

## Porous Metal Pressure Snubbers

### Installation & Maintenance

#### Description

The key to superior performance and efficiency of Chemiquip Pressure Snubbers is the corrosion resistant porous membrane used as the snubbing element. A product of electric furnace technology, the porous metal disc is fabricated by sintering, type 316 stainless steel powder, or other corrosion resistant materials, in an electric furnace. The powder particles are firmly welded at their tangent points to create a mechanically stable structure with a tensile strength of 20,000 psi. There is absolutely no evidence of particle migration regardless of the magnitude of the pressure, shock, or longevity of service.

The particle size of the powder determines the pore opening. The standard flow capacity of the snubber is Adjusted by using the pore size most suited to the viscosity of the pressure actuating medium. Various pore sizes are available for use with oils, water, gases or mercury.

With a Chemiquip Snubber positioned up stream of a pressure sensitive instrument, the instrument response to system pressure changes is at a rate in proportion to the pressure differential across the snubber element. A moderately rapid, smooth response of the pressure sensitive instrument is obtained, free of transient surges or pulsations. The snubber is calibrated to give an equilibrium reading, up-scale or down-scale in approximately 2-3 seconds. And Instrument failure due to pressure shock is eliminated.

The accompanying porosity recommendations will accommodate approximately 85% of all pressure sensitive device applications. For violently surging or pulsing systems, the next finer porosity snubber may be indicated. If the instrument seems to be sluggish or *the* lack responsiveness to transit pressure changes within the system, the next more porous snubber should be substituted. Consistency of performance from one snubber to another of the same porosity is guaranteed.

#### Installation

All our industrial type snubber are equipped with dry-seal type pipe threads. If possible, the snubber should be assembled to the system without use of joint pipe compound or other similar material. If pipe compound is used, extreme care should be taken to prevent coating the porous element with the compound. If pipe joint compound is necessary, it is strongly advised that one of the solid resinous types of compound be used. All male pipe threads come pre-wrapped with Teflon tape.

Because chemiquip porous metal pressure snubbers are capable of precise flow control, it is possible to use them as flow restrictors or bleed controls. Information concerning the flow characteristics of the standard snubbers will be supplied on request. Intermediate or special flow characteristics can be produced to order. If the snubber is to be used as a flow controller, it is recommended that the snubber be protected by a suitable filter to prevent change in flow characteristics as a result of the collection of random entrained solids on the porous element.

#### Cleaning

The snubbers have been cleaned to eliminate all hydrocarbon residuals.

Each snubber is subjected to a 5-minute ultrasonic cleaning using chloroethylene as a solvent. It is guaranteed that not more than .001% of the solvent is Non-volatile

All Snubbers may be washed in solvents such as Carbon Tetrachloride, Benzene, Naphtha, etc. Where chemical cleaning is required, boiling in any of the following solutions will be found effective, depending in which solution the contaminant is most soluble:

Brass – 15% Caustic Soda (1 part soda; 6 parts water) Boil 15-45 minutes.

Stainless Steel – 15% Caustic Soda (1 part soda; 6 parts water) Boil 15-45 minutes or 15% Nitric Acid (1 part acid; 6 parts water) Boil 15-45 minutes.

After boiling wash snubber in running tap water for approximately 45 minutes.

**!!!DO NOT FORCE TAP WATER THROUGH THE SNUBBER AS THIS WILL PLUG IT.**

<b>Porosity Designation (<i>Recommended Porosity's</i>)</b>			
<b>Porosity</b>	<b>Type of service</b>	<b>Viscosity Range</b>	<b>Approx. Micron Rating</b>
<b>C</b>	High Viscosity Fluids	Over 500 S.S.U.	75
<b>D</b>	Heavy Oil	225 to 500 S.S.U.	40-45
<b>E</b>	Water & Light Oils	30 to 225 S.S.U.	10
<b>F</b>	Vapor and Low Viscosity Fluids	Under 30 S.S.U.	7
<b>G</b>	Air or other Gases		2-5
<b>HX</b>	Pulsating Gas		1
<b>HXX</b>	Extreme Gas Pulsation		½

<b>Maximum Pressure Rating – Standard Pressure Snubbers</b>			
	<b>Model 12 – ⅛" NPTF</b>	<b>Model 25 – ¼" NPTF</b>	<b>Model 50 – ½" NPT</b>
<b>Brass</b>	3,000 psi	10,000 psi	10,000 psi
<b>Stainless Steel</b>	5,000 psi	15,000 psi	15,000 psi
<b>Monel</b>	-----	15,000 psi	15,000 psi