



## BLOWN GLASS ORNAMENTS for Christmas or Year-round Decoration

Glaskolben is the name for a pre-blown clear glass cylinder with a blow pipe end, used for blowing glass balls or 3 dimensional shapes. It is the same product used throughout Europe for making Christmas tree ornaments.

The prefabricated cylinder saves the time consuming and tedious method of “pulling points” from a glass tube. Glaskolben is available in two forms: Sealed End Cylinder and Dual Spike Cylinder. Each form is available with 1.0 or 1.5 mm wall. The wall thickness governs the maximum blown form size.



Glaskolben ornaments may be blown freehand into a ball or blown into a mold for 3 dimensional shapes.

### EQUIPMENT

All that is needed to make attractive glass shapes with Glaskolben:

- 1** A torch head for Mapp Gas use (the Hothead, 15613).
- 2** A gas/oxygen torch such as the bushy flame capable Minor Bench Burner, 1602, could also be used. There are several other types of burners available.
- 3** Optional - Mold Clamp and Molds, Annealing Oven, 15285.



### SUPPLIES

**1** Glaskolben. **2** Frit and Powders, Bullseye or Uroboros. These are available in a good assortment of colors. **3** Ornament Caps and Loop Sets. These are available in 10 or 20mm size and gold or silver color.



### COMPATIBILITY

Glaskolben has a Coefficient of Expansion (C.O.E.) of “89” which makes it compatible with Uroboros and Bullseye “90” glass frit and powders. Any other glass with a different C.O.E. will cause the finished ball or shape to fracture from stress.



### GLASS BLOWING AN ORNAMENT

Blowing an ornament with Glaskolben is easy. However, it takes practice to get the feel of the glass as it softens in the flame.

## **TO START:**

Light the torch and adjust the flame back from a sharp point. A broader flame is better. Select a Sealed End Cylinder and introduce it into the back of the flame i.e. away from the torch. Rotate it as it is brought into the hotter area of the flame. Continue to rotate until the cylinder is glowing red and starts to reduce in size or collapse. However, do not let the neck end of the cylinder get as red or the cylinder will be hard to manipulate.



Remove it from the flame, held vertically, then give it a quick snap to align the cylinder. Blow steadily into the blowpipe end to a full ball, while rotating. (See illustration.) This is where you must “get the feel of the glass”. Overblowing can cause a blow out. The ball must be annealed at this point. See separate annealing instructions.



## **ELONGATED BLOWN SHAPE**

To make an elongated shape follow the same procedure as in blowing a ball. Rotate the cylinder in the flame until it starts to glow a red color. Then use tweezers to pull the end as far as desired while blowing and rotating. Immediately put the ornament in an annealer.



## **BLOWING INTO A MOLD**

Pre-warm the mold in the flame. Prepare the cylinder in the flame as you did in making a ball. As the cylinder softens, place it into the pre-warmed mold. With blowpipe in the mouth, blow hard to allow the hot glass to fill out against the mold walls. Open the mold and remove the molded shape. Immediately go to the annealing process. Mold blown ornaments are typically painted with Pebeo Vitrea 160 colors.



## **ANNEALING**

Annealing is the process whereby we toughen brittle glass by heating and slow cooling. Each manufacturer's glass may have a different annealing range. In the case of the Glaskolben, the annealing temperature is 950°F [510°C]. There are different methods of annealing:

## **VERMICULITE**

Placing a blown shape deep in a container of vermiculite warmed on a hot plate, serves well. However, care must be taken to be sure that the red glow has faded before placing it in Vermiculite. Otherwise, it may stick to the glass.

## **FLAME ANNEALING**

Move the glass shape out of the hot area of the flame [blue color] and in the yellow range for 2 to 5 minutes to allow it to slowly cool and anneal.

## **KILN ANNEALING**

This is the most reliable method. The kiln control can be set for the desired annealing temperature and run for twenty minutes or more. The amount of time after 20 minutes makes no difference. One cannot over anneal. Leave product in kiln to cool slowly.

## **REMOVING THE BLOWPIPE END**

After the ornament has annealed the blowpipe end can be removed. The best method is using a Carbide scoring tool. With this tool in one hand and the ornament in the other: press the sharp side of the carbide steel against the blowpipe neck and the thumb of the same hand pressing against the other side, rotate the shape while scoring the neck. Still holding the ornament, tap the blowpipe end to break it off.



