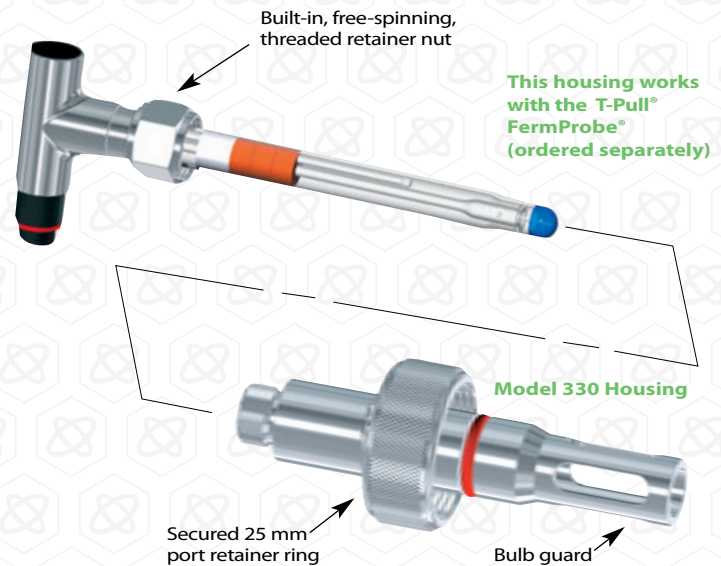


## Housings for Standard 25 mm Side Ports

The 320 and 330 style electrode housings are designed to be used with the Model F-615 style FermProbe® pH electrode. These housings fit nearly all standard 25 mm side ports found in production and pilot plant vessels and are available in a variety of different lengths to suit your application.

This design requires that the pH electrode be secured to the housing by a free-spinning threaded retainer nut. This allows the electrode to be installed into or removed from the housing without twisting or disconnecting the electrode cable. This feature is very helpful when calibrating the pH electrode tank side in a production environment.

These housings are also designed to be used with Model F-607 and F-600 style FermProbe pH electrodes found on our website.



**CLASS** **A**



**CLASS B**

## Model 320

Unguarded housings  
preferable in viscous media



**CLASS** **A**



**CLASS B**

## Model 330

Guarded housings protect glass bulb from impact

### Specifications:

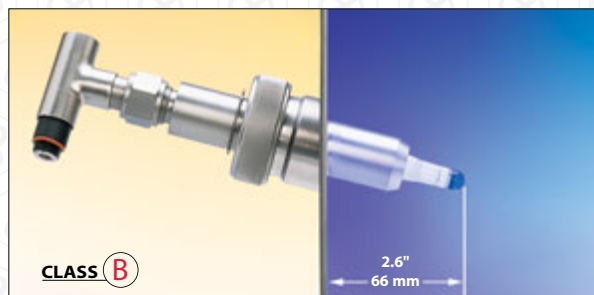
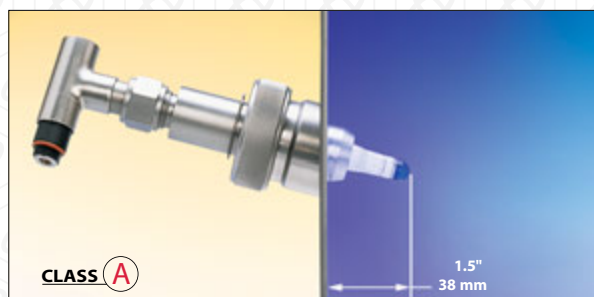
- 316L stainless steel construction.
- Serialized for traceability to mill steel specifications.
- RA32 finish with electropolish on all wetted parts.
- FDA compliant silicone o-rings. (EPDM available upon request.)
- Permanently secured port retainer ring for additional operator safety.

