



**TURTLE
TOUGH**

The HACH compatible pH & ORP sensor for OEM replacement is compatible with all HACH analysers that have an analogue input.

HACH compatible pH & ORP Sensor

Code: TT-HACH-pH

Features

- HACH compatible pH & ORP Sensor
- Outlasts OEM by up to 10 Times
- Differential Preamplifier (*optional*)
- 7.5m Cable (*6m & 10m optional*)
- RYTON with 3/4" Front-end & 1" MNPT Back-end
- -5°C to 105°C
- Double Junction (*Triple optional*)
- Coat resistant materials reduce fouling
- Acid/Fluoride Resistant
- Ammonia, Chlorine & Sulphide gas resistant
- High capacity polypropylene reference





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Turtle Tough Hach pH & ORP Sensor is an analogue sensor that is compatible with most Hach analysers that have an analogue input. For more than 20 years Turtle Tough OEM replacement sensors have provided our customers with superior performance over the original product in virtually every aspect.

The chemical & physical resistance provides a superior service life of up to 10 times that of the OEM product. In nearly all cases our customers report less drift and significantly less maintenance and the reason they keep using Turtle Tough a significantly lower cost of ownership.

The high capacity solid state polypropylene reference junction provides superior chemical resistance to sulphides & other dissolved gases.

The sensor has a double junction however a triple junction is available as a special order. It is built with PT1000 integrated temperature compensation element so that it interfaces seamlessly with the Hach analysers.

The sensor can also be ordered with an optional integral differential preamplifier that supports a range of unique Turtle Tough features including:

- Extreme Slurry/Abrasion Resistant
- Ultra Tough Unbreakable Glass
- Zinc Resistant
- High HF Acid Resistant Glass
- Quick Connect Plugs
- Extended Cable Runs Up To 100m





General Specifications

Description	HACH compatible pH & ORP Sensor
Part Number	TT-HACH-pH
pH Range	0 to 14 pH
Temperature Range	-5°C to 105°C
Pressure	6.9 to 690 kPa absolute (1 to 100 psig)
Body Type	RYTON with 3/4" Front-end – 1" Back-end MNPT
Junction Material	KYNAR (Poly-Vinylidene-Fluoride)
Dimensions	Length: 216mm Maximum Diameter: 33.3mm
Cable Length	7.5m (6m & 10m optional)
Temperature Compensation	Pt1000
Preamplifier	Not fitted – optional
Waterproofing	Immersible, Submersible if threaded on sealed immersion rod with sufficient sealing tape
Connection Analogue	Hard wired tinned leads for sensor & tc
Connection Digital	N/A
Special Features	Acid/Fluoride, Slurry and Sulphide Resistant
Options	Oxidation-Reduction Potential (-ORP), Extreme Dehydration (-ED), Slurry/Abrasion Resistance (-Radel), High HF (-HF), Preamplifier (-P), Quick Connect Plugs (-QC7M), Fast Reponse TC (-FTC), Teflon Silicone Sealing (-TS), Triple Junction (-TJ)

pH Sensor Specifications

Measuring Glass Type	Proprietary Tough Glass
Glass Dimensions	8.0mm (0.315") Diameter
Initial Impedance	<800 M Ohms @ 25°C
Sodium Ion Error	< 0.15 pH in saturated Na ⁺ solutions at pH 14.00
Acidic Errors	< 0.05 pH in HCl solutions at 0.00 pH

Reference System Specifications

Type	Double Junction
Reference Half Cell	Ag/AgCl, Saturated KCl
Primary Junction	Primary Junction Porous Ceramic, Saturated KCl in Cross-linked polymer, interfaced to secondary junction
Secondary Junction	Solid-State Non-Porous Cross-Linked Polymer embedded in polypropylene support matrix holds excess KCl assuring saturation at all temps for stability & long sensor service life

Application Specifications

Recommended Applications	Industrial, chemical, food & beverage, semiconductor, pharmaceutical & wastewater. Any measurement where aggressive chemical cleaning is needed to remove fouling or low maintenance operation is required with minimal cleaning and re-calibration
Analyser / Interface	Compatible with most HACH analogue analysers
Storage	Item should be kept at room temperature with closed protector cap, filled with storage solution in an upright position. Shelf life warranted for 12 months from the date of purchase
Warranty	12 Month Conditional Warranty Please see www.turtletooughsensors.com/support/warranty-returns