An ornament cap can be placed on the ornament to finish it off. Don't discard the cutoff neck! It may be decorated to make a stylized bell, etc.



## **DECORATING THE BALL**

As soon as you are comfortable with making a freehand ball, you may want to make a colored ball. In foreign countries production ornaments are silvered internally and surface colored with lacquers. Because silvering solutions are poisonous and flammable, alternate methods are offered. One method is to paint the surface with Vitrea 160 paints, designed specifically for glass. Once painted, they are "fixed" by placing in an oven and firing to 325°F. [see Pebeo Vitrea 160 instructions].

Another method is to use colored frit or powders. See Illustration. Fill to approx. 1/5 of the cylinder or just beyond the bend. Rotate the Glaskolben in the same manner as with the glass ball. It will take a little longer to bring the ball to blowing temperature because of the added volume of melting frit. The result is worth the added time.



A variation on the use of frit and powder is the method the production European blowers use when they add sugary snow on the ornament. Place some frit or powder in a wide flat bowl or saucer, marver [roll] the hot cylinder over the grit then reheat the frit covered cylinder in the flame. Blow into shape. Stringers or Noodles (produced by Uroboros or Bullseye and available in 90 C.O.E.) offer another form of surface decoration. Select one, and while rotating the HOT Glaskolben counterclockwise (turn away from you) in the flame, heat the tip of the stringer in the flame. Place it under the cylinder, attach it and then allow it to trail around the cylinder. The stringer may be burned off at the finished end. The point of the stringer may also be applied to the ball at 90° to dimple the surface.

# Glaskolben™



## CREATE YOUR OWN Blown Glass Christmas Tree Ornaments

Using Glaskolben, the pre-formed glass cylinder with blowpipe for mouth-blowing glass balls or three-dimensional shapes, you can create ornaments reminiscent of the work of traditional European artisans.

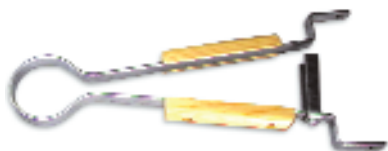
Marver Glaskolben™ with stringers or frit and frit powder. Paint them with glass paints, stains or lacquers; heat cure with colored enamels. Apply decals to the surface of the finished ornaments. Experiment with them using glass blowing molds for various shapes and designs. Creative possibilities are endless! Glaskolben is transparent glass with a COE of 89 x 10-7°C., compatible with readily available "90.0 C.O.E." frit and frit powder.



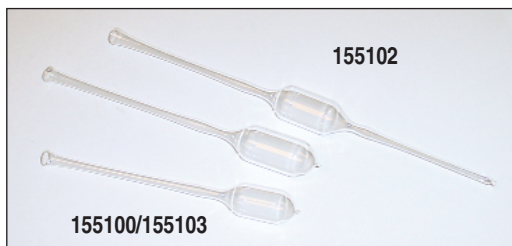
- 15840  
Silver 10mm
- 158421  
Silver 20mm
- 15841  
Gold 10mm
- 158431  
Gold 20mm

## ORNAMENT CAP & LOOP SETS

Finishing touch for beautiful handmade glass ornaments! 2 sizes of glittering Caps & Loop Sets made of lightweight metal, brilliantly gold or silver plated and embossed with elegant Art Deco-look designs. Loops are strong spring steel for durability and secure attachment. 100 sets per package.



### GLASKOLBEN MOLD CLAMP - 15871



### BLOWPIPE WITH CYLINDER & SEALED-END TAPERED SPIKE END

**155102** - 1.5mm thick wall x 32mm cylinder diameter.

This dual-spiked cylinder has a blowpipe on one end and a sealed taper spike on the other. This style allows the blown bulb to be worked into a wide variety of shapes. The dual-spiked ends facilitate picking up and marvering powders or frit onto the hot surface.

Cat.No.	Description	Wall	Diameter
155100*	Sealed End Cylinder	1.0mm	28mm
155102*	Dual-Spike Cylinder	1.5mm	32mm
155103*	Sealed End Cylinder	1.5mm	40mm

\* No mix allowed

Glaskolben™ preformed cylinders save the tedious and time consuming task of "pulling points" from a glass tube.

### BLOWPIPE WITH SEALED-END CYLINDER

**155100** - 1.0mm wall x 28mm diameter

**155103** - 1.5mm wall x 40mm diameter

This Glaskolben sealed-end cylinder style is used for mouth-blowing spheres or other round shapes. It is also used for blowing into a mold.