

NORSOK STANDARD

FIELD INSTRUMENTATION

I-001
Rev. 3, April 2000

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FOREWORD

NORSOK (The competitive standing of the Norwegian offshore sector) is the industry initiative to add value, reduce cost and lead time and remove unnecessary activities in offshore field developments and operations.

The NORSOK standards are developed by the Norwegian petroleum industry as a part of the NORSOK initiative and are jointly issued by OLF (The Norwegian Oil Industry Association) and TBL (Federation of Norwegian Engineering Industries). NORSOK standards are administered by NTS (Norwegian Technology Standards Institution).

The purpose of this industry standard is to replace the individual oil company specifications for use in existing and future petroleum industry developments, subject to the individual company's review and application.

The NORSOK standards make extensive references to international standards. Where relevant, the contents of this standard will be used to provide input to the international standardisation process. Subject to implementation into international standards, this NORSOK standard will be withdrawn.

Annex A is informative and B is normative.

INTRODUCTION

The revision 3 of this standard has been updated for new data sheets in Annex B, replacing the earlier IFEA-IDAS data sheets. A new Annex C is included to advice on how to use each specific data sheet.

The main text in the standard is unchanged from Rev. 2.

1 SCOPE

The standard identifies the requirements to field instrumentation design.

Note: Requirements for installation are found in NORSOK standard Z-010 "Installation of Electrical, Instrumentation and Telecommunication" and requirements for control system interface are found in I-CR-002 "Safety and Automation System".

2 NORMATIVE REFERENCES

The following standards include provisions, which, through references in this text, constitute provisions of this NORSOK standard. Latest issue of the references shall be used unless otherwise agreed. Other recognised standards may be used provided it can be shown that they meet or exceed the requirements of the standards referenced below.

ANSI B16.10	Face-to-face and end-to-end dimensions of valves.
ANSI B16.36	Steel orifice flanges
ANSI/FCI 70-2	Control valve seat leakage.
ANSI/ASME B1.20.1	Pipe threads general purpose (imperial units)
ANSI/ASME	Performance Test Codes 19.3 - 1974, chapter 1, section 8-19 Thermowells.
ANSI B16.5	Pipe Flanges and Flanged Fittings
API RP 520	Sizing, Selection, and Installation Of Pressure-Relieving Devices in Refineries, Part I and II.
API RP 526	Flanged steel safety relief valves.
API RP 527	Seat Tightness of Pressure Relief Valves.
API RP 670	Vibration, axial position and bearing temperature system.
API RP 678	Accelerometer-based Vibration Monitoring System.
ASME VIII	Boiler and pressure vessel code - Section VIII, Div. 1.
BS 2915	Bursting Discs and Bursting Disc Devices
EN 50081-2	Electromagnetic compatibility generic emission standard
EN 50082-2	Electromagnetic compatibility generic immunity standard
EN 60534-2-1/2 /IEC 534-2	Industrial process control valves. Part 2, section 1 and 2.
EN 60584-1/2 /IEC 584-1	Thermocouples
EN 60751 /IEC 751	Resistance Temperature Detectors (RTD)
ISA 75.01	Flow equations for sizing control valves.
ISO 1000	SI Units and recommendation for the use of their multiples and of certain other units.
ISO 5167	Measurement of fluid flow by means of pressure differential devices - Part 1.
NAMUR	Normenarbeitsgemeinschaft für Mess- und Regelungstechnik in der Chemischen Industrie
NFPA 72E 3-3	Temperature Classification

NORSOK L-002	Piping Design, Layout and Stress Analysis
NORSOK L-CR-003	Piping Details (will be renumbered L-003)
NORSOK M-501	Surface Preparation and Protective Coating

3 DEFINITIONS AND ABBREVIATIONS

3.1 Definitions

Shall	Verbal form used to indicate requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted, unless accepted by all involved parties.
Should	Verbal form used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required.
May	Verbal form used to indicate a course of action permissible within the limits of the standard.
Can	Verbal form used for statements of possibility and capability, whether material, physical or casual.

The term instruments also include actuated valves and safety valves.

3.2 Abbreviations

GRP	Glass fibre Reinforced Plastic
HF	Hydrogen Fluoride
HVAC	Heating, Ventilation and Air Conditioning
IFEA	Industriens Forening for Elektroteknikk og Automasjon (The Association for Electrical Technology and Automation in Industry)
IR	Infra Red
LER	Local Equipment Room
NPT	National Pipe Thread
Pt	Platina
RTD	Resistance Temperature Detector
SI	System International
TE	Temperature Element
TI	Temperature Indicator
UV	Ultra Violet

3.3 Engineering Units

Pressure	bar, mbar, barg, bara
Level	mm, % for indication (for guidelines ref. Annex A)
Volume Flow	m ³ /h (Flowing condition), Sm ³ /h (Standard condition ref. ISO 1000)
Mass Flow	kg/h
Temperature	Deg C

For other physical properties, SI units shall be utilised as per ISO 1000.

4 FUNCTIONAL REQUIREMENTS

4.1 Instrument Supplies

Electrical supply to instrument panels in LERs: 230V a.c. 50 Hz (standard) or 24V d.c.

Electrical supply to field instruments: 24V d.c. (standard) or 230V a.c. 50Hz.

Electrical supply to instrument field panels: 24V d.c. (standard) or 230V a.c. 50 Hz.

Pneumatic ring main supply: Minimum 7 barg, maximum 10 barg.

Pneumatic instrument supply: 1.4 barg (standard) or as required.

Hydraulic ring main /instrument supply: Minimum 180 barg, maximum 210 barg.

Hydraulic supply for wellhead/downhole depending on reservoir pressure.

4.2 Signal Types

The following signal types shall be used:

Analogue input/output: 2 wire, 4 - 20 mA.

Digital input: Potentialfree contact.

Digital output: 24 VDC.

Signals between control systems and other panels shall be powered from platform control system.

Position: Proximity switches with NAMUR interface.

Pneumatic signals: 0.2 - 1.0 barg.

Instrument field bus/digital communication may be used if the concept demonstrates economical savings and requirements to time response are satisfied.

4.3 Instrument Design Principles

Instrument performance/accuracy shall be sufficient to fulfil process/unit performance requirements.

Variation of instrument types and ranges (e.g. thermowell lengths/transmitter ranges) shall be kept to a minimum.

Analogue instruments shall be used for switch functions.

Smart type instruments should be used. For each installation, the communication protocols shall be harmonised.

Galvanic isolation barriers shall be used for I/O signals. These barriers should have full smart signal transmission capability.

For simple local control purposes only, the field instruments including controllers may be of a pneumatic type.

Where local indicators are required, local indicators and transmitters shall be combined. Separate local indicators may only be installed if necessary for local operation.

Any arrangement of instruments shall allow for the removal of a sensor/detector head while maintaining the integrity of the other sensors, e.g. in addressable systems.

Instruments shall meet requirements to EN 50081-2 and EN 50082-2 regarding electromagnetic compatibility.

Flange connection for inline instruments shall follow piping class and specification ref. ANSI B16.5 Pipe Flanges and Flanged Fittings.

All in-line flow elements (when part of the process line) shall be flanged for removal from the process line.

Pressure vessel design (e.g. accumulators for on/off valves) shall follow Norsok standard L-002 Piping Design, Layout and Stress Analysis.

The most frequently used measuring principles are specified in separate sections of this document. Other types may be used on special applications.

For field instruments not specifically dealt with in this standard, the design shall be based on recognised international standards where applicable.

4.4 Instrument Installation Design Principles

Pressure sensing instruments that can be clogged due to high viscosity fluids or hydrates or if the measurement can be affected by other factors, shall be equipped with chemical seals.

Pressure instruments shall have individual process isolation valves.

Combined solutions may be used when not causing operational disadvantage/safety reduction during service of instruments etc.

Each pressure instrument with process connection shall be fitted with instrument block /bleed manifold (2/5 - way valve).

Full functional independence between control and safety devices shall be assured, including vessel/pipeline connections (e.g. common pressure tap for control and safety devices shall not be used).

Use of combined manifolds for piping and instruments valves shall be evaluated. Combined manifolds should be used when instruments are direct mounted on or in the immediate vicinity of the pipe/vessel.

Package suppliers shall terminate hydraulic and pneumatic tubing at skid edge with bulkhead male connectors or unions.

Package suppliers shall terminate instrumentation cables in junction boxes at skid edge or at agreed termination point.

If safety and functional requirements are fulfilled, the following shall apply:

Field instrument process connection: 1/2 " NPT ref. ANSI/ASME B1.20.1.

Field instrument pneumatic connection: 1/4 " NPT

Field instrument hydraulic connection: 1/2" NPT

Field instrument cable entry: ISO threads - size depending on cable size.

4.5 Instrument Materials

Instrument materials defined in this section shall apply. However, instruments may be specified with superior materials due to service requirements (particularly for internals).

4.5.1 In-line Instruments

Control valves, safety valves and other in-line instruments;

- Body, bonnet, and bolts/nuts according to piping standard (Note).
- Internals according to vendor recommendation.

Note: Magnetic Flow Meter: SS Type 316 body with lining may be used. For operating temp. > 60 °C, body shall be painted according to NORSOK standard M-501 Surface Preparation and Protective Coating.

Orifice plates, temperature wells etc. according to piping standard, but minimum 316 stainless steel.

4.5.2 Off-line Instruments

Instrument process wetted parts, tubing, tube fittings and bulk material:

Piping Class Material	Material Requirements ^{1) 2)}	
	Tm <= 60 °C ³⁾	Tm > 60 °C ³⁾
Carbon Steel	SS Type 316	Titanium
SS Type 316	SS Type 316	N/A
SS Type 6Mo	Titanium	Titanium
SS Type 22Cr Duplex	SS Type 316	Titanium
Titanium	Titanium	Titanium
GRP	Titanium	Titanium

Note 1 Acceptable replacement materials are UNS N10276 (Hastelloy C-276), UNS N06022 (Hastelloy C-22) and UNS N06625 (Inconel 625). For seawater service, Inconel shall not be used above 15 °C and Hastelloy C shall not be used above 55 °C.

Note 2 Titanium shall not be used for HF acid or pure Methanol service.

Note 3 T_m = Material selection temperature

a) Instrument tubing, fittings etc. without heat tracing and/or insulation:

Instrument side of isolation valve:

If stagnant condition: T_m = Operating temp. of the line to which the instrument is connected reduced with 25 °C. Applicable for the operating temp above 25 °C.

If circulation: T_m = Operating temp. of the line to which the instrument is connected.

Off instrument side of isolation valve: T_m = Operating temp. of the line to which the instrument is connected.

b) Instrument tubing, fitting etc., with heat tracing and/or insulation:

T_m = Operating temp. of the line to which the instrument is connected, or max. heat tracing operation range, whichever is the highest.

4.5.3 Instrument Housing

Instrument housing shall be resistant to saline atmosphere.

4.6 Air Supply Design

For users requiring filtered ring main pressure air supply, two air filters with isolation valves shall be provided in parallel before a distribution manifold.

For users requiring filtered reduced air supply, two air filter regulators with isolation valves shall be provided before a distribution manifold. Each branch off shall be provided with a 1/2" isolation valve.

Minimum two spare branch off with valve and plug shall be provided for each manifold.

Air manifolds shall be provided with a drain isolation valve at lowest point.

Simplified air supply arrangements may be used for few and/or non critical consumers.

4.7 Instrument Installation Bulk Materials

The selected compression tube fitting make shall be used throughout the whole installation. The compression fittings shall have 2 seal rings (twin ferrules).

Pressure ratings for compression tubes, tube - and pipe fittings, instrument valves and manifolds shall comply with the corresponding process requirements.

Tubing shall be seamless and shall be in metric sizes.

Compression tube fitting threads: NPT

Standard tubing sizes:

Signal air, impulse tubing, instrument air supply to instruments and hydraulic supply (below 413 barg)	10 x 1.5 mm
" (max. 520 Barg):	10 x 2.0 mm
Instrument air supply	25 x 1.5 mm

The Supplier shall use the standard tubing sizes and shall evaluate and advice if other outside diameters is required for any reason.

4.8 Temperature Measurements

4.8.1 General

Temperature measurements shall be performed by Pt 100 elements (RTD - Resistance Temperature Device) in accordance with EN 60751.

For temperature measurements above 600 degrees C, thermocouple material Chromel Alumel, type K, in accordance with EN 60584-1/2 should be used.

Temperature transmitters shall be included within the sensor head except for motor winding temperature measurement and similar.

Temperature sensors not accessible during operation shall for the selected critical equipment be installed with backup.

Surface mounted temperature elements may be used if accuracy and response requirements are met.

4.8.2 Thermowells

Thermowells shall be of the flanged type, size 1.5". For tanks, vessels and piping with pressure class 2500 lb and above, the size shall be 2".

For non-critical utility service, thermowells of threaded type, NPT, can be accepted.

Thermowells shall not be longer than strictly necessary to obtain required accuracy and to avoid vibration "cracking".

Thermowell strength calculations shall be performed for process hydrocarbon systems according to ANSI/ASME Performance Test Codes 19.3. -1974, chapter 1, section 8-19 thermowells.

Thermowell inner diameter suitable for TE/TI elements of 6 mm should be used.

4.8.3 Temperature Gauges

Bi-metallic temperature gauges with 100 mm nominal head diameter should be used for local indication.

Temperature gauges with capillary tubing should not be used.

Manufacturer's standard ranges should be used.

4.9 Flow Measurements

4.9.1 General

Measuring principles and technology shall be selected according to application. Typical evaluation criteria are as follows:

- high accuracy requirements
- high range ability requirements
- low pressure-drop requirements
- dirty fluids
- large pipe sizes
- low flows
- straight pipe requirements

All flow elements shall be marked with flow direction.

4.9.2 Flow Orifice Plates, Nozzles and Venturi Tubes

Flow orifice plates, nozzles and venturi tubes shall be calculated, manufactured and installed according to ISO 5167.

Straight length requirements shall as a minimum satisfy the "0.5 additional uncertainty" requirements.

Welded neck orifice flanges to ANSI B16.36 with flange tapping is standard.

Temporarily installed spacers shall be clearly marked as such.

4.10 Pressure Measurement

4.10.1 General

If pulsating pressure is likely to occur, a pulsation dampener shall be used.

All pressure instruments shall withstand a pressure of minimum 130 % of upper range value without need for recalibration.

Differential pressure instruments shall be able to withstand full static (line) pressure on each of the inputs with the other at zero without need for recalibration.

Differential pressure instruments for low ranges equipped with capillaries and chemical seals should be avoided.

4.10.2 Pressure Gauges

Pressure gauges shall be of the heavy duty, safety type with blow-out back as defined in recognised standard.

Gauges with ranges from 0.6 barg, shall have bourdon type element and shall have liquid filled house/case.

The nominal house/case diameter should be 100 mm for pressure gauges and 160 mm for differential pressure gauges, both with bottom connection.

The manufacturer's standard ranges should be used.

4.11 Level Measurement

4.11.1 General

Direct vessel mounted instruments with non-moving parts should be used.

Measuring principles shall be selected according to application. Typical evaluation criteria are as follows:

- non moving parts
- density
- pressure
- accuracy
- temperature
- vessel geometry
- nozzle locations
- clogging

4.11.2 Local Level Indicators (Gauges)

Level indicators shall cover maximum and minimum operational levels including high/low trip points.

Gauges with magnetic indicators should be used for hydrocarbon service, except for interface (oil/water) application.

If reflex and transparent type gauges are used, they shall have forged steel column and toughened glass.

Level gauge glasses shall have flanged connections and shall be fitted with gauge valves with offset pattern and safety ball check valves.

If several level glasses are used, visible sections shall overlap by not less than 50 mm.

The installation shall be fitted with process isolation, drain and vent valves complying with Norsok standard L-CR-003 Piping Details.

Simpler solutions may be used on small and non critical vessels.

4.12 Control Valves

4.12.1 Valve Requirements

Sizing of control valves shall be made in accordance with the IEC 534-2 / ISA 75.01 standards and/or the control valve Supplier's sizing computer program.

Globe valves should be used but depending on service conditions and application other types may be used.

The size of valves should be 1, 1.5, 2, 3, 4, 6, 8, 10 inch and higher.

All valves shall be equipped with integrated position indicators.

When requirements to max. allowable leakage rate has to be set, ANSI/FCI 70-2 shall be applied.

Face to face dimensions shall be according to ANSI B16.10.

Arrow indicating direction of the flow shall be permanently marked on each side of the valve body.

Self-acting control valves shall be used only when a sufficient differential pressure exists.

4.12.2 Actuator Requirements for Control Valves

Spring return pneumatic diaphragm/piston type actuators should be used.

Where service condition or valve design exclude the use of above mentioned principal, double acting pneumatic piston actuators should be applied. Hydraulic or electric actuators may be used for special applications.

By loss of signal/supply the valve shall take the position required.

Electro-pneumatic positioners should be used for remote control.

4.13 Solenoid Valves

Solenoid valves shall not be used for direct operation in pipes with process media.

Solenoid valves should be used in signal/impulse lines for air and hydraulic.

4.14 Pressure Relief Valves/Bursting Discs

All the pressure relief valves shall be sized in accordance with the information on the data sheet and the method outlined in API RP 520, part I and II, for sizing of pressure relief valves for hydrocarbon systems.

Flanged steel safety relief valves for hydrocarbon systems shall conform to API 526.

Relief valves for the process piping, excluding steam and air pressure piping shall be of the enclosed spring type.

All relief valves for hydrocarbon systems shall conform to ASME VIII.

Seat tightness of pressure relief valves shall conform to API 527.

The total effective flow area of the orifice(s) selected shall exceed the calculated area only by an amount as limited by standard orifice sizes available.

Before orifice sizes Q, R and T are implemented, the relief valve manufacturer shall critically evaluate these large sizes against process medium/conditions.

The number of relief valves shall be kept to a minimum in a multiple safety valve installation.

In a multiple safety valve installation, all orifices shall be equal.

Design, sizing and approval of relief valves for utility systems shall be done to a recognised international standard/institution.

Bursting discs shall be designed according to BS 2915 or equivalent.

4.15 On/Off Valve Actuators

4.15.1 General

At minimum supply pressure the actuator's torque/thrust shall be 25 % above maximum torque/thrust required at max. differential pressure across the valve.

The actuator shall be provided with a local indicator showing the valve position.

By loss of signal/supply the valve shall take the position required.

Devices for control of the speed in both directions shall be installed on the control unit. It shall not be possible to fully close the restrictors.

Electrical actuators may be used for non safety applications.

4.15.2 Shutdown/Blowdown Application

Hydraulic or pneumatic single-acting spring return operated actuators should be used for shut-down valves. Double-acting actuators may be used when this proves beneficial based on an evaluation including weight, space and price. Hydraulic actuators should be used.

Hydraulic accumulators shall be of the piston type, nitrogen charged, with piston position detection possibility.

The valve control accumulator units shall be installed close to the valve.

4.16 Choke Valves

Remote operated production choke valves should be provided with stepping actuator.

Each step for both directions shall be equal in length.

Manual operation in both directions shall be possible.

4.17 HVAC Actuators

Actuators for HVAC shut-off and fire dampers shall be of spring return type.

Pneumatic HVAC actuators shall be designed to operate properly between max. 12.5 barg and min 5.6 barg air supply pressure.

The spring force shall be selected to keep the blade(s) in proper alignment, ensure air tightness in closed position and prevent chattering.

Actuators for HVAC pressure control dampers shall be provided with positioners.

4.18 Vibration Field Instruments

Vibration/proximity probes for vibration detection shall conform to API RP 670 and API RP 678 as relevant.

4.19 Fire & Gas Detectors

4.19.1 General

Sensors shall be unaffected by ambient conditions.

Fire and Gas detectors may be of the smart/addressable (e.g. field bus) type.

Detectors should have a self test system. This system should be automatically operated.

4.19.2 Smoke Detectors

Detectors shall not be sensitive to water vapour.

The application shall determine the detection principle to be used.

Detectors shall have local alarm indicators to visually indicate when detectors are in alarm mode.

Very early smoke detection system may be used for cabinets in LER's.

4.19.3 Heat Detector

Heat detectors shall not be installed unless no other detection principle can be utilised.

Heat detectors and settings shall be selected in accordance with NFPA 72E 3-3 Temperature classification.

4.19.4 Flame Detector

Detector shall be of the IR or combination IR/UV type.

The application shall determine the type to be used.

Sensors shall not be susceptible to spectral response variation when subjected to continuous operation.

4.19.5 Gas Detector

Line detectors (open path) shall be evaluated in combination with point detection.

IR detectors should be used.

Application shall determine if catalytic detectors should be used.

ANNEX A - LEVEL MEASUREMENT GUIDELINES (INFORMATIVE)

Vessel/Tank Type	Level Definition	Remarks
Horizontal vessels	0% = Inside bottom or lowest measurable level 100% = Inside top or highest measurable level or 300 mm to 700 mm above highest alarm (separator)	Due to sand/sediment the lower instrument nozzle will be located at an angle of 18-30 degrees to the vessel vertical centre. This means that instrument will begin to measure from approximately 5% height. This does not apply to radiation units.
Horizontal vessels with boot	0% = Lowest measurable level 100% = Highest measurable level	Normal operation for this vessel type are restricted to within the boot. The control system shall define 0% as inside vessel bottom.
Vertical vessels - scrubbers	0% = Lowest measurable level 100% = Highest measurable level ~ 10% above high high level	Operational range on scrubber are by nature small. Thus there is no point in covering the whole vessel height.
Tanks with flat bottom	0% = Lowest measurable level 100% = Tank overflow	Generally storage tanks. This does not apply to tanks where the transmitter has high high shutdown function.
Tanks with sloping bottom	0% = Lowest measurable level 100% = Tank overflow	Generally storage tanks. This does not apply to tanks where the transmitter has high shutdown function.

ANNEX B - INSTRUMENT AND PROCESS DATA SHEETS (NORMATIVE)

List of available instrument datasheets and corresponding process datasheets:

Instrument Data Sheet		Corresponding Process Data Sheet
F01	Turbine and positive displacement flowmeter	PR 4
F02	Ultrasonic flowmeter	PR 4
F03	Magnetic flowmeter	PR 4
F04	Variable area flowmeter	PR 4
F05	Mass flowmeter	PR 4
F06	Averaging pitot tube	PR 4
F07	Orifice plates and flanges	PR 7 or PR 4
F08	Venturi flow element	PR 4
F09	Vortex flowmeter	PR 4
P01	Pressure/diff. pressure instrument electric	PR 5
P02	Pressure/diff. pressure indicator	PR 5
T01	Thermowell	PR 4
T02	Temperature instrument electric	PR 5
T03	Temperature indicator	PR 5
L01	Level instrument magnetic	PR 6
L02	Level instrument ultrasonic/microwave	PR 6
L03	Level instrument displacer/float	PR 6
L04	Level instrument capacitive/conductive	PR 6
L05	Level glass/gauge	PR 6
L06	Level switch vibrating fork	PR 6
L07	Level instrument nucleonic	PR 6
V01	Block (on-off) valve	PR 1
V02	Control valve	PR 2
V03	Safety/relief valve	PR 3
V04	Solenoid/pneumatic/hydraulic pilot valve	
V05	Rupture/bursting disc	PR 3
S01	Fire and gas detector	
X01	Miscellaneous instruments	

Process Data Sheet

PR1	Block (on-off) valve
PR2	Control valve
PR3	Safety/relief valve
PR4	Inline/flow instrument
PR5	Pressure & temperature transmitter/indicator/switch
PR6	Level instrument
PR7	Restriction orifice plate