### Additional Features Include:

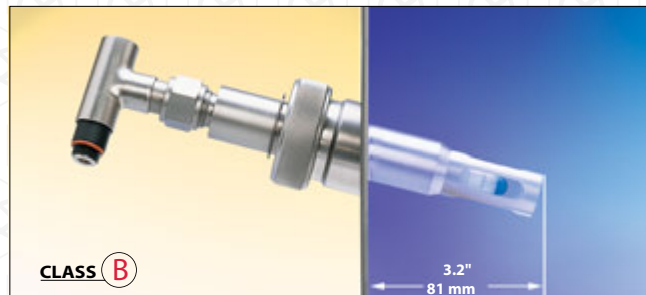
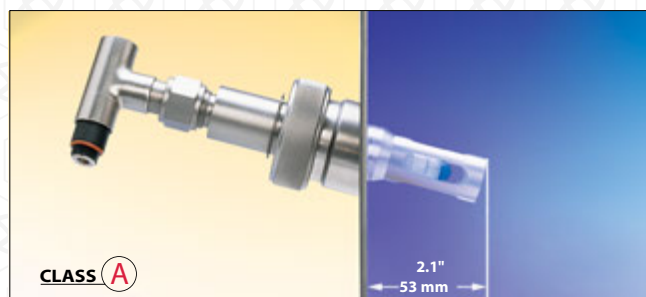
- Guarded versions for rugged handling while protecting the pH glass bulb in a production environment.
- Unguarded versions for viscous media.
- Available in a variety of lengths for different insertion length requirements.
- Custom designs and modifications promptly quoted.

# usings pH Housings pH Housings pH Housings pH Housings pH H

## Model 320 Insertion Lengths



## Model 330 Insertion Lengths



## How to Order a Housing

- (1) Confirm that the vessel has a standard 25 mm side port. Cutaway views and dimensions are shown on pages 18 and 19.
- (2) Determine whether the application will permit the use of a bulb guard on the housing. The bulb guard design is highly recommended for all types of applications except where the media is highly viscous. Highly viscous media is prone to clog the guard area of the housing which can cause erroneous measurements.
- (3) Determine how far the housing and electrode should extend for best performance (see illustration above). For most process media the minimum length is optimum. However, if the media is viscous and tends to thickly coat the inner vessel wall, then a longer length that protrudes farther into the vessel may provide better pH electrode performance.
- (4) Choose a pH electrode from among those listed on page 12. These rugged process pH electrodes secure to the housing with a free-spinning threaded retainer nut. The pH electrodes must be ordered separately.

### o r d e r i n g   i n f o r m a t i o n

Housing Model	Class	Typical Vessel Insertion Length		Used With pH Electrode Models	Used With Electrode Length	Housing Part Number	
Unguarded Housings							
320	A	38 mm	1.5"	F-615	130 mm	320-61-H070	
320	B	66 mm	2.6"	F-615	160 mm	320-61-H100	
Housings With Protective Bulb Guards							
330	A	53 mm	2.1"	F-615	130 mm	330-61-H070	
330	B	81 mm	3.2"	F-615	160 mm	330-61-H100	

# Housings for B. Braun Biotech 25 mm Safety Side Ports

There are two FermProbe® electrode housing designs, standard and metric, for B. Braun Biotech 25 mm side ports. These housings incorporate the latest B. Braun Biotech design requirements and are compatible with both the new 25 mm safety ports and the older 25 mm port designs.

When these housings are used with the new B. Braun Biotech safety port, the port will release internal steam pressure in the vessel before the housing is completely disengaged from the port.

The standard FermProbe pH electrode is secured to the Models 326 and 336 style housings by a free-spinning threaded retainer nut. This allows the electrode to be installed and removed from the housing without twisting or disconnecting the electrode cable. This feature is very helpful when calibrating the pH electrode tank side in a production environment.

The metric FermProbe pH electrodes thread directly into the Models 346 and 356 style housings, eliminating the need for the threaded retainer nut. In order to prevent twisting the cable, the metric FermProbes have a detachable cable.

