



## AERSHEAR™ COARSE BUBBLE DIFFUSER MODEL C-150

### GENERAL

Diffusers shall be AERSHEAR™ coarse bubble type as manufactured by Aeration Technologies, Inc. (AERTEC). The diffuser shall be hollow cylindrical shape with integral air duct and plenum design to insure completely uniform distribution of air over the entire operating range of air flows. The diffuser shall be furnished totally assembled by the manufacturer, ready for installation.

The standard diffuser nominal length shall be 15 inches as measured from outside ends of the diffuser frame excluding threaded pipe on nipple for attaching the diffuser to the air distribution piping. The nominal diameter of the diffuser shall be a minimum of 1.25 inches.

### DIFFUSER ASSEMBLY

Each diffuser shall consist of the following:

- one 3/4-inch NPT threaded stainless steel diffuser connector
- one stainless steel diffuser frame and sparger
- one check valve and air metering orifice assembly

### DIFFUSER FRAME AND SPARGER

The diffuser frame and sparger shall be a tubular 304 stainless steel tube 3/4-in. in diameter by 0.035 inch wall. The frame shall contain an end cap at the end and air sparger orifices along the length of the tubular frame. The other end shall be inserted into and full 360 degree fillet welded to the diffuser connector.

### DIFFUSER CONNECTOR

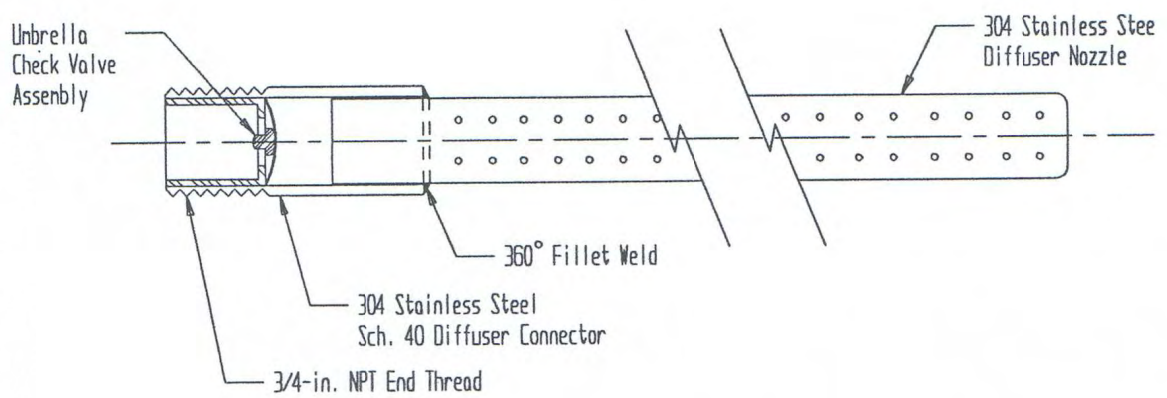
The diffuser connector shall be manufactured of a standard 0.75-inch 304 stainless pipe with NPT thread on both ends. One end shall be used to hold the inlet end fitting and the other end shall be used to connect to the air distribution piping. Plastic nipple connectors shall not be acceptable. The mounting connection employed for the diffuser element shall be capable of withstanding an external load of 400 ft.-lbs. without structural failure. Small diameter threaded connections shall not be acceptable to attach diffusers to the air piping. The connecting end shall be shipped with plastic thread cover to protect the threads during shipment and handling.

### CHECK VALVE AND AIR METERING ORIFICE ASSEMBLY

The diffuser assembly shall be equipped with a circular umbrella check valve specially manufactured for the service, and it shall be of soft molded rubber requiring a slight positive pressure to open. The purpose of the check valve shall be to exclude liquid from the diffuser and air distribution piping upon shutoff of the air. The check valve shall not impede airflow and keep headloss to a minimum. The check valve shall be designed such that positive closure is assured. Flap valves of sheet material are not acceptable. Housing for the check valve shall act as an air metering orifice to insure equal distribution of air through all diffusers. The housing shall be press fit into the entrance end of the diffuser connector.

## AERSHEAR™ COARSE BUBBLE DIFFUSER

### MODEL 150



CUT AWAY VIEW





## AERSHEAR™ CB DISC DIFFUSER

### GENERAL

Diffusers shall be AERSHEAR™ coarse bubble type as manufactured by Aeration Technologies, Inc. (AERTEC). The diffuser shall be circular shape with integral air duct and shear plate design to insure completely uniform distribution of air over the entire operating range of air flows. The diffuser shall be furnished totally assembled by the manufacturer, ready for installation.