NORSOK	INSTRUMENT DATASHEET F01 TURBINE AND POSITIVE DISPLACEMENT FLOWMETER						
Tag number :	Flow range :	Service description :					
P&ID :	Area :	Line/equipment no. :	P. O. Number :				
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Press. loss at full range : 1.06 Complete assembly : 1.07 Complete Assembly Face-to-face dimension : 1.08 Mounting : 1.09 Weight : 1.10 Other : 2 INSTRUMENT CHARACTERISTICS 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Meter Factor : 2.04 Accuracy : 2.05 Linearity : 2.06 Repeatability : 2.07 Min / Max range limits : 2.08 Other : 3 METER BODY : 3.01 Nominal size : 3.02 Manufacturer model no : 3.03 Process conn. size/type : 3.04 Pressure rating : 3.05 Face to face dimension : 3.06 Body inner diameter : 3.07 Sour service spec. : 3.08 Material, body : 3.09 Material, flange : 3.10 Protective coating/color : 3.11 Other : 4 INTERNAL 4.01 Type : 4.02 Material, shaft : 4.03 Material, support : 4.04 Material, rotor : 4.05 Material, bearing : 4.06 Material, pick-up : 4.07 No of pick-ups : 4.08 Other :			5 FLOW STRAIGHTENER 5.01 Type : 5.02 Material : 5.03 Connection : 5.04 Other : 6 METER TUBE 6.01 Material : 6.02 Connection up/downstr. : 6.03 Up/downstream length : 6.04 Tube inner diameter : 6.05 Other : 7 STRAINER 7.01 Type : 7.02 Body/Mesh Material : 7.03 Connection : 7.04 Other : 8 TRANSMITTER 8.01 Manufacturer model no : 8.02 Mounting : 8.03 Max distance meter/trans : 8.04 Cable connection : 8.05 Cable entry : 8.06 Dimension : 8.07 Material : 8.08 Enclosure protection : 8.09 Ex. classification : 8.10 Protective coating : 8.11 Indicator : 8.12 Pre amplifier : 8.13 Totalizer : 8.14 Output signal : 8.15 Communication : 8.16 Supply voltage : 8.17 Consumption : 8.18 Load limitation : 8.19 Other : 9 NOTES				
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NORSOK	INSTRUMENT DATASHEET F02 ULTRASONIC FLOWMETER						
Tag number : Service description :	Flow range :						
P&ID : Line/equipment no. :	Area : P. O. Number :						
<p>1 GENERAL</p> 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Press. loss at full range : 1.06 Complete assembly : 1.07 Complete assembly Face-to-face dimension : 1.08 Mounting : 1.09 Weight : 1.10 Other :	<p>5 FLOW STRAIGHTENER</p> 5.01 Type : 5.02 Material : 5.03 Connection : 5.04 Other : <p>6 METER TUBE</p> 6.01 Material : 6.02 Connection up/downstr. : 6.03 Up/downstream length : 6.04 Tube inner diameter : 6.05 Other : <p>7 TRANSMITTER</p> 7.01 Manufacturer model no : 7.02 Mounting : 7.03 Max distance meter/trans : 7.04 Cable connection : 7.05 Cable entry : 7.06 No of cables connected : 7.07 Dimension : 7.08 Material : 7.09 Enclosure protection : 7.10 Ex. classification : 7.11 Protective coating : 7.12 Indicator : 7.13 Output signal : 7.14 Communication : 7.15 Supply voltage : 7.16 Consumption : 7.17 Load limitation : 7.18 Other : <p>8 NOTES</p>	<p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Meter Factor : 2.04 Accuracy : 2.05 Linearity : 2.06 Repeatability : 2.07 Min / Max range limits : 2.08 Other : <p>3 METER BODY</p> 3.01 Nominal size : 3.02 Manufacturer model no : 3.03 Process conn. size/type : 3.04 Pressure rating : 3.05 Face to face dimension : 3.06 Body inner diameter : 3.07 Sour service spec. : 3.08 Material, body : 3.09 Material, flange : 3.10 Protective coating/color : 3.11 Other : <p>4 TRANSDUCERS (SENSORS)</p> 4.01 Type : 4.02 Number of transducers : 4.03 Wetted or non-wetted : 4.04 Mounting : 4.05 Transducers connection : 4.06 Transducer cable length : 4.07 Material, transducers : 4.08 Material, enclosure : 4.09 Enclosure protection : 4.10 Other :					
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NORSOK	INSTRUMENT DATASHEET F03 MAGNETIC FLOWMETER	
Tag number : Service description : P&ID : Line/equipment no. :	Flow range : Area : P. O. Number :	
<p>1 GENERAL</p> 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Mounting : 1.06 Weight : 1.07 Other : <p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Accuracy : 2.04 Linearity : 2.05 Repeatability : 2.06 Min / Max range limits : 2.07 Other : <p>3 METER BODY</p> 3.01 Nominal Size : 3.02 Manufacturer model no : 3.03 Process conn. size/type : 3.04 Pressure rating : 3.05 Face to face dimension : 3.06 Body inner diameter : 3.07 Sour service spec. : 3.08 Material, body : 3.09 Material, flange : 3.10 Material, liner : 3.11 Material, coil cover : 3.12 Material, junction box : 3.13 Enclosure protection : 3.14 Ex. classification : 3.15 Material, electrodes : 3.16 Minimum conductivity : 3.17 Earth electrode : 3.18 Material, earth electrode : 3.19 Protective coating/color : 3.20 Other :	<p>4 TRANSMITTER</p> 4.01 Manufacturer model no : 4.02 Mounting : 4.03 Max distance meter/trans : 4.04 Cable connection : 4.05 Cable entry : 4.06 Dimension : 4.07 Material : 4.08 Enclosure protection : 4.09 Ex. classification : 4.10 Protective coating : 4.11 Indicator : 4.12 Output signal : 4.13 Communication : 4.14 Supply voltage : 4.15 Consumption : 4.16 Load limitation : 4.17 Other : <p>5 NOTES</p>	
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NORSOK	INSTRUMENT DATASHEET F04 VARIABLE AREA FLOWMETER	
Tag number : Service description : P&ID : Line/equipment no. :	Flow range : Set/Alarm Point : Area : P. O. Number :	
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Press. loss at full range : 1.06 Mounting : 1.07 Weight : 1.08 Other : 2 INSTRUMENT CHARACTERISTICS 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Accuracy : 2.04 Repeatability : 2.05 Other : 3 METER BODY 3.01 Nominal size : 3.02 Manufacturer model no : 3.03 Process conn. size/type : 3.04 Pressure rating : 3.05 Face to face dimension : 3.06 Sour service spec. : 3.07 Material, tube (or body) : 3.08 Material, flange : 3.09 Material, float : 3.10 Material, internal stops : 3.11 Protective coating/color : 3.12 Other : 4 INDICATOR HOUSING 4.01 Material : 4.02 Dimensions : 4.03 Enclosure protection : 4.04 Markings and scale color : 4.05 Pointer color : 4.06 Scale length or deflection : 4.07 Glass type : 4.08 Protective coating/color : 4.09 Other :	5 TRANSMITTER 5.01 Included (yes or no) : 5.02 Manufacturer model no : 5.03 Cable connection : 5.04 Cable entry : 5.05 Ex. classification : 5.06 Output signal : 5.07 Communication : 5.08 Supply voltage : 5.09 Consumption : 5.10 Load limitation : 5.11 Other : 6 FLOW SWITCH 6.01 Included (yes or no) : 6.02 Manufacturer model no : 6.03 Cable connection : 6.04 Cable entry : 6.05 Ex. classification : 6.06 Reset; automatic or manual : 6.07 Deadband or differential : 6.08 Alarm at increase/decrease : 6.09 Contact configuration : 6.10 Contact material : 6.11 Contact rating : 6.12 Contact action on alarm : 6.13 Other : 7 NOTES	
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NORSOK	INSTRUMENT DATASHEET F05 MASS FLOWMETER						
Tag number : Service description : P&ID : Line/equipment no. :	Flow range : Area : P. O. Number :						
<p>1 GENERAL</p> 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Press. loss at full range : 1.06 Mounting : 1.07 Weight : 1.08 Other :	<p>4 TRANSMITTER</p> 4.01 Manufacturer model no : 4.02 Mounting : 4.03 Max distance meter/trans : 4.04 Cable connection : 4.05 Cable entry : 4.06 Dimension : 4.07 Material : 4.08 Enclosure protection : 4.09 Ex. classification : 4.10 Protective coating : 4.11 Indicator : 4.12 Output signal : 4.13 Communication : 4.14 Supply voltage : 4.15 Consumption : 4.16 Load limitation : 4.17 Other :						
<p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Accuracy : 2.04 Linearity : 2.05 Repeatability : 2.06 Min / Max range limits : 2.07 Other :	<p>5 NOTES</p>						
<p>3 METER BODY</p> 3.01 Nominal size : 3.02 Manufacturer model no : 3.03 Process conn. size/type : 3.04 Pressure rating : 3.05 Face to face dimension : 3.06 Number of tube runs : 3.07 Tube inner diameter : 3.08 Material, tube : 3.09 Material, flange/connect. : 3.10 Sour service spec. : 3.11 Material, tube cover : 3.12 Enclosure protection : 3.13 Protective coating/color : 3.14 Other :							
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NORSOK	INSTRUMENT DATASHEET F06 AVERAGING PITOT TUBE						
Tag number : Service description : P&ID : Line/equipment no. :	Flow range : Area : P. O. Number :						
<p>1 GENERAL</p> 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Complete assembly : 1.06 Mounting : 1.07 Weight : 1.08 Other : <p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Accuracy : 2.04 Repeatability : 2.05 Other : <p>3 ELEMENT / PROBE</p> 3.01 Manufacturer model no : 3.02 Process conn. size/type : 3.03 Pressure rating : 3.04 Conn. size/type instrument : 3.05 Instrument valves included : 3.06 Instr. valves type/material : 3.07 Element dimension : 3.08 Element insertion length : 3.09 Material, element : 3.10 Material, connection : 3.11 Material, head : 3.12 End support required : 3.13 End support pipe hole size : 3.14 Material, end support : 3.15 Sour service spec. : 3.16 Retract mechanism : 3.17 Material, retract mech. : 3.18 Isolation valve type/size : 3.19 Material, isolation valve : 3.20 Head protective coating : 3.21 Other :	<p>4 CALCULATIONS</p> 4.01 Calculation basis/method : 4.02 Diff. pressure range : 4.03 K-factor : 4.04 Press. loss at full range : 4.05 Maximum flow limit : 4.06 Other : <p>5 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET F07 ORIFICE PLATES AND FLANGES						
Tag number :	Flow range :						
Service description :							
P&ID :	Area :						
Line/equipment no. :	P. O. Number :						
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Operating Temp. Limits :</p> <p>1.04 Operating Press. Limit :</p> <p>1.05 Taps in flanges/fitting/carrier :</p> <p>1.06 Tap size/type :</p> <p>1.07 No. of taps :</p> <p>1.08 Taps: Flange/corner/other :</p> <p>1.09 Taps orientation :</p> <p>1.10 Complete assembly :</p> <p>1.11 Complete Assembly</p> <p style="padding-left: 20px;">Face-to-face dimension :</p> <p>1.12 Mounting :</p> <p>1.13 Weight :</p> <p>1.14 Other :</p> <p>2 FLANGES</p> <p>2.01 Included or by others :</p> <p>2.02 Manufacturer :</p> <p>2.03 Flange code or standard :</p> <p>2.04 Size and pressure class :</p> <p>2.05 Flange facing :</p> <p>2.06 Material :</p> <p>2.07 Material, bolts and nuts :</p> <p>2.08 Gasket type and material :</p> <p>2.09 Face to face dimension :</p> <p>2.10 Process connection :</p> <p>2.11 Inner diameter :</p> <p>2.12 Protective coating/color :</p> <p>2.13 Other :</p> <p>3 QUICK CHANGE FITTING</p> <p>3.01 Manufacturer :</p> <p>3.02 Manufacturer model no. :</p> <p>3.03 Removal under line press. :</p> <p>3.04 Face to face dimension :</p> <p>3.05 Inner diameter :</p> <p>3.06 Process conn., upstream :</p> <p>3.07 Process conn., downstream :</p> <p>3.08 Material, body :</p> <p>3.09 Material, internals :</p> <p>3.10 Material, seal :</p> <p>3.11 Protective coating/color :</p> <p>3.12 Other :</p> <p>4 FLOW STRAIGHTENER</p> <p>4.01 Type :</p> <p>4.02 Material :</p> <p>4.03 Connection :</p> <p>4.04 Other :</p>	<p>5 METER TUBE</p> <p>5.01 Material :</p> <p>5.02 Connection up/downstr. :</p> <p>5.03 Up/downstream length :</p> <p>5.04 Tube inner diameter :</p> <p>5.05 Other :</p> <p>6 PLATE</p> <p>6.01 Type :</p> <p>6.02 Manufacturer :</p> <p>6.03 Manufacturer model no. :</p> <p>6.04 Material :</p> <p>6.05 With or without handle :</p> <p>6.06 Plate outer diameter :</p> <p>6.07 Plate thickness :</p> <p>6.08 Vent / drain hole :</p> <p>6.09 Bore concentric / other :</p> <p>6.10 Bore dimension :</p> <p>6.11 Other :</p> <p>7 CARRIER</p> <p>7.01 Part of fitting or plate :</p> <p>7.02 Outer diameter :</p> <p>7.03 Thickness :</p> <p>7.04 Material :</p> <p>7.05 Other :</p> <p>8 CALCULATIONS</p> <p>8.01 Calculation method/std. :</p> <p>8.02 Diff. pressure range :</p> <p>8.03 Beta factor :</p> <p>8.04 Press. loss at full range :</p> <p>8.05 Other :</p> <p>9 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET F08 VENTURI FLOW ELEMENT						
Tag number : Service description : P&ID : Line/equipment no. :	Flow range : Area : P. O. Number :						
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Tap size/type : 1.06 No. of taps : 1.07 Taps orientation : 1.08 Complete assembly : 1.09 Complete assembly Face-to-face dimension : 1.10 Mounting : 1.11 Weight : 1.12 Other : 2 VENTURI TUBE / BODY 2.01 Nominal size : 2.02 Manufacturer model no : 2.03 Process conn. size/type : 2.04 Pressure rating : 2.05 Face to face dimension : 2.06 Sour service spec. : 2.07 Material, tube (body) : 2.08 Material, flange : 2.09 Tube inner diameter : 2.10 Throat diameter : 2.11 Protective coating/color : 2.12 Other :	3 FLOW STRAIGHTENER 3.01 Type : 3.02 Material : 3.03 Connection : 3.04 Other : 4 METER TUBE 4.01 Material : 4.02 Connection up/downstr. : 4.03 Up/downstream length : 4.04 Tube inner diameter : 4.05 Other : 5 CALCULATIONS 5.01 Calculation method/std. : 5.02 Diff. pressure range : 5.03 Beta factor : 5.04 Press. loss at full range : 5.05 Other : 6 NOTES						
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NORSOK	INSTRUMENT DATASHEET F09 VORTEX FLOWMETER						
Tag number : Service description : P&ID : Line/equipment no. :	Flow range : Area : P. O. Number :						
<p>1 GENERAL</p> 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Press. loss at full range : 1.06 Mounting : 1.07 Weight : 1.08 Other : <p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Calibrated Range : 2.02 Characteristic : 2.03 Accuracy : 2.04 Linearity : 2.05 Repeatability : 2.06 Min / Max range limits : 2.07 Other : <p>3 METER BODY</p> 3.01 Nominal Size : 3.02 Manufacturer model no : 3.03 Process conn. size/type : 3.04 Pressure rating : 3.05 Face to face dimension : 3.06 Body inner diameter : 3.07 Sour service spec. : 3.08 Material, body : 3.09 Material, flange : 3.10 Probe (bar) size : 3.11 Material, probe (bar) : 3.12 Material, probe gasket : 3.13 Material, sensor (pick-up) : 3.14 Material, neck : 3.15 Protective coating/color : 3.16 Other :	<p>4 TRANSMITTER</p> 4.01 Manufacturer model no : 4.02 Mounting : 4.03 Cable connection : 4.04 Cable entry : 4.05 Dimension : 4.06 Material : 4.07 Enclosure protection : 4.08 Ex. classification : 4.09 Protective coating : 4.10 Indicator : 4.11 Output signal : 4.12 Communication : 4.13 Supply voltage : 4.14 Consumption : 4.15 Load limitation : 4.16 Other : <p>5 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET L01 LEVEL INSTRUMENT MAGNETIC						
Tag number :	Level Range :						
Service description :	Set/Alarm Point :						
P&ID :	Area :						
Line/equipment no. :	P. O. Number :						
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Operating Temp. Limits :</p> <p>1.04 Duty :</p> <p>1.05 Mounting :</p> <p>1.06 Weight :</p> <p>1.07 Other :</p> <p>2 INSTRUMENT CHARACTERISTICS</p> <p>2.01 Accuracy :</p> <p>2.02 Repeatability :</p> <p>2.03 Minimum density :</p> <p>2.04 Other :</p> <p>3 BODY / CHAMBER</p> <p>3.01 Manufacturer model no. :</p> <p>3.02 Nominal size :</p> <p>3.03 Pressure rating :</p> <p>3.04 Material :</p> <p>3.05 Protective coating/color :</p> <p>3.06 Sour service spec. :</p> <p>3.07 Process conn. size/type :</p> <p>3.08 Connection orientation :</p> <p>3.09 Connection distance :</p> <p>3.10 Connection material :</p> <p>3.11 Indicator type/material :</p> <p>3.12 Indicator cover material :</p> <p>3.13 Indicator visible length :</p> <p>3.14 Float type :</p> <p>3.15 Float stop included :</p> <p>3.16 Float/float stop material :</p> <p>3.17 Conn. size/type vent :</p> <p>3.18 Conn. size/type drain :</p> <p>3.19 Vent/drain valves included :</p> <p>3.20 Valves size/type :</p> <p>3.21 Valves material :</p> <p>3.22 Support bracket(s) :</p> <p>3.23 Other :</p> <p>4 TRANSMITTER / SWITCH HOUSING</p> <p>4.01 Mounting :</p> <p>4.02 Dimension :</p> <p>4.03 Material :</p> <p>4.04 Cable connection :</p> <p>4.05 Cable entry :</p> <p>4.06 Enclosure protection :</p> <p>4.07 Ex. classification :</p> <p>4.08 Protective coating :</p> <p>4.09 Other :</p>	<p>5 TRANSMITTER</p> <p>5.01 Manufacturer model no. :</p> <p>5.02 Detector type :</p> <p>5.03 Indicator :</p> <p>5.04 Output signal :</p> <p>5.05 Communication :</p> <p>5.06 Supply voltage :</p> <p>5.07 Consumption :</p> <p>5.08 Load limitation :</p> <p>5.09 Other :</p> <p>6 SWITCH</p> <p>6.01 Manufacturer model no. :</p> <p>6.02 Reset; automatic or manual :</p> <p>6.03 Deadband or differential :</p> <p>6.04 Alarm at increase/decrease :</p> <p>6.05 Contact configuration :</p> <p>6.06 Contact material :</p> <p>6.07 Contact rating :</p> <p>6.08 Contact action on alarm :</p> <p>6.09 Other :</p> <p>7 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET L02 LEVEL INSTRUMENT ULTRASONIC / MICROWAVE						
Tag number : Service description : P&ID : Line/equipment no. :	Level Range : Set/Alarm Point : Area : P. O. Number :						
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Process conn. size/type : 1.06 Connection press. rating : 1.07 Connection material : 1.08 Sour service spec. : 1.09 Mounting : 1.10 Weight : 1.11 Other : 2 INSTRUMENT CHARACTERISTICS 2.01 Accuracy : 2.02 Repeatability : 2.03 Min / max span : 2.04 Distance from connection point to zero level : 2.05 Other : 3 ULTRASONIC TRANSDUCER 3.01 Manufacturer model no : 3.02 Insertion length : 3.03 Blocking distance : 3.04 Material : 3.05 Mount. nozzle max height : 3.06 Other : 4 MICROWAVE TRANSDUCER 4.01 Manufacturer model no : 4.02 Antenna type : 4.03 Antenna material : 4.04 Insertion length : 4.05 Blocking distance : 4.06 Other wetted parts mater. : 4.07 Other : 5 HOUSING 5.01 Mounting : 5.02 Dimension : 5.03 Material : 5.04 Cable connection : 5.05 Cable entry : 5.06 Enclosure protection : 5.07 Ex. classification : 5.08 Protective coating : 5.09 Other :	6 TRANSMITTER 6.01 Manufacturer model no : 6.02 Indicator : 6.03 Output signal : 6.04 Communication : 6.05 Supply voltage : 6.06 Consumption : 6.07 Load limitation : 6.08 Other : 7 SWITCH 7.01 Manufacturer model no : 7.02 Set point adjustment : 7.03 Supply voltage : 7.04 Consumption : 7.05 Reset; automatic or manual : 7.06 Deadband or differential : 7.07 Alarm at increase/decrease : 7.08 Contact configuration : 7.09 Contact material : 7.10 Contact rating : 7.11 Contact action on alarm : 7.12 Other : 8 NOTES						
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NORSOK	INSTRUMENT DATASHEET L03 LEVEL INSTRUMENT DISPLACER / FLOAT						
Tag number :	Level Range :						
Service description :	Set/Alarm Point :						
P&ID :	Area :						
Line/equipment no. :	P. O. Number :						
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Manufacturer model no :</p> <p>1.04 Operating Temp. Limits :</p> <p>1.05 Operating Press. Limit :</p> <p>1.06 Duty :</p> <p>1.07 Sour service spec. :</p> <p>1.08 Mounting :</p> <p>1.09 Weight :</p> <p>1.10 Other :</p> <p>2 INSTRUMENT CHARACTERISTICS</p> <p>2.01 Accuracy :</p> <p>2.02 Repeatability :</p> <p>2.03 Minimum density :</p> <p>2.04 Other :</p> <p>3 DISPLACER / FLOAT</p> <p>3.01 Type :</p> <p>3.02 Material :</p> <p>3.03 Diameter :</p> <p>3.04 Length :</p> <p>3.05 Wire / arm material :</p> <p>3.06 Other wetted parts mater. :</p> <p>3.07 Distance from conn. point to displ./float zero point :</p> <p>3.08 Other :</p> <p>4 CAGE / CHAMBER</p> <p>4.01 Nominal size :</p> <p>4.02 Material :</p> <p>4.03 Process conn. size/type :</p> <p>4.04 Connection orientation :</p> <p>4.05 Connection distance :</p> <p>4.06 Connection material :</p> <p>4.07 Pressure rating :</p> <p>4.08 Protective coating/color :</p> <p>4.09 Conn. size/type vent :</p> <p>4.10 Conn. size/type drain :</p> <p>4.11 Vent/drain valves included :</p> <p>4.12 Valves size/type :</p> <p>4.13 Valves material :</p> <p>4.14 Other :</p> <p>5 DIRECT MOUNTED INSTRUMENT</p> <p>5.01 Process conn. size/type :</p> <p>5.02 Connection material :</p> <p>5.03 Pressure rating :</p> <p>5.04 Vessel intern. cage/support :</p> <p>5.05 Other :</p>	<p>6 TRANSMITTER / SWITCH HOUSING</p> <p>6.01 Mounting :</p> <p>6.02 Rotatable head :</p> <p>6.03 Dimension :</p> <p>6.04 Material :</p> <p>6.05 Cable connection :</p> <p>6.06 Cable entry :</p> <p>6.07 Enclosure protection :</p> <p>6.08 Ex. classification :</p> <p>6.09 Protective coating :</p> <p>6.10 Other :</p> <p>7 TRANSMITTER</p> <p>7.01 Indicator :</p> <p>7.02 Output signal :</p> <p>7.03 Communication :</p> <p>7.04 Supply voltage :</p> <p>7.05 Consumption :</p> <p>7.06 Load limitation :</p> <p>7.07 Other :</p> <p>8 SWITCH</p> <p>8.01 Set point adjustment :</p> <p>8.02 Reset; automatic or manual :</p> <p>8.03 Deadband or differential :</p> <p>8.04 Alarm at increase/decrease :</p> <p>8.05 Contact configuration :</p> <p>8.06 Contact material :</p> <p>8.07 Contact rating :</p> <p>8.08 Contact action on alarm :</p> <p>8.09 Other :</p> <p>9 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET L04 LEVEL INSTRUMENT CAPACITIVE / CONDUCTIVE						
Tag number : Service description : P&ID : Line/equipment no. :	Level Range : Set/Alarm Point : Area : P. O. Number :						
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Operating Temp. Limits : 1.04 Operating Press. Limit : 1.05 Mounting : 1.06 Weight : 1.07 Other : 2 INSTRUMENT CHARACTERISTICS 2.01 Accuracy : 2.02 Repeatability : 2.03 Min / max span : 2.04 Zero adjustment : 2.05 Other : 3 ELEMENT / SENSOR 3.01 Type : 3.02 Manufacturer model no : 3.03 Material, element (sensor) : 3.04 Location / Orientation : 3.05 Process conn. size/type : 3.06 Connection material : 3.07 Pressure rating : 3.08 Sour service spec. : 3.09 Conductivity limit : 3.10 Dielectric constant limit : 3.11 Insertion length : 3.12 Active length : 3.13 Other : 4 ELEMENT HOUSING 4.01 Dimension : 4.02 Material : 4.03 Cable connection : 4.04 Cable entry : 4.05 Enclosure protection : 4.06 Ex. classification : 4.07 Protective coating : 4.08 Other :	5 TRANSMITTER/SWITCH HOUSING 5.01 Mounting : 5.02 Max distance elem./transm. : 5.03 Dimension : 5.04 Material : 5.05 Cable connection : 5.06 Cable entry : 5.07 Enclosure protection : 5.08 Ex. classification : 5.09 Protective coating : 5.10 Other : 6 TRANSMITTER 6.01 Manufacturer model no : 6.02 Indicator : 6.03 Output signal : 6.04 Communication : 6.05 Supply voltage : 6.06 Consumption : 6.07 Load limitation : 6.08 Other : 7 SWITCH 7.01 Manufacturer model no : 7.02 Set point adjustment : 7.03 Supply voltage : 7.04 Consumption : 7.05 Reset; automatic or manual : 7.06 Deadband or differential : 7.07 Alarm at increase/decrease : 7.08 Contact configuration : 7.09 Contact material : 7.10 Contact rating : 7.11 Contact action on alarm : 7.12 Other : 8 NOTES						
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NORSOK	INSTRUMENT DATASHEET L05 LEVEL GLASS / GAUGE						
Tag number : Service description : P&ID : Line/equipment no. :	Level Range : Area : P. O. Number :						
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Manufacturer model no : 1.04 Operating Temp. Limits : 1.05 Operating Press. Limit : 1.06 Connection orientation : 1.07 Connection distance : 1.08 Sour service spec. : 1.09 Mounting : 1.10 Weight : 1.11 Other : 2 COLUMN 2.01 Glass type : 2.02 Visible glass length : 2.03 Number of sections : 2.04 Length of each section : 2.05 Rotatable column : 2.06 Body (wetted) material : 2.07 Cover material : 2.08 Bolts/nuts material : 2.09 Gasket material : 2.10 Column conn. orientation : 2.11 Protective coating/color : 2.12 Other : 3 GAUGE VALVES 3.01 Type : 3.02 Offset pattern included : 3.03 Safety shut-off included : 3.04 Spherical union included : 3.05 Process conn. size/type : 3.06 Pressure rating : 3.07 Connection material : 3.08 Conn. size/type column : 3.09 Conn. size/type vent/drain : 3.10 Valve handle type/material : 3.11 Valve body material : 3.12 Valve trim material : 3.13 Valve packing material : 3.14 Other :	4 ACCESSORIES 4.01 Illuminator type : 4.02 Illuminator housing mater. : 4.03 Supply voltage : 4.04 Consumption : 4.05 Cable connection : 4.06 Cable entry : 4.07 Enclosure protection : 4.08 Ex. classification : 4.09 Support bracket(s) : 4.10 Glass protector : 4.11 Calibrated scale : 4.12 Other : 5 NOTES						
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NORSOK	INSTRUMENT DATASHEET L06						
LEVEL SWITCH VIBRATING FORK							
Tag number :			Set/Alarm Point :				
Service description :			Area :				
P&ID :			P. O. Number :				
Line/equipment no. :							
1 GENERAL				3 NOTES			
1.01 Type :							
1.02 Manufacturer :							
1.03 Manufacturer model no :							
1.04 Operating Temp. Limits :							
1.05 Operating Press. Limit :							
1.06 Mounting :							
1.07 Weight :							
1.08 Other :							
2 SWITCH							
2.01 Repeatability :							
2.02 Fork insertion length :							
2.03 Fork material :							
2.04 Sour service spec. :							
2.05 Process conn. size/type :							
2.06 Pressure rating :							
2.07 Connection material :							
2.08 Housing Dimension :							
2.09 Housing Material :							
2.10 Cable connection :							
2.11 Cable entry :							
2.12 Enclosure protection :							
2.13 Ex. classification :							
2.14 Protective coating :							
2.15 Supply voltage :							
2.16 Consumption :							
2.17 Reset; automatic or manual :							
2.18 Deadband or differential :							
2.19 Alarm at increase/decrease :							
2.20 Contact configuration :							
2.21 Contact material :							
2.22 Contact rating :							
2.23 Contact action on alarm :							
2.24 Other :							
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NORSOK	INSTRUMENT DATASHEET L07 LEVEL INSTRUMENT NUCLEONIC						
Tag number :	Level Range :						
Service description :	Set/Alarm Point :						
P&ID :	Area :						
Line/equipment no. :	P. O. Number :						
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Operating Temp. Limits :</p> <p>1.04 Operating Press. Limit :</p> <p>1.05 Duty :</p> <p>1.06 Mounting :</p> <p>1.07 Weight :</p> <p>1.08 Other :</p> <p>2 INSTRUMENT CHARACTERISTICS</p> <p>2.01 Accuracy :</p> <p>2.02 Repeatability :</p> <p>2.03 Min / max span :</p> <p>2.04 Zero adjustment :</p> <p>2.05 Other :</p> <p>3 SOURCE / CONTAINER</p> <p>3.01 Type :</p> <p>3.02 Manufacturer model no :</p> <p>3.03 Source type / strength :</p> <p>3.04 Source shipment container :</p> <p>3.05 Certification (Approval) :</p> <p>3.06 Number of sources :</p> <p>3.07 Dose rate at housing surface :</p> <p>3.08 Max dose rate at detector :</p> <p>3.09 Housing dimension :</p> <p>3.10 Housing material :</p> <p>3.11 Location / Orientation :</p> <p>3.12 Process conn. size/type :</p> <p>3.13 Pressure rating :</p> <p>3.14 Connection material :</p> <p>3.15 Dip tube type :</p> <p>3.16 Dip tube diameter/length :</p> <p>3.17 Dip tube material :</p> <p>3.18 Sour service spec. :</p> <p>3.19 Mounting brackets :</p> <p>3.20 Material, mounting brackets :</p> <p>3.21 Other :</p> <p>4 TRANSMITTER / SWITCH HOUSING</p> <p>4.01 Mounting :</p> <p>4.02 Max distance from detector :</p> <p>4.03 Dimension :</p> <p>4.04 Material :</p> <p>4.05 Cable connection :</p> <p>4.06 Cable entry :</p> <p>4.07 Enclosure protection :</p> <p>4.08 Ex. classification :</p> <p>4.09 Protective coating :</p> <p>4.10 Other :</p>	<p>5 DETECTOR</p> <p>5.01 Type :</p> <p>5.02 Manufacturer model no :</p> <p>5.03 Number of detectors :</p> <p>5.04 Location / Orientation :</p> <p>5.05 Active / total length :</p> <p>5.06 Housing dimension :</p> <p>5.07 Housing material :</p> <p>5.08 Cable connection :</p> <p>5.09 Cable entry :</p> <p>5.10 Enclosure protection :</p> <p>5.11 Ex. classification :</p> <p>5.12 Protective coating :</p> <p>5.13 Dip tube type :</p> <p>5.14 Dip tube diameter/length :</p> <p>5.15 Dip tube material :</p> <p>5.16 Mounting brackets :</p> <p>5.17 Material, mounting brackets :</p> <p>5.18 Other :</p> <p>6 TRANSMITTER</p> <p>6.01 Manufacturer model no :</p> <p>6.02 Indicator :</p> <p>6.03 Output signal :</p> <p>6.04 Communication :</p> <p>6.05 Supply voltage :</p> <p>6.06 Consumption :</p> <p>6.07 Load limitation :</p> <p>6.08 Other :</p> <p>7 SWITCH</p> <p>7.01 Manufacturer model no :</p> <p>7.02 Set point adjustment :</p> <p>7.03 Supply voltage :</p> <p>7.04 Consumption :</p> <p>7.05 Reset; automatic or manual :</p> <p>7.06 Deadband or differential :</p> <p>7.07 Alarm at increase/decrease :</p> <p>7.08 Contact configuration :</p> <p>7.09 Contact material :</p> <p>7.10 Contact rating :</p> <p>7.11 Contact action on alarm :</p> <p>7.12 Other :</p> <p>8 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET P01 PRESSURE / DIFF. PRESSURE INSTRUMENT ELECTRIC						
Tag number : Service description : P&ID : Line/equipment no. :	Scale Range : Set/Alarm Point : Area : P. O. Number :						
<p>1 GENERAL</p> 1.01 Type : 1.02 Manufacturer : 1.03 Manufacturer model no : 1.04 Operating Temp. Limits : 1.05 Mounting : 1.06 Weight : 1.07 Other : <p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Calibrated input range : 2.02 Characteristic : 2.03 Accuracy : 2.04 Repeatability : 2.05 Lower / upper range limits : 2.06 Min / max span : 2.07 Zero adjustment : 2.08 Overpressure protect. to : 2.09 Max static pressure : 2.10 Other : <p>3 ELEMENT / SENSOR</p> 3.01 Type : 3.02 Material, element (sensor) : 3.03 Material, socket (inlet port) : 3.04 Material, sensor bolts/nuts : 3.05 Process conn. size/type : 3.06 Sour service spec. : 3.07 Other : <p>4 HOUSING</p> 4.01 Dimension : 4.02 Material : 4.03 Cable connection : 4.04 Cable entry : 4.05 Enclosure protection : 4.06 Ex. classification : 4.07 Protective coating : 4.08 Other :	<p>5 TRANSMITTER</p> 5.01 Indicator : 5.02 Output signal : 5.03 Communication : 5.04 Supply voltage : 5.05 Consumption : 5.06 Load limitation : 5.07 Other : <p>6 SWITCH</p> 6.01 Reset; automatic or manual : 6.02 Deadband or differential : 6.03 Alarm at increase/decrease : 6.04 Contact configuration : 6.05 Contact material : 6.06 Contact rating : 6.07 Contact action on alarm : 6.08 Other : <p>7 CHEMICAL SEAL</p> 7.01 Type : 7.02 Material, upper/lower part : 7.03 Material, bolts / nuts : 7.04 Material, diaphragm : 7.05 Fill fluid : 7.06 Capillary length/diameter : 7.07 Material, capillary/armour : 7.08 Process conn. size/type : 7.09 Other : <p>8 ACCESSORIES</p> 8.01 Mounting bracket : 8.02 Material, mounting bracket : 8.03 Overpr. protection valve : 8.04 Material, overpr. prot. valve : 8.05 Pulsation damper : 8.06 Material, pulsation damper : 8.07 Other : <p>9 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET P02 PRESSURE / DIFF. PRESSURE INDICATOR	
Tag number :	Scale Range :	
Service description :		
P&ID :	Area :	
Line/equipment no. :	P. O. Number :	
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Manufacturer model no :</p> <p>1.04 Operating Temp. Limits :</p> <p>1.05 Mounting :</p> <p>1.06 Weight :</p> <p>1.07 Other :</p> <p>2 INSTRUMENT CHARACTERISTICS</p> <p>2.01 Calibrated input range :</p> <p>2.02 Characteristic :</p> <p>2.03 Accuracy :</p> <p>2.04 Repeatability :</p> <p>2.05 Overpressure protect. to :</p> <p>2.06 Max static pressure :</p> <p>2.07 Other :</p> <p>3 ELEMENT / SENSOR</p> <p>3.01 Type :</p> <p>3.02 Material, element (sensor) :</p> <p>3.03 Material, socket (inlet port) :</p> <p>3.04 Material, sensor bolts/nuts :</p> <p>3.05 Process conn. size/type :</p> <p>3.06 Position of connection :</p> <p>3.07 Sour service spec. :</p> <p>3.08 Other :</p> <p>4 HOUSING</p> <p>4.01 Nominal size :</p> <p>4.02 Material :</p> <p>4.03 Enclosure protection :</p> <p>4.04 Markings and scale color :</p> <p>4.05 Pointer color :</p> <p>4.06 Scale length or deflection :</p> <p>4.07 Glass type :</p> <p>4.08 Fill fluid :</p> <p>4.09 Blow-out protection :</p> <p>4.10 Other :</p>	<p>5 CHEMICAL SEAL</p> <p>5.01 Type :</p> <p>5.02 Material, upper/lower part :</p> <p>5.03 Material, bolts / nuts :</p> <p>5.04 Material, diaphragm :</p> <p>5.05 Fill fluid :</p> <p>5.06 Capillary length/diameter :</p> <p>5.07 Material, capillary/armour :</p> <p>5.08 Process conn. size/type :</p> <p>5.09 Other :</p> <p>6 ACCESSORIES</p> <p>6.01 Mounting bracket :</p> <p>6.02 Material, mounting bracket :</p> <p>6.03 Overpr. protection valve :</p> <p>6.04 Material, overpr. prot. valve :</p> <p>6.05 Pulsation damper :</p> <p>6.06 Material, pulsation damper :</p> <p>6.07 Other :</p> <p>7 NOTES</p>	
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NORSOK	PROCESS DATASHEET PR1 BLOCK (ON - OFF) VALVE						
Tag number :							
Service description :	Pipe class sheet :						
P&ID :	Area :						
Line/equipment no. :	P.O. Number :						
1 EQUIPMENT CONDITIONS							
1.01 Line Nominal Size/Schedule :							
1.02 Line Material :							
1.03 Flange Pressure Class :							
1.04 Flange Facing :							
1.05 Piping Design Temperature :							
1.06 Piping Design Pressure :							
1.07 Fluid :							
1.08 Phase :							
1.09 Corrosive Compounds :							
2 OPERATING CONDITIONS - Maximum							
	UNIT						
2.01 Flow rate :							
2.02 Temperature :							
2.03 Inlet Pressure :							
2.04 Pressure drop :							
3 SPECIAL CONDITIONS							
	UNIT						
3.01 Failure action :							
3.02 Opening/closing time :							
3.03 Maximum shut-off diff-pressure :							
4 NOTES							
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NORSOK	PROCESS DATASHEET PR2 CONTROL VALVE						
Tag number :	Pipe class sheet :						
Service description :	Area :						
P&ID :	P.O. Number :						
Line/equipment no. :							
1 EQUIPMENT CONDITIONS							
1.01 Line Nominal Size/Schedule :							
1.02 Line Material :							
1.03 Flange Size :							
1.04 Flange Pressure Class/Flange Facing :							
1.05 Piping Design Temperature :							
1.06 Piping Design Pressure :							
1.07 Fluid :							
1.08 Phase :							
1.09 Corrosive Compounds :							
1.10 Vapour molecular weight :							
1.11 Vapour specific heat ratio :							
1.12 Critical temperature :							
1.13 Critical pressure :							
2 OPERATING CONDITIONS - Minimum		UNIT					
2.01 Flow rate :							
2.02 Temperature :							
2.03 Inlet Pressure :							
2.04 Pressure drop :							
2.05 Density at T&P :							
2.06 Viscosity at T :							
2.07 Liquid vapour pressure at T :							
2.08 Vapour compressibility factor :							
3 OPERATING CONDITIONS - Normal		UNIT					
3.01 Flow rate :							
3.02 Temperature :							
3.03 Inlet Pressure :							
3.04 Pressure drop :							
3.05 Density at T&P :							
3.06 Viscosity at T :							
3.07 Liquid vapour pressure at T :							
3.08 Vapour compressibility factor :							
4 OPERATING CONDITIONS - Maximum		UNIT					
4.01 Flow rate :							
4.02 Temperature :							
4.03 Inlet Pressure :							
4.04 Pressure drop :							
4.05 Density at T&P :							
4.06 Viscosity at T :							
4.07 Liquid vapour pressure at T :							
4.08 Vapour compressibility factor :							
5 SPECIAL CONDITIONS							
5.01 Failure action :							
5.02 Opening/closing time :							
5.03 Maximum shut-off diff-pressure :							
6 NOTES							
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NORSOK	PROCESS DATASHEET PR3						
	SAFETY / RELIEF VALVE						
Tag number :	Set Pressure :						
Service description :	Pipe class sheet :						
P&ID :	Area :						
Line/equipment no. :	P.O. Number :						
1 EQUIPMENT CONDITIONS							
1.01 Line Nominal Size in/out :							
1.02 Flange Pressure Class in/out :							
1.03 Flange Facing in/out :							
1.04 Piping Design Temperature in/out :							
1.05 Piping Design Pressure in/out :							
1.06 Fluid :							
1.07 Phase :							
1.08 Corrosive Compounds :							
1.09 Operating case :							
1.10 Valve type / design :							
2 OPERATING CONDITIONS		UNIT					
2.01 Flow rate :							
2.02 Temperature :							
2.03 Maximum operating inlet pressure :							
2.04 Normal back pressure :							
2.05 Build up back pressure :							
2.06 Total back pressure :							
2.07 Density at T&P :							
2.08 Viscosity at T :							
2.09 Vapour molecular weight :							
2.10 Vapour compress. factor :							
2.11 Vapour specific heat ratio :							
2.12 Weight fraction vapour :							
3 NOTES							
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NORSOK	PROCESS DATASHEET PR4						
INLINE / FLOW INSTRUMENT							
Tag number	:		Pipe Class Sheet	:			
Service description	:		Set/Alarm Point	:			
P&ID	:		Area	:			
Line/equipment no.	:		P. O. Number	:			
1 EQUIPMENT CONDITIONS							
1.01 Line Nominal Size	:						
1.02 Line Inner Diameter	:						
1.03 Line Material	:						
1.04 Flange Standard or Code	:						
1.05 Flange Size	:						
1.06 Flange Pressure Class	:						
1.07 Flange Facing	:						
1.08 Piping Design Temperature	:						
1.09 Piping Design Pressure	:						
1.10 Fluid	:						
1.11 Phase	:						
1.12 Corrosive Compounds	:						
1.13 Maximum pressure loss	:						
2 OPERATING CONDITIONS - Minimum flow			UNIT				
2.01 Flow rate	:						
2.02 Velocity	:						
2.03 Temperature	:						
2.04 Inlet Pressure	:						
2.05 Density at T and P	:						
2.06 Viscosity at T	:						
2.07 Vapour molecular weight	:						
2.08 Vapour compress. factor	:						
2.09 Vapour specific heat ratio	:						
3 OPERATING CONDITIONS - Normal flow			UNIT				
3.01 Flow rate	:						
3.02 Velocity	:						
3.03 Temperature	:						
3.04 Inlet Pressure	:						
3.05 Density at T and P	:						
3.06 Viscosity at T	:						
3.07 Vapour molecular weight	:						
3.08 Vapour compress. factor	:						
3.09 Vapour specific heat ratio	:						
4 OPERATING CONDITIONS - Maximum flow			UNIT				
4.01 Flow rate	:						
4.02 Velocity	:						
4.03 Temperature	:						
4.04 Inlet Pressure	:						
4.05 Density at T and P	:						
4.06 Viscosity at T	:						
4.07 Vapour molecular weight	:						
4.08 Vapour compress. factor	:						
4.09 Vapour specific heat ratio	:						
5 NOTES							
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NORSOK	PROCESS DATASHEET PR5						
PRESSURE & TEMPERATURE TRANSMITTER / INDICATOR / SWITCH							
Tag number	:		Pipe Class Sheet	:			
Service description	:		Set/Alarm Point	:			
P&ID	:		Area	:			
Line/equipment no.	:		P. O. Number	:			
1 EQUIPMENT CONDITIONS							
1.01 Piping Design Temperature	:						
1.02 Piping Design Pressure	:						
1.03 Process Design Temperature	:						
1.04 Process Design Pressure	:						
1.05 Fluid	:						
1.06 Phase	:						
1.07 Corrosive Compounds	:						
2 MINIMUM OPERATING CONDITIONS							
						UNIT	
2.01 Temperature	:						
2.02 Pressure or Diff. Pressure	:						
3 NORMAL OPERATING CONDITIONS							
						UNIT	
3.01 Temperature	:						
3.02 Pressure or Diff. Pressure	:						
4 MAXIMUM OPERATING CONDITIONS							
						UNIT	
4.01 Temperature	:						
4.02 Pressure or Diff. Pressure	:						
4.03 Static / Line Pressure	:						
5 NOTES							
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NORSOK	PROCESS DATASHEET PR6						
LEVEL INSTRUMENT							
Tag number	:		Pipe Class Sheet	:			
Service description	:		Set/Alarm Point	:			
P&ID	:		Area	:			
Line/equipment no.	:		P. O. Number	:			
1 EQUIPMENT CONDITIONS							
1.01 Piping Design Temperature	:						
1.02 Piping Design Pressure	:						
1.03 Level reference or Zero Point	:						
1.04 Fluid, upper	:						
1.05 Fluid, lower	:						
1.06 Dielectricity constant, Fluid upper	:						
1.07 Dielectricity constant, Fluid lower	:						
1.08 Conductivity constant, Fluid upper	:						
1.09 Conductivity constant, Fluid lower	:						
1.10 Corrosive Compounds	:						
2 OPERATING CONDITIONS - Minimum Level						UNIT	
2.01 Temperature	:						
2.02 Pressure	:						
2.03 Density at T and P upper fluid	:						
2.04 Density at T and P lower fluid	:						
2.05 Level, upper	:						
2.06 Level, lower (interface)	:						
3 OPERATING CONDITIONS - Normal Level						UNIT	
3.01 Temperature	:						
3.02 Pressure	:						
3.03 Density at T and P upper fluid	:						
3.04 Density at T and P lower fluid	:						
3.05 Level, upper	:						
3.06 Level, lower (interface)	:						
4 OPERATING CONDITIONS - Maximum Level						UNIT	
4.01 Temperature	:						
4.02 Pressure	:						
4.03 Density at T and P upper fluid	:						
4.04 Density at T and P lower fluid	:						
4.05 Level, upper	:						
4.06 Level, lower (interface)	:						
5 NOTES							
Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page