Guarded and unguarded versions are available. Using a guarded housing is highly recommended for pH electrodes to provide maximum protection against damage to the sensing bulb. However, highly viscous media is prone to clog the guard.

The model 326 and 336 housings are also designed to be used with Model F-607 and F-600 style FermProbe pH electrodes found on our website.

## TIPS & HINTS

**Proper storage of pH electrodes:** The first choice for storing FermProbe® electrodes is 2M KCl. If this is not available, buffer solution can be used, preferably pH 4 buffer. Deionized (DI) water should never be used to store pH electrodes. If an electrode has been stored in DI water the resistance of the junction will change, causing instability and noise in the reading. Soaking the electrode in 2M KCl overnight, prior to use, will usually reverse most of this effect.

### Housings for Standard FermProbes



### Housings for Metric FermProbes



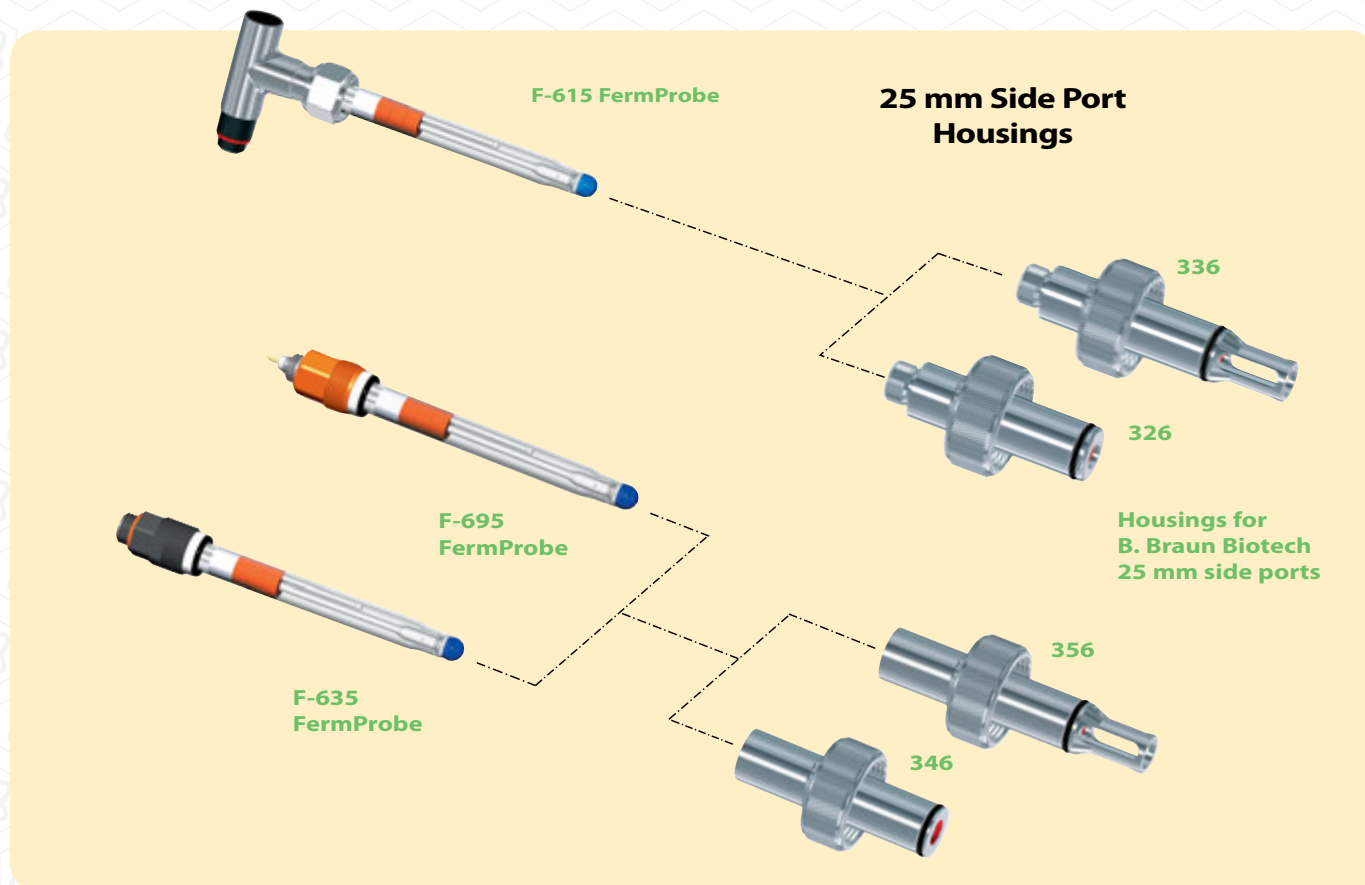
### Specifications:

