

# Flat-Surface, Self-Cleaning pH and ORP Electrodes

Insertion/wet-tap pH and ORP electrodes, assemblies and cables



S656CD



S656CD-ORP

## Specifications

**Range** 0-14pH (0-12pH without Na<sup>+</sup> error)  
+/- 2000mV for ORP

### Wetted Materials

Body/Junction: CPVC/HDPE ("CD" models)  
PVDF/ Porous PVDF ("KD" models)

Measuring Surface: pH glass (pH), Platinum or Gold (ORP)

### Temperature/Pressure Range

(all models ending in "-CD") = 0C° - 75C (0-100psig), 80C (0-85psig)

(all models ending in "-KD") = 0C° - 100C (0-100psig)

**Note:** From 0 to 10C, electrodes will exhibit slower response time.

**Reference Type** Ag/AgCl, Sealed Double Junction

**Installation** Any direction

**Quick disconnect design saves time and money**

**Installs in seconds, no tools necessary**

**Flat-surface design resists coating**

**CPVC or PVDF construction**

**Available with or without ATC elements**

**Protective tip reduces pH glass breakage (S656CD)**

Without the need for system shutdown for electrode maintenance, the insertion assembly allows pH measurements to be made in pressurized tanks and main lines. The assembly's adjustable insertion depth allows it to be placed in a turbulent flow region, enabling it to operate in the self-cleaning mode.

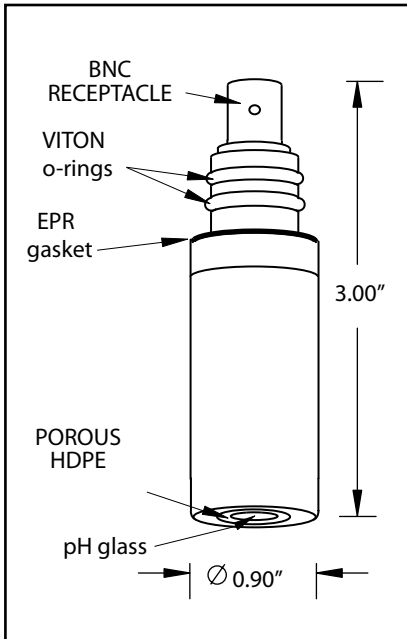
In abrasive applications, the electrode is best positioned flush with the pipe wall or tank wall. High suspended solids and viscous liquid pH measurements are simple with the insertion assembly and electrode pair. The specially designed internal makes the electrode mountable in virtually any direction, including inverted. A 1" full-port ball-valve (Sensorex BV-1) is recommended for installation.

New part number S656CD has four protective pads to reduce pH glass breakage. The S656CD replaces the 970283 which is now obsolete. In addition to the protective pad feature, the S656CD also includes our high performance acrylamide gel that provides longer life in many applications.

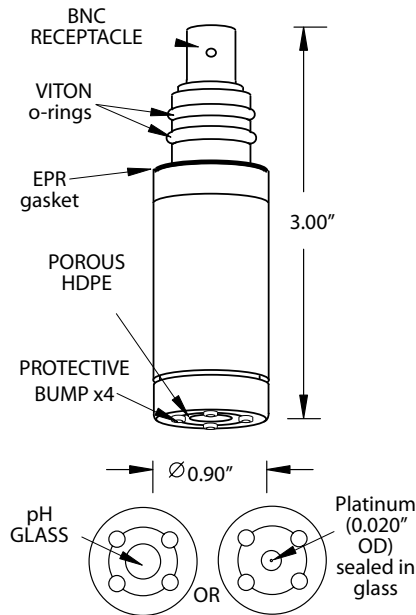
**Parts covered by this product data sheet include:**  
S675, S676, S677, S675TC, S676TC, S677TC, S656CD,  
S655CD-ORP, S656CD-ORP, S675K, S675TK, S655KD,  
S655KD-HT, S655KD-ORP, S655KD-ORP-HT