NORSOK	PROCESS DATASHEET PR7 RESTICTION ORIFICE PLATE						
Tag number :	Pipe Class Sheet :						
Service description :	Area :						
P&ID :	P. O. Number :						
Line/equipment no. :							
1 EQUIPMENT CONDITIONS							
1.01 Line Nominal Size :							
1.02 Line Inner Diameter :							
1.03 Line Material :							
1.04 Flange Standard or Code :							
1.05 Flange Size :							
1.06 Flange Pressure Class :							
1.07 Flange Facing :							
1.08 Piping Design Temperature :							
1.09 Piping Design Pressure :							
1.10 Fluid :							
1.11 Phase :							
1.12 Corrosive Compounds :							
2 OPERATING CONDITIONS		UNIT					
2.01 Flow rate :							
2.02 Temperature :							
2.03 Inlet Pressure :							
2.04 Required Permanent Pressure Drop :							
2.05 Density at T and P :							
2.06 Viscosity at T :							
2.07 Vapour Molecular Weight (optional) :							
2.08 Vapour Compress. Factor :							
2.09 Vapour Specific Heat Ratio (k-factor) :							
3 NOTES							
Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page

NORSOK	INSTRUMENT DATASHEET S01 FIRE AND GAS DETECTOR						
Tag number :	Area :						
Service description :	P. O. Number :						
Safety chart :							
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Manufacture model no :</p> <p>1.04 Operating Temp. Limits :</p> <p>1.05 Complete assembly :</p> <p>1.06 Dimension :</p> <p>1.07 Mounting bracket :</p> <p>1.08 Mounting :</p> <p>1.09 Weight :</p> <p>1.10 Other :</p> <p>2 HOUSING</p> <p>2.01 Type :</p> <p>2.02 Enclosure protection :</p> <p>2.03 Ex classification :</p> <p>2.04 Cable connection :</p> <p>2.05 Cable entry :</p> <p>2.06 Element/housing connection :</p> <p>2.07 Material :</p> <p>2.08 Other :</p> <p>3 HEAT DETECTOR</p> <p>3.01 Type :</p> <p>3.02 Set point :</p> <p>3.03 Calibrated range :</p> <p>3.04 Rate of rise :</p> <p>3.05 Repeatability :</p> <p>3.06 Other :</p> <p>4 SMOKE DETECTOR</p> <p>4.01 Type :</p> <p>4.02 Sensitivity :</p> <p>4.03 Repeatability :</p> <p>4.04 Other :</p>	<p>5 GAS DETECTOR</p> <p>5.01 Type :</p> <p>5.02 Calibrated range :</p> <p>5.03 Zero/span adjustment :</p> <p>5.04 Accuracy :</p> <p>5.05 Repeatability :</p> <p>5.06 Stabilization time :</p> <p>5.07 Max operational path length :</p> <p>5.08 Immunity against sun :</p> <p>5.09 Free cylinder diameter :</p> <p>5.10 Response time :</p> <p>5.11 Enclosure protection :</p> <p>5.12 Ex. Classification :</p> <p>5.13 Material :</p> <p>5.14 Other :</p> <p>6 FLAME DETECTOR</p> <p>6.01 Type :</p> <p>6.02 Operating distance :</p> <p>6.03 Operating sector :</p> <p>6.04 Response time :</p> <p>6.05 Stabilization time :</p> <p>6.06 Self check facility :</p> <p>6.07 Other :</p> <p>7 ELECTRICAL</p> <p>7.01 Output signal :</p> <p>7.02 Supply voltage :</p> <p>7.03 Consumption :</p> <p>7.04 RFI immunity :</p> <p>7.05 Communication :</p> <p>7.06 Load limitation :</p> <p>7.07 Other :</p> <p>8 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET T01 THERMOWELL						
Tag. number : Service description : P&ID : Area : Line/equipment no. : P. O. Number :							
<p>1 GENERAL</p> 1.01 Type or construction : 1.02 Manufacturer : 1.03 Manufacturer model no : 1.04 Pressure rating : 1.05 Mounting : 1.06 Weight : 1.07 Other : <p>2 FLANGED TYPE</p> 2.01 Flange code or standard : 2.02 Flange size : 2.03 Flange facing : 2.04 Flange material : 2.05 Other : <p>3 SCREWED TYPE</p> 3.01 Hexagon nut size : 3.02 External thread size/type : 3.03 Other : <p>4 STEM</p> 4.01 Type : 4.02 Material : 4.03 Diameter max/tip : 4.04 Max allowable stem diam. : 4.05 Insertion length "U" : 4.06 Thermowell total length : 4.07 Internal thread size/type : 4.08 Internal bore : 4.09 Tip thickness : 4.10 W/N frequency ratio : 4.11 Sour service spec. : 4.12 Material, plug and chain : 4.13 Other :	<p>5 NOTES</p>						
Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page

NORSOK	INSTRUMENT DATASHEET T02 TEMPERATURE INSTRUMENT ELECTRIC						
Tag number :	Temperature Range :						
Service description :	Set/Alarm Point :						
P&ID :	Area :						
Line/equipment no. :	P. O. Number :						
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Manufacturer :</p> <p>1.03 Manufacturer model no. :</p> <p>1.04 Mounting :</p> <p>1.05 Weight :</p> <p>1.06 Other :</p> <p>2 INSTRUMENT CHARACTERISTICS</p> <p>2.01 Characteristic :</p> <p>2.02 Accuracy :</p> <p>2.03 Repeatability :</p> <p>2.04 Min / max span :</p> <p>2.05 Zero adjustment :</p> <p>2.06 Other :</p> <p>3 ELEMENT / SENSOR</p> <p>3.01 Type :</p> <p>3.02 Design standard :</p> <p>3.03 Element operating limits :</p> <p>3.04 Wire configuration :</p> <p>3.05 Element diameter :</p> <p>3.06 Insertion length :</p> <p>3.07 Sensitive length :</p> <p>3.08 Sheath material :</p> <p>3.09 Connection size/type :</p> <p>3.10 Connection material :</p> <p>3.11 Other :</p> <p>4 HOUSING</p> <p>4.01 Mounting :</p> <p>4.02 Dimension :</p> <p>4.03 Material :</p> <p>4.04 Cable connection :</p> <p>4.05 Cable entry :</p> <p>4.06 Enclosure protection :</p> <p>4.07 Ex. classification :</p> <p>4.08 Protective coating :</p> <p>4.09 Other :</p>	<p>5 TRANSMITTER</p> <p>5.01 Indicator :</p> <p>5.02 Output signal :</p> <p>5.03 Communication :</p> <p>5.04 Supply voltage :</p> <p>5.05 Consumption :</p> <p>5.06 Load limitation :</p> <p>5.07 Other :</p> <p>6 SWITCH</p> <p>6.01 Reset; automatic or manual :</p> <p>6.02 Deadband or differential :</p> <p>6.03 Alarm at increase/decrease :</p> <p>6.04 Contact configuration :</p> <p>6.05 Contact material :</p> <p>6.06 Contact rating :</p> <p>6.07 Contact action on alarm :</p> <p>6.08 Other :</p> <p>7 NOTES</p>						
Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page

NORSOK	INSTRUMENT DATASHEET T03 TEMPERATURE INDICATOR						
Tag number : Service description : P&ID : Line/equipment no. :	Temperature Range : Area : P. O. Number :						
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Manufacturer model no. : 1.04 Mounting : 1.05 Weight : 1.06 Other : 2 INSTRUMENT CHARACTERISTICS 2.01 Characteristic : 2.02 Accuracy : 2.03 Repeatability : 2.04 Reference temp. adjustm. : 2.05 Overrange protection to : 2.06 Other : 3 ELEMENT / SENSOR 3.01 Type : 3.02 Element diameter : 3.03 Insertion length : 3.04 Sensitive length : 3.05 Sheath/bulb material : 3.06 Connection size/type : 3.07 Connection material : 3.08 Capillary length/diameter : 3.09 Material, capillary/armour : 3.10 Other :	4 HOUSING 4.01 Type : 4.02 Nominal size : 4.03 Material : 4.04 Enclosure protection : 4.05 Markings and scale color : 4.06 Pointer color : 4.07 Scale length or deflection : 4.08 Glass type : 4.09 Fill fluid : 4.10 Other : 5 NOTES						
Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page

NORSOK	INSTRUMENT DATASHEET V01						
BLOCK (ON-OFF) VALVE							
Tag number :	Line/equipment no. :						
Service description :	Area :						
P&ID :	P. O. Number :						
<p>1 GENERAL</p> <p>1.01 Type :</p> <p>1.02 Norsok Valve Data Sheet :</p> <p>1.03 Operating Temp. Limits :</p> <p>1.04 Operating Press. Limit :</p> <p>1.05 Max shut-off diff. press. :</p> <p>1.06 Drain valve included :</p> <p>1.07 Sour service spec. :</p> <p>1.08 Complete assembly :</p> <p>1.09 Mounting :</p> <p>1.10 Weight :</p> <p>1.11 Other :</p> <p>2 BODY</p> <p>2.01 Manufacturer :</p> <p>2.02 Manufacturer model no :</p> <p>2.03 Nominal size :</p> <p>2.04 Process conn. size/type :</p> <p>2.05 Pressure rating :</p> <p>2.06 Face to face dimension :</p> <p>2.07 Bonnet type :</p> <p>2.08 Material, body/bonnet :</p> <p>2.09 Material, gaskets :</p> <p>2.10 Material, packing :</p> <p>2.11 Material, bolts/nuts :</p> <p>2.12 Protective coating :</p> <p>2.13 Other :</p> <p>3 TRIM</p> <p>3.01 Type :</p> <p>3.02 Valve characteristic :</p> <p>3.03 Max flow coefficient :</p> <p>3.04 Stem travel :</p> <p>3.05 Seat leakage class :</p> <p>3.06 Material, seat :</p> <p>3.07 Material, trim (moving part) :</p> <p>3.08 Material, stem :</p> <p>3.09 Other :</p> <p>4 ACTUATOR (GENERAL)</p> <p>4.01 Type :</p> <p>4.02 Manufacturer :</p> <p>4.03 Manufacturer model no :</p> <p>4.04 Orientation :</p> <p>4.05 Dimension :</p> <p>4.06 Connection actuator/body :</p> <p>4.07 Conn. actuator/valve stem :</p> <p>4.08 Max required torque/thrust :</p> <p>4.09 Torque at min/max supply :</p> <p>4.10 Thrust at min/max supply :</p> <p>4.11 Valve opening time :</p> <p>4.12 Valve closing time :</p> <p>4.13 Failure action :</p> <p>4.14 Material yoke :</p> <p>4.15 Material, stem :</p> <p>4.16 Material, bolts/nuts :</p> <p>4.17 Material casing :</p> <p>4.18 Material, spring :</p> <p>4.19 Protective coating :</p> <p>4.20 Other :</p>	<p>5 HYDRAULIC/PNEUMATIC ACTUATOR</p> <p>5.01 Supply medium :</p> <p>5.02 Volume per stroke :</p> <p>5.03 Supply press. min/norm/max :</p> <p>5.04 Diaphragm/piston size :</p> <p>5.05 Material diaphragm/piston :</p> <p>5.06 Supply/return connection :</p> <p>5.07 Other :</p> <p>6 ELECTRICAL ACTUATOR</p> <p>6.01 Cable conn. signal/power :</p> <p>6.02 Cable entry signal/power :</p> <p>6.03 Enclosure protection :</p> <p>6.04 Ex. classification :</p> <p>6.05 Input signal :</p> <p>6.06 Communication :</p> <p>6.07 Supply voltage/frequency :</p> <p>6.08 Consumption :</p> <p>6.09 Other :</p> <p>7 LIMIT SWITCH</p> <p>7.01 Type :</p> <p>7.02 Manufacturer :</p> <p>7.03 Manufacturer model no :</p> <p>7.04 Number of switches :</p> <p>7.05 Cable connection :</p> <p>7.06 Cable entry :</p> <p>7.07 Enclosure protection :</p> <p>7.08 Ex. classification :</p> <p>7.09 Cont. action when activated :</p> <p>7.10 Contact material :</p> <p>7.11 Contact rating :</p> <p>7.12 Current when activated :</p> <p>7.13 Current when not activated :</p> <p>7.14 Working voltage range :</p> <p>7.15 Material, housing :</p> <p>7.16 Protective coating :</p> <p>7.17 Other :</p> <p>8 MISCELLANEOUS</p> <p>8.01 Control circuit type :</p> <p>8.02 Accumulator unit :</p> <p>8.03 Visual indicator :</p> <p>8.04 Handwheel :</p> <p>8.05 Speed regulator :</p> <p>8.06 Fire certification, valve :</p> <p>8.07 Fire protection, actuator :</p> <p>8.08 Fire protection, control circuit :</p> <p>8.09 Other :</p> <p>9 NOTES</p>						
Rev	Date	Issue/Description	Prepared	Checked	Approved	Datasheet no.	Page