- 316L stainless steel construction.
- Serialized for traceability to mill steel specifications.
- RA32 finish with electropolish on all wetted parts.
- FDA compliant external EPDM o-rings.
- Permanently secured port retainer ring for additional operator safety.

### Additional Features Include:

- Guarded versions for rugged handling while protecting the pH glass bulb, in a production environment.
- Unguarded versions for viscous media.
- Custom designs and custom modifications promptly quoted.

# usings pH Housings pH Housings pH Housings pH Housings pH H



## How to Order a Housing

- (1) Confirm that the vessel has a B. Braun Biotech 25 mm side port. Cutaway views and dimensions are shown on pages 18 and 19.
- (2) Determine whether the application will permit the use of a bulb guard on the housing. The bulb guard design is highly recommended for all types of process applications except when media is highly viscous. Highly viscous media is prone to clog the guard area of the housing. See bulb guard area in pictures on opposite page.
- (3) Choose the correct steam sterilizable FermProbe pH electrode.
  - See pages 12 and 13 for T-Pull FermProbes.
  - See pages 14–17 for Metric FermProbes.

### ordering information

Ordering Information							
Housing Model	Class	Vessel Insertion Length		Used With pH Electrode Models	Used With Electrode Length	Housing Part Number	
Unguarded Housing							
326	(A)	25 mm	1"	F-615	130 mm	326-62-H085	
Housing With Protective Bulb Guard							
336	(A)	40 mm	1.6"	F-615	130 mm	336-62-H085	
Unguarded Housing							
346	(D)	25 mm	1"	F-635, F-695	120 mm	346-62-H085	
Housing With Protective Bulb Guard							
356	(D)	40 mm	1.6"	F-635, F-695	120 mm	356-62-H085	



## Housings with Sanitary Flanges

### Housings for Sanitary Tees and Novasaptic Side Ports



**Model 357**

Unguarded,  
for 1 1/2"  
Sanitary Tee

CLASS **A**



**Model 367**

Guarded,  
for 1 1/2"  
Sanitary Tee

CLASS **A**

### Flanged Housings for Sanitary Pipe Systems

Commonly used in both the food and pharmaceutical industries, the 350 series and 360 series housings are suitable for sanitary pipe systems with CIP requirements. These housings are most often found in downstream processes such as purification.

These housings are secured into a sanitary pipe tee with a standard flange clamp sealed with a flange gasket. The pH electrode is then inserted into the housing for on-line meas-