The standard diffuser nominal length shall be 2.5 inches as measured from outside ends of the diffuser frame excluding threaded pipe on nipple for attaching the diffuser to the air distribution piping. The nominal diameter of the diffuser shall be a minimum of 4.0 inches.

### DIFFUSER ASSEMBLY

Each diffuser shall consist of the following:

- one 3/4-inch NPT threaded stainless steel diffuser connector
- one stainless steel diffuser frame and sparger
- one PVC check valve

### DIFFUSER FRAME AND SPARGER

The diffuser frame and sparger shall be a circular 304 stainless steel plate 1.0-in. in diameter by 0.125 inch wall.

The frame shall contain an end cap at the top end and air sparger/check of PVC construction. The other end shall be inserted into and full 360 degree fillet welded to the diffuser connector.

### DIFFUSER CONNECTOR

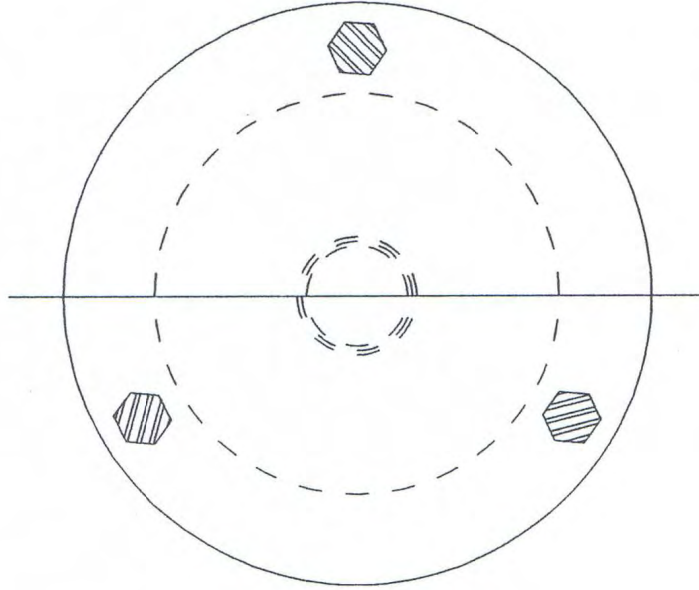
The diffuser connector shall be manufactured of a standard 0.75-inch 304 stainless pipe with NPT threads. One end shall be used to hold the inlet end fitting and the other end shall be used to connect to the air distribution piping. Plastic nipple connectors shall not be acceptable. The mounting connection employed for the diffuser element shall be capable of withstanding an external load of 400 ft.-lbs. without structural failure. Small diameter threaded connections shall not be acceptable to attach diffusers to the air piping. The connecting end shall be shipped with plastic thread cover to protect the threads during shipment and handling.

### CHECK VALVE

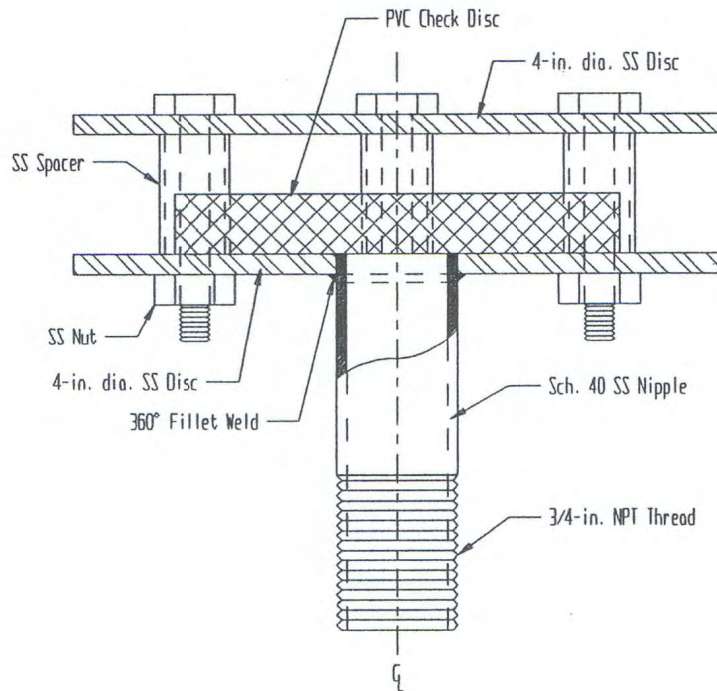
The diffuser assembly shall be equipped with a circular check valve specially manufactured for the service. The purpose of the check valve shall be to exclude liquid from the diffuser and air distribution piping upon shutoff of the air. The check valve shall not impede airflow and keep headloss to a minimum. The check valve shall be designed such that positive closure is assured.

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### AERSHEAR™ CB DISC DIFFUSER



PLAN VIEW, NTS



TYPICAL ELEVATION, NTS