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- **Simple, robust design in three dip lengths**
  - **Positive salt-bridge flow from integral reservoir**
  - **Easily-replaced, reliable combination electrode**
  - **Built-in sight glass for salt-bridge reservoir**
  - **Simple installation on wall or tank**



**Introduction**

2867 Series industrial dip electrode systems are designed for pH and Redox measurement in channels and open tanks. It is particularly suitable for use in effluent treatment applications where automatic temperature compensation is not required. The 2867 utilizes a specially designed combination electrode, providing reliable measurement in a wide variety of samples.

The systems are constructed from plastic throughout; the dip stem, of nominal 0.46m, 0.92m or 1.83m (18 in., 3 ft or 6 ft) length, is manufactured in ABS which is chemically resistant to most samples and withstands temperatures of up to 70°C (158°C). The stem is filled with salt-bridge solution, forming an integral reservoir for the reference element mounted in the upper end of the electrode assembly. A liquid junction with the sample is made at a ceramic plug fitted in the wall of the stem at its lower end; two sizes of plug are provided, giving the option of a higher flow of salt-bridge solution in samples which would block the ceramic or contaminate the reference element.

**Electrodes Available for the System****Glass combination pH electrode:**

- 1912-300 (PET plug termination)
- 1912-400 (BNC plug termination)
- 1912-500 (tag terminations)

**Antimony combination pH electrode:**

(for samples containing Hydrofluoric Acid)

- 1990-300 (PET plug termination)
- 1990-400 (BNC plug termination)
- 1990-500 (tags)

**Platinum combination Redox electrode:**

- 1980-300 (PET plug termination)
- 1980-400 (BNC plug termination)
- 1980-500 (tags)

Each electrode assembly screws into the lower end of the system and is sealed by means of an 'O' ring to prevent salt-bridge solution loss. The fitted cable of 6m (19.5 ft) length passes out of the top of the system through a split rubber bung. The cable terminates in either a BNC plug (-400 electrodes), for connection to an extension cable or Models 9140 and 9160 pH meters, or tags (-500 electrodes) for direct connection to 4500 and 4600 Series transmitters. Electrodes with PET connectors (-300 electrodes) are also available for use with older type pH transmitters.

Mounting of the systems is achieved by using either the supplied flange or wall-mount bracket, with immersion depth adjustable by means of 'O' rings.

**Extension cables for use with 9140, 9160, 4500 and 4600 Series**

For distances greater than 6m (19.5 ft) an extension cable (part no. 6320-562) is available to interconnect 19XX-400 series electrodes with the models 9140 and 9160. This cable has a BNC socket on one end and a BNC plug on the other.

To connect model 4630/35 or 4500 Series transmitters to a 19XX type electrode over a distance of more than 6m, the 19XX-400 type electrodes should be specified together with an extension cable (part no. 9170-300) which has a BNC socket on one end and tags on the other end. 19XX-500 electrodes, with tag ends to their leads, are designed for direct connection to 4500 and 4600 Series transmitters.

Both extension cables are available made up to any specified length (recommended maximum 100m [325 ft]).

**Specification**

**Material of construction**

ABS (Acrylonitrile Butadiene Styrene) with perspex sight tube

**Resistance of ABS to common chemicals at 25°C (77°F)**

Sulphuric Acid (<50%)	Good
Nitric Acid (<50%)	Good
Hydrochloric Acid	Good
Phosphoric Acid	Good
Common Alkalis	Excellent
Alcohols	Good
Hydrocarbon Solvents	Unsuitable
Detergents	Excellent

**Sample temperature range**

0° to 70°C (32 to 158°F)

**Mounting**

By wall bracket or flange supplied, located by 'O' rings

**Nominal stem lengths and weights**

2867-500	0.46m (18 in.)	750g (29.5 lb)
2867-600	0.92m (3 ft)	850g (33.5 lb)
2867-700	1.83m (6 ft)	1350g (53 lb)