# CPVC and KYNAR ELECTRODES

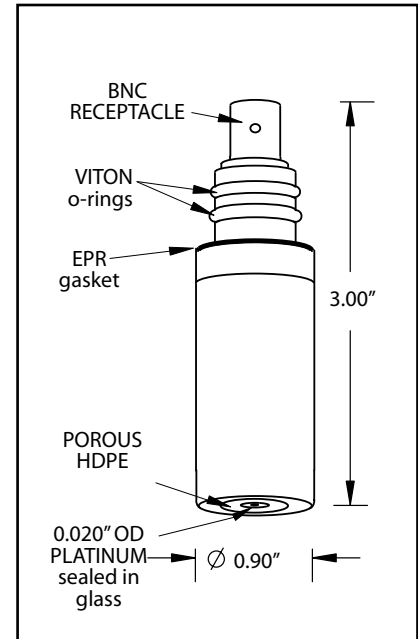
**pH - S655CD, S655CD-HT, S655KD, S655KD-HT**



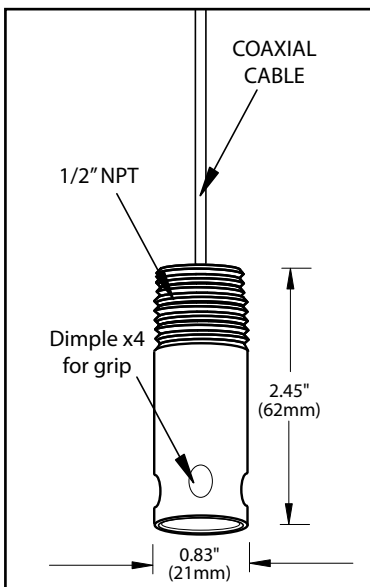
**S656CD and S656CD-ORP**



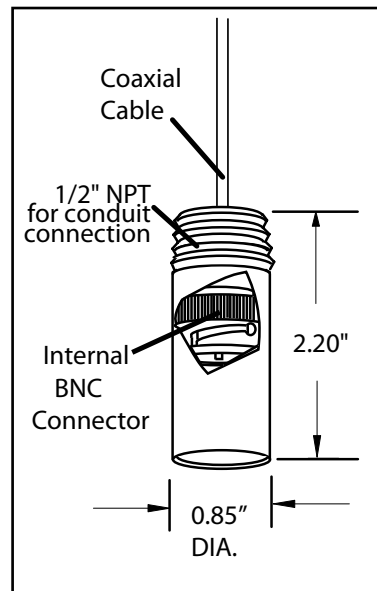
**ORP-S655CD-ORP, S655KD-ORP, S655KD-ORP-HT**



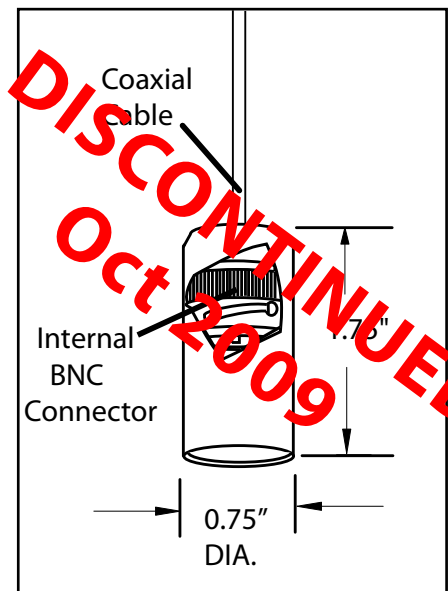
**CPVC CABLES WITH CONDUIT CONNECTION (NO ATC) - S653**



