OPERATING INSTRUCTION MANUAL

MODEL 575 / 585
COMBINATIONAL PH AND ORP PROBES

REV. 3.0

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P575 AND R575 SERIES & P585 AND R585 SERIES
pH AND ORP PROBES
INSTRUCTION MANUAL

1.0 GENERAL INFORMATION

This manual covers all AquaMetrix P/R575 and P/R585 Series conventional combination pH and ORP probes.

All mounting configurations are described.

Consult factory before using the sensor in extremely strong solvents such as ethylene dichloride.

Before placing the sensor into operation, remove the protective plastic cap. Store this cap for future use.

NOTE: If the sensor is to be out of solution for an extended period of time, put a few drops of water into the protective cap and replace it on the sensor. This keeps the junction from drying out which avoids slow response when the sensor is put back into operation.

INSTALLIATION DRAWINGS:

Located at end of Manual

N106-80 INSTALLIATION OF 575 / 585
SERIES COMBINATIONAL PROBES
SUBERMISION

N106-81 INSTALLIATION OF 575 / 585
SERIES COMBINATIONAL PROBES INLINE

2.0 SPECIFICATIONS

MEASURING RANGES:
pH: 0.01 to 14.00 pH
ORP: -1000 to +1000 mV
Consult factory for applications below 2.5 and above 12)

WETTED MATERIALS:
575 Series
CPVC body, ceramic junction, glass electrode, RTV sealant (plus platinum for ORP)

585 Series
Epoxy body, CPVC compression fitting, ceramic junction, glass electrode, RTV sealant (plus platinum for ORP)

TEMPERATURE LIMITS:
-5 to 80°C (23 to 176°F)

MAXIMUM PRESSURE:
100 psig at 65°C

TEMPERATURE COMPENSATION:
P/R585 and P/R575: Not provided
P585K and P575K: Automatic

MAXIMUM FLOW RATE:
3 meters (10 ft.) per second

STABILITY:
pH: 0.05 pH / day
Non-cumulative
ORP: 3.0 mV / day
Non-cumulative

SENSITIVITY:
pH: 0.01 pH unit
ORP: 1.0 mV

SENSOR CABLE:
3 meters (10 ft.) coaxial, terminated with ring, terminal on centre wire, other wires are tinned.

3.0 INSTALLATION

3.1 General Instructions

3.1.1 Specific instructions for each type of probe are given in the following pages. Common to all probes are the following instructions:

a) If the distance between the probe and the instrument is such that a direct connection is not possible you will need a preamplifier, AquaMetrix Model 101A. The box should be well sealed and away from corrosion danger. Be sure that you have sufficient slack cable to allow for probe removal for calibration and servicing.

b) Route the interconnect cable from the junction box to the instrument, preferably in metal conduit. Do not run the power cable or control cables in the same conduit with the probe interconnect cable.

c) Remove the protective plastic caps from the end of the probe before placing in service.

d) For best results probes should always be mounted vertically with electrodes down. If this is not possible, the probe must be at least 15° above horizontal.

e) Do not use a pipe wrench on the probe.

3.2 Submersion Mounting, P575 and P575K

3.2.1 A submersion mounting kit is available from AquaMetrix which includes 4 ft. of 1" pipe, a 1 inch CPVC coupling and a strain relief fitting. Proceed as follows, either with the kit or with your own hardware:

a) Apply a thread sealant to the thread on the cable end of the probe and screw a 1 inch coupling onto the probe. Route the probe cable through an appropriate length of 1" pipe and, using thread sealant, screw the pipe into the reducer. A cable strain relief fitting should be used on the upper end of the pipe. In the kits a wire bracket is provided to aid in supporting the assembly. The process should not be allowed to come in contact with the cable end of the probe.