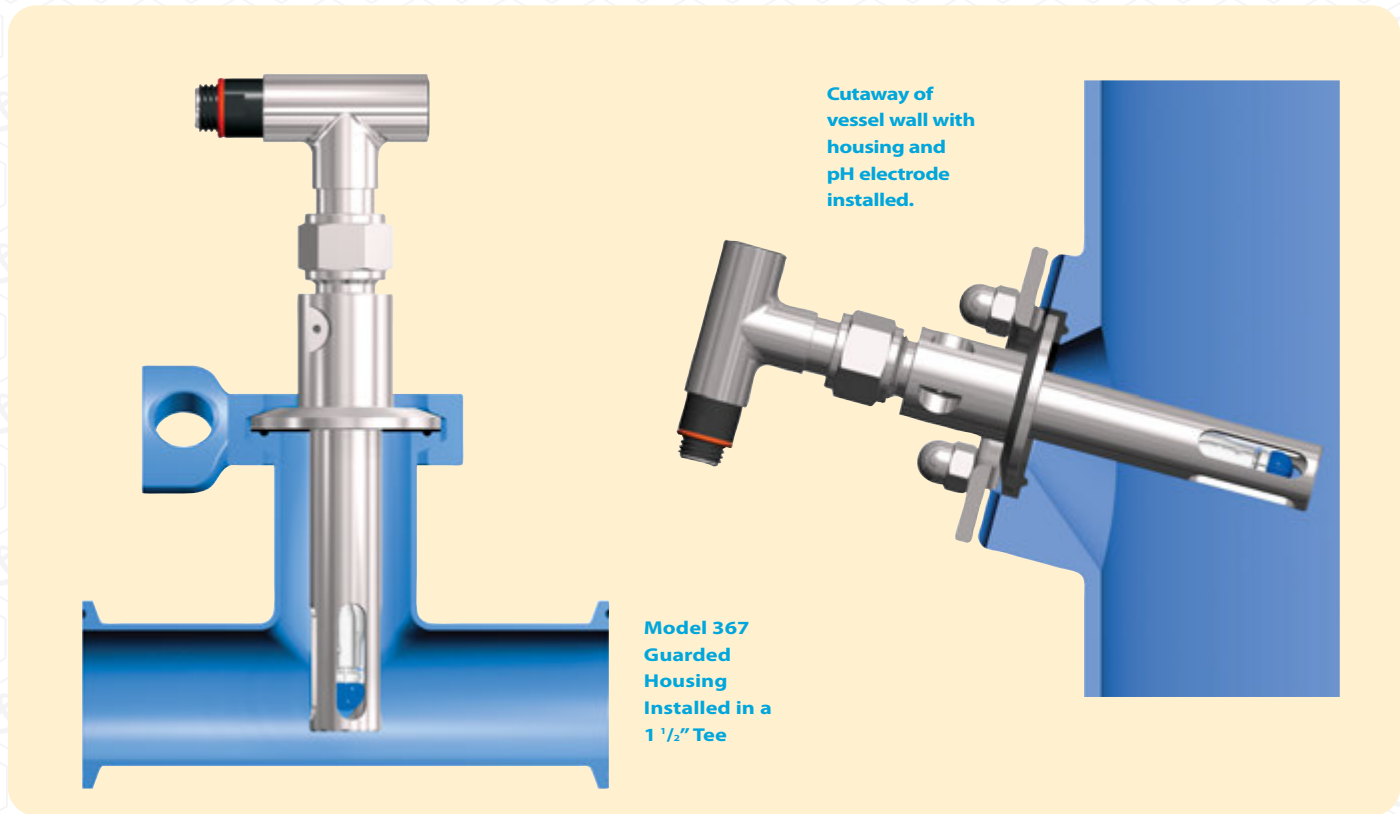
urements. When using a standard sanitary tee, the sensor will be positioned such that the tip of the sensor is in the middle of the process flow. T-Pull® FermProbes® are compatible with these housings.

These housing are also compatible with Novaseptic side ports.