**KYNAR CABLES WITH CONDUIT CONNECTION (NO ATC) - S653K**

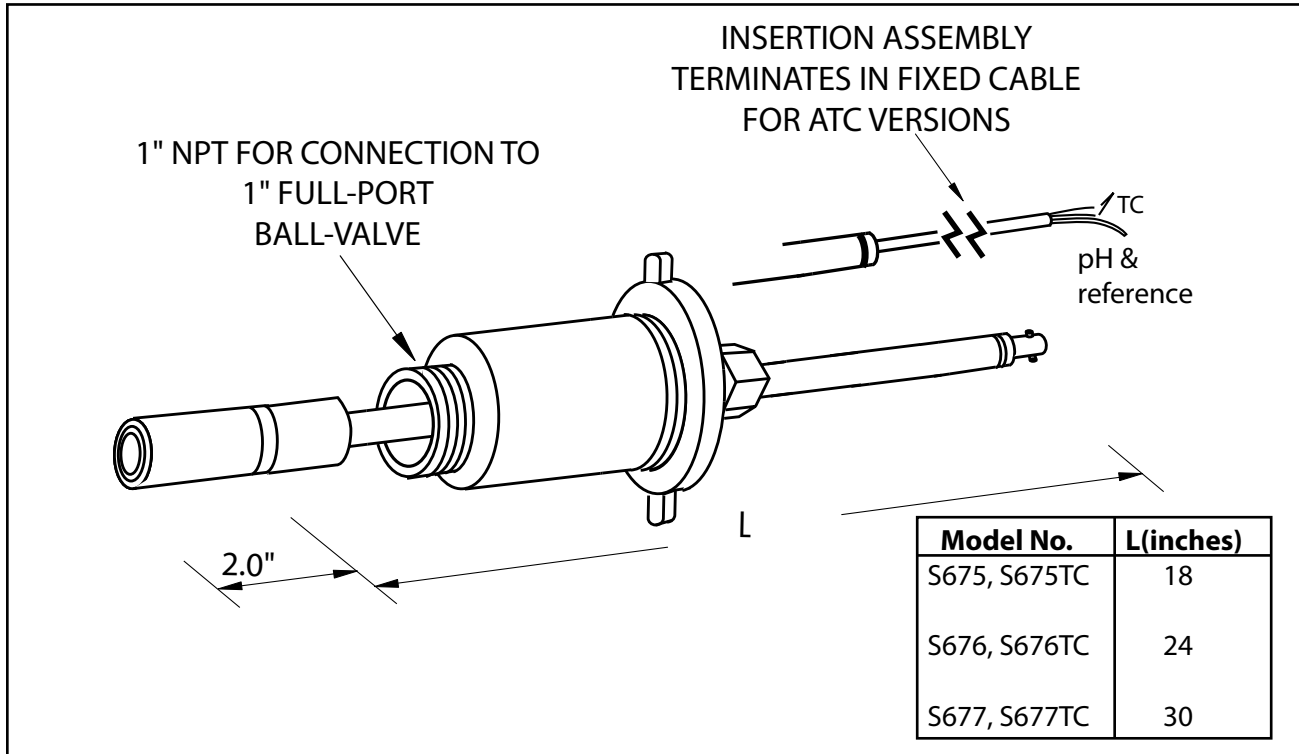


**CPVC and KYNAR CABLES EXPOSED CABLE CONNECTION (NO ATC) - S648, S648K**

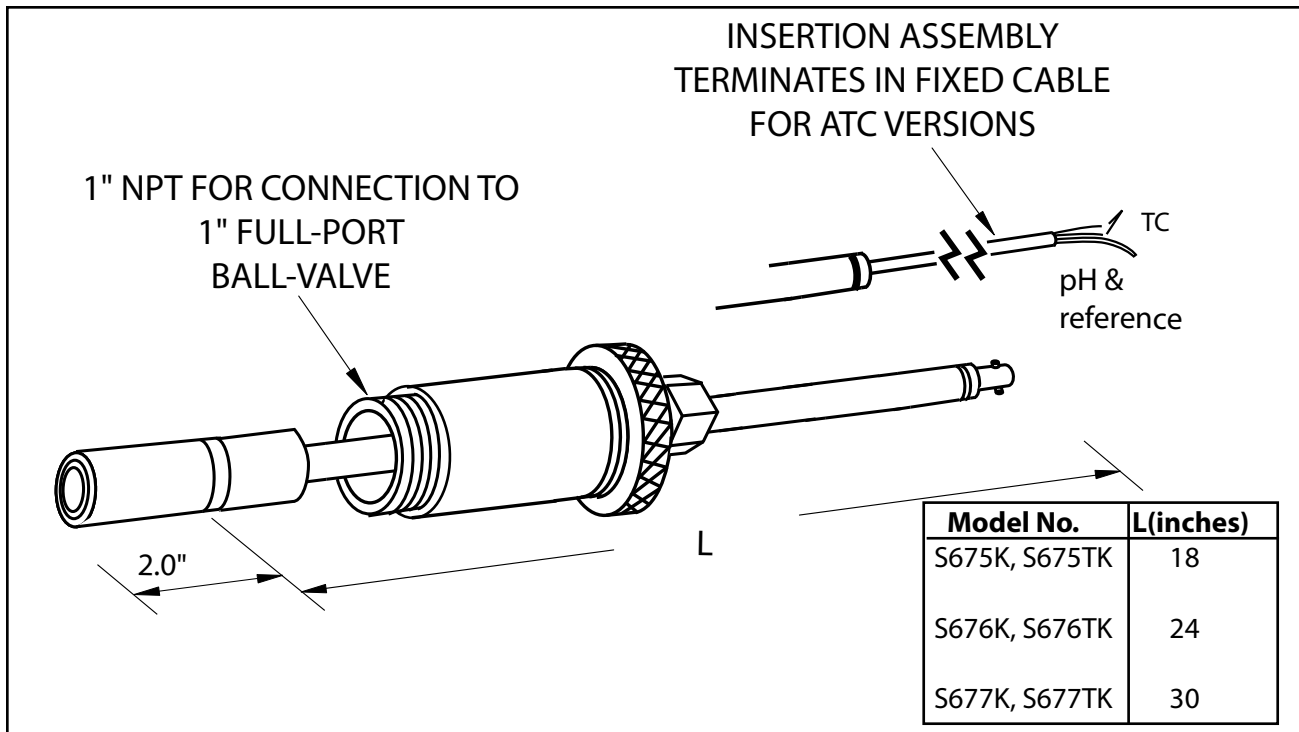


**DISCONTINUED**  
**Oct 2009**

**CPVC pH and ORP Insertion Assemblies ( With and Without ATC) -S675, S675TC**



**PVDF pH and ORP Insertion Assemblies ( With and Without ATC)-S675K, S675TK**



## ORDERING INFORMATION

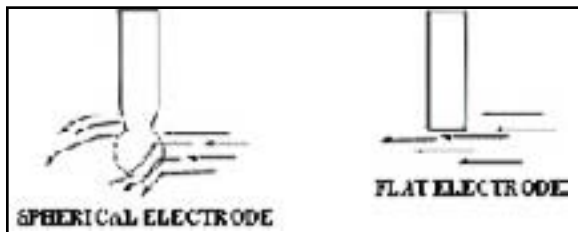
### Systems without temperature compensation

ORDER 3 ITEMS	DESCRIPTION	CPVC PARTS	KYNAR (PVDF) PARTS
1. Select one insertion assembly	Insertion assembly 12" depth Insertion assembly 18" depth Insertion assembly 24" depth	S675 S676 S677	S675K N/A N/A
2. Select one electrode (pH or ORP)	pH combination electrode pH combination electrode protective tip pH combination electrode (high temp) ORP combination electrode ORP combination electrode (high temp)	S655CD S656CD S656CD S655CD-ORP S655CD-ORP-HT	S655KD N/A S655KD-HT S655KD-ORP S655KD-ORP-HT