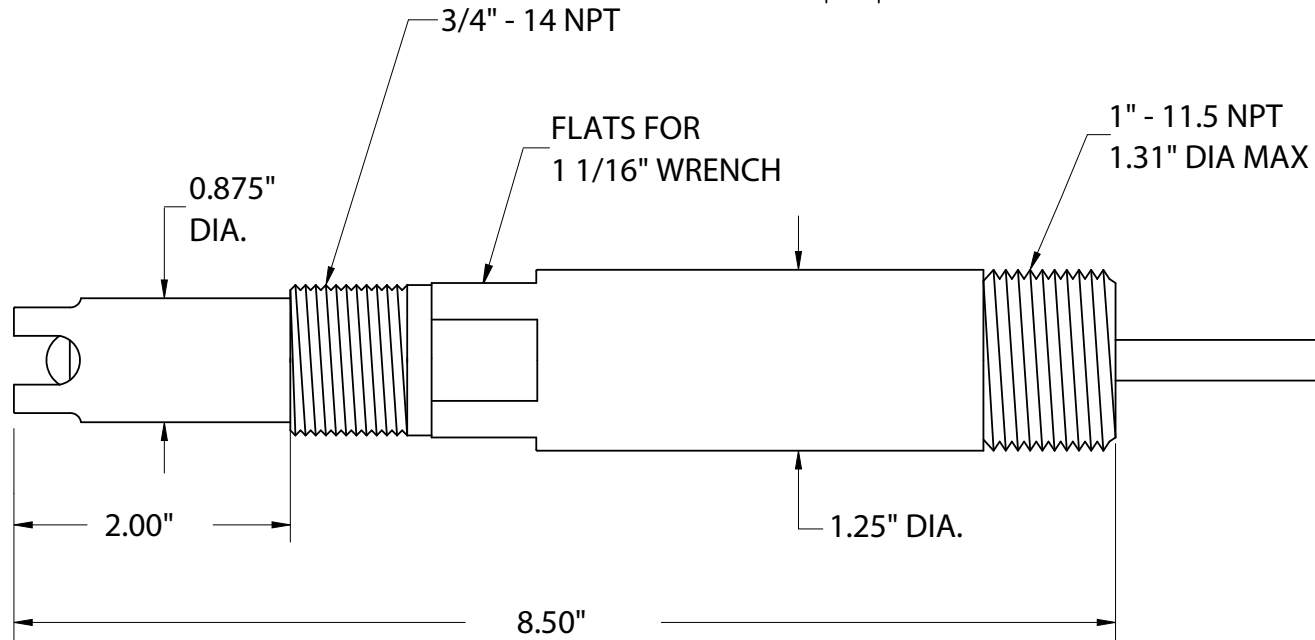
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REVISION HISTORY

REV	DESCRIPTION	DATE	APPROVED



NOTES

- All dimensions are in inches, unless otherwise indicated with tolerances as detailed below.
- Sensor body material of construction is RADEL, PEEK or RYTON.
- Drawing shown in the standard with protective tines configuration (4 places, 90 degrees apart).
The 2 protective tines only configuration (2 places, 180 degrees apart) is optional.
- In the alternate without tines configuration, the sensor body is exactly 8.0 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 8.3 inches.
- Do not use any sensor beyond the factory defined maximum temperature or pressure rating.



TURTLE TOUGH

Turtle Tough Sensors
turtletoughsensors.com

TOLERANCES		DRAWN BY RH
1 Place: ± .1	3 Places: ± .005	CHECKED BY TADP
2 Places: ± .01	4 Places: ± .0005	APPROVED BY MJP
Angular: ± 0.25°		

TITLE 3/4"-1" MNPT Inline / Immersion / Submersible			
SIZE B	PROJECT IMMERSION	DRAWING NO. 6-1 pH SENSORS	REV /
SCALE Not to Scale	MODEL 6X31,6X41,6X51,6X52	SHEET 1	OF 1

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