3.3 Submersion Mounting, P585 and P585K

3.3.1 A submersion mounting kit is available from AquaMetrix which includes 4 ft. of 1" pipe with a 3/4" NPT thread and a strain relief fitting. Proceed as follows, either with the kit or with your own hardware.

a) Install the compression fitting components on the probe in the order shown in the drawing on the next page so that the pipe thread is towards the cable end of the probe.

b) Snug up the nut of the compression fitting to locate it in the desired position. Hand tighten as much as possible, then turn 1/2 turn with a wrench.

c) Apply a thread sealant to the pipe thread portion of the compression fitting.

d) Route the sensor cable through an appropriate length of 1" pipe and using thread sealant, screw the pipe onto the reducer on the probe. The process should not be allowed to come in contact with the cable end of the probe.

REFER TO DWG# N106-80

3.4 Flow-through tee mounting P575 and P585

3.4.1 Apply pipe sealant to the electrode end of the probe and screw it into a standard 1 1/2" NPT tee.

3.5 Flow-through tee mounting P585 and P585

3.5.1 Take the compression fitting apart. Apply pipe sealant to the 3/4" NPT thread and screw this part into a 3/4" tee. A larger tee, such as 1" NPT as shown in the drawing on the next page, with an appropriate reducer may be used.

3.5.2 Put the compression fitting components on the probe in the order shown in the drawing on the next page. They should be in such a position that the electrodes will be in the pipe stream but not touching the opposite side of the tee.

3.5.3 Remove the protective cap from the probe and place the probe in the tee. Now tighten the nut by hand as much as possible, then turn _ turn with a wrench.

REFER TO DWG# N106-81

4.0 SERVICE AND MAINTENANCE

4.1 Probe Cleaning

4.1.1 The probe should be kept reasonably clean to avoid measurement errors. Frequency of cleaning can only be determined by experience. To clean proceed as follows:

a) Rinse with clean warm water.

b) Soak the end of the probe in warm water and dish detergent for 3 or 4 minutes.

c) Brush the end of the probe with a soft bristle brush such as a tooth brush. Take care not to scratch the glass electrode.

d) If the probe is still not clean, it may have to be cleaned with acid. *CAUTION: Do not acid clean probes used in processes containing cyanide solutions*. Some experimentation may be required to determine the most suitable acid for your process. Use the most dilute acid which is effective.

e) Soak the probe for not more than 5 minutes in the chosen acid: then rinse thoroughly with clean warm water.

f) Calibrate the system in accordance with the instrument instruction manual.

4.2 Customer Service

4.2.1 If a problem has not been resolved with the above procedures, a telephone Consultation with your AquaMetrix representative or directly with AquaMetrix will provide the answer.

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4.3 pH Buffers and ORP Calibration Solutions

4.3.1 The pH Buffers and ORP Calibration Solutions are listed below. When ordering parts please use the complete part number.

