



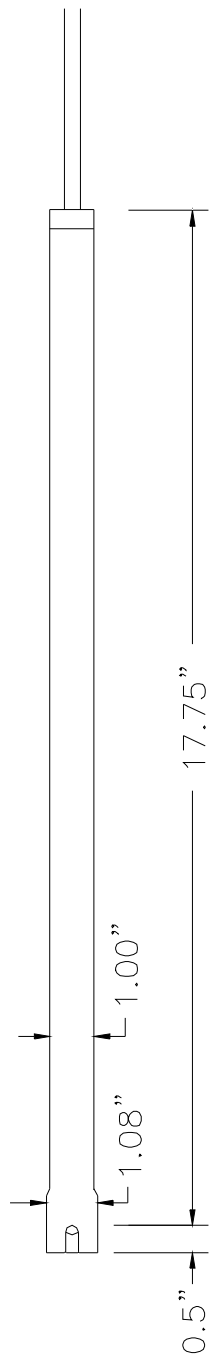
# IOTRON™ SENSORS

## INTEGRATED pH SENSOR SPECIFICATIONS

<u>Part Number:</u>	9412
<u>Configuration:</u>	1.0" O.D. Valve Retractable, Acid/Fluoride Resistant pH Sensor
<u>General Specifications:</u>	
<u>pH Range:</u>	0 to 12 pH (0 to 11 pH, with high HF Resistant Option).
<u>Temperature Range:</u>	-5 to 105 ° C (-5 to 50 ° C in fluoride solutions)
<u>Pressure Range:</u>	1 to 100 psia (6.9 to 690 kPa absolute)
<u>Body Material:</u>	CPVC (Chlorinated-Polyvinyl-Chloride)
<u>Junction Material:</u>	Kynar (Poly-Vinylidene-Fluoride)
<u>Dimensions:</u>	Drawing <9-1>
<u>Cable:</u>	RG 174/U Coaxial (without preamplifier)
<u>Connector:</u>	BNC (unless otherwise specified)
<u>pH Sensor Specifications:</u>	
<u>Measuring Glass Type:</u>	Hemispherical Green Glass (MUGG), Acid/Fluoride Resistant. Clear Glass (CHIII) with high HF option.
<u>Dimensions:</u>	0.310, (7.8 mm) DIA
<u>Initial Impedance:</u>	MUGG - Less than 800 M Ohms @ 25 ° C. CH III – Less than 2,000 M Ohms with the high HF option.
<u>Alkaline Ion Error:</u>	Less than 0.15 pH in 1.0 M K <sup>+</sup> at pH 14.0
<u>Acidic Error:</u>	Less than 0.01 pH in 1.0 M HCl @ 0.0 pH
<u>Reference System Specifications:</u>	
<u>Type:</u>	Double Junction
<u>Reference Half Cell:</u>	Ag/AgCl, Saturated KCl
<u>Primary Junction:</u>	Porous Ceramic, Saturated KCl in crosslinked polymer
<u>Secondary Junction:</u>	Kynar, Saturated with KCl in crosslinked polymer
<u>Surface Area:</u>	366,000 mil <sup>2</sup> (236 mm <sup>2</sup> )
<u>Special Features:</u>	Crosslinked polymer is resistant to heat, solvents and to most chemicals. Sensor holds an excess of KCl, assuring saturation at all temperatures and extending in situ sensor life. The major advantage of the MUGG Fluoride and Acid Resistant pH Glass is the lack of building fluoride precipitates on its surface while in use, therefore it does not require cleaning and frequent calibration. The composition of the glass also reduces the attack of fluorides more than ten fold relative to general glass compositions. It further resists high concentrations of acids and with its reference electrode system permits pH measurements well into the negative range.
<u>Recommended Applications:</u>	Fluoride containing wastewater, etching solutions, pollution control devices, where long service life or operation at remote locations where (no) low maintenance is required.
<u>Storage and Shelf Life:</u>	At room temperature with closed protector cap, 1 year from date of manufacture.
<u>Standard Hook-Up Options:</u>	No Preamp - BNC Connector + TC lead wires With Preamp – Multiconductor Lead Wires – See Hook Up Schematics

4 3 2 1

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
2	1			



D C B A



ASTI  
Advanced Sensor Technologies, Inc.

VALVE RETRACTABLE  
pH SENSOR DWG <9-1>

SIZE	FSON NO.	DWG NO.	REV
2	#<9-1>	AST19-1.DWG	1
DRAWN BY: PETE CSISZAR		DATE: MARCH, 2003	SHEET 1 OF 1

4 3 2 1