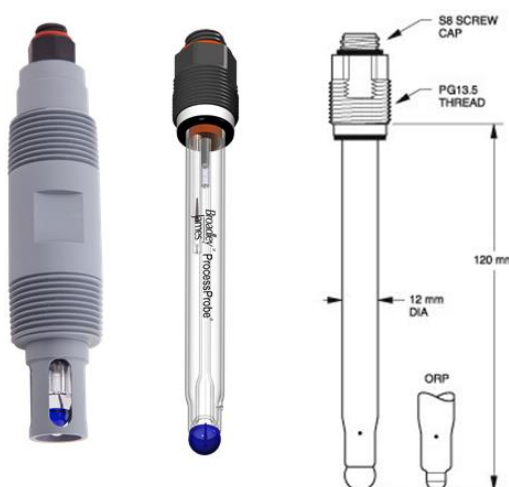


pH Electrode Assembly

A pH electrode assembly for in-line and pressurized applications up to 150 PSIG.



Applications



The SEN-PH/SP200 is designed for thread-in insertion into an Argus SEN-ECTIN-1.5 inline EC/Temp/pH monitoring assembly, or rack mount Nutrient System. An ECS-4 is used in the AB-150 and RM Nutrient System.

It can also be used in standalone applications when inserted into a threaded 'T' fitting (see the installation details).

SP Series ProcessProbe™ electrodes are manufactured by Broadley James and are available for pH and ORP measurements

(Argus stocks the pH electrode and can provide ORP electrodes by special order).

Alternatives

SEN-PH1 is a lower cost dip-type electrode for non-pressurized applications.

SEN-PH2 is a replacement pH electrode for SEN-ECT-IN 1.4 assemblies (replaced by 1.5).

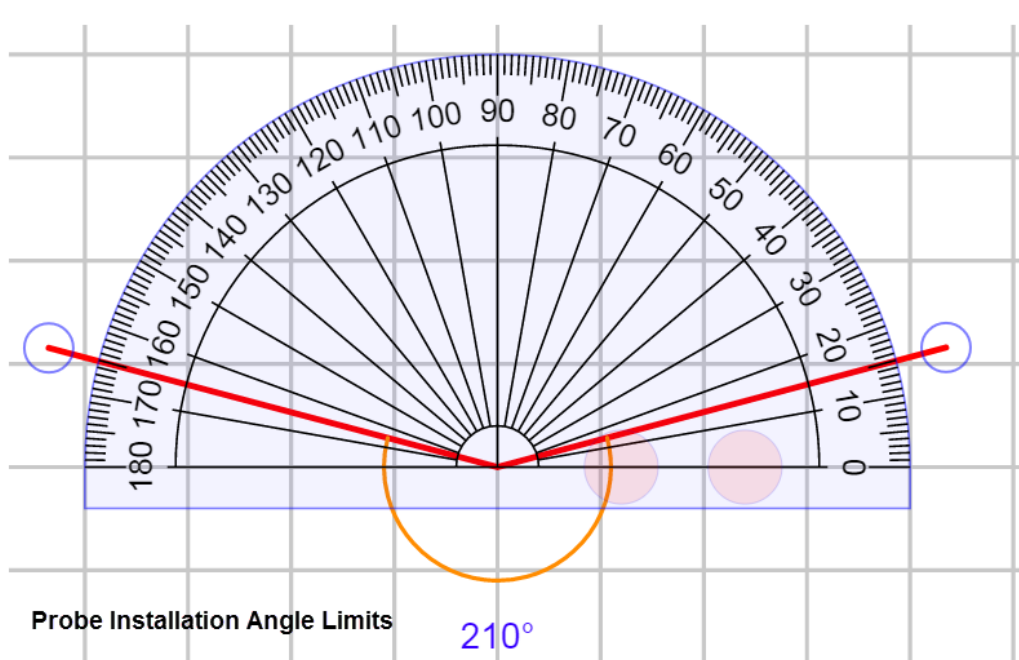
ECS-4 is identical to the ECT-IN and is adapted to be used in the Nutrient RM system. The SEN-PH/SP200 is used in both ECT-IN and ECS-4.