3. Select one cable assembly	For conduit use	S653-"cable length"-"Connector"	S653K-"cable length"-"Connector"

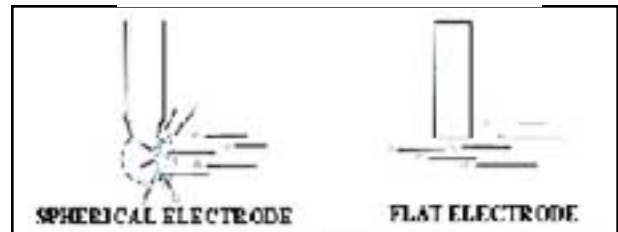
### Systems with temperature compensation

ORDER 2 ITEMS	DESCRIPTION	CPVC PARTS	KYNAR (PVDF) PARTS
1. Select one insertion assembly	Insertion assembly 12" depth  Insertion assembly 18" depth  Insertion assembly 24" depth	S675TC-"TC TYPE"-"CABLE LENGTH"-"PH CONN"/"TC CONN" S676TC-"TC TYPE"-"CABLE LENGTH"-"PH CONN"/"TC CONN" S677TC-"TC TYPE"-"CABLE LENGTH"-"PH CONN"/"TC CONN"	S675TK N/A N/A
2. Select one electrode (pH or ORP)	pH combination electrode pH combination electrode protective tip pH combination electrode (high temp) ORP combination electrode ORP combination electrode (high temp)	S655CD S656CD S656CD S655CD-ORP S655CD-ORP-HT	S655KD N/A S655KD-HT S655KD-ORP S655KD-ORP-HT

