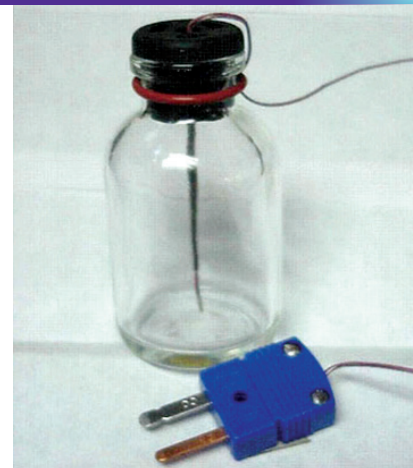


## THERMOCOUPLE PROBES AND POSITIONERS

SP Scientific's VirTis® MVP Probe System were developed in a joint collaboration with Dr. Alan MacKenzie to place a product thermocouple in a vial or bottle accurately and with repeatability, while providing virtually no thermal path to your product. The vapor flow allowed by the special stopper replicates the vapor path of a standard split stopper. These thermocouple and positioners can be configured to meet your specific needs and are sized to fit vials from 2 ml to 125 ml, with 13 or 20 mm necks.



### EASY TO POSITION!

#### Versatile Plugs

- Wires are easily replaceable
- Interchangeable with plugs currently in use on your VirTis® Freeze Dryer, or any other
- Easily replaces competitors' difficult to use and expensive probes
- VirTis® MVP Probes are available in a variety of plug configurations:
  - Standard Thermoplastic
  - Steam Sterilizable
  - Lemo Connector
  - No Plug

#### Thermocouple Guide Tube

- Made of 316 stainless steel, precision cut and ground, with radiused ends for ease of insertion
- Various lengths offer compatibility with your vial height and stoppering application:

1.00 inch	2.00 inch
1.25 inch	2.25 inch
1.50 inch	3.00 inch
1.75 inch	3.50 inch

#### Wire Jacket

- Special tubing prevents kinking and straining of wire if door is opened or closed against it
- Reduces time spent replacing broken wires.

#### Thermocouple Probe

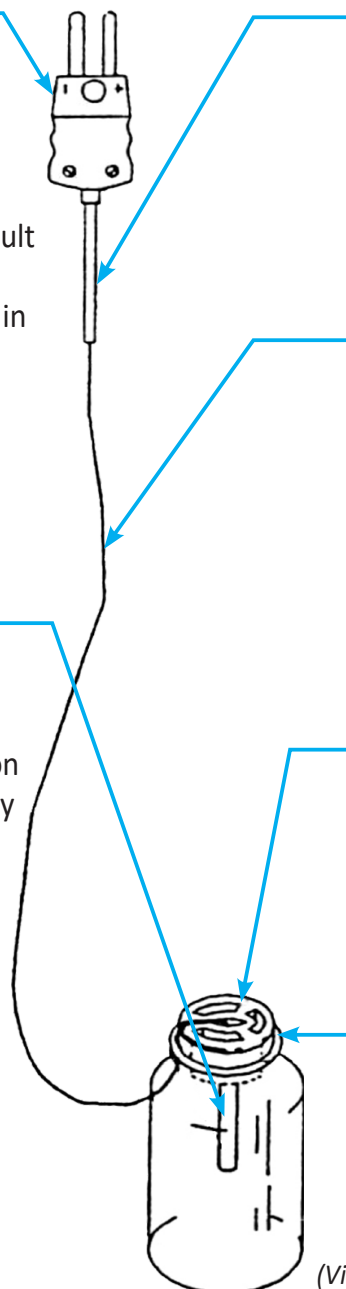
- Type T, twinlead, 30 gauge wire (standard) for ease of use and stability of your vials
- Other gauges & TC types of wire also available
- Probes offered with 3, 6, 9 foot wire or cut to special length

#### Elastomer Stopper

- Autoclavable
- Made of silicone rubber
- Special top groove keeps the wire in one place
- Fits snugly in the neck of the vial

#### Silicone Rubber O-Ring

- Autoclavable for sterile processes
- Keeps thermocouple wire firmly in place



*(Vials supplied separately)*

# HOW TO ORDER VIRTIS<sup>®</sup> MVP PROBES

You can create a specific group of letters and numbers to represent your customized probe configuration. See below for codes and how to use them. These probes and positioners have been specially developed in association with Dr. Alan P. MacKenzie.

Dr. MacKenzie is an international consultant specializing in Lyophilization. He has published more than 50 papers on Lyophilization, presented more than 100 papers to national and international meetings and lectured extensively on Lyophilization. Dr. MacKenzie has consulted continuously for the pharmaceutical industry since the mid-1960's.

## ASK ABOUT PRE-STERILIZED & NIST TRACEABLE PROBES!

### ORDERING INFORMATION

#### 1. Select your Stopper size:

- 13mm (code 1)
- 20mm (code 2)

#### 2. Select length for Guide Tube:

- 1.00 inch (code A)      2.00 inch (code E)
- 1.25 inch (code B)      2.25 inch (code F)
- 1.50 inch (code C)      3.00 inch (code G)
- 1.75 inch (code D)      3.50 inch (code H)

*(When selecting the length of the Guide Tube, remember that the stainless steel tube should stop short of your highest fill volume for minimum thermal effect.)*

#### 3. Choose length of Thermocouple Probe:

- 3 ft (code 3)
- 6 ft (code 6)
- 9 ft (code 9)
- Special (code S)

#### 4. Select type of Plug/Connector:

- Standard Thermoplastic (code T)
- Steam Sterilizable (code S)
- Lemo Connector (code L)
- None (code N)

#### 5. Special Requirements, if any:

- None (code N)
- Special (code S)

*(See below for space to write special requirements or instructions.)*

#### 6. Enter the appropriate codes, from questions 1 - 5, in the table below:

CODE				
Stopper Size	Tube Length	Wire Length	Plug Type	Special

#### Example:

A probe with 13mm stopper, 2 inch guide tube, 6 ft wire, and steam sterilizable plug with no special requirements would have an order code of: **1E6SN**.

*Please list your special requirements below:*

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