NORSOK		INSTRUMENT DATASHEET V02					
		CONTROL VALVE					
Tag number	:	Line/equipment no.		:			
Service description	:	Area		:			
P&ID	:	P. O. Number		:			
1 GENERAL 1.01 Type : 1.02 Operating Temp. Limits : 1.03 Operating Press. Limit : 1.04 Complete assembly : 1.05 Sour service spec. : 1.06 Mounting : 1.07 Weight : 1.08 Other : 2 BODY 2.01 Manufacturer : 2.02 Manufacturer model no : 2.03 Nominal size : 2.04 Process conn. size/type : 2.05 Pressure rating : 2.06 Face to face dimension : 2.07 Bonnet type : 2.08 Material, body/bonnet : 2.09 Material, gaskets : 2.10 Material, packing : 2.11 Material, bolts/nuts : 2.12 Protective coating : 2.13 Other : 3 TRIM 3.01 Type : 3.02 Valve characteristic : 3.03 Flow direction : 3.04 Stem travel : 3.05 Seat leakage class : 3.06 Calc. flow coeff. min/max : 3.07 Min. controllable flow coeff. : 3.08 Flow coeff. selected (max) : 3.09 Sound level, max : 3.10 Material, seat : 3.11 Material, trim (moving part) : 3.12 Material, cage : 3.13 Material, stem : 3.14 Hardfacing : 3.15 Other : 4 HYDRAULIC/PNEUMATIC ACTUATOR 4.01 Supply medium : 4.02 Supply press. min/norm/max : 4.03 Connection supply/return : 4.04 Diaphragm/piston size : 4.05 Material, diaphragm/piston : 4.06 Other : 5 ELECTRICAL ACTUATOR 5.01 Cable conn. signal/power : 5.02 Cable entry signal/power : 5.03 Enclosure protection : 5.04 Ex. classification : 5.05 Input signal : 5.06 Supply voltage/frequency : 5.07 Consumption : 5.08 Other :				6 ACTUATOR (GENERAL) 6.01 Type : 6.02 Manufacturer : 6.03 Manufacturer model no : 6.04 Orientation : 6.05 Dimension/size : 6.06 Connection actuator/body : 6.07 Conn. actuator/valve stem : 6.08 Quick open/closing func. : 6.09 Push down to : 6.10 Failure action : 6.11 Material, yoke : 6.12 Material, stem : 6.13 Material, casing : 6.14 Material, spring : 6.15 Material, bolts/nuts : 6.16 Protective coating : 6.17 Other : 7 POSITIONER 7.01 Type : 7.02 Manufacturer : 7.03 Manufacturer model no : 7.04 Material, housing : 7.05 Protective coating : 7.06 Output action : 7.07 Input impedance : 7.08 Cable connection : 7.09 Cable entry : 7.10 Enclosure protection : 7.11 Ex. classification : 7.12 Input signal : 7.13 Communication : 7.14 Bypass : 7.15 Supply pressure : 7.16 Supply connection size/type : 7.17 Gauges : 7.18 Other : 8 MISCELLANEOUS 8.01 Travel stop : 8.02 Position transmitter : 8.03 Booster : 8.04 Limit switch : 8.05 Solenoid valve : 8.06 Accumulator unit : 8.07 Filter regulator : 8.08 Visual indicator : 8.09 Handwheel : 8.10 Other : 9 NOTES			
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NORSOK	INSTRUMENT DATASHEET V03 SAFETY / RELIEF VALVE						
Tag number : Service description : P&ID : Line/equipment no. :							
Set Pressure : Area : P. O. Number :							
<p>1 GENERAL</p> 1.01 Type : 1.02 Design : 1.03 Manufacturer : 1.04 Bonnet type : 1.05 Operating Temp. Limits : 1.06 Application code : 1.07 Mounting : 1.08 Weight : 1.09 Other : <p>2 BODY, MAIN VALVE</p> 2.01 Manufacturer model no : 2.02 Process conn. size/type in : 2.03 Process conn. size/type out : 2.04 Pressure rating in / out : 2.05 Length A: face in/center out : 2.06 Length B: face out/center in : 2.07 Sour service spec. : 2.08 Material, body : 2.09 Material, bolt/nuts : 2.10 Material, bonnet : 2.11 Protective coating : 2.12 Other : <p>3 TRIM, MAIN VALVE</p> 3.01 Type : 3.02 Sizing case : 3.03 Orifice dim. calculated : 3.04 Orifice dim. selected : 3.05 Orifice designation : 3.06 Sound level calculated : 3.07 Sound level allowed : 3.08 Reactive force : 3.09 Blow down pressure in % : 3.10 % allowable overpressure : 3.11 % opening at design flow : 3.12 Material, nozzle : 3.13 Material, disc : 3.14 Material, stem : 3.15 Material, guide rings : 3.16 Material, bellows : 3.17 Material, spring : 3.18 Material, seat seal : 3.19 Other :	<p>4 PILOT</p> 4.01 Type : 4.02 Action : 4.03 Material, body : 4.04 Material, trim : 4.05 Material, soft seat/seals : 4.06 Material, spring : 4.07 Material, diaphragm : 4.08 Material, pilot filter : 4.09 Material, tube/fitting : 4.10 Back flow preventer : 4.11 Other : <p>5 MISCELLANEOUS</p> 5.01 Cap type : 5.02 Material, cap : 5.03 Lever type : 5.04 Field test device : 5.05 Other : <p>6 NOTES</p>						
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NORSOK	INSTRUMENT DATASHEET V04 SOLENOID / PNEUMATIC / HYDRAULIC PILOT VALVE						
Tag number : Service description : P&ID : Area : Main tag/equipment no. : P. O. Number :							
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Manufacturer model no : 1.04 Operating Temp. Limits : 1.05 Mounting : 1.06 Weight : 1.07 Other : 2 VALVE 2.01 Type : 2.02 Number of positions : 2.03 Body dimension : 2.04 Operating Press. Limit : 2.05 Operating medium : 2.06 Number of ports : 2.07 Port conn. size/type : 2.08 Material, body : 2.09 Material, trim : 2.10 Material, seat : 2.11 Material, seal (gasket) : 2.12 Material, bolt/nuts : 2.13 Sour service spec. : 2.14 Leakage : 2.15 Flow coefficient : 2.16 Reset : 2.17 Return mechanism : 2.18 Manual operator : 2.19 Flow configur. deactivated : 2.20 Flow configur. activated : 2.21 Other : 3 ELECTRICAL ACTUATOR (SOLENOID) 3.01 Type : 3.02 No of solenoids : 3.03 Coil type : 3.04 Material, housing : 3.05 Enclosure protection : 3.06 Ex. classification : 3.07 Cable connection : 3.08 Cable entry : 3.09 Voltage supply : 3.10 Inrush current : 3.11 Holding current : 3.12 Other :			4 PNEUMATIC / HYDRAULIC ACTUATOR 4.01 Type : 4.02 Actuating medium : 4.03 Act. press. min/norm/max : 4.04 Signal conn. size/type : 4.05 Material, housing : 4.06 Material, diaphragm/piston : 4.07 Material, stem : 4.08 Material, bolt/nuts : 4.09 Actuator return : 4.10 Other : 5 NOTES				
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NORSOK	INSTRUMENT DATASHEET V05 RUPTURE / BURSTING DISC																		
Tag number : _____ Service description : _____ P&ID : _____ Line/equipment no. : _____																			
Burst Pressure : _____ Area : _____ P. O. Number : _____																			
<p>1 GENERAL</p> 1.01 Type : _____ 1.02 Manufacturer : _____ 1.03 Manufacturer model no : _____ 1.04 Fragmenting Disc (yes/no) : _____ 1.05 Holders (head) size/type : _____ 1.06 Holders face to face dimen. : _____ 1.07 Flange size/type : _____ 1.08 Pressure rating : _____ 1.09 Number of discs per tag : _____ 1.10 Operating Temp. Limits : _____ 1.11 Operating Press. Limit : _____ 1.12 Mounting : _____ 1.13 Weight : _____ 1.14 Other : _____	<p>5 NOTES</p>																		
<p>2 INSTRUMENT CHARACTERISTICS</p> 2.01 Selection code : _____ 2.02 Burst tolerance : _____ 2.03 Calculated / selected area : _____ 2.04 Vacuum support included : _____ 2.05 Other : _____																			
<p>3 MATERIALS</p> 3.01 Disc (plate) : _____ 3.02 Ring / handle : _____ 3.03 Holders (head) : _____ 3.04 Screws / nuts / clamps : _____ 3.05 Gasket : _____ 3.06 Sour service spec. : _____ 3.07 Protective coating/color : _____ 3.08 Other : _____																			
<p>4 BURST ALARM</p> 4.01 Type : _____ 4.02 Max allowable back press. : _____ 4.03 Cable connection : _____ 4.04 Junction box included : _____ 4.05 Other : _____																			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td>Rev</td> <td>Date</td> <td>Issue/description</td> <td>Prepared</td> <td>Checked</td> <td>Approved</td> <td>Datasheet no.</td> <td>Page</td> <td></td> </tr> </table>										Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page		
Rev	Date	Issue/description	Prepared	Checked	Approved	Datasheet no.	Page												

NORSOK	INSTRUMENT DATASHEET X01 MISCELLANEOUS INSTRUMENTS						
Tag number : Service description : P&ID : Line/equipment no. :	Range : Set/Alarm Point : Area : P. O. Number :						
1 GENERAL 1.01 Type : 1.02 Manufacturer : 1.03 Manufacturer model no : 1.04 Operating Temp. Limits : 1.05 Operating Press. Limit : 1.06 Complete assembly : 1.07 Mounting : 1.08 Weight : 1.09 Other : 2 INSTRUMENT CHARACTERISTICS 2.01 Accuracy : 2.02 Repeatability : 2.03 : 2.04 : 2.05 : 2.06 : 2.07 : 3 "USER TO DEFINE" 3.01 : 3.02 : 3.03 : 3.04 : 3.05 : 3.06 : 3.07 : 3.08 : 3.09 : 3.10 : 3.11 : 3.12 : 3.13 : 3.14 : 3.15 : 4 "USER TO DEFINE" 4.01 : 4.02 : 4.03 : 4.04 : 4.05 : 4.06 : 4.07 : 4.08 : 4.09 : 4.10 :	5 "USER TO DEFINE" 5.01 : 5.02 : 5.03 : 5.04 : 5.05 : 5.06 : 5.07 : 5.08 : 5.09 : 5.10 : 6 "USER TO DEFINE" 6.01 : 6.02 : 6.03 : 6.04 : 6.05 : 6.06 : 6.07 : 6.08 : 6.09 : 6.10 : 7 NOTES						
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ANNEX C – DESCRIPTION FOR INSTRUMENT AND PROCESS DATA SHEETS (INFORMATIV)**FORM F01****Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F01 - TURBINE AND POSITIVE DISPLACEMENT FLOWMETER***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range which corresponds to the output signal (normally start at zero), and a unit acc. to section 3.3 in this standard |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|--------------------------------|--|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Press. loss at full range | : Assign the permanent pressure loss at 100% of flow range (upper range value) (as given by supplier/manufacturer) |
| 1.06 Complete assembly | : List the main components included in the assembly/supply |

1.07 Complete Assembly

Face-to-face dimension : Assign the face to face dimension/length of the complete assembly

1.08 Mounting : Assign how the instrument is mounted, e.g. in-line etc.

1.09 Weight : Give the weight of the instrument, or the complete assembly

2 INSTRUMENT CHARACTERISTICS

2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 10 - 100 m³/h

2.02 Characteristic : Assign if the output signal is linear, square root etc.

2.03 Meter Factor : Assign the meter factor (normally pulses per volume unit) as given by the supplier/manufacturer

2.04 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading

2.05 Linearity : Assign the linearity of the measurement, normally in %, as given by the supplier/manufacturer

2.06 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer

2.07 Min / Max range limits : Assign the flow limits within which the instrument can operate/measure, min limit is normally above zero

3 METER BODY

3.01 Nominal size : Give the nominal size of the body/tube, normally in inches or a DN value (DIN)

3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer

3.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges

3.04 Pressure rating : Give the pressure rating of the process connection or body

3.05 Face to face dimension : Assign the face to face dimension/length of the meter body/tube (including any raised faced part)

3.06 Body inner diameter : Assign the inner diameter of the body/tube

3.07 Sour service spec. : Assign the sour service specification if required

3.08 Material, body : Give the material of the body/tube

3.09 Material, flange : Give the material of the flanges, if any

3.10 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4 INTERNAL

- 4.01 Type : Assign a type designation/description
4.02 Material, shaft : Give the material of the shaft, if any
4.03 Material, support : Give the material of the support, if any
4.04 Material, rotor : Give the material of the rotor
4.05 Material, bearing : Give the material of the bearing, if any
4.06 Material, pick-up : Give the material of the pick-up (coil), if any
4.07 No of pick-ups : Assign the number of pick-ups, (normally 1 or 2)

5 FLOW**STRAIGHTENER**

- 5.01 Type : Assign a type designation/description
5.02 Material : Give the material of the flow straightener
5.03 Connection : Assign how the straightener is connected or mounted

This section should be left open or all fields filled in with NA if there is no flow straightener

6 METER TUBE

- 6.01 Material : Give the material of the meter tubes
6.02 Connection up/downstr. : Assign the process connection of the upstream and the downstream end of the meter tubes
6.03 Up/downstream length : Give the length of the upstream and the downstream meter tubes
6.04 Tube inner diameter : Assign the inner diameter of the meter tubes

7 STRAINER

This section should be left open or all fields filled in with NA if there is no strainer

- 7.01 Type : Assign a type designation/description
7.02 Body/Mesh Material : Give the material of the strainer body and the mesh (internals)
7.03 Connection : Give the process connection of the strainer

8 TRANSMITTER

- 8.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 8.02 Mounting : Assign how the transmitter is mounted, e.g. direct on meter body, remote in local control room etc.
- 8.03 Max distance meter/trans : Assign the max allowable distance/cable length between the meter body and transm. as given by the supplier/manufacturer
- 8.04 Cable connection : Assign how the cable(s) to the transmitter should be connected, e.g. screwed terminals, flying leads etc.
- 8.05 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 8.06 Dimension : Give an approx. dimension of the transmitter housing
- 8.07 Material : Give the material of the transmitter housing
- 8.08 Enclosure protection : Assign the enclosure (weather) protection of the transmitter housing, e.g. IP66
- 8.09 Ex. classification : Assign the Ex certification class of the complete instrument
- 8.10 Protective coating : If coated, assign the type of coating (painting) and color
- 8.11 Indicator : Assign if an indicator is included and/or a designation/description
- 8.12 Preamplifier : Assign if a preamplifier is included and/or a designation/description
- 8.13 Totalizer : Assign if a totalizer is included and/or a designation/description
- 8.14 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the flow range in the Tag part
- 8.15 Communication : Assign if there is a digital/electronic communication and type/standard
- 8.16 Supply voltage : Give the nominal supply voltage to the instrument
- 8.17 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 8.18 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer

FORM F02**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F02 - ULTRASONIC FLOWMETER***Tag Part***

- | | | |
|---------------------|---|--|
| Tag number | : | Enter the tag number of the instrument described on the data sheet |
| Service description | : | Assign a service description for the instrument |
| P&ID | : | Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : | Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : | Give the flow range which corresponds to the output signal (normally start at zero), and a unit acc. to section 3.3 in this standard |
| Area | : | Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : | Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | | |
|--------------------------------|---|--|
| 1.01 Type | : | Assign a type designation/description |
| 1.02 Manufacturer | : | Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : | Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : | Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Press. loss at full range | : | Assign the permanent pressure loss at 100% of flow range (upper range value) (as given by supplier/manufacturer) |
| 1.06 Complete assembly | : | List the main components included in the assembly/supply |
| 1.07 Complete assembly | : | |
| Face-to-face dimension | : | Assign the face to face dimension/length of the complete assembly |
| 1.08 Mounting | : | Assign how the instrument is mounted, e.g. in-line etc. |
| 1.09 Weight | : | Give the weight of the instrument, or the complete assembly |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 10 - 100 m³/h
- 2.02 Characteristic : Assign if the output signal is linear, square root etc.
- 2.03 Meter Factor : Assign the meter factor (normally pulses per volume unit) as given by the supplier/manufacturer
- 2.04 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.05 Linearity : Assign the linearity of the measurement, normally in %, as given by the supplier/manufacturer
- 2.06 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.07 Min / Max range limits : Assign the flow limits within which the instrument can operate/measure, min limit is normally above zero

3 METER BODY

- 3.01 Nominal size : Give the nominal size of the body/tube, normally in inches or a DN value (DIN)
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 3.04 Pressure rating : Give the pressure rating of the process connection or body
- 3.05 Face to face dimension : Assign the face to face dimension/length of the meter body/tube (including any raised faced part of flanges)
- 3.06 Body inner diameter : Assign the inner diameter of the body/tube
- 3.07 Sour service spec. : Assign the sour service specification if required
- 3.08 Material, body : Give the material of the body/tube
- 3.09 Material, flange : Give the material of the flanges, if any
- 3.10 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4 TRANSDUCERS (SENSORS)

- 4.01 Type : Assign a type designation/description
- 4.02 Number of transducers : Assign the number of transducers mounted on the meter body
- 4.03 Wetted or non-wetted : Assign if the transducers are wetted or non-wetted by the process medium
- 4.04 Mounting : Assign the mounting of the transducers to the body/pipe, e.g. threaded nozzle welded to the body
- 4.05 Transducers connection : Assign the transducers connection size/type to the meter body/pipe
- 4.06 Transducer cable length : Assign the transducers (integral) cable length
- 4.07 Material, transducers : Give the material of the transducers
- 4.08 Material, enclosure : Give the material of the transducer's enclosure, if any

-
- 4.09 Enclosure protection : Assign the enclosure (weather) protection of the transducer (housing/enclosure), e.g. IP66
- 5 FLOW STRAIGHTENER**
- 5.01 Type : Assign a type designation/description
- 5.02 Material : Give the material of the flow straightener
- 5.03 Connection : Assign how the straightener is connected or mounted
- 6 METER TUBE**
- 6.01 Material : Give the material of the meter tubes
- 6.02 Connection up/downstr. : Assign the process connection of the upstream and the downstream end of the meter tubes
- 6.03 Up/downstream length : Give the length of the upstream and the downstream meter tubes
- 6.04 Tube inner diameter : Assign the inner diameter of the meter tubes
- 7 TRANSMITTER**
- 7.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 7.02 Mounting : Assign how the transmitter is mounted, e.g. direct on meter body, remote in local control room etc.
- 7.03 Max distance meter/trans : Assign the max allowable distance/cable length between the meter body and transm. as given by the supplier/manufacturer
- 7.04 Cable connection : Assign how the cable(s) to the transmitter should be connected, e.g. screwed terminals, flying leads etc.
- 7.05 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 7.06 No of cables connected : Give the number of cables connected to the transmitter (sum of transducer cables, power cable, signal cable etc.)
- 7.07 Dimension : Give an approx. dimension of the transmitter housing
- 7.08 Material : Give the material of the transmitter housing
- 7.09 Enclosure protection : Assign the enclosure (weather) protection of the transmitter housing, e.g. IP66
- 7.10 Ex. classification : Assign the Ex certification class of the complete instrument
- 7.11 Protective coating : If coated, assign the type of coating (painting) and color
- 7.12 Indicator : Assign if an indicator is included and/or a designation/description
- 7.13 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the flow range in the Tag part
- 7.14 Communication : Assign if there is a digital/electronic communication and type/standard
- 7.15 Supply voltage : Give the nominal supply voltage to the instrument
- 7.16 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 7.17 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer

FORM F03**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F03 - MAGNETIC FLOWMETER***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range which corresponds to the output signal (normally start at zero), and a unit acc. to section 3.3 in this standard |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.06 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 10 - 100 m³/h
- 2.02 Characteristic : Assign if the output signal is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.04 Linearity : Assign the linearity of the measurement, normally in %, as given by the supplier/manufacturer
- 2.05 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.06 Min / Max range limits : Assign the flow limits within which the instrument can operate/measure, min limit is normally above zero

3 METER BODY

- 3.01 Nominal Size : Give the nominal size of the body/tube, normally in inches or a DN value (DIN)
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 3.04 Pressure rating : Give the pressure rating of the process connection or body
- 3.05 Face to face dimension : Assign the face to face dimension/length of the meter body/tube (including any raised faced part of flanges)
- 3.06 Body inner diameter : Assign the inner diameter of the body/tube
- 3.07 Sour service spec. : Assign the sour service specification if required
- 3.08 Material, body : Give the material of the body/tube
- 3.09 Material, flange : Give the material of the flanges, if any
- 3.10 Material, liner : Give the material of the internal liner
- 3.11 Material, coil cover : Give the material of the coil(s) cover
- 3.12 Material, junction box : Give the material of the junction box on the meter body, if any
- 3.13 Enclosure protection : Assign the enclosure (weather) protection of the junction box, if any, e.g. IP66
- 3.14 Ex. classification : Assign the Ex certification class of the junction box, if any
- 3.15 Material, electrodes : Give the material of the internal (pick-up) electrodes
- 3.16 Minimum conductivity : Assign the minimum conductivity the instrument can handle (as given by the supplier/manufacturer)
- 3.17 Earth electrode : Assign if an earth electrode is included, and/or a designation/description
- 3.18 Material, earth electrode : Give the material of the earth electrode
- 3.19 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4 TRANSMITTER

- 4,01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 4,02 Mounting : Assign how the transmitter is mounted, e.g. direct on meter body, remote in local control room etc.
- 4,03 Max distance meter/trans : Assign the max allowable distance/cable length between the meter body and transm. as given by the supplier/manufacturer
- 4,04 Cable connection : Assign how the cable(s) to the transmitter should be connected, e.g. screwed terminals, flying leads etc.
- 4,05 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4,06 Dimension : Give an approx. dimension of the transmitter housing
- 4,07 Material : Give the material of the transmitter housing
- 4,08 Enclosure protection : Assign the enclosure (weather) protection of the transmitter housing, e.g. IP66
- 4,09 Ex. classification : Assign the Ex certification class of the complete instrument
- 4,10 Protective coating : If coated, assign the type of coating (painting) and color
- 4,11 Indicator : Assign if an indicator is included and/or a designation/description
- 4,12 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the flow range in the Tag part
- 4,13 Communication : Assign if there is a digital/electronic communication and type/standard
- 4,14 Supply voltage : Give the nominal supply voltage to the instrument
- 4,15 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 4,16 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer

FORM F04**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F04 - VARIABLE AREA FLOWMETER***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range as shown on the indicator scale (normally start at zero), and if the instrument is equipped with transmitter, the flow range should correspond to the output signal , - and a unit acc. to section 3.3 in this standard. |
| Set/Alarm Point | : If the instrument is equipped with a switch, give the set point (alarm/trip or switch operating flow value) |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|--------------------------------|--|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Press. loss at full range | : Assign the permanent pressure loss at 100% of flow range (upper range value) (as given by supplier/manufacturer) |
| 1.06 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.07 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 10 - 100 m³/h
- 2.02 Characteristic : Assign if the reading/output signal is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.04 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer

3 METER BODY

- 3.01 Nominal size : Give the nominal size of the body/tube, normally in inches or a DN value (DIN)
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 3.04 Pressure rating : Give the pressure rating of the process connection or body
- 3.05 Face to face dimension : Assign the face to face dimension/length of the meter body/tube (including any raised faced part of flanges)
- 3.06 Sour service spec. : Assign the sour service specification if required
- 3.07 Material, tube (or body) : Give the material of the body/tube
- 3.08 Material, flange : Give the material of the flanges, if any
- 3.09 Material, float : Give the material of the internal float
- 3.10 Material, internal stops : Give the material of the internal stops (normally at top and bottom of the tube)
- 3.11 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4 INDICATOR HOUSING

- 4.01 Material : Give the material of the indicator housing
- 4.02 Dimensions : Give an approx. dimension of the indicator housing
- 4.03 Enclosure protection : Assign the enclosure (weather) protection of the indicator housing, e.g. IP66
- 4.04 Markings and scale color : Give the color of the markings/graduations and the scale (background), e.g. black on white background
- 4.05 Pointer color : Give the color of the indicator pointer
- 4.06 Scale length or deflection : Give the length/size of the scale, or the deflection of the pointer in mm or degrees
- 4.07 Glass type : Give indicator glass type, e.g. manufacturer's standard, safety glass etc.
- 4.08 Protective coating/color : If coated, assign the type of coating (painting) and color

5 TRANSMITTER

- 5,01 Included (yes or no) : Assign Yes if a transmitter is included. If not, give No, and the rest of the fields can be filled in with NA
- 5,02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 5,03 Cable connection : Assign how the cable(s) to the transmitter should be connected, e.g. screwed terminals, flying leads etc.
- 5,04 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 5,05 Ex. classification : Assign the Ex certification class of the instrument
- 5,06 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the flow range in the Tag part
- 5,07 Communication : Assign if there is a digital/electronic communication and type/standard
- 5,08 Supply voltage : Give the nominal supply voltage to the instrument
- 5,09 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 5,10 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer

6 FLOW SWITCH

- 6,01 Included (yes or no) : Assign Yes if a flow switch is included. If not, give No, and the rest of the fields can be filled in with NA
- 6,02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 6,03 Cable connection : Assign how the cable(s) to the switch should be connected, e.g. screwed terminals, flying leads etc.
- 6,04 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 6,05 Ex. classification : Assign the Ex certification class of the instrument
- 6,06 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 6,07 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 6,08 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing flow value (high or low alarm)
- 6,09 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 6,10 Contact material : Give the material of the switch contacts, e.g. gold plated
- 6,11 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 6,12 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM F05**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F05 - MASS FLOWMETER***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range which corresponds to the output signal (normally start at zero), and a unit acc. to section 3.3 in this standard. |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|--------------------------------|--|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Press. loss at full range | : Assign the permanent pressure loss at 100% of flow range (upper range value) (as given by supplier/manufacturer) |
| 1.06 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.07 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 10 - 100 kg/h
- 2.02 Characteristic : Assign if the output signal is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.04 Linearity : Assign the linearity of the measurement, normally in %, as given by the supplier/manufacturer
- 2.05 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.06 Min / Max range limits : Assign the flow limits within which the instrument can operate/measure, min limit is normally above zero

3 METER BODY

- 3.01 Nominal size : Give the nominal size of the body, normally in inches or a DN value (DIN)
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 3.04 Pressure rating : Give the pressure rating of the process connection or body
- 3.05 Face to face dimension : Assign the face to face dimension/length of the meter body/tube (including any raised faced part of flanges)
- 3.06 Number of tube runs : Give the number of internal tube runs
- 3.07 Tube inner diameter : Give the inner diameter of the internal tube(s)
- 3.08 Material, tube : Give the material of the internal tube(s)
- 3.09 Material, flange/connect. : Give the material of the flanges or connection
- 3.10 Sour service spec. : Assign the sour service specification if required
- 3.11 Material, tube cover : Give the material of the tube cover
- 3.12 Enclosure protection : Assign the enclosure (weather) protection of the cover, e.g. IP66
- 3.13 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4 TRANSMITTER

- 4.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 4.02 Mounting : Assign how the transmitter is mounted, e.g. direct on meter body, remote in local control room etc.
- 4.03 Max distance meter/trans : Assign the max allowable distance/cable length between the meter body and transm. as given by the supplier/manufacturer
- 4.04 Cable connection : Assign how the cable(s) to the transmitter should be connected, e.g. screwed terminals, flying leads etc.
- 4.05 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.06 Dimension : Give an approx. dimension of the transmitter housing
- 4.07 Material : Give the material of the transmitter housing
- 4.08 Enclosure protection : Assign the enclosure (weather) protection of the transmitter housing, e.g. IP66
- 4.09 Ex. classification : Assign the Ex certification class of the complete instrument
- 4.10 Protective coating : If coated, assign the type of coating (painting) and color
- 4.11 Indicator : Assign if an indicator is included and/or a designation/description
- 4.12 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the flow range in the Tag part
- 4.13 Communication : Assign if there is a digital/electronic communication and type/standard
- 4.14 Supply voltage : Give the nominal supply voltage to the instrument
- 4.15 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 4.16 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer

FORM F06**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F06 - AVERAGING PITOT TUBE***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range which corresponds to the diff. press. range (normally start at zero), and a unit acc. to section 3.3 in this standard. |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Complete assembly | : List the main components included in the assembly/supply |
| 1.06 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.07 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 30 - 100 m³/h
- 2.02 Characteristic : Assign if the output is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.04 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer

3 ELEMENT / PROBE

- 3.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.02 Process conn. size/type : Assign the process connection, e.g. 1,5" ANSI B16.5 flange
- 3.03 Pressure rating : Give the pressure rating of the process connection
- 3.04 Conn. size/type instrument : Assign the connection size and type to the (diff. pressure) instrument, e.g. 1/2" NPTF
- 3.05 Instrument valves included : Assign if instrument shut-off valves are included in the supply
- 3.06 Instr. valves type/material : If instrument valves are included, give valve type and material
- 3.07 Element dimension : Give the dimension/diameter of the element/probe (pitot tube)
- 3.08 Element insertion length : Give the insertion length of the element/probe
- 3.09 Material, element : Give the material of the element/probe
- 3.10 Material, connection : Give the material of the process connection
- 3.11 Material, head : Give the material of the element/probe head including the (diff. press.) instrument connection
- 3.12 End support required : Assign if an end support (opposite side of pipe) is required, (normally advised by supplier/manufacturer)
- 3.13 End support pipe hole size : Assign the size of the hole, on opposite side of pipe, to be drilled for the end support, if any
- 3.14 Material, end support : Give the material of the end support, if any
- 3.15 Sour service spec. : Assign the sour service specification if required
- 3.16 Retract mechanism : Assign if a retract mechanism is included and/or a designation/description
- 3.17 Material, retract mech. : Give the material of the retract mechanism, if any
- 3.18 Isolation valve type/size : If a retract mechanism is included, there is normally a process isolation valve, give the type and size of the valve
- 3.19 Material, isolation valve : Give the material of the retract mechanism isolation valve
- 3.20 Head protective coating : If coated, assign the type of coating (painting) and color for the head/connection, e.g. Norsok std. M-501 system 6 etc.