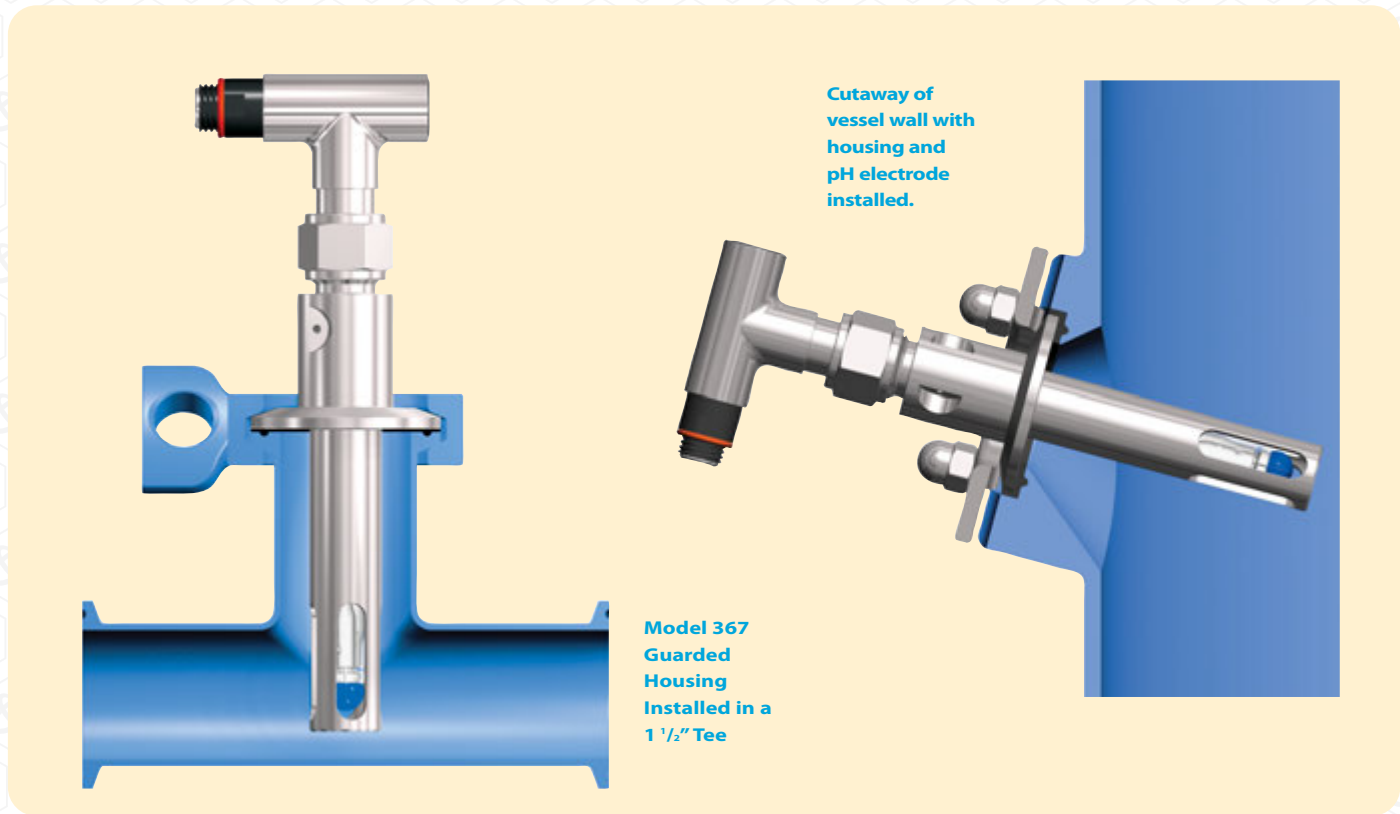
### ordering information

Housing Model	Class	Typical Insertion Length		Used With pH Electrode Model	Used With Electrode Length	Housing Part Number	
Model 357 for 1.5" Sanitary Tee Fitting, Unguarded							
357	A	75 mm	3.0"	F-615	130 mm	357-61-H075	
Model 367 for 1.5" Sanitary Tee Fitting, Guarded							
367	A	90 mm	3.6"	F-615	130 mm	367-61-H075	
Model 350 for 2" Sanitary Tee Fitting, Unguarded (not shown)							
350	A	100 mm	3.9"	F-615	130 mm	350-61-H090	
Model 360 for 2" Sanitary Tee Fitting, Guarded (not shown)							
360	A	115 mm	4.5"	F-615	130 mm	360-61-H090	

