

TRANSFORMER DEHYDRATING BREATHER

INSTRUCTIONS

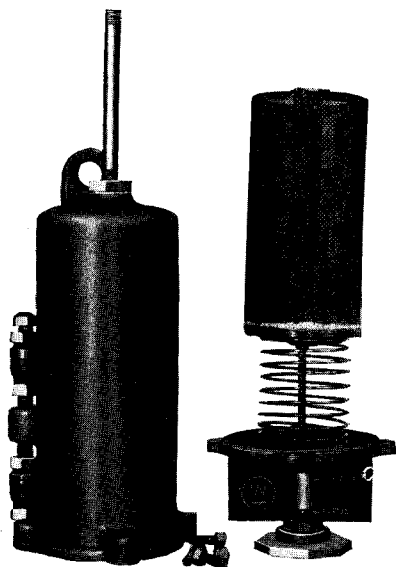


FIG. 1—DISASSEMBLED BREATHER

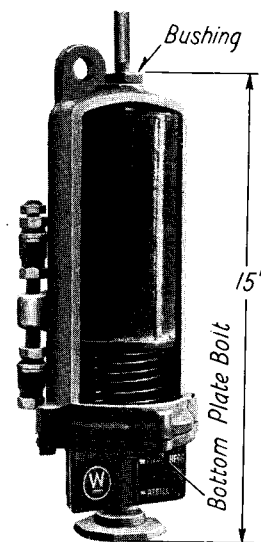


FIG. 2—CUTAWAY VIEW OF BREATHER

GENERAL

The Westinghouse Dehydrating Breather is a device which removes moisture from the air breathed into a transformer. A pointer operating on a scale indicates when the calcium chloride used as the dehydrating substance should be renewed and this is the only maintenance required.

CONSTRUCTION AND OPERATION

The device consists of a cast body enclosing a container for the calcium chloride. The container is spring mounted and has a pointer, attached to the bottom, that extends through the bottom plate of the body and is visible through a glass tube. As the calcium chloride takes up moisture the combined weight of the container and calcium chloride increases, compressing the supporting spring and lowering the pointer in the glass tube where a scale indicates when the container should be refilled.

Check valves are provided, which permit easy entrance and exit of air but isolate the dehydrating material from the humid atmosphere, when the transformer is not breathing.

Fig. 1 shows the disassembled breather, ready to be refilled with calcium chloride.

Fig. 2 is a cutaway view of the breather and Fig. 3 shows the details of a breather style #417673 with identification of parts.

SHIPMENT OF BREATHER

The breather is shipped without the calcium chloride as it is necessary for satisfactory operation that the chloride be fresh and dry when put into service.

INSTALLATION

The device is connected in the breather circuit so that any air which enters the transformer case passes over the calcium chloride.

The breather is mounted in a vertical position on the side of the transformer tank and connected to the pipe running up to the top of the case.

The bottom plate is removed and the inner assembly is withdrawn and mounted on the base as shown on Fig. 1. Dry calcium chloride is poured into the screen container until it is full or the weight causes the pointer to indicate "Fill to Here". The inner container is then reassembled into the breather case and the bottom plate bolted securely to obtain an air tight joint.

The bottom stand and glass tube should then be removed to see that the

inner assembly is free to move. The bottom stand and tube should then be reassembled on the breather. All joints in the transformer case should be checked to make sure they are air tight.

This breather can be installed on transformers that were not originally equipped with a dehydrating breather. The necessary hole for the $\frac{1}{4}$ " W.I. Pipe can be drilled and tapped in the cover or in the tank wall above the maximum oil level. Our Engineers recommend that the upper pipe connection be made on the cover although it can be made on the tank wall above the maximum oil level. Customer is to supply the $\frac{1}{4}$ " W.I. pipe and pipe fittings for installation.

MAINTENANCE

When to Replace the Calcium Chloride

Replace the calcium chloride when the indicator points to "Refill". The old material may be easily removed by dissolving in water.

Handling of Calcium Chloride

The calcium chloride must be handled carefully as it will absorb water very rapidly, when exposed to air. If not transferred directly from a sealed container to the breather it should be heated to remove moisture.

TRANSFORMER DEHYDRATING BREATHER—Continued

INSTRUCTIONS—Continued

How to Reclaim Used Calcium Chloride

Calcium chloride saturated with moisture, may be dehydrated by heating in a shallow pan to a temperature between 180° and 200°C. until no water vapor can be observed on a mirror held over the calcium chloride.

Amount of Calcium Chloride Required for a Charge

Approximately 1½ pounds of calcium chloride is required for a charge.

Quality of Calcium Chloride to Use

Purchase the ordinary grade of commercial granular calcium chloride. The chemically pure product is not necessary.

Where to Secure Calcium Chloride

Calcium chloride should be purchased locally by customers if possible as it will absorb moisture during shipment if not shipped in an air tight container. However, if a customer cannot purchase

the calcium chloride locally it can be secured by entering an order on Sharon Works and it will be shipped in friction top cans.

RENEWAL PARTS

If renewal parts are required refer to Fig. 3 and order the parts from the nearest Westinghouse Electric & Mfg. Co. Office or from the Sharon, Pa. Works.

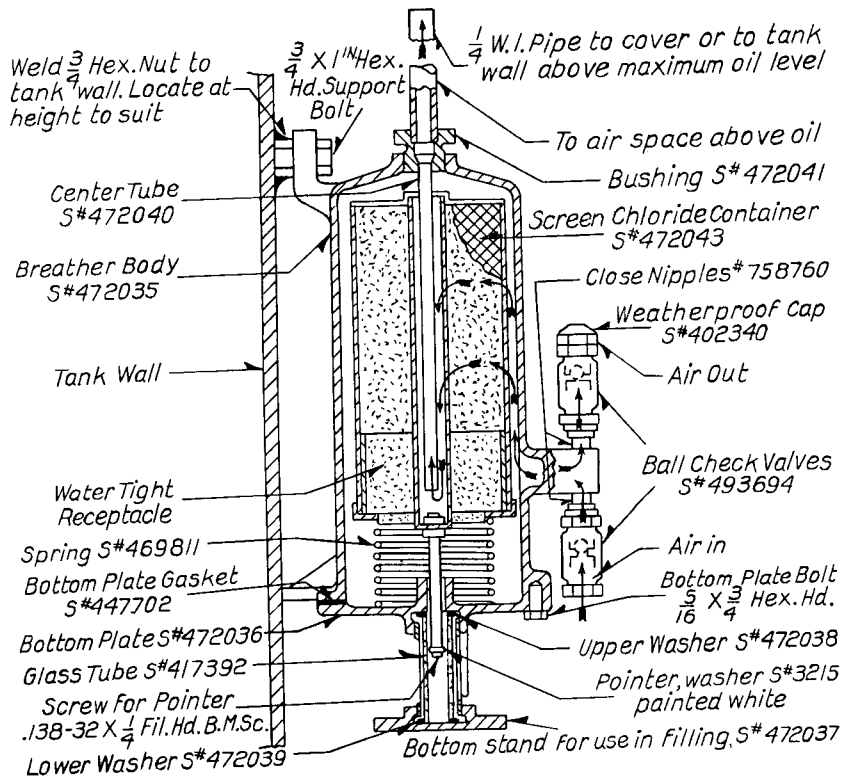


FIG. 3—DIAGRAM OF BREATHER S# 417673 SHOWING OPERATION, CONSTRUCTION AND IDENTIFICATION OF PARTS.

Westinghouse Electric & Manufacturing Company
Sharon, Pa.