Features

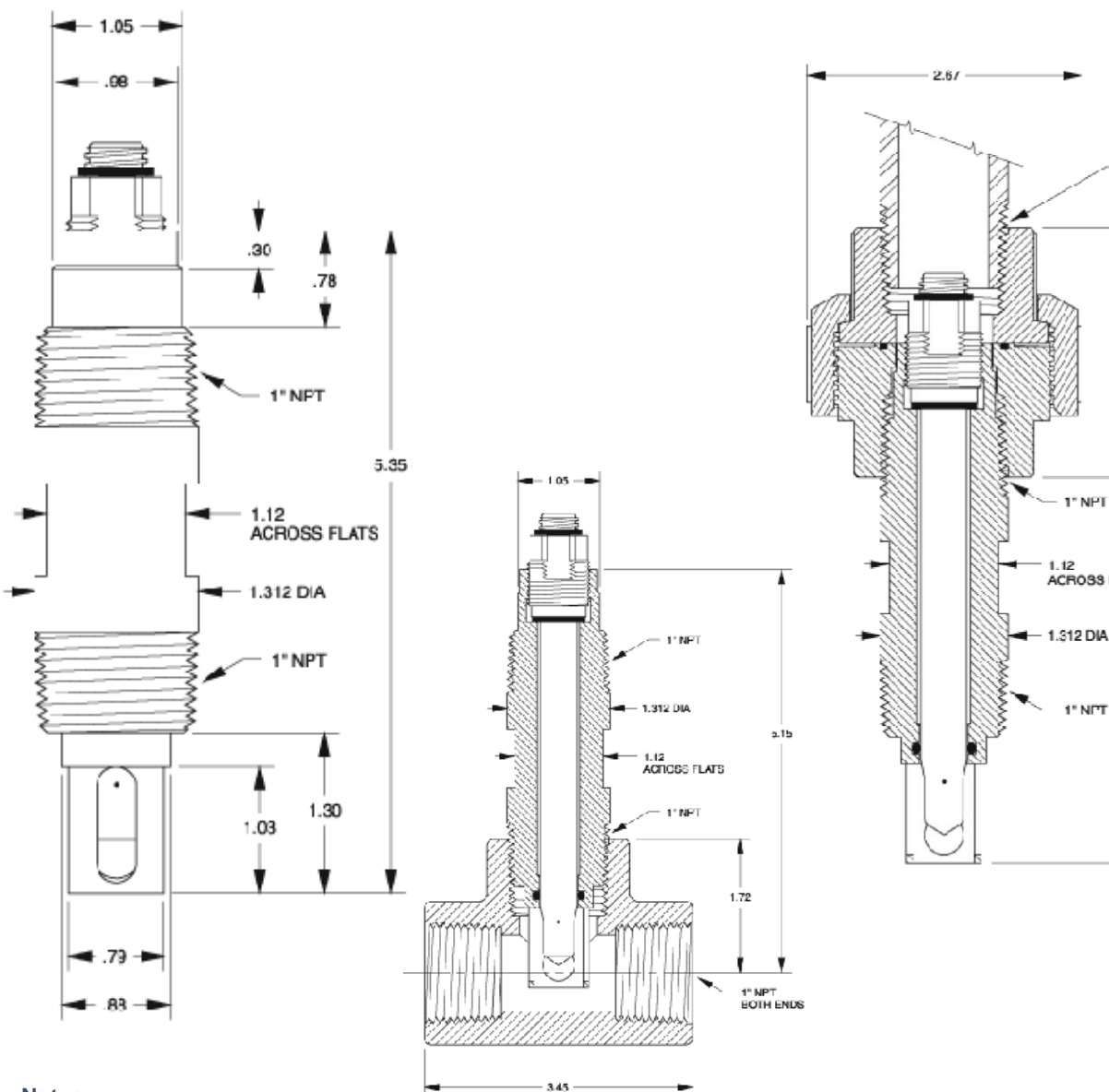
- **Pressure** – Withstands pressures up to 150 PSIG.
- **Contaminant Resistant** – The Double Junction Reference system reliably prevents process contaminants from fouling the reference.
- **Maintenance Free** – Sealed reference requires no electrolyte maintenance.
- **Widely Compatible** – The SP series electrodes are 12 mm x 120 mm with a threaded PG13.5 cap. These dimensions make them compatible with many pre-existing housings found in industrial and waste treatment applications.
- **Low Sodium Ion Interference** – The glass formula allows for minimum sodium ion interference while retaining fast response.

Specifications

pH Bulb:	HT-3 Formula, Low Sodium Ion Error
Reference:	Silver/Silver Chloride (Ag/AgCl)
Reference Junction:	Precision made junction of specially formulated low porosity ceramic
Electrolyte:	3.8 Molar Potassium Chloride (KCl) Gel
Isopotential Point:	pH 7
Output Signal per pH Unit @ 25°C:	Approximately 59 millivolts
Asymmetry Potential:	0mV \pm 20mV
Temperature Range:	Operation: -5 to 110°C
Stability:	Drift of less than 0.002 pH over 24 hours at constant temperature & pressure
Response Time at 98% of readout in:	25°C less than 15 seconds
Response Time at 98% of readout in:	37°C less than 10 seconds
Max. Pressure SP200 Series:	10 bar (atm), 150 PSIG Note: 80 PSI or less operating pressure is recommended. Protect from water hammer.
Connector:	Standard Pg13.5 threaded cap with -S8 cable attachment. O-ring sealed
Wetted Materials:	Glass, Ceramic
Cable:	10ft with BNC connector Argus Part: SEN-PH/SP200-CABLE



