

## **901-1 Kynar Abrasives Separator**

Taco's Kynar Abrasives Separator is a device for removing particles from flush lines to protect the seal from abrasive wear or clogging. They are typically used in an API Plan 31 arrangement and incorporated in the seal flush line (API Plan 11) from the discharge of the pump.



## Features & Benefits

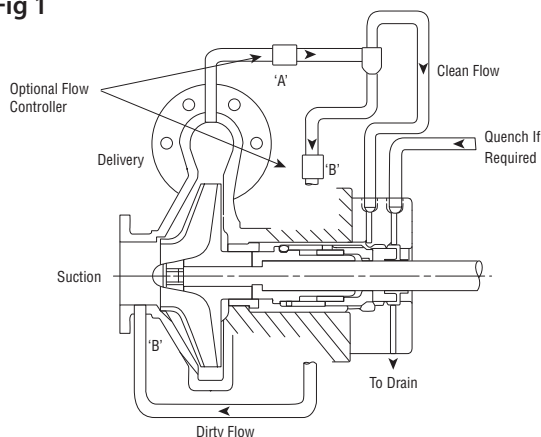
### Features & Benefits

- Increases the life of a mechanical seal
- Reduces maintenance costs
- Lightweight, 1-piece design provides lower pipe stress when mounted inline
- Virtually maintenance free – unlike strainers and filters
- Keeps solids found in liquids from contaminating and damaging mechanical seal faces
- Reduces the fluid temperature at the seal faces
- Ensures proper pressure in the seal chamber to prevent pumped fluid from vaporizing
- Allows seal chamber to be self-venting when used with horizontal pumps

### Operation

Liquids can contain suspended abrasives such as sand, dirt, rust, and other particulates. These can damage seal faces in a short period of time. The process begins as fluid cycles through the pump. The Kynar Abrasive Separator inlet is connected to the pump's flush line tapping at the discharge end of the pump. System water enters the separator and rotates centrifugally in the cone-shaped chamber. The velocity and pressure differential inside the separator forces particles to the outside wall where they are eventually funneled to the bottom of the separator and then discharged through the outlet at a lower pressure point and returned to the suction end of the pump. The cleaner liquid is pushed out of the top connection of the separator and returned via piping directly to the seal faces. This process runs consistently as long as the pump is running, cycling the cleaner liquid to the faces and keeping them cool and lubricated. This process is highly effective for extending seal life.

Fig 1

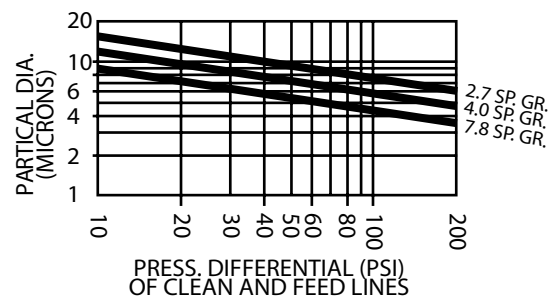


### Requirements

The Kynar Abrasive Separator removal efficiency increases as the particle size increases and as the differential between the liquid and particle's specific gravity increases. The practical lower limit of particle size for effective separation is 1 micron, see Fig 2. The particle's specific gravity must always be greater than the fluid's. The solid's content of the pumped fluid should not exceed 10%.

