



IOTRON™ SENSORS

INTEGRATED INDUSTRIAL pH SENSOR SPECIFICATIONS

Sensor Part Number & Short Description:

6742 – Aggressive Dissolved Gas & Volatile Solvent Resistant pH Sensor; Inline Use with ¾” MNPT Threads & Immersion/Submersion Installations with ¾” MNPT Threads

Configuration Type:

Front threads interface ¾” FNPT of tee or process tank for Inline Use or Rear threads interface ¾” FNPT of insertion tube for immersion or waterproofing seal for submersion

General Sensor Specifications:

Operating Temperature Range:

-5 to 105°C (-35 to 150°C with Extreme Dehydration Resistant “E” Option – PVDF Only)

Operating Pressure Range:

1 to 100 psig (6.9 to 690 kPa) with ¾” MNPT Front Threads for Inline Installations

Sensor Body Material:

KetaSpire® KT-880 NT (Poly-Ether-Ether-Ketone, PEEK)

Junction Support Matrix Material:

KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Standard or Polypropylene (PP) - **6742PP**

External Dimensions:

See Drawing 6-5

pH Measurement Specifications:

Measurement pH Range:

0 to 14 pH (-0.5 to +14.5 with Wide Range Option Invoked, Alpha Prefix “V”)

Measuring Glass Type:

Hemispherical, Green Glass (MUGG)

pH Glass Dimensions:

0.315” (8.0 mm) DIA, 0.354” (9.0 mm) DIA with Low-Impedance (“Z”) Option

Initial Impedance:

< 800 MΩ @ 25 °C, < 400 MΩ @ 25 °C with Low-Impedance (“Z”) Option

Sodium Ion Error:

Less than 0.15 pH in sodium (Na⁺) solutions at pH 14.00

Acidic Error:

Less than 0.05 pH in hydrochloric acid (HCl) solutions at 0.00 pH

Reference System Specifications:

Type:

Double Junction Standard (Triple Junction Optional, Alpha Prefix “TJ”)

Reference Half Cell:

Ag/AgCl, Saturated KCl

Primary Junction:

Porous Ceramic, Sat. KCl in crosslinked polymer, Interfaced to Secondary Junction

Secondary Junction:

Solid-State Non-Porous Cross-Linked Polymer embedded in Kynar/Polypro Matrix
Special redundant sealing ensure long service life in volatile gases & solvents

Supported Order Options with Alpha Prefix Order Code Designation:

Inquire to factory for specials

Ammonia gas resistant (“A”), Chlorine gas resistant (“C”), **Solvent Resistant * (“TS”)**, **Organic Media Resistant * (“L”)**, 3-Wire TC (“M”), ACCU-TEMP Fast TC (“X”), 2 each Protective Tines (“GRO”), No Protective Tines (“NG”), Shielded Preamp Cable (“BL”)

Example Recommended Applications:

Any application that contains aggressive dissolved gases or volatile organic solvents in process. * “L” & “TS” options are **INCLUDED STANDARD on X7XX series sensors**. Any measurement where aggressive chemical cleaning is needed to remove fouling or low-maintenance operation is required with minimal cleaning and re-calibration.

Storage and Shelf Life:

One (1) year from date of dispatch from factory when stored at indoor ambient room temperature with proper orientation & protector cap. Extreme Dehydration Resistant Option (Alpha Prefix “E”) sensors are suitable for cold storage down to -35 °C (-31 °F).

Available Configurations & Options:

Integrated Components:

- Temperature Compensation Element (compatible type must be specified)
- Solution Ground Liquid Earth, 316SS (alpha prefix “Y”), or Platinum (alpha prefix “Pt”)
- Analog Conventional or Differential Preamplifier (Contact factory for available options)
- Smart digital sensor board for use with 3TX-HiQ-pH Intelligent pH & ORP transmitters

Analog Sensors without integral preamplifier:

Terminated with Male BNC connector (-MBNC) or Tinned Lead Wires (-TL)

Analog Sensors with integral preamplifier:

Terminated with Tinned Lead Wires (-TL) or Quick Disconnect NEMA 6P Snap (-Q7M)

Analog Dual pH & ORP All-in-one Sensors *without integral preamplifier style only:*

Terminated with tinned lead wires (-TL), Alpha Prefix “PtD”, 2 each reference half-cells allow for simultaneous use on two completely separate input channels or transmitters

Digital Smart Sensors:

Terminated standard with quick disconnect IP67/NEMA 6P rated waterproof & corrosion resistant snap HiQ4M connector. For 3TX-HiQ-pH Intelligent pH & ORP transmitters or HiQDT style with RS-485 MODBUS RTU to interface with any suitable PLC or SCADA (Minimum Order Quantity may apply for HiQDT style version, contact factory for details)

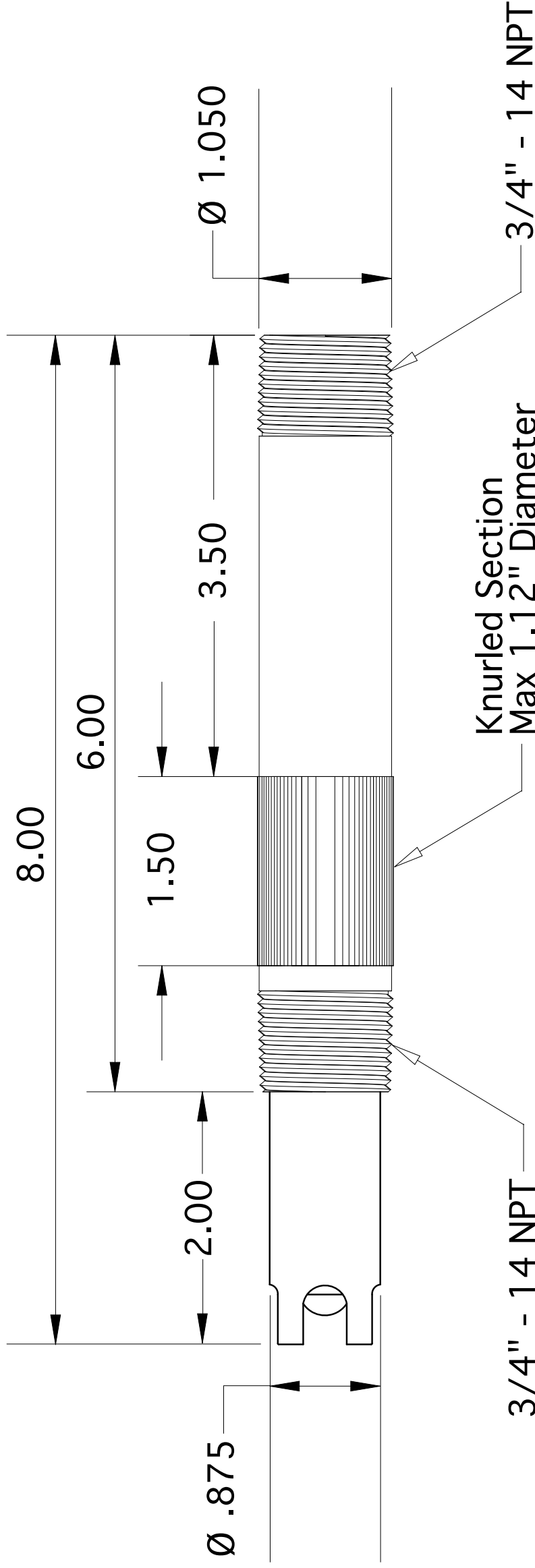
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REVISION HISTORY		
REV	DESCRIPTION	DATE

APPROVED



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A

NOTES

- All dimensions are in inches, unless otherwise indicated with tolerances as detailed below
- Sensor body material of construction is CPVC (6X13/6X12), RADEL (6X32), PEEK (6X42), RYTON (6X53/6X54)
- Drawing shown in the standard with protective tines configuration (4 places, 90 degrees apart).
The 2 protective tines only "GRO" configuration (2 places, 180 degrees apart) is optional.
- In the alternate without tines configuration ("NG") the sensor body is exactly 7.5 inches in length.
The max displacement for hemispherical pH glass is 0.3" yielding a max insertion depth of 1.8 inches past threads & overall max length of 7.8 inches.
- Do not use any sensor beyond the factory defined maximum temperature or pressure rating.

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Advanced Sensor Technologies U.S.A.
Website: <http://www.astisensor.com>

TOLERANCES		DRAWN BY	RH
1 Place: $\pm .1$	3 Places: $\pm .005$	CHECKED BY	TADP
2 Places: $\pm .01$	4 Places: $\pm .0005$	APPROVED BY	MJP
Angular: $\pm 0.25^\circ$			

TITLE	3/4"-3/4" MNPT Inline / Immersion / Submersible		
SIZE	PROJECT	DRAWING NO.	REV
B	IMMERSION	6-5 pH SENSORS	/
SCALE	Not to Scale	MODEL	6X32.6X42.6X53.6X54
		SHEET	1 OF 1

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