4 CALCULATIONS

This section is normally filled in by the supplier/manufacturer

- 4,01 Calculation basis/method : Assign the calculation method for the averaging pitot tube, e.g. manufacturer's standard (or an recognized standard)
- 4,02 Diff. pressure range : Assign the differential pressure range that comes from the calculations and corresponds with the flow range in the Tag part
- 4,03 K-factor : Assign the K-factor that comes from the calculations
- 4,04 Press. loss at full range : Assign the permanent pressure loss, at 100% of the flow range, that comes from the calculations
- 4,05 Maximum flow limit : Assign the maximum flow limit that comes from the calculations

FORM F07**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F07 - ORIFICE PLATES AND FLANGES***Tag Part***

- Tag number : Enter the tag number of the instrument described on the data sheet
- Service description : Assign a service description for the instrument
- P&ID : Enter the drawing number for the P&ID which shows this tag number
- Line/equipment no. : Enter the line or equipment number on which the instrument is mounted/connected
- Flow range : Give the flow range which corresponds to the diff. press. range (normally start at zero), and a unit acc. to section 3.3 in this standard
- Area : Give the area (or location) designation of the plant/project where the instrument is mounted
- P. O. Number : Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

- 1.01 Type : Assign a type designation/description. Normally Flow orifice plate or Restriction orifice plate
- 1.02 Manufacturer : Give the name of the manufacturer
- 1.03 Operating Temp. Limits : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer)
- 1.04 Operating Press. Limit : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer)
- 1.05 Taps in flanges/fitting/carrier : Assign if the tappings (for flow orifice plate only) are in the flanges, the quick change fitting or in the carrier
- 1.06 Tap size/type : Give the taps size and type, e.g. 1/2" NPTF. For flow orifice plate only
- 1.07 No. of taps : Give the number of taps. For flow orifice plate only
- 1.08 Taps: Flange/corner/other : Assign if the tappings position are "Flange", "Corner" or any other position. For flow orifice plate only
- 1.09 Taps orientation : Give the taps orientation, e.g. 45 degrees apart at top. For flow orifice plate only
- 1.10 Complete assembly : List the main components included in the assembly/supply

1.11 Complete Assembly

Face-to-face dimension : Assign the face to face dimension/length of the complete assembly

1.12 Mounting : Assign how the instrument is mounted, e.g. in-line between flanges

1.13 Weight : Give the weight of the instrument, or the complete assembly

2 FLANGES

2.01 Included or by others : Assign if the flanges are included in the supply, or supplied by others. If supplied by others, the rest of the fields can be filled in with NA, - or applicable fields may be filled in.

2.02 Manufacturer : Give the name of the manufacturer

2.03 Flange code or standard : Give the flange code or standard. E.g. ANSI B16.36 (orifice flanges) or ANSI B16.5

2.04 Size and pressure class : Assign the size and the pressure class of the flanges

2.05 Flange facing : Give the flange facing (normally RF, raised face, or RTJ, ring type joint)

2.06 Material : Give the material of the flanges

2.07 Material, bolts and nuts : Give the material of the flange bolts and nuts

2.08 Gasket type and material : Give the type and material of the flange gasket

2.09 Face to face dimension : Give the face to face dimension/length of the flanges

2.10 Process connection : Give the process connection for the flanges, normally welded or butt-weld etc.

2.11 Inner diameter : Give the inner diameter of the flanges (normally the same as the pipe inner diameter)

2.12 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

3 QUICK CHANGE FITTING

This section should be left open or all fields filled in with NA if there is no quick change fitting

3.01 Manufacturer : Give the name of the manufacturer

3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer

3.03 Removal under line press. : Assign if the quick change fitting allows the plate to be removed under line/process pressure (yes or no)

3.04 Face to face dimension : Give the face to face dimension/length of the quick change fitting

3.05 Inner diameter : Give the inner diameter of the quick change fitting (normally the same as the pipe inner diameter)

3.06 Process conn., upstream : Assign the size and type of the quick change fitting process connection upstream

3.07 Process conn., downstream : Assign the size and type of the quick change fitting process connection downstream

3.08 Material, body : Give the material of the body

3.09 Material, internals : Give the material(s) of the internal parts

- 3.10 Material, seal : Give the material of the internal seal
- 3.11 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.
- 4 FLOW STRAIGHTENER**
This section should be left open or all fields filled in with NA if there is no flow straightener
- 4.01 Type : Assign a type designation/description
- 4.02 Material : Give the material of the flow straightener
- 4.03 Connection : Assign how the straightener is connected or mounted
- 5 METER TUBE**
This section should be left open or all fields filled in with NA if there are no meter tubes
- 5.01 Material : Give the material of the meter tubes
- 5.02 Connection up/downstr. : Assign the process connection of the upstream and the downstream end of the meter tubes
- 5.03 Up/downstream length : Give the length of the upstream and the downstream meter tubes
- 5.04 Tube inner diameter : Assign the inner diameter of the meter tubes
- 6 PLATE**
- 6.01 Type : Assign a type designation/description
- 6.02 Manufacturer : Give the name of the manufacturer
- 6.03 Manufacturer model no : Assign the model number as given by the supplier/manufacturers
- 6.04 Material : Give the material of the orifice plate
- 6.05 With or without handle : Assign if the plate is equipped with a handle or not
- 6.06 Plate outer diameter : Give the plate outer diameter
- 6.07 Plate thickness : Give the plate thickness
- 6.08 Vent / drain hole : Assign if there is a vent or drain hole in the plate and give the size
- 6.09 Bore concentric / other : Assign if the bore is concentric in the plate, or any other position (e.g. eccentric)
- 6.10 Bore dimension : Give the dimension of the orifice bore (hole). Will normally come out of the calculations
- 7 CARRIER**
This section should be left open or all fields filled in with NA if there is no carrier
- 7.01 Part of fitting or plate : Assign if the carrier is part of the quick change fitting or the plate (integral)
- 7.02 Outer diameter : Give the carrier outer diameter
- 7.03 Thickness : Give the carrier thickness
- 7.04 Material : Give the carrier material

8 CALCULATIONS

This section is normally filled in by the supplier/manufacturer

- 8.01 Calculation method/std. : Assign the calculation method for the orifice plate, e.g. ISO 5167
- 8.02 Diff. pressure range : Assign the differential pressure range which corresponds to the flow range in the Tag part. NA for restriction orifice plates
- 8.03 Beta factor : Assign the beta factor that comes from the calculations
- 8.04 Press. loss at full range : Assign the permanent pressure loss, at 100% of the flow range, that comes from the calculations

FORM F08**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary. Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F08 - VENTURI FLOW ELEMENT***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range which corresponds to the diff. press. range (normally start at zero), and a unit acc. to section 3.3 in this standard. |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Tap size/type | : Give the taps size and type, e.g. 1/2" NPTF |
| 1.06 No. of taps | : Give the number of taps |
| 1.07 Taps orientation | : Give the taps orientation, e.g. 45 degrees apart at top |
| 1.08 Complete assembly | : List the main components included in the assembly/supply |
| 1.09 Complete assembly | |
| Face-to-face dimension | : Assign the face to face dimension/length of the complete assembly |
| 1.10 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |

-
- 1.11 Weight : Give the weight of the instrument
- 2 VENTURI TUBE / BODY**
- 2.01 Nominal size : Give the nominal size of the body, normally in inches or a DN value (DIN)
- 2.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 2.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 2.04 Pressure rating : Give the pressure rating of the process connection or body
- 2.05 Face to face dimension : Assign the face to face dimension/length of the body/tube (including any raised faced part of flanges)
- 2.06 Sour service spec. : Assign the sour service specification if required
- 2.07 Material, tube (body) : Give the material of the tube/body
- 2.08 Material, flange : Give the material of the flanges or connection
- 2.09 Tube inner diameter : Assign the main inner diameter of the venturi tube (normally same as pipe inner diameter)
- 2.10 Throat diameter : Assign the diameter of the throat (or bore) of the venturi
- 2.11 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.
- 3 FLOW STRAIGHTENER** This section should be left open or all fields filled in with NA if there is no flow straightener
- 3.01 Type : Assign a type designation/description
- 3.02 Material : Give the material of the flow straightener
- 3.03 Connection : Assign how the straightener is connected or mounted
- 4 METER TUBE** This section should be left open or all fields filled in with NA if there are no meter tubes
- 4.01 Material : Give the material of the meter tubes
- 4.02 Connection up/downstr. : Assign the process connection of the upstream and the downstream end of the meter tubes
- 4.03 Up/downstream length : Give the length of the upstream and the downstream meter tubes
- 4.04 Tube inner diameter : Assign the inner diameter of the meter tubes
- 5 CALCULATIONS** This section is normally filled in by the supplier/manufacturer
- 5.01 Calculation method/std. : Assign the calculation method for the venturi tube, e.g. ISO 5167
- 5.02 Diff. pressure range : Assign the differential pressure range which corresponds to the flow range in the Tag part
- 5.03 Beta factor : Assign the beta factor that comes from the calculations
- 5.04 Press. loss at full range : Assign the permanent pressure loss, at 100% of the flow range, that comes from the calculations

FORM F09**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

F09 - VORTEX FLOWMETER***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Flow range | : Give the flow range which corresponds to the output signal (normally start at zero), and a unit acc. to section 3.3 in this standard. |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|--------------------------------|--|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Press. loss at full range | : Assign the permanent pressure loss at 100% of flow range (upper range value) (as given by supplier/manufacturer) |
| 1.06 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.07 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated Range : Give the calibrated range (if calibrated) or the actual measured range (will normally not start at zero) e.g. 10 - 100 m³/h
- 2.02 Characteristic : Assign if the output signal is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.04 Linearity : Assign the linearity of the measurement, normally in %, as given by the supplier/manufacturer
- 2.05 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.06 Min / Max range limits : Assign the flow limits within which the instrument can operate/measure, min limit is normally above zero

3 METER BODY

- 3.01 Nominal Size : Give the nominal size of the body/tube, normally in inches or a DN value (DIN)
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 3.04 Pressure rating : Give the pressure rating of the process connection or body
- 3.05 Face to face dimension : Assign the face to face dimension/length of the meter body/tube (including any raised faced part of flanges)
- 3.06 Body inner diameter : Assign the inner diameter of the body/tube
- 3.07 Sour service spec. : Assign the sour service specification if required
- 3.08 Material, body : Give the material of the body/tube
- 3.09 Material, flange : Give the material of the flanges or connection
- 3.10 Probe (bar) size : Give the diameter/size of the internal vortex probe (bar)
- 3.11 Material, probe (bar) : Give the material of the internal vortex probe (bar)
- 3.12 Material, probe gasket : Give the material of the gasket for the vortex probe (bar), if any
- 3.13 Material, sensor (pick-up) : Give the material of the internal sensor (pick-up) if wetted
- 3.14 Material, neck : Give the material of the neck on top of the body, where transmitter normally is mounted
- 3.15 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4 TRANSMITTER

- 4,01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 4,02 Mounting : Assign how the transmitter is mounted, e.g. direct on meter body, remote in local control room etc.
- 4,03 Cable connection : Assign how the cable(s) to the transmitter should be connected, e.g. screwed terminals, flying leads etc.
- 4,04 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4,05 Dimension : Give an approx. dimension of the transmitter housing
- 4,06 Material : Give the material of the transmitter housing
- 4,07 Enclosure protection : Assign the enclosure (weather) protection of the transmitter housing, e.g. IP66
- 4,08 Ex. classification : Assign the Ex certification class of the complete instrument
- 4,09 Protective coating : If coated, assign the type of coating (painting) and color
- 4,10 Indicator : Assign if an indicator is included and/or a designation/description
- 4,11 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the flow range in the Tag part
- 4,12 Communication : Assign if there is a digital/electronic communication and type/standard
- 4,13 Supply voltage : Give the nominal supply voltage to the instrument
- 4,14 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 4,15 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer

FORM L01**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L01 - LEVEL INSTRUMENT MAGNETIC***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Level Range | : If the instrument is equipped with a transmitter, give the measured level range which corresponds to the output signal and with reference to the level "zero" point (vessel datum) (may also be filled in for indicators). |
| Set/Alarm Point | : If the instrument is equipped with a level switch, give the set point (alarm/trip or "switch operating level value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description, e.g. Magnetic Level Indicator with Transmitter etc. |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Duty | : Assign the duty (service) for the instrument, normally Interface or Top Level |
| 1.05 Mounting | : Assign how the instrument is mounted, e.g. Side of tank etc. |
| 1.06 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Accuracy : Assign the accuracy of the reading/output signal, normally in % of full scale or actual reading
2.02 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
2.03 Minimum density : Give the minimum operating density for the instrument, as given by supplier/manufacturer

3 BODY / CHAMBER

- 3.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
3.02 Nominal size : Give the nominal size of the body/chamber, normally in inches or mm
3.03 Pressure rating : Give the pressure rating of the process connection or body/chamber
3.04 Material : Give the material of the body/chamber
3.05 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.
3.06 Sour service spec. : Assign the sour service specification if required
3.07 Process conn. size/type : Assign the process connection, e.g. 2" ANSI B16.5 flanges
3.08 Connection orientation : Assign the orientation of the connection, e.g. side - side, side - bottom etc.
3.09 Connection distance : Assign the connection (vertical) distance (span)
3.10 Connection material : Assign the material of the connection parts/flanges
3.11 Indicator type/material : Give the type of indicator and the material, e.g. flaps type / aluminium etc.
3.12 Indicator cover material : Give the material of the indicator cover
3.13 Indicator visible length : Give the visible length of the indicator (often same as connection distance if side-side orientation)
3.14 Float type : Assign a type designation/description of the internal float
3.15 Float stop included : Assign if an internal float stop, at bottom of chamber, is included
3.16 Float/float stop material : Give the material of the internal float, and internal float stop if included
3.17 Conn. size/type vent : Give the size and type of the vent connection (at top of chamber)
3.18 Conn. size/type drain : Give the size and type of the drain connection (at bottom of chamber)
3.19 Vent/drain valves included : Assign if vent and drain valves are included
3.20 Valves size/type : Give the size and type of the vent/drain valves, if included
3.21 Valves material : Give the material of the vent/drain valves, if included
3.22 Support bracket(s) : Assign if one or several support brackets are included. If included, give a description and/or refer to a drawing number for details/dimensions

- 4 TRANSMITTER / SWITCH HOUSING** This section can be left open or filled in with NA if there is no transmitter or switch
- 4.01 Mounting : Assign how the transmitter / switch housing is mounted, e.g. on top of chamber etc.
- 4.02 Dimension : Give an approx. dimension of the transmitter / switch housing
- 4.03 Material : Give the material of the housing
- 4.04 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 4.05 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.06 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 4.07 Ex. classification : Assign the Ex certification class of the instrument
- 4.08 Protective coating : If coated, assign the type of coating (painting) and color
- 5 TRANSMITTER** This section can be left open or filled in with NA if the instrument is a switch or an indicator only
- 5.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 5.02 Detector type : Assign a type designation/description of the detector(s), e.g. reed switches inside a rod
- 5.03 Indicator : Assign if an indicator is included and/or a designation/description
- 5.04 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the range in the Tag part
- 5.05 Communication : Assign if there is a digital/electronic communication and type/standard
- 5.06 Supply voltage : Give the nominal supply voltage to the instrument
- 5.07 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 5.08 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer
- 6 SWITCH** This section can be left open or filled in with NA if the instrument is a transmitter or an indicator only
- 6.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 6.02 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 6.03 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 6.04 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing level value (high or low alarm)
- 6.05 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 6.06 Contact material : Give the material of the switch contacts, e.g. gold plated
- 6.07 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 6.08 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM L02**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L02 - LEVEL INSTRUMENT ULTRASONIC / MICROWAVE***Tag Part***

Tag number	:	Enter the tag number of the instrument described on the data sheet
Service description	:	Assign a service description for the instrument
P&ID	:	Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	:	Enter the line or equipment number on which the instrument is mounted/connected
Level Range	:	If the instrument is a transmitter, give the measured level range which corresponds to the output signal and with reference to the level "zero" point (vessel datum).
Set/Alarm Point	:	If the instrument is a level switch, give the set point (alarm/trip or "switch operating level value")
Area	:	Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	:	Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	:	Assign a type designation/description, e.g. Microwave Level Transmitter etc.
1.02 Manufacturer	:	Give the name of the manufacturer
1.03 Operating Temp. Limits	:	Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer)
1.04 Operating Press. Limit	:	Assign the operating pressure limit of the instrument (as given by supplier/manufacturer)
1.05 Process conn. size/type	:	Assign the process connection, e.g. 4" ANSI B16.5 flanges
1.06 Connection press. rating	:	Give the pressure rating of the process connection
1.07 Connection material	:	Assign the material of the connection parts/flanges
1.08 Sour service spec.	:	Assign the sour service specification if required

1.09 Mounting	:	Assign how the instrument is mounted, e.g. Top of tank etc.
1.10 Weight	:	Give the weight of the instrument
2 INSTRUMENT CHARACTERISTICS		
2.01 Accuracy	:	Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
2.02 Repeatability	:	Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
2.03 Min / max span	:	Assign the minimum and maximum span the instrument can be adjusted to, as given by supplier/manufacturer
2.04 Distance from connection point to zero level	:	Give the distance from the connection point (normally flange face or another defined point) down to the zero level point, e.g. tank bottom
3 ULTRASONIC TRANSDUCER		
This section can be left open or filled in with NA if the instrument is a microwave type		
3.01 Manufacturer model no	:	Assign the model number as given by the supplier/manufacturer
3.02 Insertion length	:	Give the insertion length of the transducer (normally from flange face and into the mounting nozzle)
3.03 Blocking distance	:	Give the blocking distance (deadband or non-sensing distance) from the transducer face (equal to min distance from transducer face to 100% of level range), as given by supplier/manufacturer
3.04 Material	:	Give the material of the transducer wetted parts (connection parts are given in 1.07)
3.05 Mount. nozzle max height	:	Assign the max possible height of the mounting (pipe) nozzle (when nozzle ID is given, the height/length of nozzle is limited)
4 MICROWAVE TRANSDUCER		
This section can be left open or filled in with NA if the instrument is an ultrasonic type		
4.01 Manufacturer model no	:	Assign the model number as given by the supplier/manufacturer
4.02 Antenna type	:	Assign a type designation/description of the antenna
4.03 Antenna material	:	Give the material of the antenna
4.04 Insertion length	:	Give the insertion length of the antenna (normally from flange face and into the mounting nozzle)
4.05 Blocking distance	:	Give the blocking distance (deadband or non-sensing distance) normally from the connection point (equal to min distance from connection point to 100% of level range), as given by supplier/manufacturer
4.06 Other wetted parts mater.	:	Give the material of any other wetted parts
5 HOUSING		
5.01 Mounting	:	Assign how the transmitter / switch housing is mounted, e.g. direct on transducer etc.
5.02 Dimension	:	Give an approx. dimension of the transmitter / switch housing
5.03 Material	:	Give the material of the housing
5.04 Cable connection	:	Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
5.05 Cable entry	:	Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland

5.06 Enclosure protection	:	Assign the enclosure (weather) protection of the housing, e.g. IP66
5.07 Ex. classification	:	Assign the Ex certification class of the instrument
5.08 Protective coating	:	If coated, assign the type of coating (painting) and color
6 TRANSMITTER		This section can be left open or filled in with NA if the instrument is a switch
6.01 Manufacturer model no	:	Assign the model number as given by the supplier/manufacturer
6.02 Indicator	:	Assign if an indicator is included and/or a designation/description
6.03 Output signal	:	Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the range in the Tag part
6.04 Communication	:	Assign if there is a digital/electronic communication and type/standard
6.05 Supply voltage	:	Give the nominal supply voltage to the instrument
6.06 Consumption	:	Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
6.07 Load limitation	:	Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer
7 SWITCH		This section can be left open or filled in with NA if the instrument is a transmitter
7.01 Manufacturer model no	:	Assign the model number as given by the supplier/manufacturer
7.02 Set point adjustment	:	Assign the adjustable range of the set point (alarm/trip)
7.03 Supply voltage	:	Give the nominal supply voltage to the instrument
7.04 Consumption	:	Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
7.05 Reset; automatic or manual	:	Assign if the resetting of the switch is automatic or manual operated
7.06 Deadband or differential	:	Assign the deadband/differential (hysteresis) between the set and the reset point
7.07 Alarm at increase/decrease	:	Assign if the alarm (trip) shall occur at increasing or decreasing level value (high or low alarm)
7.08 Contact configuration	:	Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
7.09 Contact material	:	Give the material of the switch contacts, e.g. gold plated
7.10 Contact rating	:	Assign the switch contacts maximum rating/load in electrical current or VA/Watts
7.11 Contact action on alarm	:	Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM L03**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L03 - LEVEL INSTRUMENT DISPLACER / FLOAT***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Level Range | : If the instrument is a transmitter, give the measured level range which corresponds to the output signal and with reference to the level "zero" point (vessel datum). |
| Set/Alarm Point | : If the instrument is a level switch, give the set point (alarm/trip or "switch operating level value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|--|
| 1.01 Type | : Assign a type designation/description, e.g. Level Transmitter w/ Displacer etc. (Magnetic float type ; use form L01) |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Manufacturer model no | : Assign the model number as given by the supplier/manufacturer |
| 1.04 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.05 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.06 Duty | : Assign the duty (service) for the instrument, normally Interface or Top Level |
| 1.07 Sour service spec. | : Assign the sour service specification if required |
| 1.08 Mounting | : Assign how the instrument is mounted, e.g. Side of tank etc. |

1.09 Weight : Give the weight of the instrument

2 INSTRUMENT CHARACTERISTICS

2.01 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading

2.02 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer

2.03 Minimum density : Give the minimum operating density for the instrument, as given by supplier/manufacturer (applies to displacer)

3 DISPLACER / FLOAT

3.01 Type : Assign a type designation/description of the displacer or float

3.02 Material : Give the material of the displacer or float

3.03 Diameter : Give the diameter of the displacer or float

3.04 Length : Give the length of the displacer or float (the length of the displacer is equal to the measuring span)

3.05 Wire / arm material : Give the material of the displacer wire or the float (connection) arm/rod

3.06 Other wetted parts mater. : Give the material of any other wetted parts

3.07 Distance from conn. point to displ./float zero point : Give the distance from the connection point (normally flange face or another defined point) down to the bottom of the displacer or to the zero point of the (vertical) float. For horizontal floats this shall be the insertion length

4 CAGE / CHAMBER

This section can be left open or filled in with NA if the instrument is direct mounted (without cage)

4.01 Nominal size : Give the nominal size of the cage/chamber, normally in inches or mm

4.02 Material : Give the material of the cage/chamber

4.03 Process conn. size/type : Assign the process connection, e.g. 2" ANSI B16.5 flanges

4.04 Connection orientation : Assign the orientation of the connection, e.g. side - side, side - bottom etc.

4.05 Connection distance : Assign the connection (vertical) distance (span)

4.06 Connection material : Assign the material of the connection parts/flanges

4.07 Pressure rating : Give the pressure rating of the process connection or cage/chamber

4.08 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

4.09 Conn. size/type vent : Give the size and type of the vent connection (normally at top of cage)

4.10 Conn. size/type drain : Give the size and type of the drain connection (normally at bottom of cage)

4.11 Vent/drain valves included : Assign if vent and drain valves are included

4.12 Valves size/type : Give the size and type of the vent/drain valves, if included

4.13 Valves material : Give the material of the vent/drain valves, if included

5 DIRECT MOUNTED INSTRUMENT

This section can be left open or filled in with NA if the instrument is equipped with cage

5.01 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges

- 5.02 Connection material : Assign the material of the connection parts/flanges
- 5.03 Pressure rating : Give the pressure rating of the process connection
- 5.04 Vessel intern. cage/support : Assign if a vessel internal cage/support or stilling tube is required/recommended
- 6 TRANSMITTER / SWITCH HOUSING**
- 6.01 Mounting : Assign how the transmitter / switch housing is mounted
- 6.02 Rotatable head : Assign if the housing/head can be rotated, and in which direction or how many degrees
- 6.03 Dimension : Give an approx. dimension of the transmitter / switch housing
- 6.04 Material : Give the material of the housing
- 6.05 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 6.06 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 6.07 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 6.08 Ex. classification : Assign the Ex certification class of the instrument
- 6.09 Protective coating : If coated, assign the type of coating (painting) and color
- 7 TRANSMITTER** : This section can be left open or filled in with NA if the instrument is a switch
- 7.01 Indicator : Assign if an indicator is included and/or a designation/description
- 7.02 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the range in the Tag part
- 7.03 Communication : Assign if there is a digital/electronic communication and type/standard
- 7.04 Supply voltage : Give the nominal supply voltage to the instrument
- 7.05 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 7.06 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer
- 8 SWITCH** : This section can be left open or filled in with NA if the instrument is a transmitter
- 8.01 Set point adjustment : Assign the adjustable range of the set point (alarm/trip)
- 8.02 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 8.03 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 8.04 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing level value (high or low alarm)
- 8.05 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 8.06 Contact material : Give the material of the switch contacts, e.g. gold plated
- 8.07 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 8.08 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM L04**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L04-LEVEL INSTRUMENT CAPACITIVE / CONDUCTIVE***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Level Range | : If the instrument is a transmitter, give the measured level range which corresponds to the output signal and with reference to the level "zero" point (vessel datum). |
| Set/Alarm Point | : If the instrument is a level switch, give the set point (alarm/trip or "switch operating level value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description, e.g. Capacitive Level Transmitter etc. |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Mounting | : Assign how the instrument is mounted, e.g. Top of tank etc. |
| 1.06 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.02 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.03 Min / max span : Assign the minimum and maximum span the instrument can be adjusted to, as given by supplier/manufacturer(Max span should be equal to active length)
- 2.04 Zero adjustment : Assign if the instrument can be zero adjusted and/or assign the limits, as given by supplier/manufacturer

3 ELEMENT/ SENSOR

- 3.01 Type : Assign a type designation/description, e.g. Capacitive sensor
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Material, element (sensor) : Give the material of the wetted parts of the element/sensor
- 3.04 Location / Orientation : Give a description of the installation e.g.: horizontal / vertical, top / bottom of tank etc.
- 3.05 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 RF flanges
- 3.06 Connection material : Assign the material of the process connection parts/flanges
- 3.07 Pressure rating : Give the pressure rating of the process connection, e.g. 150 lb
- 3.08 Sour service spec. : Assign the sour service specification if required
- 3.09 Conductivity limit : Give the minimum requirement for conductivity in the medium, as given by supplier/manufacturer Applies only to Conductive instruments.
- 3.10 Dielectric constant limit : Give the minimum requirement for dielectric constant in the medium, as given by supplier/manufacturer Applies only to Capacitive instruments.
- 3.11 Insertion length : Give the insertion length of the element (normally from flange face)
- 3.12 Active length : Give the length of sensitive part of the element/sensor

4 ELEMENT HOUSING This section shall also be filled in when the transmitter is mounted within element housing

- 4.01 Dimension : Give an approx. dimension of the element/sensor housing
- 4.02 Material : Give the material of the housing
- 4.03 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 4.04 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.05 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 4.06 Ex. classification : Assign the Ex certification class of the instrument (element)
- 4.07 Protective coating : If coated, assign the type of coating (painting) and color

5 TRANSMITTER/SWITCH HOUSING This section shall be filled in ONLY when the transmitter is remote mounted (otherwise leave open or NA)

- 5.01 Mounting : Assign how the transmitter/switch is mounted, e.g. remote on wall etc.
- 5.02 Max distance elem./transm. : Assign the max allowable distance/cable length between the element and transmitter as given by supplier/manufacture
- 5.03 Dimension : Give an approx. dimension of the transmitter / switch housing
- 5.04 Material : Give the material of the housing
- 5.05 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 5.06 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 5.07 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 5.08 Ex. classification : Assign the Ex certification class of the instrument (transmitter)
- 5.09 Protective coating : If coated, assign the type of coating (painting) and color

6 TRANSMITTER

This section can be left open or filled in with NA if the instrument is a switch

- 6.01 Manufacturer model no : Assign the model number as given by the supplier/manufacture
- 6.02 Indicator : Assign if an indicator is included and/or a designation/description
- 6.03 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the range in the Tag part
- 6.04 Communication : Assign if there is a digital/electronic communication and type/standard
- 6.05 Supply voltage : Give the nominal supply voltage to the instrument
- 6.06 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacture
- 6.07 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacture

7 SWITCH

This section can be left open or filled in with NA if the instrument is a transmitter

- 7.01 Manufacturer model no : Assign the model number as given by the supplier/manufacture
- 7.02 Set point adjustment : Assign the adjustable range of the set point (alarm/trip), if applicable
- 7.03 Supply voltage : Give the nominal supply voltage to the instrument
- 7.04 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacture
- 7.05 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 7.06 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 7.07 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing level value (high or low alarm)
- 7.08 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 7.09 Contact material : Give the material of the switch contacts, e.g. gold plated

- 7.10 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 7.11 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM L05**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L05 - LEVEL GLASS / GAUGE***Tag Part***