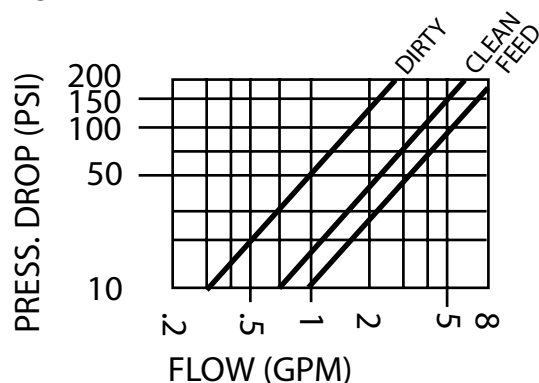
Fig 2

PARTIAL REMOVAL AT 95% EFFICIENCY FOR WATER

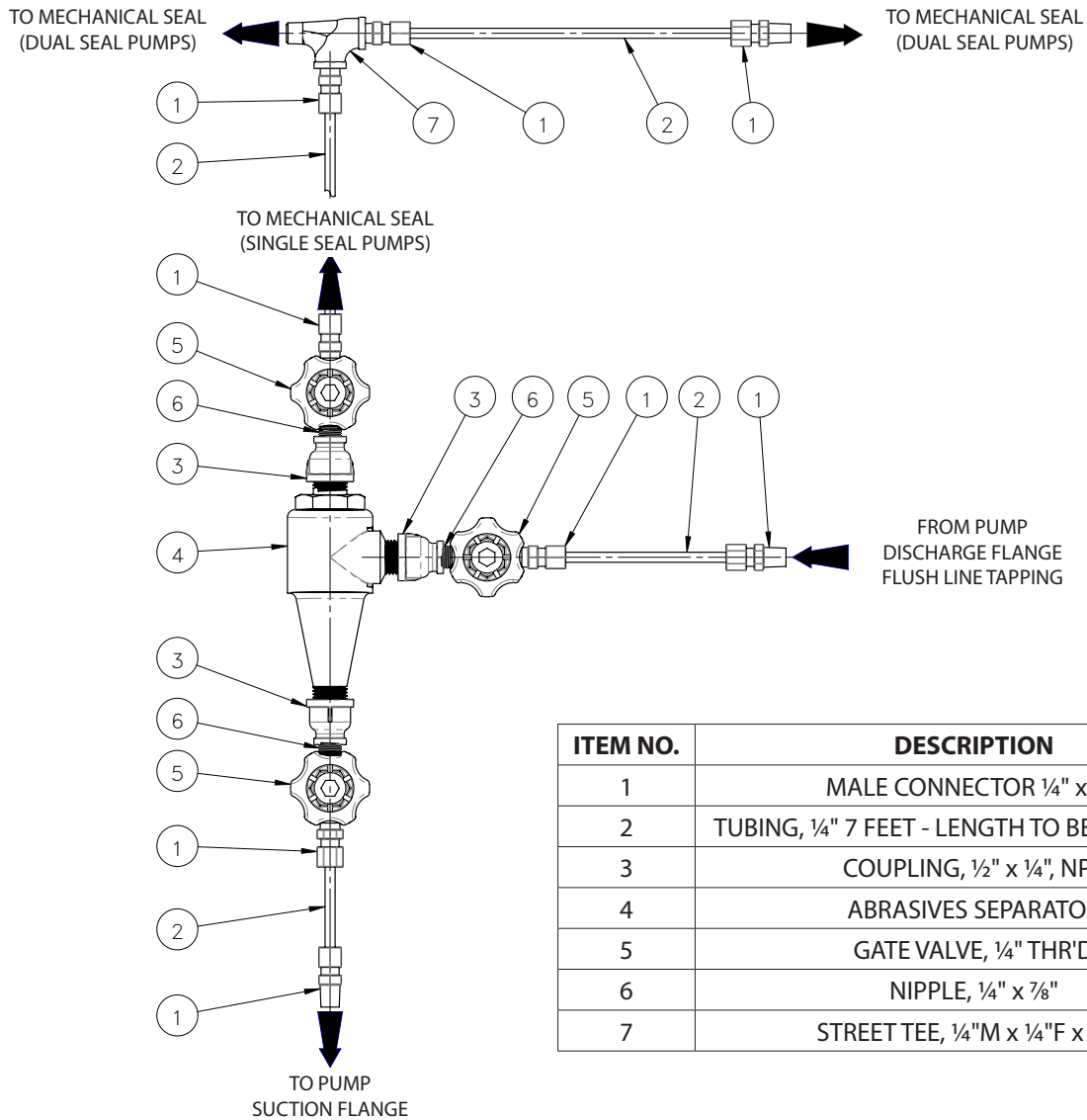


Fluids with a viscosity at pumping temperatures in excess of 20 to 25 centistokes will inhibit the separator's vortex and thereby reduce separation efficiency. The difference in pressure between the inlet source and the two outlet return connections must fall within the range shown on Fig 3. Pressure differentials outside this range will cause unpredictable vortex operation, resulting in poor separation. Also, the pressures at the two outlet connections should be as close as possible. A difference of more than 10% will result in a measurable biasing of flow to the lower pressure outlet connection and a disruption of normal vortex operation.

Fig 3



## Piping Configuration



ITEM NO.	DESCRIPTION	QTY.
1	MALE CONNECTOR 1/4" x 1/4"	8
2	TUBING, 1/4" 7 FEET - LENGTH TO BE CUT TO SUIT	1
3	COUPLING, 1/2" x 1/4", NPT	3
4	ABRASIVES SEPARATOR	1
5	GATE VALVE, 1/4" THR'D	3
6	NIPPLE, 1/4" x 7/8"	3
7	STREET TEE, 1/4"M x 1/4"F x 1/4"F	1

