	Design Division Engineering Services 11 - High, Mumbai ISO 9001: 2000	<u>Functional Specifications</u> <u>P to I CONVERTER</u>	Spec #	3602
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FUNCTIONAL SPECIFICATION

FOR

P TO I CONVERTER

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1.0 SCOPE OF THIS DOCUMENT:

- 1.1 This functional specification describes the essential design considerations for the selection of P to I converter for the intended service.

2.0 CODES & STANDARDS:

2.1 Reference Documents and Specifications:

- Instrumentation Design Criteria
- Basic Bid Work
- Project P & IDs
- Process Design Criteria / Instrument Process Data Sheets / Instrument List with Process Parameters

3.0 SCOPE OF SUPPLY:

- 3.1 The quantity to be supplied and installed shall be as per the requirements indicated in the Basic Bid Work, Design Criteria and the P & IDs.
- 3.2 The vendor shall be responsible for the selection of the P to I converter suitable for its intended application, its procurement, tagging, packing, testing & calibration, preparation for shipment, along with accessories, spares, and assistance where required for its installation & commissioning at site. This FS shall be read in conjunction with the Instrument Design Criteria.

4.0 P/I CONVERTOR:

4.1 Converter Type: Pneumatic to current.

4.1.1 General:

- 4.1.1.1 The input signal range of P/I shall be 0.2-1.0 Kg/cm² (g).
- 4.1.1.2 The P/I converter shall be provided with one Nos. ½”NPT (F) cable entries.
- 4.1.1.3 The converter signal range shall be 4-20mA, DC, 2 wire type and capable of delivering the rated current signal into external load of 600 ohms when powered with 24V DC.
- 4.1.1.4 The change in out put due to change in ambient temperature (10 degree Celsius) should be very minimum.
- 4.1.1.5 P/I shall have externally adjustable zero and span. Setting adjustment shall have locking adjusting
- 4.1.1.6 Process connection from bottom side, 316SS threaded ½” NPTF.
- 4.1.1.7 **Process seal is used to isolate pressure instruments from process fluid**

4.2 Material:

- 4.2.1 Instrument parts shall be resistant to the corrosive properties of the process fluid and ambient conditions to which they are exposed.
- 4.3 **Accuracy:** $\pm 0.5\%$ of span.
- 4.4 **Reading Scales:** Units for P/I converter shall be in mA.
- 4.5 **Enclosure Class:** In addition to weatherproof, the converter enclosure shall be explosion-proof to NEMA-4X and certified by third party agencies like UL/FM/BASIEFA or equal for use in hazardous area (CL 1,DIV.1, GR.D).

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