customer's request.

**3 INTERPRETING THE RESULTS**

- Any dimensions or characteristics that exceed specification limits must be corrected.
- Any conflicts between Sauer-Danfoss documentation and Customer Requirements must be corrected.
- An approved deviation from the customer must be received before shipping any production part or product with ISIR non-conformances.

**CHANGE HISTORY:**

Date	Old/new rev.	Description of Change(s)
2007-10-18	A / B	General: More detail added to standard Specific: Clarified the requirement of comparing measurement results to the customer drawing.
2008-04-20	B / C	Clarified that the ISIR requirement for products is 1 piece.