- | | | |
|---------------------|---|--|
| Tag number | : | Enter the tag number of the instrument described on the data sheet |
| Service description | : | Assign a service description for the instrument |
| P&ID | : | Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : | Enter the line or equipment number on which the instrument is mounted/connected |
| Level Range | : | If possible, give the measured level range which corresponds to the to the level reference or "zero" point (vessel datum). |
| Area | : | Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : | Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | | |
|-----------------------------|---|---|
| 1.01 Type | : | Assign a type designation/description, e.g. Reflex type Level Glass etc. |
| 1.02 Manufacturer | : | Give the name of the manufacturer |
| 1.03 Manufacturer model no | : | Assign the model number as given by the supplier/manufacturer |
| 1.04 Operating Temp. Limits | : | Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.05 Operating Press. Limit | : | Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.06 Connection orientation | : | Assign the orientation of the process connection, e.g. side - side, side - bottom etc. |
| 1.07 Connection distance | : | Assign the connection (vertical) distance (span) |
| 1.08 Sour service spec. | : | Assign the sour service specification if required |
| 1.09 Mounting | : | Assign how the instrument is mounted, e.g. Side of tank etc. |

-
- 1.10 Weight : Give the weight of the instrument
- 2 COLUMN**
- 2.01 Glass type : Assign a type designation/description of the column glass
- 2.02 Visible glass length : Give the total visible length of the glass
- 2.03 Number of sections : Assign the number of glass sections in the column
- 2.04 Length of each section : Assign the length of each glass section in the column
- 2.05 Rotatable column : Assign if the column is rotatable
- 2.06 Body (wetted) material : Give the material of the column body (wetted parts - NOT the glass)
- 2.07 Cover material : Give the material of the column cover (normally not wetted)
- 2.08 Bolts/nuts material : Give the material of the bolts and nuts in the column
- 2.09 Gasket material : Give the material of the gasket (between glass and body/cover)
- 2.10 Column conn. orientation : Assign the connection orientation (against the valves) on the column itself (normally top - bottom or side - side)
- 2.11 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.
- 3 GAUGE VALVES**
- 3.01 Type : Assign a type designation/description of the gauge valves
- 3.02 Offset pattern included : Assign if offset pattern style on the valves is included
- 3.03 Safety shut-off included : Assign if safety shut off (ball check valve) is included
- 3.04 Spherical union included : Assign if spherical unions are included on the valves (against the vessel)
- 3.05 Process conn. size/type : Assign the process connection, e.g. 2" ANSI B16.5 flanges
- 3.06 Pressure rating : Give the pressure rating of the process connection (and vent and drain if applicable)
- 3.07 Connection material : Assign the material of the process connection parts/flanges
- 3.08 Conn. size/type column : Assign the size and type of the column connection for the valves, e.g. 1/2" NPTM
- 3.09 Conn. size/type vent/drain : Give the size and type of the vent and drain connection
- 3.10 Valve handle type/material : Give the type and material of the gauge valve handle
- 3.11 Valve body material : Give the material of the gauge valve body (normally included vent and drain connection material)
- 3.12 Valve trim material : Give the material of the gauge valve trim parts (internal wetted parts)
- 3.13 Valve packing material : Give the material of the gauge valve packing

4 ACCESSORIES

- 4.01 Illuminator type : Assign a type designation/description of the illuminator, if included
- 4.02 Illuminator housing mater. : Give the material of the illuminator housing
- 4.03 Supply voltage : Give the supply voltage to the illuminator
- 4.04 Consumption : Assign the illuminator power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 4.05 Cable connection : Assign how the cable to the illuminator should be connected, e.g. screwed terminals, flying leads etc.
- 4.06 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.07 Enclosure protection : Assign the enclosure (weather) protection of the illuminator housing, e.g. IP66
- 4.08 Ex. classification : Assign the Ex certification class of the illuminator
- 4.09 Support bracket(s) : Assign if one or several support brackets are included. If included, give a description and/or refer to a drawing number for details/dimensions
- 4.10 Glass protector : Assign if a glass protector is included. If included, give a designation/description, e.g. Mica Shields
- 4.11 Calibrated scale : Assign if a calibrated (graduated) scale is included. If included, give a description

FORM L06**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L06 - LEVEL SWITCH VIBRATING FORK***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Set/Alarm Point	: Give the set point (alarm/trip or "switch operating level value")
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a type designation/description, e.g. Vibrating Fork Level Switch for Liquid etc.
1.02 Manufacturer	: Give the name of the manufacturer
1.03 Manufacturer model no	: Assign the model number as given by the supplier/manufacturer
1.04 Operating Temp. Limits	: Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer)
1.05 Operating Press. Limit	: Assign the operating pressure limit of the instrument (as given by supplier/manufacturer)
1.06 Mounting	: Assign how the instrument is mounted, e.g. Side of tank etc.
1.07 Weight	: Give the weight of the instrument

2 SWITCH

- 2.01 Repeatability : Assign the repeatability for the switch, e.g. +/- 2 mm, as given by the supplier/manufacturer
- 2.02 Fork insertion length : Give the insertion length of the fork (normally from flange face or another defined point)
- 2.03 Fork material : Give the material of the fork (wetted parts)
- 2.04 Sour service spec. : Assign the sour service specification if required
- 2.05 Process conn. size/type : Assign the process connection, e.g. 2" ANSI B16.5 RF flanges
- 2.06 Pressure rating : Give the pressure rating of the process connection
- 2.07 Connection material : Assign the material of the connection parts/flanges
- 2.08 Housing Dimension : Give an approx. dimension of the switch housing
- 2.09 Housing Material : Give the material of the housing
- 2.10 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 2.11 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 2.12 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 2.13 Ex. classification : Assign the Ex certification class of the instrument
- 2.14 Protective coating : If coated, assign the type of coating (painting) and color
- 2.15 Supply voltage : Give the nominal supply voltage to the instrument
- 2.16 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 2.17 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 2.18 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 2.19 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing level value (high or low alarm)
- 2.20 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 2.21 Contact material : Give the material of the switch contacts, e.g. gold plated
- 2.22 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 2.23 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM L07**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

L07 - LEVEL INSTRUMENT NUCLEONIC***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Level Range | : If the instrument is a transmitter, give the measured level range which corresponds to the output signal and with reference to the level "zero" point (vessel datum). |
| Set/Alarm Point | : If the instrument is a level switch, give the set point (alarm/trip or "switch operating level value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|--|
| 1.01 Type | : Assign a type designation/description of the complete instrument |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Operating Temp. Limits | : Assign the operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer), if connected to the process |
| 1.05 Duty | : Assign the duty (service) for the instrument, normally Interface or Top Level |
| 1.06 Mounting | : Assign how the instrument is mounted, e.g. Top of tank etc. |
| 1.07 Weight | : Give the weight of the complete instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.02 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.03 Min / max span : Assign the minimum and maximum span the instrument can be adjusted to, as given by supplier/manufacturer (Max span should be equal to detector active length)
- 2.04 Zero adjustment : Assign if the instrument can be zero adjusted and/or assign the limits, as given by supplier/manufacturer

3 SOURCE / CONTAINER

- 3.01 Type : Assign a type designation/description of the source/container
- 3.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 3.03 Source type / strength : Give the name/type of the source and it's radioactive strength
- 3.04 Source shipment container : Assign a type designation/description of the source transport container, or assign if shipped in operating container
- 3.05 Certification (Approval) : Give the name of the approval/certification office, and/or certificate/approval number/type
- 3.06 Number of sources : Give the number of sources supplied
- 3.07 Dose rate at housing surface : Give the (max) dose rate at the container housing surface (when source is inside container)
- 3.08 Max dose rate at detector : Give the max dose rate at detector, i.e. at empty tank/vessel
- 3.09 Housing dimension : Give an approx. dimension of the container housing
- 3.10 Housing material : Give the material of the container housing
- 3.11 Location / Orientation : Assign the location/orientation (or mounting) of the container housing
- 3.12 Process conn. size/type : If connected to process, give the process connection size and type, e.g. 4" ANSI RTJ flanges
- 3.13 Pressure rating : Give the pressure rating of the process connection, e.g. 600 lb ANSI
- 3.14 Connection material : Assign the material of the connection parts/flanges
- 3.15 Dip tube type : If a dip tube is included, assign a type designation/description (is normally not included if mounting brackets are included)
- 3.16 Dip tube diameter/length : If a dip tube is included, assign the diameter and length
- 3.17 Dip tube material : If a dip tube is included, give the material of the tube
- 3.18 Sour service spec. : Assign the sour service specification if required
- 3.19 Mounting brackets : Assign if mounting brackets are included, if yes, assign a type designation/description (normally not included if dip tube is included)
- 3.20 Material, mounting brackets : Give the material of the mounting brackets if included

4 TRANSMITTER / SWITCH HOUSING

- 4.01 Mounting : Assign how the transmitter/switch is mounted, e.g. direct on detector housing, remote on wall etc.
- 4.02 Max distance from detector : Assign the max allowable distance/cable length between the detector and transmitter as given by supplier/manufacturer
- 4.03 Dimension : Give an approx. dimension of the transmitter / switch housing
- 4.04 Material : Give the material of the housing
- 4.05 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 4.06 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.07 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 4.08 Ex. classification : Assign the Ex certification class of the instrument (transmitter/switch)
- 4.09 Protective coating : If coated, assign the type of coating (painting) and color

5 DETECTOR

- 5.01 Type : Assign a type designation/description of the detector(s)
- 5.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 5.03 Number of detectors : Give the number of detectors
- 5.04 Location / Orientation : Assign the location/orientation (or mounting) of the detector(s)
- 5.05 Active / total length : Give the active (sensitive) and the total length of the detector(s)
- 5.06 Housing dimension : Give an approx. dimension of the detector housing
- 5.07 Housing material : Give the material of the detector housing
- 5.08 Cable connection : Assign how the cable(s) to the detector(s) should be connected, e.g. screwed terminals, flying leads etc.
- 5.09 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 5.10 Enclosure protection : Assign the enclosure (weather) protection of the detector housing, e.g. IP66
- 5.11 Ex. classification : Assign the Ex certification class of the instrument (detector)
- 5.12 Protective coating : If coated, assign the type of coating (painting) and color
- 5.13 Dip tube type : If a dip tube is included, assign a type designation/description (is normally not included if mounting brackets are included)
- 5.14 Dip tube diameter/length : If a dip tube is included, assign the diameter and length
- 5.15 Dip tube material : If a dip tube is included, give the material of the tube
- 5.16 Mounting brackets : Assign if mounting brackets are included, if yes, assign a type designation/description (normally not included if dip tube is included)

- 5.17 Material, mounting brackets : Give the material of the mounting brackets if included
- 6 TRANSMITTER**
This section can be left open or filled in with NA if the instrument is a switch
- 6.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 6.02 Indicator : Assign if an indicator is included and/or a designation/description
- 6.03 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the range in the Tag part
- 6.04 Communication : Assign if there is a digital/electronic communication and type/standard
- 6.05 Supply voltage : Give the nominal supply voltage to the instrument
- 6.06 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 6.07 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer
- 7 SWITCH**
This section can be left open or filled in with NA if the instrument is a transmitter
- 7.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 7.02 Set point adjustment : Assign the adjustable range of the set point (alarm/trip), if applicable
- 7.03 Supply voltage : Give the nominal supply voltage to the instrument
- 7.04 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 7.05 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 7.06 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 7.07 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing level value (high or low alarm)
- 7.08 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 7.09 Contact material : Give the material of the switch contacts, e.g. gold plated
- 7.10 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 7.11 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM P01**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

P01 - PRESSURE / DIFF. PRESSURE INSTRUMENT ELECTRIC***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Scale range | : Give the scale range as shown on the indicator/control unit. If the instrument is for flow or level measurement, the scale must be in flow or level units acc. to section 3.3 in this standard. |
| Set/Alarm Point | : If the instrument is a pressure switch, give the set point (alarm/trip or "switch operating pressure value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|--|
| 1.01 Type | : Assign a type designation/description, e.g. Gauge Pressure Transmitter, Diff. Pressure Transmitter, Pressure Switch etc. |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Manufacturer model no | : Assign the model number as given by the supplier/manufacturer |
| 1.04 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.05 Mounting | : Assign how the instrument is mounted, e.g. direct, on-line, wall etc. |
| 1.06 Weight | : Give the weight of the instrument |

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated input range : Assign the calibrated range (in pressure units) connected to the input of the instrument. When the "Scale Range" and the "Calibrated input range" are the same, this line can be filled in with "Same as scale range"
- 2.02 Characteristic : Assign if the output signal is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.04 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.05 Lower / upper range limits : Assign the lower and upper pressure limits within which the instrument can operate/measure (i.e. working range), e.g. -1 to 210 barg. For switches this should be the adjustable range of the set point.
- 2.06 Min / max span : Assign the minimum and maximum span the instrument can be adjusted to, as given by supplier/manufacturer
- 2.07 Zero adjustment : Assign if the instrument can be zero adjusted and/or assign the limits, as given by supplier/manufacturer
- 2.08 Overpressure protect. to : Assign the maximum pressure (overrange) the instrument is able to withstand without need for recalibration (If an overpressure protection valve is used, give the max pressure value for the valve and refer to line 8.03)
- 2.09 Max static pressure : Assign the maximum static (line or "background") pressure for the instrument. Applies to diff. pressure instruments ONLY

3 ELEMENT / SENSOR

- 3.01 Type : Assign a type designation/description for the pressure sensing element (sensor),
- 3.02 Material, element (sensor) : Give the material of the pressure sensing element
- 3.03 Material, socket (inlet port) : Give the material of the instrument socket or inlet port
- 3.04 Material, sensor bolts/nuts : Give the material of the sensor unit bolts and nuts
- 3.05 Process conn. size/type : Assign the process connection, e.g. 1/2" NPTM. If equipped with chemical seal, refer to line 7.08
- 3.06 Sour service spec. : Assign the sour service specification if required

4 HOUSING

- 4.01 Dimension : Give an approx. dimension of the instrument housing
- 4.02 Material : Give the material of the instrument housing
- 4.03 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 4.04 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.05 Enclosure protection : Assign the enclosure (weather) protection of the instrument housing, e.g. IP66
- 4.06 Ex. classification : Assign the Ex certification class of the instrument
- 4.07 Protective coating : If coated, assign the type of coating (painting) and color

- 5 TRANSMITTER** This section can be left open or filled in with NA if the instrument is a switch
- 5.01 Indicator : Assign if an indicator is included and/or a designation/description
- 5.02 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the scale range in the Tag part
- 5.03 Communication : Assign if there is a digital/electronic communication and type/standard
- 5.04 Supply voltage : Give the nominal supply voltage to the instrument
- 5.05 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 5.06 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer
- 6 SWITCH** This section can be left open or filled in with NA if the instrument is a transmitter
- 6.01 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 6.02 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 6.03 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing pressure value (high or low alarm)
- 6.04 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 6.05 Contact material : Give the material of the switch contacts, e.g. gold plated
- 6.06 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 6.07 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)
- 7 CHEMICAL SEAL** This section can be left open or filled in with NA if there is no chemical seal
- 7.01 Type : Assign if a chemical seal is included and/or a type designation/description
- 7.01 Material, upper/lower part : Give the material of upper and lower part of the seal (may be different)
- 7.03 Material, bolts / nuts : Give the material of the seal bolts and nuts, if any
- 7.04 Material, diaphragm : Give the material of the seal diaphragm
- 7.05 Fill fluid : Give a designation/description of the seal fill fluid (between diaphragm and instrument)
- 7.06 Capillary length/diameter : If there is a capillary (or 2), give the length and diameter
- 7.07 Material, capillary/armour : If there is a capillary (or 2), give the material, and if equipped with armour, give the material of this
- 7.08 Process conn. size/type : Assign the seal process connection, e.g. 2" 150 lb ANSI RF flange
- 8 ACCESSORIES** This section can be left open or filled in with NA if there are no accessories
- 8.01 Mounting bracket : Assign if a mounting bracket is included and/or a type designation/description
- 8.02 Material, mounting bracket : Give the material of the mounting bracket
- 8.03 Overpr. protection valve : Assign if an overpressure protection valve is included and/or a type designation/description, and setting of the valve (i.e. the pressure value where the valve closes, normally approx. 120% of cal. range end/upper range value)
- 8.04 Material, overpr. prot. valve : Give the material of the overpressure protection valve

- 8.05 Pulsation damper : Assign if a pulsation damper device (snubber) is included and/or a type designation/description
8.06 Material, pulsation damper : Give the material of the pulsation damper device

FORM P02**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

P02 - PRESSURE / DIFF. PRESSURE INDICATOR***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Scale range	: Give the scale range as shown on the indicator. If the instrument is for flow or level measurement, the scale must be in flow or level units acc. to section 3.3 in this standard.
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a type designation/description, e.g. Safety Pressure Gauge etc.
1.02 Manufacturer	: Give the name of the manufacturer
1.03 Manufacturer model no	: Assign the model number as given by the supplier/manufacturer
1.04 Operating Temp. Limits	: Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer)
1.05 Mounting	: Assign how the instrument is mounted, e.g. direct, on-line, wall etc.
1.06 Weight	: Give the weight of the instrument

2 INSTRUMENT CHARACTERISTICS

- 2.01 Calibrated input range : Assign the calibrated range (in pressure units) connected to the input of the instrument. When the "Scale Range" and the "Calibrated input range" are the same, this line can be filled in with "Same as scale range"
- 2.02 Characteristic : Assign if the reading is linear, square root etc.
- 2.03 Accuracy : Assign the accuracy of the measurement/indication, normally in % of full scale or actual reading
- 2.04 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.05 Overpressure protect. to : Assign the maximum pressure (overrange) the instrument is able to withstand without need for recalibration (If an overpressure protection valve is used, give the max pressure value for the valve and refer to line 6.03)
- 2.06 Max static pressure : Assign the maximum static (line or "background") pressure for the instrument. Applies to diff. pressure instruments ONLY

3 ELEMENT / SENSOR

- 3.01 Type : Assign a type designation/description for the pressure sensing element (sensor),
- 3.02 Material, element (sensor) : Give the material of the pressure sensing element
- 3.03 Material, socket (inlet port) : Give the material of the instrument socket or inlet port
- 3.04 Material, sensor bolts/nuts : Give the material of the sensor unit bolts and nuts
- 3.05 Process conn. size/type : Assign the process connection, e.g. 1/2" NPTM. If equipped with chemical seal, refer to line 5.08
- 3.06 Position of connection : Assign the position (on the gauge) of the process connection, e.g. bottom, center back, lower back etc.
- 3.07 Sour service spec. : Assign the sour service specification if required

4 HOUSING

- 4.01 Nominal size : Give the nominal size of the instrument housing, e.g. 100 mm diameter
- 4.02 Material : Give the material of the instrument housing
- 4.03 Enclosure protection : Assign the enclosure (weather) protection of the instrument housing, e.g. IP66
- 4.04 Markings and scale color : Give the color of the markings/graduations and the scale (background), e.g. black on white background
- 4.05 Pointer color : Give the color of the indicator pointer
- 4.06 Scale length or deflection : Give the length/size of the scale, or the deflection of the pointer in mm or degrees
- 4.07 Glass type : Give indicator glass type, e.g. manufacturer's standard, safety glass etc.
- 4.08 Fill fluid : Assign if the indicator house has a filling fluid, and/or give a designation/description of the fluid
- 4.09 Blow-out protection : Assign if the instrument has a blow-out protection and give the type, e.g. blow-out back

- 5 CHEMICAL SEAL** This section can be left open or filled in with NA if there is no chemical seal
- 5.01 Type : Assign if a chemical seal is included and/or a type designation/description
- 5.02 Material, upper/lower part : Give the material of upper and lower part of the seal (may be different)
- 5.03 Material, bolts / nuts : Give the material of the seal bolts and nuts, if any
- 5.04 Material, diaphragm : Give the material of the seal diaphragm
- 5.05 Fill fluid : Give a designation/description of the seal fill fluid (between diaphragm and instrument)
- 5.06 Capillary length/diameter : If there is a capillary (or 2), give the length and diameter
- 5.07 Material, capillary/armour : If there is a capillary (or 2), give the material, and if equipped with armour, give the material of this
- 5.08 Process conn. size/type : Assign the seal process connection, e.g. 2" 150 lb ANSI RF flange
- 6 ACCESSORIES** This section can be left open or filled in with NA if there are no accessories
- 6.01 Mounting bracket : Assign if a mounting bracket is included and/or a type designation/description
- 6.02 Material, mounting bracket : Give the material of the mounting bracket
- 6.03 Overpr. protection valve : Assign if an overpressure protection valve is included and/or a type designation/description, and setting of the valve
(i.e. the pressure value where the valve closes, normally approx. 120% of cal. range end/upper range value)
- 6.04 Material, overpr. prot. valve : Give the material of the overpressure protection valve
- 6.05 Pulsation damper : Assign if a pulsation damper device (snubber) is included and/or a type designation/description
- 6.06 Material, pulsation damper : Give the material of the pulsation damper device

FORM Pr1**Introduction.**

The process data sheet has four main parts; the Tag part, Equipment Conditions, Operating Conditions and Special Conditions. All parts must be filled in by the customer. When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment, Operating Condition and Special Condition sections should move to the next page if necessary.

PR1 - BLOCK (ON - OFF) VALVE***Tag Part***

Tag number	: Enter the tag number of the valve
Service description	: Assign a service description for the valve
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the valve is mounted/connected
Pipe Class Sheet	: Give the pipe class sheet code, if relevant
Area	: Give the area (or location) designation of the plant/project where the valve is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

1 *EQUIPMENT CONDITIONS*

1.01 Line Nominal Size/Schedule	: Give the nominal line/pipe size where the valve is mounted, e.g. 6" and give the piping schedule
1.02 Line Material	: Give the material of the line/pipe
1.03 Flange Pressure Class	: Assign the flange pressure class, e.g. 300 lb ANSI
1.04 Flange Facing	: Assign the flange facing, normally RF (Raised Face) or RTJ (Ring Type Joint)
1.05 Piping Design Temperature	: Assign the Piping Design Temperature
1.06 Piping Design Pressure	: Assign the Piping Design Pressure
1.07 Fluid	: Give a description of the process fluid
1.08 Phase	: Assign the phase of the process fluid
1.09 Corrosive Compounds	: Assign if there are any corrosive compounds in the fluid

2 OPERATING CONDITIONS - Maximum

- 2.01 Flow rate : Assign the flow rate value
- 2.02 Temperature : Assign the operating temperature
- 2.03 Inlet pressure : Assign the inlet pressure
- 2.04 Pressure drop : Assign the allowable pressure drop

3 SPECIAL CONDITIONS

- 3.01 Failure action : Give the required failure action of the valve at loss of actuating pressure, e.g. open or close
- 3.02 Opening/closing time : Give the required opening and closing time for the valve
- 3.03 Maximum shut-off diff-pressure : Give the maximum shut-off differential pressure across the valve

FORM Pr2**Introduction.**

The process data sheet has four main parts: the Tag part, Equipment Conditions, Operating Conditions and Special Conditions.

All parts must be filled in by the customer. When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment, Operating Condition and Special Condition sections should move to the next page if necessary.

PR2 - CONTROL VALVE***Tag Part***

- | | |
|---------------------|---|
| Tag number | : Enter the tag number of the valve |
| Service description | : Assign a service description for the valve |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the valve is mounted/connected |
| Pipe Class Sheet | : Give the pipe class sheet code, if relevant |
| Area | : Give the area (or location) designation of the plant/project where the valve is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

1 *EQUIPMENT CONDITIONS*

- | | |
|--|--|
| 1.01 Line Nominal Size/Schedule | : Give the nominal line/pipe size where the valve is mounted, e.g. 6", and give the piping schedule |
| 1.02 Line Material | : Give the material of the line/pipe |
| 1.03 Flange Size | : Give the nominal size of the flange between which the valve will be mounted (normally same as line size) |
| 1.04 Flange Pressure Class/Flange Facing | : Assign the flange pressure class, e.g. 300 lb ANSI, and flange facing, normally RF or RTJ |
| 1.05 Piping Design Temperature | : Assign the Piping Design Temperature |
| 1.06 Piping Design Pressure | : Assign the Piping Design Pressure |
| 1.07 Fluid | : Give a description of the process fluid |
| 1.08 Phase | : Assign the phase of the process fluid |
| 1.09 Corrosive Compounds | : Assign if there are any corrosive compounds in the fluid |
| 1.10 Vapour molecular weight | : Give the molecular weight of the vapour |
| 1.11 Vapour specific heat ratio | : Give the vapour specific heat ratio (k-factor or isentropic exponent) |

-
- 1.12 Critical temperature : Give the fluid critical temperature
- 1.13 Critical pressure : Give the fluid critical pressure
- 2 OPERATING CONDITIONS -
Minimum** : Define the minimum operating conditions on the dotted line, e.g. minimum differential pressure or minimum flow
- 2.01 Flow rate : Assign the flow rate value at minimum operating conditions
- 2.02 Temperature : Assign the corresponding operating temperature at minimum operating conditions
- 2.03 Inlet Pressure : Assign the corresponding inlet pressure (upstream) of the valve at minimum operating conditions
- 2.04 Pressure drop : Assign the pressure drop at minimum operating conditions
- 2.05 Density at T&P : Give the density of the fluid with temperature and pressure at minimum operating conditions
- 2.06 Viscosity at T : Give the viscosity of the fluid with temperature at minimum operating conditions
- 2.07 Liquid vapour pressure at T : Give the liquid vapour pressure with temperature at minimum operating conditions
- 2.08 Vapour compressibility factor : Give the vapour compressibility factor
- 3 OPERATING CONDITIONS -
Normal** : Define the normal operating conditions on the dotted line, e.g. normal differential pressure or normal flow
- 3.01 Flow rate : Assign the flow rate value at normal operating conditions
- 3.02 Temperature : Assign the corresponding operating temperature at normal operating conditions
- 3.03 Inlet Pressure : Assign the corresponding inlet pressure (upstream) of the valve at normal operating conditions
- 3.04 Pressure drop : Assign the pressure drop at normal operating conditions
- 3.05 Density at T&P : Give the density of the fluid with temperature and pressure at normal operating conditions
- 3.06 Viscosity at T : Give the viscosity of the fluid with temperature at normal operating conditions
- 3.07 Liquid vapour pressure at T : Give the liquid vapour pressure with temperature at normal operating conditions
- 3.08 Vapour compressibility factor : Give the vapour compressibility factor

- 4 OPERATING CONDITIONS -
Maximum**
- 4.01 Flow rate : Define the maximum operating conditions on the dotted line, e.g. maximum differential pressure or maximum flow
 - 4.02 Temperature : Assign the flow rate value at maximum operating conditions
 - 4.03 Inlet Pressure : Assign the corresponding operating temperature at maximum operating conditions
 - 4.04 Pressure drop : Assign the corresponding inlet pressure (upstream) of the valve at maximum operating conditions
 - 4.05 Density at T&P : Assign the pressure drop at maximum operating conditions
 - 4.06 Viscosity at T : Give the density of the fluid with temperature and pressure at maximum operating conditions
 - 4.07 Liquid vapour pressure at T : Give the viscosity of the fluid with temperature at maximum operating conditions
 - 4.08 Vapour compressibility factor : Give the liquid vapour pressure with temperature at maximum operating conditions
- 5 SPECIAL CONDITIONS**
- 5.01 Failure action : Give the vapour compressibility factor
 - 5.02 Opening/closing time : Give the required failure action, when loss of actuating force, of the valve, e.g. open or close
 - 5.03 Maximum shut-off diff-pressure : Give the required opening and closing time for the valve, if applicable
- : Give the maximum shut-off differential pressure across the valve

FORM Pr3**Introduction.**

The process data sheet has three main parts; the Tag part, Equipment Conditions and Operating Conditions. All parts must be filled in by the customer. When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment and Operating Condition sections should move to the next page if necessary.