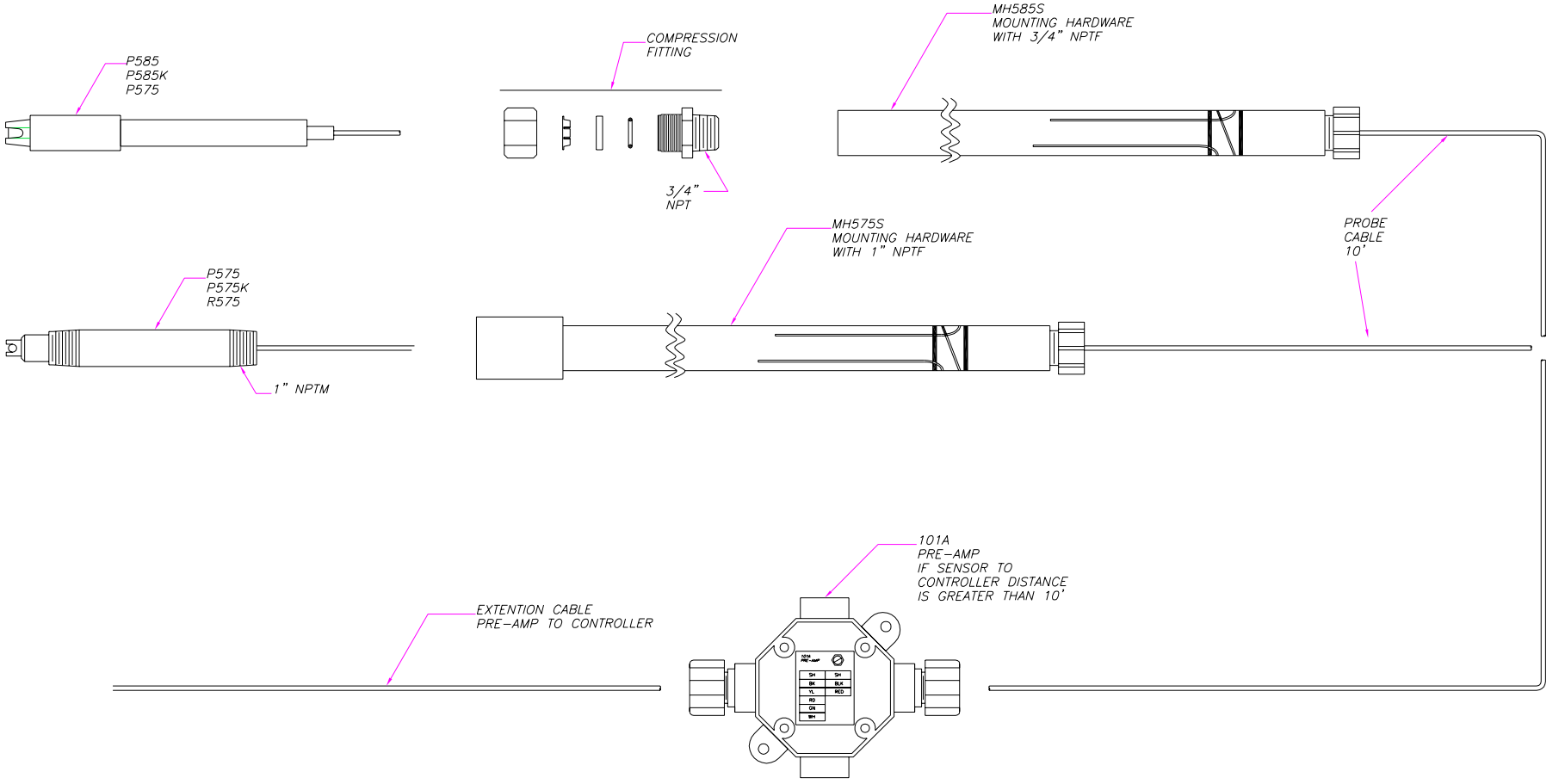
Description	*Part #*
500 mL pH 7 Buffer Solution	A35-14
4 L pH 7 Buffer Solution	A35-118
500 mL pH 4 Buffer Solution	A35-13
4 L pH 4 Buffer Solution	A35-117
500 mL pH 10 Buffer Solution	A35-24
4 L pH 10 Buffer Solution	A35-119
200 (±20) millivolt solution, 500 mL	A35-40
600 (±20) millivolt solution, 500 mL	A35-41

4.4 Probe Return

4.4.1 If you are returning a probe for inspection, you must contact AquaMetrix to obtain an RMA (Return Material Authorization) Number. Enclose a description of the problem, and MSDS sheets for the solution that the probe was installed in. Pack the probe adequately to avoid damage to the glass electrode and ensure that it will not be exposed to temperatures below –5°C. AquaMetrix cannot be responsible for shipping damage nor for damage due to frozen electrodes.

For safety reasons, AquaMetrix cannot accept probes which have not been thoroughly cleaned to remove all process material.