## Exploded and Inserted Views



## Exploded and Inserted Views



## Metric Housings for Standard 25 mm Side Ports



**CLASS** **D**

## Model 325

## Unguarded housings preferable in viscous media

These housings are designed to be used with models F-635 and F-695 Metric FermProbe® electrodes and models D140 and D145 12 mm OxyProbe® sensors. They are also compatible with any sensor that has Pg13.5 threads. These housings fit nearly all standard 25 mm ports found on production and pilot plant vessels. Different housing lengths are available to accommodate various application or vessel requirements.

The pH electrode or D.O. sensor threads directly into this metric housing, eliminating the need for a threaded retainer nut. In order to prevent twisting the cable, the metric FermProbes have a detachable cable.

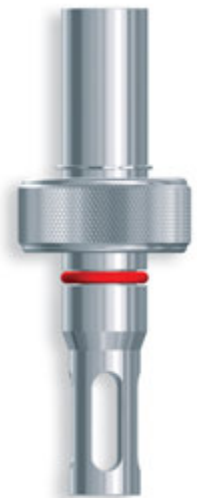
Guarded and unguarded versions are also available. Using a guarded housing is highly recommended for pH electrodes to provide maximum protection against damage to the sensing bulb. However, highly viscous media is prone to clog the guard.

### Specifications:

- 316L stainless steel construction.
- Serialized for traceability to mill steel specifications.
- RA32 finish with electropolish on all wetted parts.
- FDA compliant silicone o-rings.
- Permanently secured retainer ring for additional safety.

### Additional Features:

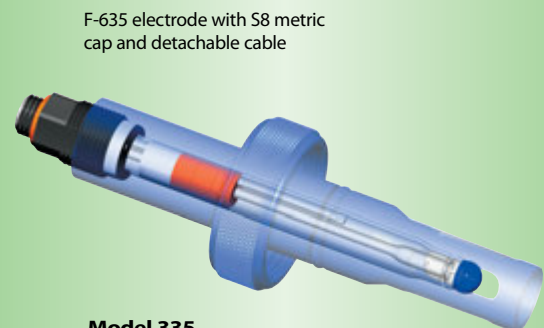
- Guarded version for rugged handling while protecting the pH glass bulb in a production environment.
- Unguarded version for viscous media.
- Custom designs and modifications promptly quoted.