**Electrodes**

**pH (glass) combination**

- 1912-300 (PET connector)
- 1912-400 (BNC plug)
- 1912-500 (tags)
- pH range 0 to 14
- Temperature range -5° to +70°C (23 to 158°F)
- Lead 6m (19.5 ft) length

**pH (antimony) combination**

- 1990-300 (PET connector)
- 1990-400 (BNC plug)
- 1900-500 (tags)
- pH range 0 to 10
- Temperature range -5° to +70°C (23 to 158°F)
- Lead 6m (19.5 ft) length

**Redox (platinum) combination**

- 1980-300 (PET connector)
- 1980-400 (BNC plug)
- 1980-500 (tags)
- Temperature range -5° to +70°C (23 to 158°F)
- Lead 6m (19.5 ft) length

**Electrolyte**

3.8M KCl (part number 0400-170)

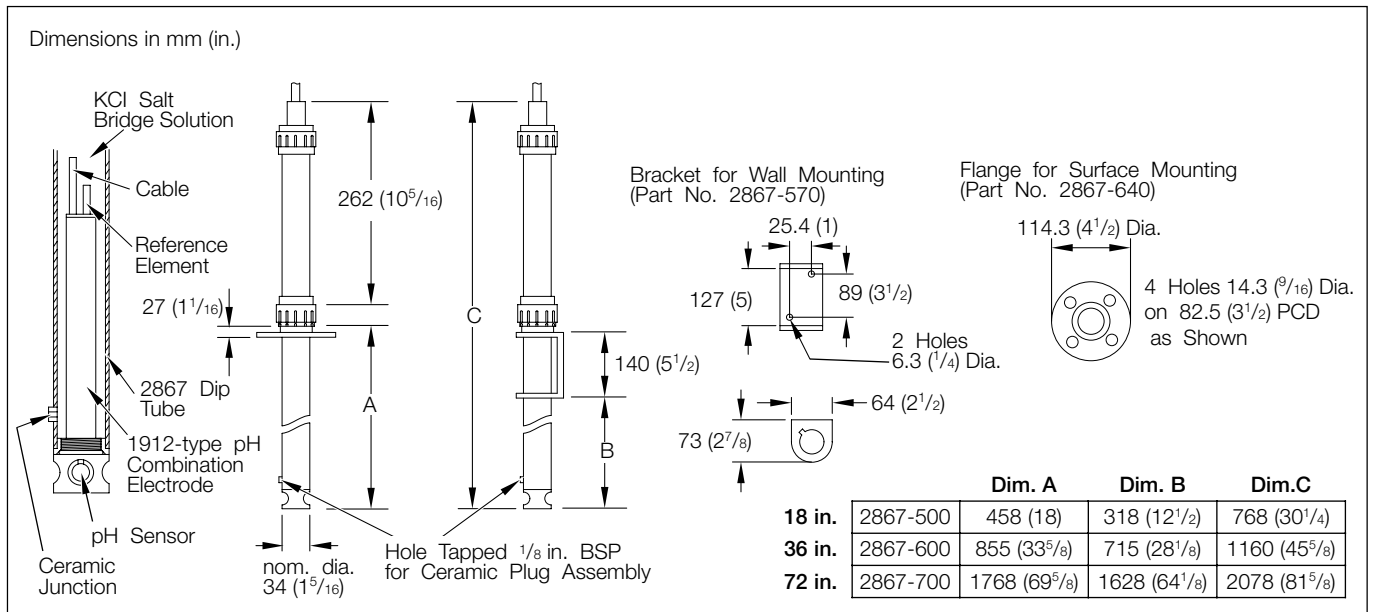
**Service Pack (2867-041)**

Comprising:  
1 neoprene 'O' ring, 4 rubber 'O' rings, bung, 1 each 1.5mm and 3.5mm ceramic plugs, ceramic plug spanner

Spare ceramic plugs can be ordered separately under part numbers as follows:

1.5mm	2867-540
3.5mm	2867-550

**Overall Dimensions**



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