SYM	DESCRIPTION	DATE	APPROVAL



AquaMetrix Inc.
Industrial and Environmental Controls

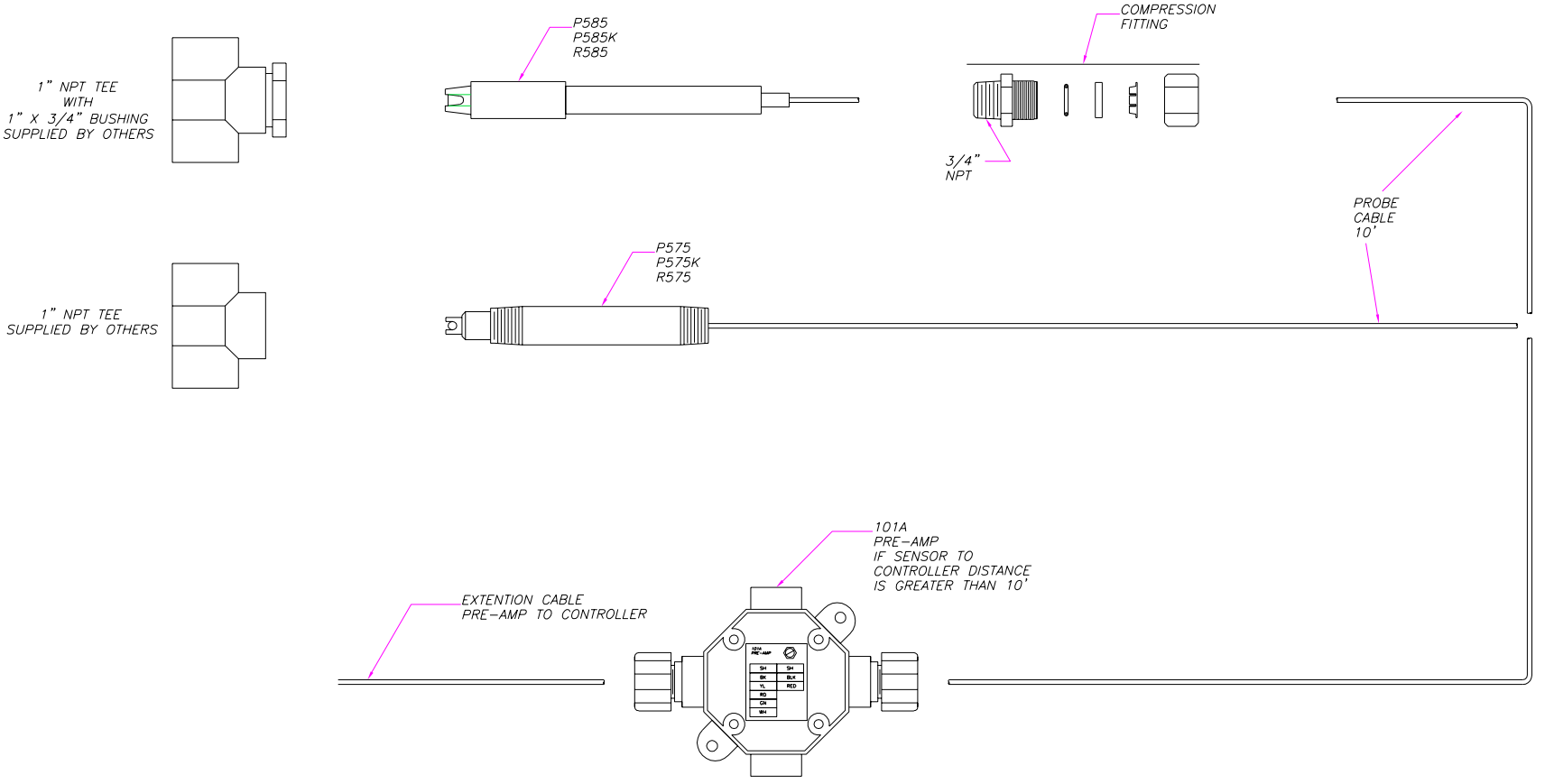
INSTALLIATION OF 575 AND 585 SERIES COMBINATIONAL PROBES SUBERMISION

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		N106-80	1

SCALE: NTS

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REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL



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INSTALLIATION OF 575 AND 585 SERIES COMBINATIONAL PROBES INLINE

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