# **Submittal Data Information** **901-1 Kynar Abrasives Separator**

Submittal Data # 301-008  
Supersedes: NEW

Effective: 05/03/23

**Model** 901-1

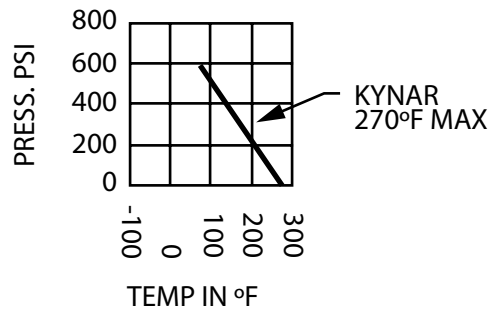
## **Materials of Construction**

1-Piece Body: High purity engineered Kynar® thermoplastic (PVDF)

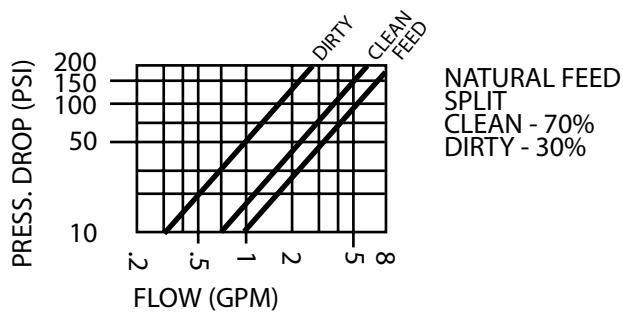
Fittings & Valves: Brass

Tubing: Copper

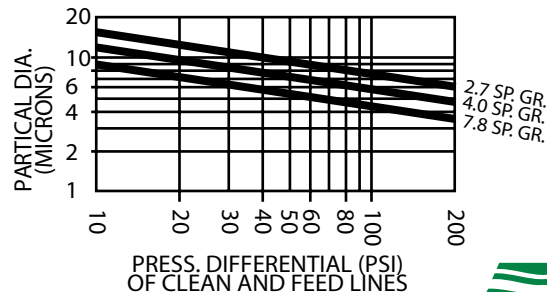
## **Pressure & Temperature Limitation**



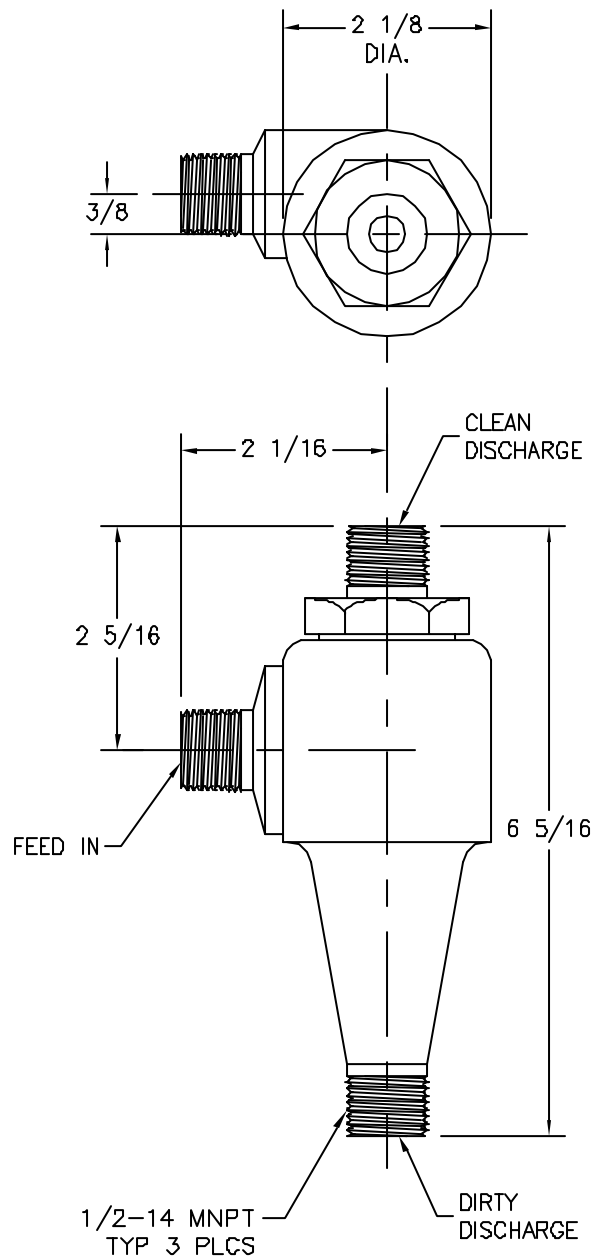
## **Flow Capacity for Water**



## **Partical Removal at 95% Efficiency for Water**



## **Dimensions**



Taco Inc., 1160 Cranston Street, Cranston, RI 02920 / (401) 942-8000  
Taco (Canada) Ltd., 8450 Lawson Road, Unit #3, Milton, Ontario L9T 0J8 / (905) 564-9422