**CLASS** **D**

## Model 335

Guarded housings protect glass bulb from impact

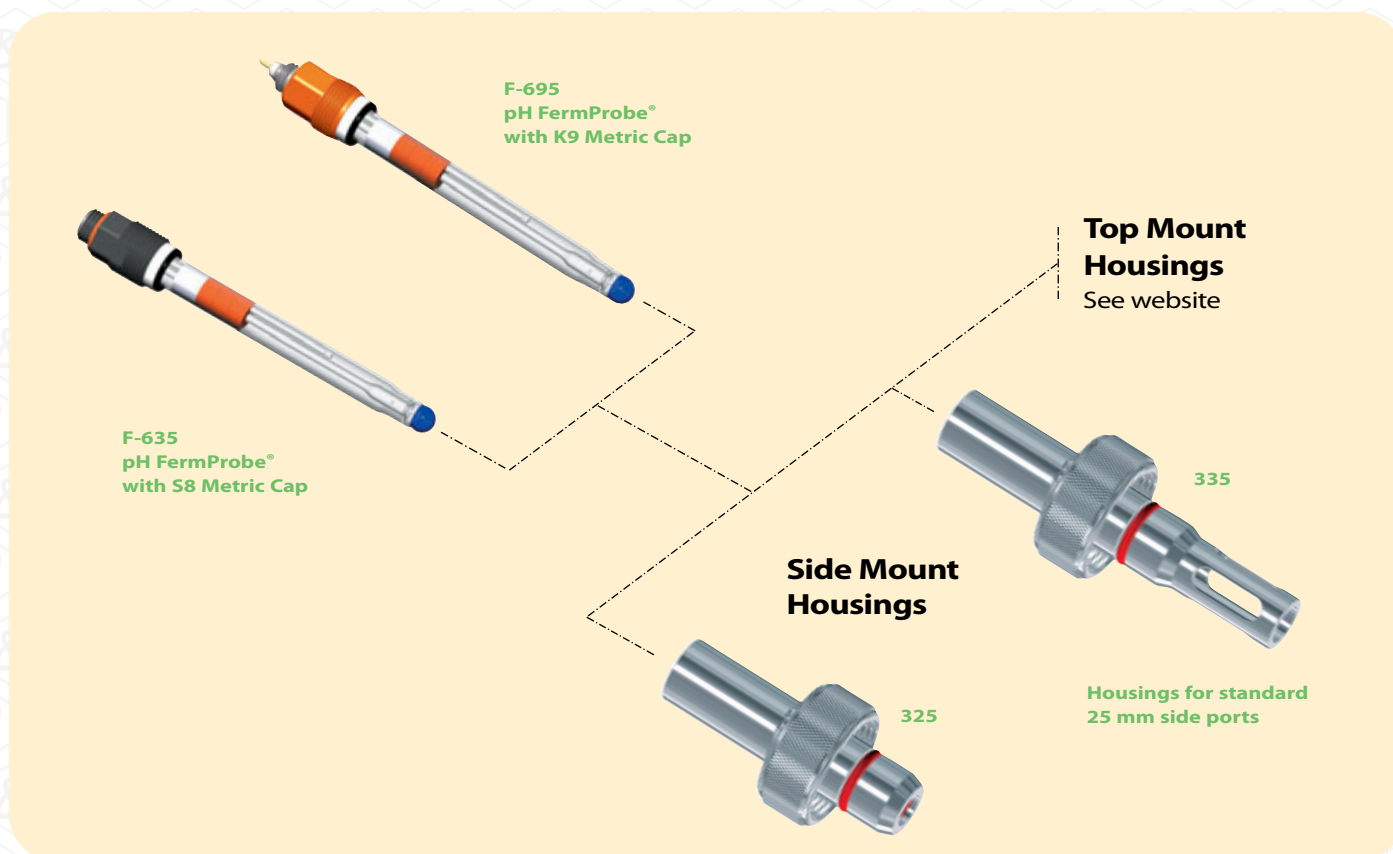


F-635 electrode with S8 metric cap and detachable cable

### Model 335 Metric Housing



# usings pH Housings pH Housings pH Housings pH Housings pH H



## How to select the correct housing

- (1) Confirm that the opening is a standard 25 mm side port. Cutaway views and dimensions are shown on pages 18 and 19.
- (2) Determine whether the application will permit the use of a bulb guard on the housing. The bulb guard is highly recommended for all applications except when the media is very viscous. Highly viscous media is prone to clog the guard.
- (3) Determine how far the housing and pH electrode or D.O. sensor should extend into the vessel.
- (4) Confirm the electrode or sensor is a metric FermProbe®, 12 mm OxyProbe®, or European sensor with Pg13.5 threads.
  - \* See pages 14–17 for more information on metric FermProbe electrodes and electrode selection.
  - \* See page 44 for more information on 12 mm OxyProbe sensors and sensor selection.

### ordering information

Housing Model	Class	Typical Vessel Insertion Length		Used With pH Electrode and D.O. Sensor Models	Used With Sensor/ Electrode Length	Housing Part Number
Unguarded Housing						
325	D	38 mm	1.5"	F-695, F-635, D140, D145	120 mm	325-61-H070
Housing with Protective Bulb Guard						
335	D	53 mm	2.1"	F-695, F-635	120 mm	335-61-H070