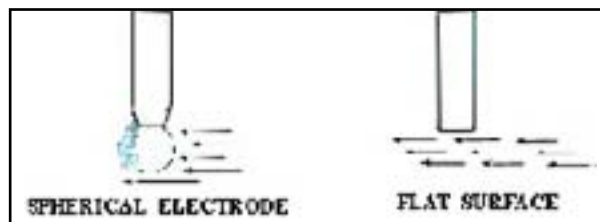
### SELF-CLEANING OPERATION

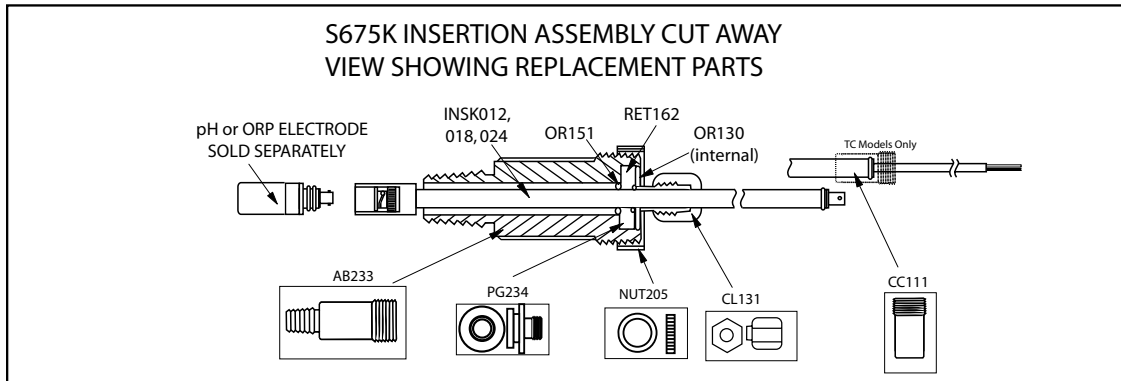
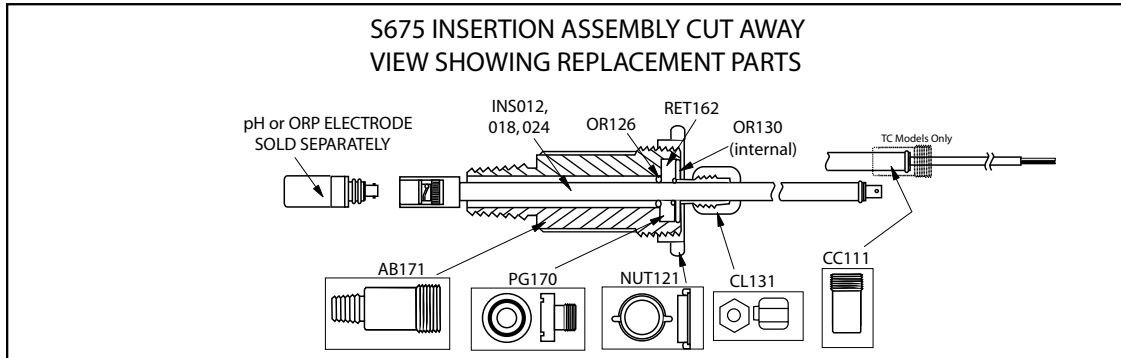


### ABRASION-FREE OPERATION



### VISCOUS MATERIAL OPERATION



**ORDERING INFORMATION - REPLACEMENT PARTS**


Description	CPVC Parts	KYNAR (PVDF) Parts
Insertion tube 12" depth (18" length)*	INS012	INS012K
Insertion tube 18" depth (24" length)**	INS018	INS018K
Insertion tube 24" depth (30" length)***	INS024	INS024K
Insertion tube 12" depth*, with ATC	INS012TC	INS012TK
Insertion tube 18" depth**, with ATC	INS018TC	INS018TK
Insertion tube 24" depth***, with ATC	INS024TC	INS024TK
Packing gland sliding seal, O-ring	OR130	OR130
Packing gland	PG170	PG234
Adapter Body	AB171	AB233
Retainer Nut	NUT121	NUT205
O-ring face seal (Large ring on PG170 and PG234)	OR126	OR131
Compression Nut and Ferrule	CL131	CL131
Steel Retainer Ring	RET162	RET162
Cable connection (1/2" NPT)	CC111	CC111