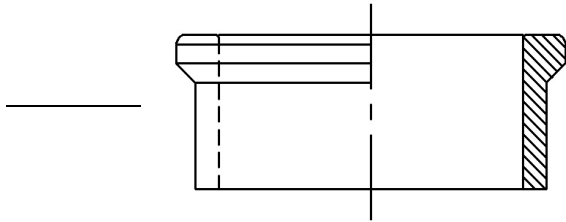


## PROCESS ENDS

H. S. Martin utilizes many types of nozzles on our process and industrial glassware. Smaller laboratory-type glassware generally will be fitted with ground-type joints such as standard taper joints or spherical joints. For larger glassware, or for application requiring strength and durability, or for process systems such as reactors and some distillation systems, or where piping is required, process ends are used. Process ends are a group of nozzles which have been developed primarily for the process glassware industry. Sizes range from 1/2"ID to 24"ID and larger. H. S. Martin is capable of manufacture and repair work to 18".

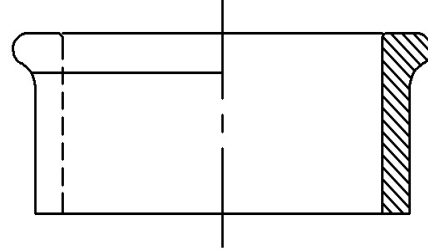
Over the years, different companies have developed their own design and specifications for process ends. There are a few of the ends which have caught on and have become widely accepted. There is not, however, any "standard" end which has been selected to be the primary process end for the industry today. Shown here are the primary process ends currently in widespread use today all over the world. H. S. Martin has selected the Schott Process Systems Bead, and the QVF Process Systems "Domestic" Conical end to be the "standard" process ends in the manufacture of our glassware. Therefore, process components shown in this catalog are fitted with either of these ends, unless otherwise specified.

The nominal size of all of these ends is the ID.



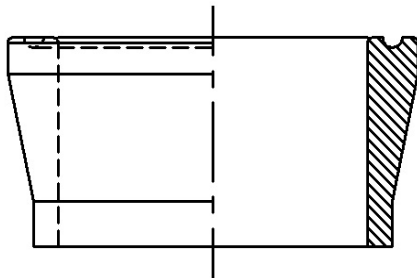
### **SCHOTT PROCESS SYSTEMS BEADED PIPE**

This profile has a flat face, soft-radiused outer corner, flat outer edge, and a 45° angled surface return to the OD of the pipe.



### **QVF PROCESS SYSTEMS BEADED PIPE (FORMERLY CORNING)**

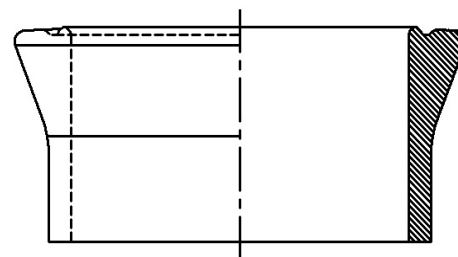
This profile has a flat face, with a full radius forming the outer edge, and a soft radius return to the OD of the pipe.



### **SCHOTT PROCESS SYSTEMS QVF PROCESS SYSTEMS CONICAL PIPE (DOMESTIC)**

This conical profile has an angle of 12° on sizes up to and including 3". The outer edge is flush with the angled surface.

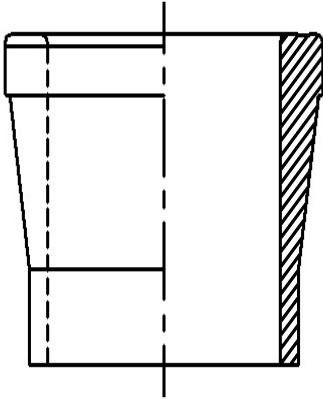
The groove provides bite into the Teflon® sealing gasket.



### **SCHOTT PROCESS SYSTEMS QVF PROCESS SYSTEMS CONICAL PIPE (DOMESTIC)**

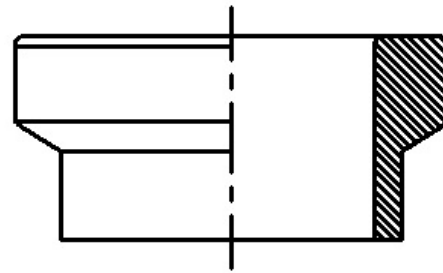
This conical profile has an angle of 21° on sizes of 4" and 6". The outer edge has a full radius. The inner front surface is raised to provide excellent sealing with Teflon® sealing gaskets.

## PROCESS ENDS - Continued



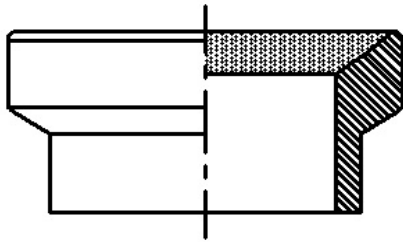
### **QVF PROCESS SYSTEMS CONICAL PIPE (EUROPEAN)**

This conical profile has a raised outer edge, and a 9° angle on the taper on all sizes - 15mm thru 150mm. The groove provides bite into Teflon® sealing gasket.



### **SCHOTT PROCESS SYSTEMS KF PLAIN END**

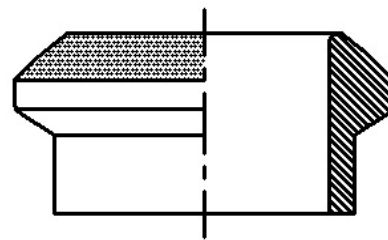
This end has a flat ground face and a heavy-tooled flange area for durability and ease of assembly.



### **SCHOTT PROCESS SYSTEMS KF SOCKET END**

This end has a cup ground face and a heavy-tooled flange area for durability and ease of assembly.

When mating with ball end, a Teflon® sealing ring must be used.



### **SCHOTT PROCESS SYSTEMS KF BALL END**

This end has a round ground face and a heavy-tooled flange area for durability and ease of assembly.

When mating with socket end, a Teflon® sealing ring must be used.