PR3 - SAFETY / RELIEF VALVE***Tag Part***

Tag number	: Enter the tag number of the instrument/valve
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Set Pressure	: Give the set pressure, e.g. in barg, at cold conditions
Pipe Class Sheet	: Give the pipe class sheet code, if relevant
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

1 *EQUIPMENT CONDITIONS*

1.01 Line Nominal Size in/out	: Give the nominal line/pipe size for the valve inlet and outlet, e.g. 4" / 6"
1.02 Flange Pressure Class in/out	: Assign the valve inlet and outlet flange pressure class, e.g. 300 lb / 150 lb ANSI
1.03 Flange Facing in/out	: Give the flange facing for the valve inlet and outlet, e.g. RF / RF (raised face)
1.04 Piping Design Temperature in/out	: Assign the inlet and outlet Piping Design Temperature
1.05 Piping Design Pressure in/out	: Assign the inlet and outlet Piping Design Pressure
1.06 Fluid	: Give a description of the process fluid
1.07 Phase	: Assign the phase of the process fluid
1.08 Corrosive Compounds	: Assign if there are any corrosive compounds in the fluid
1.09 Operating case	: Give the application operating case, e.g. thermal relief, blocked or fire
1.10 Valve type / design	: Assign the valve type, e.g. safety, relief or safety relief, and design, e.g. conventional, bellows or pilot

2 OPERATING CONDITIONS

- 2.01 Flow rate : Assign the maximum operating flow rate value, give normal/min flow rate as note if relevant for valve design
- 2.02 Temperature : Assign the maximum operating temperature, give normal/min temp. as note if relevant for valve design
- 2.03 Maximum operating inlet pressure : Assign the maximum operating inlet pressure, give normal/min pressure as note if relevant for valve design
- 2.04 Normal back pressure : Give the calculated back pressure based upon static outlet conditions
- 2.05 Build up back pressure : Give the calculated back pressure based upon dynamic outlet conditions
- 2.06 Total back pressure : Give the calculated total back pressure including both static and dynamic conditions
- 2.07 Density at T&P : Give the density of the fluid at actual temperature and pressure
- 2.08 Viscosity at T : Give the viscosity of the fluid at actual fluid temperature
- 2.09 Vapour molecular weight : Give the molecular weight of the vapour
- 2.10 Vapour compress. factor : Give the vapour compressibility factor
- 2.11 Vapour specific heat ratio : Give the vapour specific heat ratio (k-factor or isentropic exponent)
- 2.12 Weight fraction vapour : Give the fluid weight fraction of vapour

FORM Pr4**Introduction.**

The process data sheet has three main parts; the Tag part, Equipment Conditions and Operating Conditions. All parts must be filled in by the customer. When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment and Operating Condition sections should move to the next page if necessary.

PR4 - INLINE / FLOW INSTRUMENT***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Pipe Class Sheet | : Give the pipe class sheet code, if relevant |
| Set/Alarm Point | : If the instrument is a switch, give the set point (alarm/trip or "switch operating value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

1 *EQUIPMENT CONDITIONS*

- | | |
|--------------------------------|---|
| 1.01 Line Nominal Size | : Give the nominal line/pipe size where the instrument is mounted, e.g. 6" |
| 1.02 Line Inner Diameter | : Give the line/pipe inner diameter, preferably in mm |
| 1.03 Line Material | : Give the material of the line/pipe |
| 1.04 Flange Standard or Code | : Assign the flange standard (or code), e.g. ANSI B16.5 |
| 1.05 Flange Size | : Give the nominal size of the flange between which the instrument will be mounted (normally same as line size) |
| 1.06 Flange Pressure Class | : Assign the flange pressure class, e.g. 300 lb ANSI |
| 1.07 Flange Facing | : Assign the flange facing, normally RF (Raised Face) or RTJ (Ring Type Joint) |
| 1.08 Piping Design Temperature | : Assign the Piping Design Temperature |
| 1.09 Piping Design Pressure | : Assign the Piping Design Pressure |
| 1.10 Fluid | : Give a description of the process fluid |
| 1.11 Phase | : Assign the phase of the process fluid |
| 1.12 Corrosive Compounds | : Assign if there are any corrosive compounds in the fluid |

-
- 1.13 Maximum pressure loss : Give the maximum allowable (permanent) pressure loss across the instrument
- 2 OPERATING CONDITIONS - Minimum flow**
- 2.01 Flow rate : Give the minimum operating flow rate
- 2.02 Velocity : Give the corresponding velocity of the medium (optional)
- 2.03 Temperature : Give the corresponding temperature of the medium
- 2.04 Inlet Pressure : Give the corresponding inlet pressure to the instrument
- 2.05 Density at T and P : Give the density of the fluid at minimum flow, NOTE : if the instrument is a flow orifice plate and the flow rate is given in standard m³ (e.g. Sm³/h), the density at standard conditions must be given in a note
- 2.06 Viscosity at T : Give the viscosity of the fluid at minimum flow and corresponding temperature
- 2.07 Vapour molecular weight : Give the molecular weight of the vapour at minimum flow (not required for flow orifice plates when density is given)
- 2.08 Vapour compress. factor : Give the vapour compressibility factor at minimum flow (not required for flow orifice plates when density is given)
- 2.09 Vapour specific heat ratio : Give the vapour specific heat ratio (k-factor or isentropic exponent)
- 3 OPERATING CONDITIONS - Normal flow**
- 3.01 Flow rate : Give the normal operating flow rate
- 3.02 Velocity : Give the corresponding velocity of the medium (optional)
- 3.03 Temperature : Give the corresponding temperature of the medium
- 3.04 Inlet Pressure : Give the corresponding inlet pressure to the instrument
- 3.05 Density at T and P : Give the density of the fluid at normal flow, NOTE : if the instrument is a flow orifice plate and the flow rate is given in standard m³ (e.g. Sm³/h), the density at standard conditions must be given in a note
- 3.06 Viscosity at T : Give the viscosity of the fluid at normal flow and corresponding temperature
- 3.07 Vapour molecular weight : Give the molecular weight of the vapour at normal flow (not required for flow orifice plates when density is given)
- 3.08 Vapour compress. factor : Give the vapour compressibility factor at normal flow (not required for flow orifice plates when density is given)
- 3.09 Vapour specific heat ratio : Give the vapour specific heat ratio (k-factor or isentropic exponent)

- 4 OPERATING CONDITIONS - Maximum flow** If the instrument is a thermowell, only line 4.02, 4.03, 4.04 and 4.05 of this section need to be filled in
- 4.01 Flow rate : Give the maximum operating flow rate
- 4.02 Velocity : Give the corresponding velocity of the medium (optional for flow instruments)
- 4.03 Temperature : Give the corresponding temperature of the medium (give MAXIMUM operating temp. for thermowell)
- 4.04 Inlet Pressure : Give the corresponding inlet pressure to the instrument (give MAXIMUM operating pressure for thermowell)
- 4.05 Density at T and P : Give the density of the fluid at maximum flow, NOTE : if the instrument is a flow orifice plate and the flow rate is given in standard m³ (e.g. Sm³/h), the density at standard conditions must be given in a note
- 4.06 Viscosity at T : Give the viscosity of the fluid at maximum flow and corresponding temperature
- 4.07 Vapour molecular weight : Give the molecular weight of the vapour at maximum flow (not required for flow orifice plates when density is given)
- 4.08 Vapour compress. factor : Give the vapour compressibility factor at maximum flow (not required for flow orifice plates when density is given)
- 4.09 Vapour specific heat ratio : Give the vapour specific heat ratio (k-factor or isentropic exponent)

FORM Pr5**Introduction.**

The process data sheet has three main parts; the Tag part, Equipment Conditions and Operating Conditions. All parts must be filled in by the customer. When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment and Operating Condition sections should move to the next page if necessary.

PR5 - PRESSURE & TEMPERATURE TRANSMITTER / INDICATOR / SWITCH***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Pipe Class Sheet | : Give the pipe class sheet code, if relevant |
| Set/Alarm Point | : If the instrument is a switch, give the set point (alarm/trip or "switch operating value") |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

1 *EQUIPMENT CONDITIONS*

- | | |
|---------------------------------|---|
| 1.01 Piping Design Temperature | : Assign the Piping Design Temperature |
| 1.02 Piping Design Pressure | : Assign the Piping Design Pressure (normally not required for temperature instruments mounted into thermowells) |
| 1.03 Process Design Temperature | : Assign the Process Design Temperature, may be different to Piping Design |
| 1.04 Process Design Pressure | : Assign the Process Design Pressure, may be different to Piping Design (normally not required for temperature instruments mounted into thermowells).
NOTE: If it is required that PRESSURE or DIFF. PRESSURE instruments shall withstand an overpressure equal to Piping or Process Design Pressure, this must be made clear to the supplier in a note. |
| 1.05 Fluid | : Give a description of the process fluid |
| 1.06 Phase | : Assign the phase of the process fluid |
| 1.07 Corrosive Compounds | : Assign if there are any corrosive compounds in the fluid |

2 MINIMUM OPERATING CONDITIONS

- 2.01 Temperature : Assign the minimum operating temperature
- 2.02 Pressure or Diff. Pressure : Assign the minimum operating pressure or diff. pressure (normally not required for temperature instruments mounted into thermowells)

3 NORMAL OPERATING CONDITIONS

- 3.01 Temperature : Assign the normal operating temperature
- 3.02 Pressure or Diff. Pressure : Assign the normal operating pressure or diff. pressure (normally not required for temperature instruments mounted into thermowells)

4 MAXIMUM OPERATING CONDITIONS

- 4.01 Temperature : Assign the maximum operating temperature
- 4.02 Pressure or Diff. Pressure : Assign the maximum operating pressure or diff. pressure (this should be the maximum value expected to be read on a transmitter/indicator scale) (normally not required for temperature instruments mounted into thermowells)
- 4.03 Static / Line Pressure : Assign the maximum operating static (line or "background") pressure (this information is required for and applies to Diff. Pressure Instruments ONLY)

FORM Pr6**Introduction.**

The process data sheet has three main parts; the Tag part, Equipment Conditions and Operating Conditions. All parts must be filled in by the customer.

When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment and Operating Condition sections should move to the next page if necessary.

PR6 - LEVEL INSTRUMENT***Tag Part***

Tag number	: Enter the tag number of the instrument
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Pipe Class Sheet	: Give the pipe class sheet code, if relevant
Set/Alarm Point	: If the instrument is a switch, give the set point (alarm/trip or "switch operating value")
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

1 *EQUIPMENT CONDITIONS*

1.01 Piping Design Temperature	: Assign the Piping Design Temperature
1.02 Piping Design Pressure	: Assign the Piping Design Pressure
1.03 Level reference or Zero Point	: Give the level reference or zero point, e.g. in accordance to bottom of tank/vessel
1.04 Fluid, upper	: Assign the name of the fluid in the upper phase, if any
1.05 Fluid, lower	: Assign the name of the fluid in the lower phase
	Section 1.06 and 1.07 shall be completed only if applicable, e.g. for capacitive and radar applications
1.06 Dielectricity constant, Fluid upper	: Give the value of the dielectricity constant of the fluid in the upper phase, if any
1.07 Dielectricity constant, Fluid lower	: Give the value of the dielectricity constant of the fluid in the lower phase
	Section 1.08 and 1.09 shall be completed only if applicable, e.g. for conductive applications

-
- 1.08 Conductivity constant, Fluid upper : Give the value of the conductivity constant of the fluid in the lower phase, if any
- 1.09 Conductivity constant, Fluid lower : Give the value of the conductivity constant of the fluid in the lower phase
- 1.10 Corrosive Compounds : Assign if there are any corrosive compounds in the fluid
- 2 OPERATING CONDITIONS - Minimum Level**
- 2.01 Temperature : Assign the operating temperature
- 2.02 Pressure : Assign the operating pressure
- 2.03 Density at T and P upper fluid : Give the density at T and P for the fluid in upper phase, if any
- 2.04 Density at T and P lower fluid : Give the density at T and P for the fluid in lower phase
- 2.05 Level, upper : Give the operating level for the fluid in the upper phase, if any (shall be lower than low-low alarm level, if any)
- 2.06 Level, lower (interface) : Give the operating level for the fluid in the lower phase (interface) (shall be lower than low-low alarm level, if any)
- 3 OPERATING CONDITIONS - Normal Level**
- 3.01 Temperature : Assign the operating temperature
- 3.02 Pressure : Assign the operating pressure
- 3.03 Density at T and P upper fluid : Give the density at T and P for the fluid in upper phase, if any
- 3.04 Density at T and P lower fluid : Give the density at T and P for the fluid in lower phase
- 3.05 Level, upper : Give the operating level for the fluid in the upper phase, if any
- 3.06 Level, lower (interface) : Give the operating level for the fluid in the lower phase (interface)
- 4 OPERATING CONDITIONS - Maximum Level**
- 4.01 Temperature : Assign the operating temperature
- 4.02 Pressure : Assign the operating pressure
- 4.03 Density at T and P upper fluid : Give the density at T and P for the fluid in upper phase, if any
- 4.04 Density at T and P lower fluid : Give the density at T and P for the fluid in lower phase
- 4.05 Level, upper : Give the operating level for the fluid in the upper phase, if any (shall be higher than high-high alarm level, if any)
- 4.06 Level, lower (interface) : Give the operating level for the fluid in the lower phase (interface) (shall be higher than high-high alarm level, if any)

FORM Pr7**Introduction.**

The process data sheet has three main parts; the Tag part, Equipment Conditions and Operating Conditions. All parts must be filled in by the customer. When there are several tag numbers connected to the same process data sheet (i.e. tags having same process conditions), the Tag part should be repeated down page 1 (one part for each tag number), and the Equipment and Operating Condition sections should move to the next page if necessary.

PR7 - RESTRICTION ORIFICE PLATE***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument/plate |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Pipe Class Sheet | : Give the pipe class sheet code, if relevant |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

1 EQUIPMENT CONDITIONS

- | | |
|--------------------------------|--|
| 1.01 Line Nominal Size | : Give the nominal line/pipe size where the plate is mounted, e.g. 6" |
| 1.02 Line Inner Diameter | : Give the line/pipe inner diameter, preferably in mm |
| 1.03 Line Material | : Give the material of the line/pipe |
| 1.04 Flange Standard or Code | : Assign the flange standard (or code) between which the plate will be mounted, e.g. ANSI B16.5 |
| 1.05 Flange Size | : Give the nominal size of the flange between which the plate will be mounted (normally same as line size) |
| 1.06 Flange Pressure Class | : Assign the flange pressure class, e.g. 300 lb ANSI |
| 1.07 Flange Facing | : Assign the flange facing, normally RF (Raised Face) or RTJ (Ring Type Joint) |
| 1.08 Piping Design Temperature | : Assign the Piping Design Temperature |
| 1.09 Piping Design Pressure | : Assign the Piping Design Pressure |
| 1.10 Fluid | : Give a description of the process fluid |
| 1.11 Phase | : Assign the phase of the process fluid |
| 1.12 Corrosive Compounds | : Assign if there are any corrosive compounds in the fluid |

2 OPERATING CONDITIONS

- 2.01 Flow rate : Assign the flow rate value
- 2.02 Temperature : Assign the corresponding operating temperature
- 2.03 Inlet Pressure : Assign the inlet pressure (upstream) to the plate
- 2.04 Required Permanent Pressure Drop : Assign the required permanent pressure drop (at the flow rate given above), between upstream and downstream the plate
- 2.05 Density at T and P : Give the density of the fluid at operating temperature and pressure, NOTE : if the flow rate is given in standard m³, (e.g. Sm³/h) the density at standard conditions must be given in a note
- 2.06 Viscosity at T : Give the viscosity of the fluid
- 2.07 Vapour Molecular Weight (optional) : Give the molecular weight of the vapour (not required when density is given)
- 2.08 Vapour Compress. Factor : Give the vapour compressibility factor
- 2.09 Vapour Specific Heat Ratio (k-factor) : Give the vapour specific heat ratio (k-factor or isentropic exponent)

FORM S01**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

S01 - FIRE AND GAS DETECTION***Tag Part***

- Tag number : Enter the tag number of the instrument described on the data sheet
- Service description : Assign a service description for the instrument
- Safety chart : Enter the safety chart drawing number which shows this tag number
- Area : Give the area (or location) designation of the plant/project where the instrument is mounted
- P. O. Number : Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

- 1.01 Type : Assign a type designation/description
- 1.02 Manufacturer : Give the name of the manufacturer
- 1.03 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 1.04 Operating Temp. Limits : Assign the ambient operating temperature limits of the instrument (as given by supplier/manufacturer)
- 1.05 Complete assembly : List the main components included in the assembly/supply
- 1.06 Dimension : Give an approx. dimension of the complete detector unit.
- 1.07 Mounting bracket : Assign if a mounting bracket is included and eventually a designation/description
- 1.08 Mounting : Assign how the instrument is mounted
- 1.09 Weight : Give the weight of the instrument, or the complete assembly

2 HOUSING

- 2.01 Type : Assign a type designation/description of the housing
- 2.02 Enclosure protection : Assign the enclosure (weather) protection of the housing, e.g. IP66
- 2.03 Ex. classification : Assign the Ex certification class of the housing
- 2.04 Cable connection : Assign how the cables for signal and power should be connected, e.g. screwed terminals etc.
- 2.05 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 2.06 Element/housing connection : Assign how the element is connected to the housing
- 2.07 Material : Give the material of the housing

3 HEAT DETECTOR

- 3.01 Type : Assign a type designation/description of the detector, e.g. fixed, rate of rise, EN 54 class 2.
- 3.02 Set point : Give the set point
- 3.03 Calibrated range : Assign the adjustable range of the detector, if applicable
- 3.04 Rate of rise : Give the rate of rise, e.g. 10deg.C/min, if applicable
- 3.05 Repeatability : Assign the repeatability for the heat detector, as given by the supplier/manufacture

4 SMOKE DETECTOR

- 4.01 Type : Assign a type designation/description of the detector
- 4.02 Sensitivity : Assign the sensitivity as given by the supplier/manufacture
- 4.03 Repeatability : Assign the repeatability for the smoke detector, as given by the supplier/manufacture

5 GAS DETECTOR

- 5.01 Type : Assign a type designation/description of the detector, e.g. IR
- 5.02 Calibrated range : Give the calibrated range or the actual measured range, e.g. 0 - 100%LEL
- 5.03 Zero/span adjustment : Assign if the detector can be zero/span adjusted and/or assign the limits, as given by supplier/manufacturer
- 5.04 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 5.05 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 5.06 Stabilization time : Give the time from power on, to an operational instrument
- 5.07 Max operational path length : Give the max operational covered path length between transmitter/receiver and mirror or between transmitter and receiver (applicable for line gas detectors)
- 5.08 Immunity against sun : Assign if the detector is immune against sun radiation (applicable for line gas detectors)
- 5.09 Free cylinder diameter : Assign the necessary free cylinder diameter between transmitter/receiver (applicable for line gas detectors)
- 5.10 Response time : Give the response time, e.g. T90, 5 sek.
- 5.11 Enclosure protection : Assign the enclosure (weather) protection of the detector, e.g. IP66
- 5.12 Ex. Classification : Assign the Ex certification class of the detector
- 5.13 Material : Give the material of the detector

6 FLAME DETECTOR

- 6.01 Type : Assign a type designation/description of the detector, e.g. trippel IR
- 6.02 Operating distance : Assign the max operating distance for detection of a 1 square feet flame
- 6.03 Operating sector : Assign the max operating sector, e.g. cone of 45deg.
- 6.04 Response time : Assign the response time for a 1 square feet flame, distance 15 meter
- 6.05 Stabilization time : Give the time from power on, to an operational instrument
- 6.06 Self check facility : Assign if the detector is equipped with a self check facility and eventually a designation/description, e.g. test of lens, electronic, IR-source included

7 ELECTRICAL

- 7.01 Output signal : Assign the output signal from the detector, e.g. 4-20mA
- 7.02 Supply voltage : Give the nominal supply voltage
- 7.03 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 7.04 RFI immunity : Assign the type of RFI immunity
- 7.05 Communication : Assign if there is a digital/electronic communication and type/standard
- 7.06 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer, if applicable

FORM T01**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

T01 - THERMOWELL***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|----------------------------|--|
| 1.01 Type or construction | : Assign a type or construction designation/description, e.g. welded flange, solid forged with flange, screwed type etc. |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Manufacturer model no | : Assign the model number as given by the supplier/manufacturer |
| 1.04 Pressure rating | : Assign the nominal pressure rating of the well |
| 1.05 Mounting | : Assign how the instrument is mounted, e.g. direct into pipe nozzle etc. |
| 1.06 Weight | : Give the weight of the instrument |

2 FLANGED TYPE

This section can be left open or filled in with NA if the well is a screwed type

- | | |
|------------------------------|--|
| 2.01 Flange code or standard | : Give the flange code or standard, e.g. ANSI B16.5 |
| 2.02 Flange size | : Assign the size of the flange, e.g. 1,5" |
| 2.03 Flange facing | : Give the flange facing (normally RF, raised face, or RTJ, ring type joint) |
| 2.04 Flange material | : Give the material of the flange |

-
- 3 SCREWED TYPE** This section can be left open or filled in with NA if the well is a flanged type
- 3.01 Hexagon nut size : Give the size of the hexagon nut on top of the well (cold end)
- 3.02 External thread size/type : Assign the size and type of the external thread (process connection), e.g. 3/4" NPTM
- 4 STEM**
- 4.01 Type : Assign a type designation/description of the stem, e.g. tapered stem (coned), straight type etc.
- 4.02 Material : Give the material of the stem (normally same as the flange, if flanged)
- 4.03 Diameter max/tip : Assign the maximum diameter of the stem and the diameter at the tip (hot end)
- 4.04 Max allowable stem diam. : Give the maximum allowable stem diameter, which is normally equal to the internal diameter of the pipe nozzle, into which the well will be mounted. Normally filled in by the customer. (Often required for stress calculation purpose.)
- 4.05 Insertion length "U" : Assign the insertion length "U", defined as distance from underside of flange face to tip (hot end), or from bottom of threads (closest to hot end) to tip of well.
- 4.06 Thermowell total length : Assign the total length of the well ("U" plus normally 60 - 80 mm).
- 4.07 Internal thread size/type : Give the internal thread of the well, instrument connection, e.g. 1/2" NPTF
- 4.08 Internal bore : Give the internal bore (diameter) of the well, e.g. 6,5 mm
- 4.09 Tip thickness : Assign the thickness of the well tip (hot end), i.e. from the bottom of the bore to the outside.
- 4.10 W/N frequency ratio : If the well is stress calculated, assign the wake / natural frequency ratio (should be less than 0,8 acc. to ASME)
- 4.11 Sour service spec. : Assign the sour service specification if required
- 4.12 Material, plug and chain : If the well is equipped with plug and chain, give the material of these parts

FORM T02**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

T02 - TEMPERATURE INSTRUMENT ELECTRIC***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Temperature range	: Give the measured temperature range which corresponds to the output signal
Set/Alarm Point	: If the instrument is a temperature switch, give the set point (alarm/trip or "switch operating temperature value")
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a type designation/description, e.g. Temperature Transmitter with integral element, Temperature Switch etc.
1.02 Manufacturer	: Give the name of the manufacturer
1.03 Manufacturer model no	: Assign the model number as given by the supplier/manufacturer
1.04 Mounting	: Assign how the instrument is mounted, e.g. into thermowell etc.
1.05 Weight	: Give the weight of the instrument

2 INSTRUMENT CHARACTERISTICS

- 2.01 Characteristic : Assign if the output signal is linear, square root etc.
- 2.02 Accuracy : Assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
- 2.03 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.04 Min / max span : Assign the minimum and maximum span the instrument can be adjusted to, as given by supplier/manufacturer
- 2.05 Zero adjustment : Assign if the instrument can be zero adjusted and/or assign the limits, as given by supplier/manufacturer

3 ELEMENT / SENSOR

- 3.01 Type : Assign a type designation/description for the element, e.g. PT100
- 3.02 Design standard : Give the design standard for the element, e.g. IEC 751
- 3.03 Element operating limits : Assign the lower and upper temperature limits within which the element can operate/measure (i.e. working range), e.g. -200 to +800 degC. For switches this should be the adjustable range of the set point.
- 3.04 Wire configuration : Assign the element wire configuration, e.g. 3-wire, 4-wire etc.
- 3.05 Element diameter : Give the (outer) diameter of the element (sheath)
- 3.06 Insertion length : Give the insertion length of the element (often known as "L"), and supplier's definition of "L" (e.g. refer to drawing/sketch no)
- 3.07 Sensitive length : Assign the element sensitive length (portion), (from tip)
- 3.08 Sheath material : Give the material of the element sheath (tube) (into which the element is mounted)
- 3.09 Connection size/type : Assign the connection (to thermowell) size and type, e.g. 1/2" NPTM
- 3.10 Connection material : Assign the material of the connection parts

4 HOUSING

- 4.01 Mounting : Assign how the transmitter / switch housing is mounted, e.g. direct on element, remote etc.
- 4.02 Dimension : Give an approx. dimension of the instrument housing
- 4.03 Material : Give the material of the instrument housing
- 4.04 Cable connection : Assign how the cable(s) to the instrument should be connected, e.g. screwed terminals, flying leads etc.
- 4.05 Cable entry : Assign the cable entry thread, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 4.06 Enclosure protection : Assign the enclosure (weather) protection of the instrument housing, e.g. IP66
- 4.07 Ex. classification : Assign the Ex certification class of the instrument
- 4.08 Protective coating : If coated, assign the type of coating (painting) and color

- 5 TRANSMITTER** This section can be left open or filled in with NA if the instrument is a switch
- 5.01 Indicator : Assign if an indicator is included and/or a designation/description
- 5.02 Output signal : Assign the output signal from the transmitter, e.g. 4 - 20 mA, which corresponds to the range in the Tag part
- 5.03 Communication : Assign if there is a digital/electronic communication and type/standard
- 5.04 Supply voltage : Give the nominal supply voltage to the instrument
- 5.05 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 5.06 Load limitation : Assign the maximum external load, normally expressed in ohms, as given by the supplier/manufacturer
- 6 SWITCH** This section can be left open or filled in with NA if the instrument is a transmitter
- 6.01 Reset; automatic or manual : Assign if the resetting of the switch is automatic or manual operated
- 6.02 Deadband or differential : Assign the deadband/differential (hysteresis) between the set and the reset point
- 6.03 Alarm at increase/decrease : Assign if the alarm (trip) shall occur at increasing or decreasing temperature value (high or low alarm)
- 6.04 Contact configuration : Assign the switch contacts configuration, e.g. SPDT (Single Point Double Throw, one set of change over contacts)
- 6.05 Contact material : Give the material of the switch contacts, e.g. gold plated
- 6.06 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 6.07 Contact action on alarm : Assign how the contacts shall act at alarm point, e.g. open (or close)

FORM T03**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

T03 - TEMPERATURE INDICATOR***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Temperature range	: Give the measured temperature range as shown on the indicator
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a type designation/description, e.g. Temperature Indicator with "Every Angle Head"
1.02 Manufacturer	: Give the name of the manufacturer
1.03 Manufacturer model no	: Assign the model number as given by the supplier/manufacturer
1.04 Mounting	: Assign how the instrument is mounted, e.g. into thermowell etc.
1.05 Weight	: Give the weight of the instrument

2 INSTRUMENT CHARACTERISTICS

- 2.01 Characteristic : Assign if the reading is linear, square root etc.
- 2.02 Accuracy : Assign the accuracy of the measurement/indication, normally in % of full scale or actual reading
- 2.03 Repeatability : Assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer
- 2.04 Reference temp. adjustm. : Assign if the pointer or scale can be adjusted against a known (reference) temperature (like a "zero adjustment")
- 2.05 Overrange protection to : Assign the maximum temperature (overrange) the instrument is able to withstand without need for recalibration

3 ELEMENT / SENSOR

- 3.01 Type : Assign a type designation/description for the element, e.g. Bimetal
- 3.02 Element diameter : Give the (outer) diameter of the element (sheath)
- 3.03 Insertion length : Give the insertion length of the element (often known as "L"), and supplier's definition of "L" (e.g. refer to drawing/sketch no)
- 3.04 Sensitive length : Assign the element sensitive length (portion), (from tip)
- 3.05 Sheath/bulb material : Give the material of the element sheath (or bulb)
- 3.06 Connection size/type : Assign the connection (to thermowell) size and type, e.g. 1/2" NPTM
- 3.07 Connection material : Assign the material of the connection parts
- 3.08 Capillary length/diameter : If there is a capillary, give the length and diameter
- 3.09 Material, capillary/armour : If there is a capillary, give the material, and if equipped with armour, give the material of this

4 HOUSING

- 4.01 Type : Assign a type designation/description for the housing (head), e.g. Every Angle
- 4.02 Nominal size : Give the nominal size of the instrument housing, e.g. 100 mm diameter
- 4.03 Material : Give the material of the instrument housing
- 4.04 Enclosure protection : Assign the enclosure (weather) protection of the instrument housing, e.g. IP66
- 4.05 Markings and scale color : Give the color of the markings/graduations and the scale (background), e.g. black on white background
- 4.06 Pointer color : Give the color of the indicator pointer
- 4.07 Scale length or deflection : Give the length/size of the scale, or the deflection of the pointer in mm or degrees
- 4.08 Glass type : Give indicator glass type, e.g. manufacturer's standard, safety glass etc.
- 4.09 Fill fluid : Assign if the indicator house has a filling fluid, and/or give a designation/description of the fluid