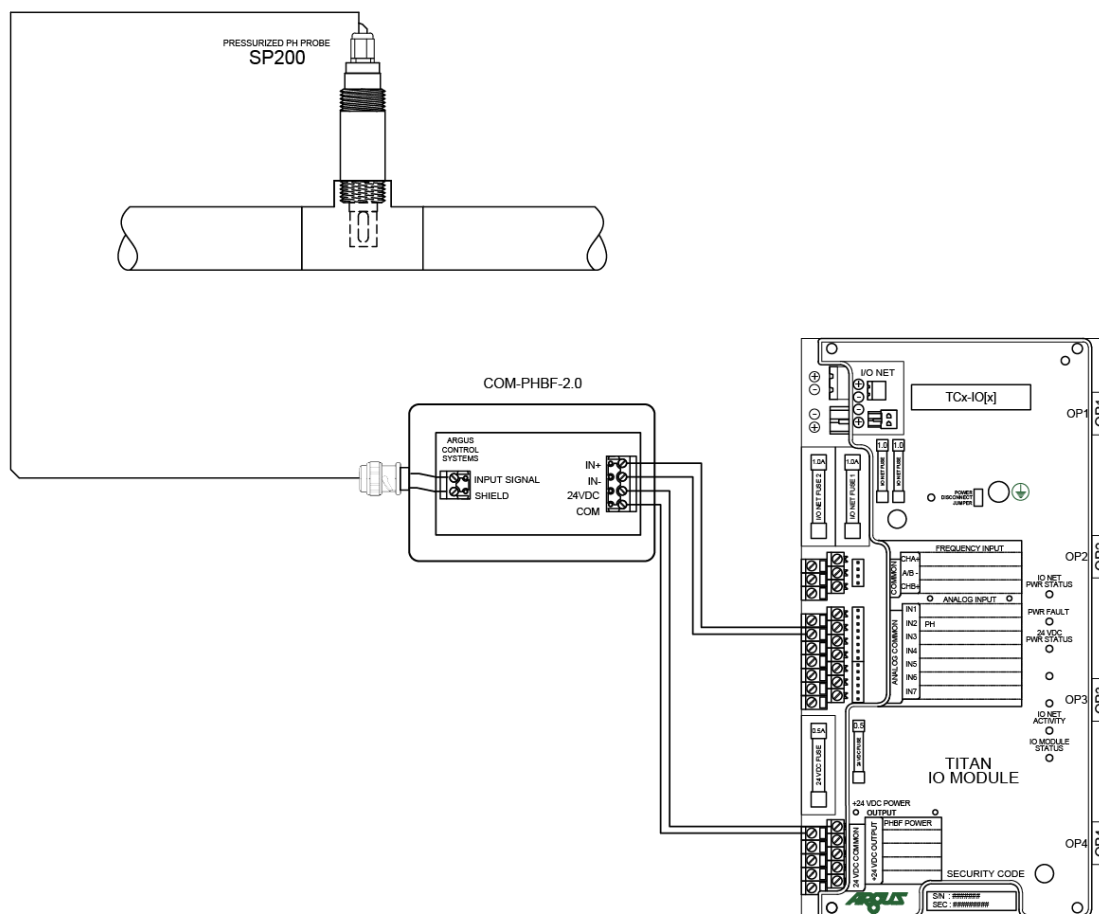
Installation Details



Notes:

1. The SEN-PH/SP200 will not fit in SEN-ECTIN 1.4 assemblies. Use Argus part SEN-pH2.
2. Requires a pH buffer board interface Argus part number COM-PHBF-2.0 for connection to Argus Titan I/O modules.
3. A pH sensor must be **at least 15° above horizontal** to consistently function correctly. **Do not** install sensors in a port perpendicular to the vessel wall. The liquid in the sensor contains small air bubbles, and if not inclined slightly above horizontal, a bubble can adhere to the pH bulb where it affects the sensor's performance.
4. **Do not** add additional fittings to the pH probe housing. The pH probe tip must be in the solution flow.

Wiring Details



Typical wiring configuration for a stand-alone installation of the SEN-PH/SP200 probe using the COM-PHBF-2.0 interface.

See the ECTIN 1.5 Data Sheet for wiring details when supplied with an ECTIN nutrient monitoring assembly.

Additional Information

For more information, please contact Argus.