FORM V01**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

V01 - BLOCK (ON-OFF) VALVE***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|----------------------------------|---|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Norsok Valve Data Sheet | : Give the applicable Norsok Valve Data Sheet (VDS) |
| 1.03 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.04 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.05 Max shut-off diff. pressure | : Assign the maximum shut off differential pressure (upper range value) (as given by supplier/manufacturer) |
| 1.06 Drain valve included | : If drain valve for leakage testing is included, give type/size and connection |
| 1.07 Sour service spec. | : Assign the sour service specification if required |
| 1.08 Complete assembly | : List the main components included in the assembly/supply |
| 1.09 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.10 Weight | : Give the weight of the instrument, or the complete assembly |

2 BODY

- 2.01 Manufacturer : Give the name of the manufacturer
- 2.02 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 2.03 Nominal size : Give the nominal size of the valve, normally in inches or a DN value (DIN)
- 2.04 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
- 2.05 Pressure rating : Give the pressure rating of the process connection or body
- 2.06 Face to face dimension : Assign the face to face dimension/length of the valve (including any raised faced part of flanges)
- 2.07 Bonnet type : Assign the bonnet type
- 2.08 Material, body/bonnet : Give the material of the body and bonnet
- 2.09 Material, gaskets : Give the material of the gaskets
- 2.10 Material, packing : Give the material of the packing
- 2.11 Material, bolts/nuts : Give the material of the bolts and nuts
- 2.12 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

3 TRIM

- 3.01 Type : Assign a type designation/description of the trim
- 3.02 Valve characteristic : Assign the valve characteristic (when valve opens/closes) if applicable
- 3.03 Max flow coefficient : Assign the max flow coefficient, i.e. Cv when valve is 100% open
- 3.04 Stem travel : Assign the stem travel, i.e. mm
- 3.05 Seat leakage class : Give the seat leakage class, e.g. ANSI class IV
- 3.06 Material, seat : Give the material of the seat
- 3.07 Material, trim (moving part) : Give the material of the trim (moving part, i.e. plug, cage)
- 3.08 Material, stem : Give the material of the stem

4 ACTUATOR (GENERAL)

- 4.01 Type : Assign a type designation/description
- 4.02 Manufacturer : Give the name of the manufacturer
- 4.03 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 4.04 Orientation : Give the orientation of the actuator, e.g. vertical or top
- 4.05 Dimension : Give an approx. dimension of the actuator

-
- 4.06 Connection actuator/body : Assign how the actuator is connected/mounted to the body
 - 4.07 Conn. actuator/valve stem : Assign how the actuator stem is connected to the valve stem
 - 4.08 Max required torque/thrust : Give max (worst case) required torque or thrust to operate the valve
 - 4.09 Torque at min/max supply : Give the actual torque at minimum and maximum supply
 - 4.10 Thrust at min/max supply : Give the actual thrust at minimum and maximum supply
 - 4.11 Valve opening time : Assign the valve opening time
 - 4.12 Valve closing time : Assign the valve closing time
 - 4.13 Failure action : Give the failure action (e.g. open/close/stay in position)
 - 4.14 Material yoke : Give the material of the yoke
 - 4.15 Material, stem : Give the material of the actuator stem
 - 4.16 Material, bolts/nuts : Give the material of the bolts and nuts
 - 4.17 Material casing : Give the material of the casing
 - 4.18 Material, spring : Give the material of the spring
 - 4.19 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

5 HYDRAULIC/PNEUMATIC ACTUATOR

- 5.01 Supply medium : Give the supply medium, e.g. air or hydraulic oil
- 5.02 Volume per stroke : Give the necessary volume per valve stroke
- 5.03 Supply : Assign the minimum, normal and maximum supply medium pressure
press.min/norm./max
- 5.04 Diaphragm/piston size : Give the size of the diaphragm or piston
- 5.05 Material diaphragm/piston : Give the material of the diaphragm or piston
- 5.06 Supply/return connection : Assign the connection type/size for the supply and return

6 ELECTRICAL ACTUATOR

- 6.01 Cable conn. signal/power : Assign how the cables for signal and power should be connected, e.g. screwed terminals etc.
- 6.02 Cable entry signal/power : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 6.03 Enclosure protection : Assign the enclosure (weather) protection of the actuator, e.g. IP66
- 6.04 Ex. classification : Assign the Ex certification class of the complete actuator
- 6.05 Input signal : Assign the input signal to the actuator
- 6.06 Communication : Assign if there is a digital/electronic communication and type/standard
- 6.07 Supply voltage/frequency : Give the nominal supply voltage and frequency

-
- 6.08 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer
- 7 LIMIT SWITCH**
- 7.01 Type : Assign a type designation/description, e.g. proximity or microswitch
- 7.02 Manufacturer : Give the name of the manufacturer
- 7.03 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 7.04 Number of switches : Give the number of switches mounted on the valve
- 7.05 Cable connection : Assign how the cable(s) to the switch(es) should be connected, e.g. screwed terminals or flying leads
- 7.06 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 7.07 Enclosure protection : Assign the enclosure (weather) protection of the switch(es), e.g. IP66
- 7.08 Ex. classification : Assign the Ex certification class of the switch(es)
- 7.09 Cont. action when activated : Give the action (opens/closes) of the switch(es) when activated
- 7.10 Contact material : Give the material of the switch contacts
- 7.11 Contact rating : Assign the switch contacts maximum rating/load in electrical current or VA/Watts
- 7.12 Current when activated : Assign the current when the limit switch(es) is activated (proximity switches)
- 7.13 Current when not activated : Assign the current when the limit switch(es) is not activated (proximity switches)
- 7.14 Working voltage range : Assign the allowable voltage working range, e.g. 8 - 24 Vdc
- 7.15 Material, housing : Give the material of the housing
- 7.16 Protective coating : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.
- 8 MISCELLANEOUS**
- 8.01 Control circuit type : Assign the control circuit type for the valve, e.g. double acting w/speed control, single acting
- 8.02 Accumulator unit : Assign if an accumulator is included and eventually a designation/description
- 8.03 Visual indicator : Assign if a visual indicator is included and eventually a designation/description
- 8.04 Handwheel : Assign if a handwheel is included and eventually a designation/description
- 8.05 Speed regulator : Assign if a speed regulator is included and eventually a designation/description
- 8.06 Fire certification, valve : Assign the fire certification for the valve, e.g. BS6755
- 8.07 Fire protection, actuator : Assign if a fire protection on the actuator is included and eventually a designation/description
- 8.08 Fire protection, control circuit : Assign if a fire protection on the control circuit is included and eventually a designation/description

FORM V02**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

V02 - CONTROL VALVE***Tag Part***

- | | |
|---------------------|--|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Line/equipment no. | : Enter the line or equipment number on which the instrument is mounted/connected |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description |
| 1.02 Operating Temp. Limits | : Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer) |
| 1.03 Operating Press. Limit | : Assign the operating pressure limit of the instrument (as given by supplier/manufacturer) |
| 1.04 Complete assembly | : List the main components included in the assembly/supply |
| 1.05 Sour service spec. | : Assign the sour service specification if required |
| 1.06 Mounting | : Assign how the instrument is mounted, e.g. in-line etc. |
| 1.07 Weight | : Give the weight of the instrument, or the complete assembly |

2 BODY

- | | |
|----------------------------|--|
| 2.01 Manufacturer | : Give the name of the manufacturer |
| 2.02 Manufacturer model no | : Assign the model number as given by the supplier/manufacturer |
| 2.03 Nominal size | : Give the nominal size of the valve, normally in inches or a DN value (DIN) |

-
- 2.04 Process conn. size/type : Assign the process connection, e.g. 4" ANSI B16.5 flanges
2.05 Pressure rating : Give the pressure rating of the process connection or body
2.06 Face to face dimension : Assign the face to face dimension/length of the valve (including any raised faced part of flanges)
2.07 Bonnet type : Assign the bonnet type
2.08 Material, body/bonnet : Give the material of the body and bonnet
2.09 Material, gaskets : Give the material of the gaskets
2.10 Material, packing : Give the material of the packing
2.11 Material, bolts/nuts : Give the material of the bolts and nuts
2.12 Protective coating/color : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

3 TRIM

- 3.01 Type : Assign a type designation/description of the trim
3.02 Valve characteristic : Assign the valve characteristic (when valve opens/closes), if applicable
3.03 Flow direction : Give valve flow direction, e.g. over/under plug
3.04 Stem travel : Assign the stem travel, e.g. in mm
3.05 Seat leakage class : Give the seat leakage class, e.g. ANSI class IV
3.06 Calc.flow coef. min/max : Give the calculated (based on process condition) minimum and maximum flow coefficient, i.e. Cv value
3.07 Min. controllable flow coef. : Give the minimum controllable flow coefficient for the valve
3.08 Flow coeff. selected (max) : Give the maximum flow coefficient, i.e. when the valve is 100% open
3.09 Sound level, max : Give the maximum sound level, e.g. 70dB
3.10 Material, seat : Give the material of the seat
3.11 Material, trim (moving part) : Give the material of the trim (moving part, e.g. plug)
3.12 Material, cage : Give the material of the cage (non moving parts)
3.13 Material, stem : Give the material of the stem
3.14 Hardfacing : If hardfacing is applied on e.g. plug, give material

4 HYDRAULIC/PNEUMATIC ACTUATOR

- 4.01 Supply medium : Give the supply medium, e.g. air or hydraulic oil
4.02 Supply press.min/norm./max : Assign the minimum, normal and maximum supply medium pressure

4.03 Connection supply/return : Assign the connection type/size for the supply and return

4.04 Diaphragm/piston size : Give the size of the diaphragm or piston

4.05 Material, diaphragm/piston : Give the material of the diaphragm or piston

5 ELECTRICAL ACTUATOR

5.01 Cable conn. signal/power : Assign how the cables for signal and power should be connected, e.g. screwed terminals etc.

5.02 Cable entry signal/power : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland

5.03 Enclosure protection : Assign the enclosure (weather) protection of the actuator, e.g. IP66

5.04 Ex. classification : Assign the Ex certification class of the complete actuator

5.05 Input signal : Assign the input signal to the actuator

5.06 Supply voltage/frequency : Give the nominal supply voltage and frequency

5.07 Consumption : Assign the maximum power consumption (normally in watts or VA) as given by the supplier/manufacturer

6 ACTUATOR (GENERAL)

6.01 Type : Assign a type designation/description

6.02 Manufacturer : Give the name of the manufacturer

6.03 Manufacturer model no : Assign the model number as given by the supplier/manufacturer

6.04 Orientation : Give the orientation of the actuator, e.g. vertical on top

6.05 Dimension/size : Give an approx. dimension of the actuator

6.06 Connection actuator/body : Assign how the actuator is connected to the valve body

6.07 Conn. actuator/valve stem : Assign how the actuator stem is connected to the valve stem

6.08 Quick open/closing func. : Assign if a quick open and/or closing function is included

6.09 Push down to : Push down to close or open

6.10 Failure action : Give the failure action (e.g. open/close/stay in position)

6.11 Material, yoke : Give the material of the yoke

6.12 Material, stem : Give the material of the actuator stem

6.13 Material, casing : Give the material of the casing

6.14 Material, spring : Give the material of the spring

6.15 Material, bolts/nuts : Give the material of the bolts and nuts

6.16 Protective coating : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

7 POSITIONER

- 7.01 Type : Assign a type designation/description
- 7.02 Manufacturer : Give the name of the manufacturer
- 7.03 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 7.04 Material, housing : Give the material of the housing
- 7.05 Protective coating : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.
- 7.06 Output action : Give the output action, e.g. direct or reverse
- 7.07 Input impedance : Give the input impedance
- 7.08 Cable connection : Assign how the cable should be connected, e.g. screwed terminals etc.
- 7.09 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 7.10 Enclosure protection : Assign the enclosure (weather) protection of the positioner housing, e.g. IP66
- 7.11 Ex. classification : Assign the Ex certification class of the positioner
- 7.12 Input signal : Assign the input signal to the positioner, e.g. 4 - 20 mA
- 7.13 Communication : Assign if there is a digital/electronic communication and type/standard
- 7.14 Bypass : Assign if a bypass to the positioner is included
- 7.15 Supply pressure : Give the acceptable supply pressure range
- 7.16 Supply connection : Assign the connection type/size for the supply
size/type
- 7.18 Gauges : Give type and material of gauges, if included

8 MISCELLANEOUS

- 8.01 Travel stop : Assign if a travel stop is included and eventually a designation/description
- 8.02 Position transmitter : Assign if a position transmitter is included and eventually a designation/description
- 8.03 Booster : Assign if a booster relay for quick opening and/or closing is included and eventually a designation/description
- 8.04 Limit switch : Assign if a limit switch(es) is included and eventually a designation/description
- 8.05 Solenoid valve : Assign if a solenoid valve is included and eventually a designation/description
- 8.06 Accumulator unit : Assign if an accumulator unit is included and eventually a designation/description
- 8.07 Filter regulator : Assign if a filter regulator is included and eventually a designation/description
- 8.08 Visual indicator : Assign if a visual indicator is included and eventually a designation/description
- 8.09 Handwheel : Assign if a handwheel is included and eventually a designation/description

FORM V03**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

V03 - SAFETY / RELIEF VALVE***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Set Pressure	: Give the set pressure, e.g. in barg, at cold conditions
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a valve type designation/description, e.g. automatic relief, safety relief valve etc.
1.02 Design	: Assign the valve design, e.g. conventional, bellows or pilot operated
1.03 Manufacturer	: Give the name of the manufacturer
1.04 Bonnet type	: Assign the bonnet type, e.g. open or closed
1.05 Operating Temp. Limits	: Assign the process operating temperature limits of the valve (as given by supplier/manufacturer)
1.06 Application code	: Assign the ASME Pressure Vessel Code or relevant application code
1.07 Mounting	: Assign how the valve is mounted, e.g. in-line, etc.
1.08 Weight	: Give the weight of the complete instrument (valve unit)

2 BODY, MAIN VALVE

- 2.01 Manufacturer model no : Assign the model number as given by the supplier/manufacturer
- 2.02 Process conn. size/type in : Assign the inlet process connection, e.g. 4" ANSI B16.5 RF flanges
- 2.03 Process conn. size/type out : Assign the outlet process connection, e.g. 6" ANSI B16.5 RF flanges
- 2.04 Pressure rating in / out : Give the pressure rating of the process connection at valve inlet and outlet
- 2.05 Length A: face in/center out : Give the valve dimension A : length from flange face at inlet to center line of outlet flange
- 2.06 Length B: face out/center in : Give the valve dimension B : length from flange face at outlet to center line of inlet flange
- 2.07 Sour service spec. : Assign the sour service specification if required
- 2.08 Material, body : Give the material of the main valve body
- 2.09 Material, bolt/nuts : Give the material of the main valve bolts and nuts
- 2.10 Material, bonnet : Give the material of the bonnet
- 2.11 Protective coating : If coated, assign the type of coating (painting) and color, e.g. Norsok std. M-501 system 6, Manufacturer's offshore std. etc.

3 TRIM, MAIN VALVE

- 3.01 Type : Assign the type (style) of trim, e.g. full nozzle, semi-nozzle etc.
- 3.02 Sizing case : Assign the type of trim sizing (operating) case, e.g. thermal relief, blocked or fire
- 3.03 Orifice dim. calculated : Assign the calculated orifice / relief area, e.g. in sq. mm (by supplier/manufacturer)
- 3.04 Orifice dim. selected : Assign the selected orifice / relief area, e.g. in sq. mm (by supplier/manufacturer)
- 3.05 Orifice designation : Assign the orifice designation according to API 526, e.g. H-orifice
- 3.06 Sound level calculated : Assign the calculated level of acoustic noise in dB (by supplier/manufacturer)
- 3.07 Sound level allowed : Give the maximum allowable level of acoustic noise in dB
- 3.08 Reactive force : Assign the actual reactive process force, e.g. in Newton
- 3.09 Blow down pressure in % : Give the designed blow down pressure in % of set pressure
- 3.10 % allowable overpressure : Give the maximum allowable overpressure in % of set pressure
- 3.11 % opening at design flow : Give the % valve opening at which the valve relieves the design flow rate
- 3.12 Material, nozzle : Give the material of the nozzle
- 3.13 Material, disc : Give the material of the disc (closure member)
- 3.14 Material, stem : Give the material of the stem

-
- 3.15 Material, guide rings : Give the material of the guide, adjusting rings or rings
- 3.16 Material, bellows : Give the material of the bellows, if applicable
- 3.17 Material, spring : Give the material of the spring
- 3.18 Material, seat seal : Give the material of the seat sealing
- 4 PILOT**
This section can be left open or filled in with NA if there is no pilot valve
- 4.01 Type : Assign a type designation/description for the pilot, e.g. flowing or non-flowing
- 4.02 Action : Assign the pilot action, e.g. pop or modulating
- 4.03 Material, body : Give the material of the pilot body
- 4.04 Material, trim : Give the material of the pilot trim
- 4.05 Material, soft seat/seals : Give the material of the pilot soft seat / seals, if applicable
- 4.06 Material, spring : Give the material of the pilot spring
- 4.07 Material, diaphragm : Give the material of the pilot diaphragm
- 4.08 Material, pilot filter : Give the material of the pilot filter, if included
- 4.09 Material, tube/fitting : Give the material of the tube and fitting (between main valve and pilot)
- 4.10 Back flow preventer : Assign a type designation/description for the back flow preventer, if included
- 5 MISCELLANEOUS**
- 5.01 Cap type : Assign the cap type, e.g. screwed or bolted
- 5.02 Material, cap : Give the material of the cap
- 5.03 Lever type : Assign the lever type, e.g. plain or packed
- 5.04 Field test device : Assign a type designation/description for the field test device/valve, if included

FORM V04**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

V04 - SOLENOID / PNEUMATIC / HYDRAULIC PILOT VALVE***Tag Part***

- | | |
|------------------------|---|
| Tag number | : Enter the tag number of the instrument described on the data sheet |
| Service description | : Assign a service description for the instrument |
| P&ID | : Enter the drawing number for the P&ID which shows this tag number |
| Main tag/equipment no. | : Enter the main (or parent) tag no (often an on-off valve) or equipment number on which the pilot valve is mounted/connected |
| Area | : Give the area (or location) designation of the plant/project where the instrument is mounted |
| P. O. Number | : Assign the Purchase Order number against the Supplier |

Main Part**1 GENERAL**

- | | |
|-----------------------------|---|
| 1.01 Type | : Assign a type designation/description for the pilot valve, e.g. 3-way solenoid valve etc. |
| 1.02 Manufacturer | : Give the name of the manufacturer |
| 1.03 Manufacturer model no | : Assign the model number as given by the supplier/manufacturer |
| 1.04 Operating Temp. Limits | : Assign the operating temperature limits for the pilot valve (as given by supplier/manufacturer) |
| 1.05 Mounting | : Assign how the pilot valve is mounted, e.g. on main valve, on panel, in cabinet etc. |
| 1.06 Weight | : Give the weight of the complete pilot valve |

2 VALVE

- 2.01 Type : Assign a type designation/description for the valve part (body), e.g. block body with a sliding spool
- 2.02 Number of positions : Give the number of positions which the valve (trim) can have (normally 2 or 3)
- 2.03 Body dimension : Give an approx. dimension of the valve body, or give a nominal size
- 2.04 Operating Press. Limit : Assign the operating pressure limit of the valve (body), (as given by supplier/manufacturer)
- 2.05 Operating medium : Enter the fluid flowing through the valve body
- 2.06 Number of ports : Give the number of ports on the valve body, (normally 2, 3 or 4)
- 2.07 Port conn. size/type : Assign the ports connection size and type, e.g. 1/4" NPTF
- 2.08 Material, body : Give the material of the valve body
- 2.09 Material, trim : Give the material of the valve trim (moving part)
- 2.10 Material, seat : Give the material of the valve seat
- 2.11 Material, seal (gasket) : Give the material of the valve seal or gasket, if any
- 2.12 Material, bolt/nuts : Give the material of any bolts, screws and nuts on the valve body
- 2.13 Sour service spec. : Assign the sour service specification if required
- 2.14 Leakage : Assign a designation for the valve leakage (or tightness), e.g. bubble tight (or bubbles per time unit), (important for gas applications)
- 2.15 Flow coefficient : Assign the flow coefficient for the valve (Cv value)
- 2.16 Reset : Assign the reset function of the valve, e.g. automatic or manual
- 2.17 Return mechanism : Assign the return mechanism for the valve trim, e.g. spring
- 2.18 Manual operator : Assign if the pilot valve is equipped with a manual operator (override), if included give a designation/description
- 2.19 Flow configur. deactivated : Assign how the flow (port) configuration is when the valve is deactivated, e.g. port no 1 connected to port no 2, port no 3 closed etc.
- 2.20 Flow configur. activated : Assign how the flow (port) configuration is when the valve is activated, e.g. port no 1 connected to port no 3, port no 2 closed etc.

- 3 ELECTRICAL ACTUATOR (SOLENOID)** This section shall be filled in if the pilot valve is a solenoid valve, or - applicable lines shall be filled in if the pilot valve has a pneumatic or hydraulic actuator with an auxiliary solenoid
- 3.01 Type : Assign a type designation/description for the electrical operated actuator (solenoid)
- 3.02 No of solenoids : Give the number of solenoids (normally 1 or 2)
- 3.03 Coil type : Assign a type designation/description or manufacturer's model no for the coil itself (important if the coil is replaceable)
- 3.04 Material, housing : Give the material of the solenoid housing (case)
- 3.05 Enclosure protection : Assign the enclosure (weather) protection of the solenoid housing, e.g. IP66
- 3.06 Ex. classification : Assign the Ex certification class of the electrical actuator, e.g. Eex me IIC T5
- 3.07 Cable connection : Assign how the cable(s) to the solenoid should be connected, e.g. screwed terminals, flying leads etc.
- 3.08 Cable entry : Assign the cable entry threads, e.g. M20 x 1,5 ISO, or if equipped with cable gland
- 3.09 Voltage supply : Give the (nominal) voltage supply to the solenoid, e.g. 24 VDC
- 3.10 Inrush current : Give the value of the current when the valve trim is being moved (moment of operation)
- 3.11 Holding current : Give the value of the continuous current needed to hold the valve trim in activated position
- 4 PNEUMATIC / HYDRAULIC ACTUATOR** This section can be left open or filled in with NA if the pilot valve is a single solenoid valve
- 4.01 Type : Assign a type designation/description for the pneumatic or hydraulic operated actuator
- 4.02 Actuating medium : Assign the actuating medium, e.g. air or hydraulic oil
- 4.03 Act. press. min/norm/max : Give the minimum, normal and maximum actuating pressure
- 4.04 Signal conn. size/type : Assign the actuator signal (supply) ports connection size and type, e.g. 1/4" NPTF
- 4.05 Material, housing : Give the material of the pneumatic or hydraulic actuator housing (case)
- 4.06 Material, diaphragm/piston : Give the material of the pneumatic or hydraulic actuator diaphragm or piston
- 4.07 Material, stem : Give the material of the pneumatic or hydraulic actuator stem
- 4.08 Material, bolt/nuts : Give the material of any bolts, screws and nuts on the actuator
- 4.09 Actuator return : Assign the return (mechanism) for the actuator stem, e.g. spring

FORM V05**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

Each section of the Main part of the data sheet has an unspecified "Other" field. Additional important or relevant information can be assigned to this field.

V05 - RUPTURE / BURSTING DISC***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected
Burst Pressure	: Give the burst (set) pressure for the disc/plate
Area	: Give the area (or location) designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a type designation/description, e.g. Reverse Buckling Disc etc.
1.02 Manufacturer	: Give the name of the manufacturer
1.03 Manufacturer model no	: Assign the model number as given by the supplier/manufacturer
1.04 Fragmenting Disc (yes/no)	: Assign if the disc is the fragmenting type
1.05 Holders (head) size/type	: Assign a size and a type designation/description for the 2 holders (head)
1.06 Holders face to face dimen.	: Give the face to face dimension for the holders/head (i.e. the complete instrument)
1.07 Flange size/type	: Give the flange size and type (between which the instrument is mounted), e.g. 4" ANSI B16.5 RF
1.08 Pressure rating	: Give the pressure rating of the flanges, e.g. 150 lb
1.09 Number of discs per tag	: Give the number of discs supplied (normally more than one)
1.10 Operating Temp. Limits	: Assign the process operating temperature limits of the instrument (as given by supplier/manufacturer)

- 1.11 Operating Press. Limit : Assign the operating pressure limit of the instrument, normally 80-90% of burst pressure (as given by supplier/manufacturer)
- 1.12 Mounting : Assign how the instrument is mounted, e.g. in-line, etc.
- 1.13 Weight : Give the weight of the complete instrument

2 INSTRUMENT CHARACTERISTICS

- 2.01 Selection code : Assign a selection code, if relevant
- 2.02 Burst tolerance : Give the burst pressure tolerance, e.g +/- 10 %
- 2.03 Calculated / selected area : Assign the calculated and the selected disc area (by supplier/manufacturer)
- 2.04 Vacuum support included : Assign if vacuum support is included (yes or no)

3 MATERIALS

- 3.01 Disc (plate) : Give the material of the disc (plate)
- 3.02 Ring / handle : Give the material of the disc ring and handle
- 3.03 Holders (head) : Give the material of the holders (head)
- 3.04 Screws / nuts / clamps : Give the material of any screws, nuts and clamps
- 3.05 Gasket : Give the material of any gasket(s)
- 3.06 Sour service spec. : Assign the sour service specification if required
- 3.07 Protective coating/color : If the holders are coated, assign the type of coating (painting) and color

4 BURST ALARM

- This section can be left open or filled in with NA if there is no burst alarm included
- 4.01 Type : Assign a type designation/description for the burst alarm
- 4.02 Max allowable back press. : Assign the max allowable back pressure for the burst alarm (relevant for some burst alarm types)
- 4.03 Cable connection : Assign how the cable(s) to the burst alarm should be connected, e.g. flying leads etc.
- 4.04 Junction box included : Assign if a junction box is included in the supply and give tag number if allocated (refer to junction box index/register, or equivalent, for further information about the junction box)

FORM X01**Introduction.**

The data sheet has two parts; the Tag part and the Main part (instrument specifications). The Tag part contains individual tag information and will normally be filled in by the customer. When there are several tag numbers connected to the same data sheet (i.e. tags having same technical specifications), the Tag part should be repeated down page 1 (one part for each tag number), and the Main part should move to the next page if necessary.

This "open" data sheet shall be used for all instruments which are unsuitable for being described/specified on the other data sheet forms.

This form shall replace the old IFEA forms A01, K01, K02, K03, K04, I01, I02, Y01, Y02 and Z01.

Typical instruments which should be described/specified on this form are:

All types of analysers, corrosion instruments, alarm and status lights/indicators, converters (I/P and P/I), dampers, field controllers, all types of hand switches, accumulators, electrical indicators (receiver gauges), vibration instruments, position indicators/transmitters, weight instruments, flow computers/totalizers, flow glasses, flow switches, recorders, humidity instruments, speed instruments, etc.

X01 - MISCELLANEOUS INSTRUMENTS***Tag Part***

Tag number	: Enter the tag number of the instrument described on the data sheet
Service description	: Assign a service description for the instrument
P&ID	: Enter the drawing number for the P&ID which shows this tag number
Line/equipment no.	: Enter the line or equipment number on which the instrument is mounted/connected, if applicable
Range	: Give the measured range of the instrument, if applicable
Set/Alarm Point	: If the instrument is equipped with a switch, give the set point (alarm/trip or "switch operating value")
Area	: Give the area designation of the plant/project where the instrument is mounted
P. O. Number	: Assign the Purchase Order number against the Supplier

Main Part**1 GENERAL**

1.01 Type	: Assign a type designation/description
1.02 Manufacturer	: Give the name of the manufacturer
1.03 Manufacturer model no	: Assign the model number as given by the supplier/manufacturer, if applicable
1.04 Operating Temp. Limits	: If applicable, assign the process operating temperature limits of the instrument (as given by supplier/manufacturer)
1.05 Operating Press. Limit	: If applicable, assign the operating pressure limit of the instrument (as given by supplier/manufacturer)

- 1.06 Complete assembly : If applicable, list the main components included in the assembly/supply
1.07 Mounting : Assign how the instrument is mounted
1.08 Weight : Give the weight of the instrument

2 INSTRUMENT CHARACTERISTICS

- 2.01 Accuracy : If applicable, assign the accuracy of the measurement/output signal, normally in % of full scale or actual reading
2.02 Repeatability : If applicable, assign the repeatability of the measurement, normally in %, as given by the supplier/manufacturer

The rest of the lines in this section shall be defined by the user (supplier and/or customer).

The other sections in this data sheet shall be defined by the user, including headings and lines.