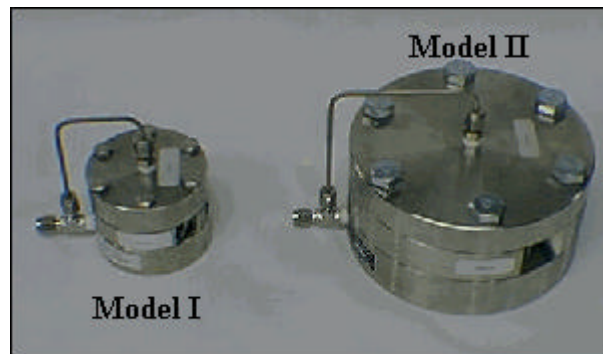




## The Collins Swirlclean Bypass Filter

Patent # 3,459,307

The Collins Swirlclean bypass filter was developed to remove small micron and submicron size particles from both liquid and vapor samples. Small pore membrane filters are used in the filter. Membrane filters are thin (0.005 in. thick) porous structures composed of polymeric materials. These filter elements have uniform pore size for good surface retention of particles.



### Features:

**SAMPLING SYSTEM AND ANALYZER MAINTENANCE IS REDUCED**

**USES MEMBRANE FILTER ELEMENTS FOR SURFACE FILTRATION**

**TANGENTIAL ENTRY OF BYPASS CREATES SWIRLING ACTION**

**KEEPS FILTER ELEMENTS CLEAN - PARTICLES ARE RETURNED TO PROCESS**

**IDEAL FOR CONTROL APPLICATION. BECAUSE SMALL INTERNAL VOLUME GIVES UP-TO-DATE SAMPLE**

**AVAILABLE IN CORROSION RESISTANT MATERIALS**

**FILTER ELEMENTS ARE INEXPENSIVE**

**REMOVE PARTICLES TO THE SUB-MICRON RANGE**

**REMOVE WATER DROPLETS FROM VAPOR SAMPLES**

**FILTER ELEMENT CHANGE REQUIRES ABOUT 5 MINUTES**

**REMOVE ENTRAINED WATER FROM LIQUID HYDROCARBON STREAMS**

**EFFECTIVE IN REMOVING IRON SULFIDE AND OTHER SMALL PARTICLES WITHOUT FREQUENT PLUGGING**

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## CUTAWAY VIEW OF THE COLLINS SWIRLKLEAN FILTER

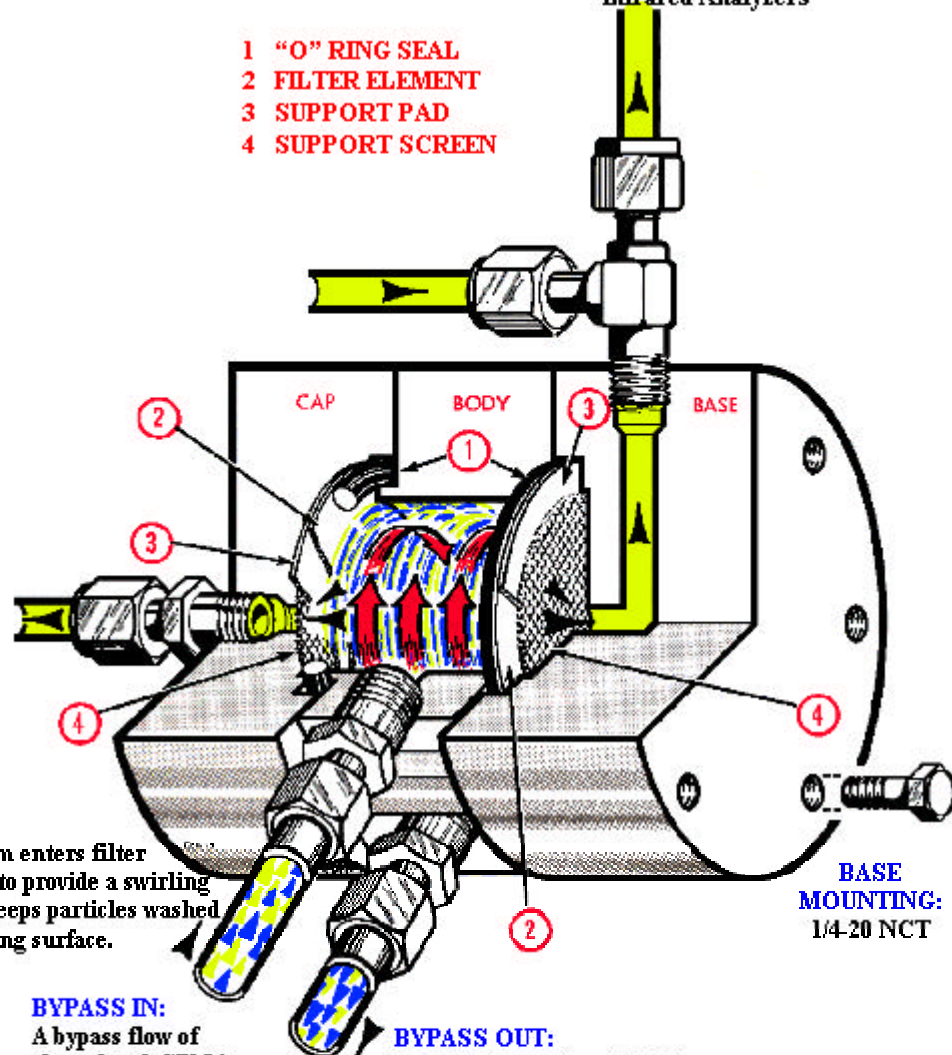
### REMOVES:

Rust  
Iron Sulfide  
Other Small Particles For A Clean Sample

### OUT TO:

Chromatographic Analyzers  
Reid Vapor Pressure Analyzers  
Pour Point Analyzers  
Infrared Analyzers

- 1 "O" RING SEAL
- 2 FILTER ELEMENT
- 3 SUPPORT PAD
- 4 SUPPORT SCREEN



**Bypass stream enters filter tangentially to provide a swirling action that keeps particles washed off the filtering surface.**

### BYPASS IN:

A bypass flow of about 1 to 3 GPM is recommended.

### BYPASS OUT:

Particles larger than the filter element pore size are removed from the filter in the bypass stream.

**BASE MOUNTING:**  
1/4-20 NCT

The Collins Swirlklean Bypass Filter has been installed and proved to be an excellent analyzer filter by a number of large chemical and petroleum companies. Replace those existing filters that have a tendency to plug shortly after being placed in service. The Collins Swirlklean is even recommended for dirty streams containing iron sulfide, iron rust, catalyst and other fine particles. Standard filter elements have a 0.5 micron pore size. Other pore sizes are available.

Specify the Collins Swirlklean in your next analyzer installation for cleaner samples and more trouble-free operation.

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**NOTE:** The Collins Swirlklean bypass filter alone is not recommended for filtering water. Please inquire about other Collins Filtering Systems for conditioning water streams.



## Swirklean Filter Specifications

	MODEL 1	MODEL 2
<b>BODY MATERIAL</b>		
Standard	316 stainless steel	316 stainless steel
Special order	Other materials	Other materials
<b>FILTER ELEMENTS</b>		
Type:	Membrane or stainless steel	Membrane or stainless steel
Pore size (standard) (available)	0.5 microns 150,100.65.50.30.21.10,5,3,0.5, 0.2	0.5 microns 150,100.65.50.30.21.10,5,3,0.5, 0.2
Total filter surface :	22 Sq.cm [22 cm <sup>2</sup> ]	126 Sq.cm [126 cm <sup>2</sup> ]
Element material:	Depends on application	Depends on application
<b>INTERNAL VOLUME</b>		
By-pass side:	25 Cu.Cm. [25 cm <sup>3</sup> ]	160 Cu.Cm. [160 cm <sup>3</sup> ]
Analyser Sample side	4 Cu.Cm. [4 cm <sup>3</sup> ]	10 Cu.Cm. [10 cm <sup>3</sup> ]
<b>RECOMMENDED FLOW RATES - LIQUID</b>		
By-pass stream	1 to 2 GPM [4 to 8 LPM] minimum	3 to 6 GPM [12 to 24 LPM] minimum
Analyser sample	50 Cu.Cm/Min greater flow rates can be obtained from filter	275 Cu.Cm/Min greater flow rates can be obtained from filter
<b>RECOMMENDED FLOW RATES - VAPOR</b>		
By-pass stream	2000 Cu.Cm./min minimum	3 to 6 GPM minimum
Analyser sample	To 1000 Cu.Cm/Min. If filter is located near analyser, greater flow rates can be obtained	To 1 CFM If filter is located near analyser, greater flow rates can be obtained
<b>PRESSURE TESTED TO:</b>	5000 PSIG [345 barg]	2500 PSIG [172 barg]
<b>MAXIMUM TEMPERATURE</b>		
Standard element	To 200 degrees C	To 200 degrees C
	120 degrees C	120 degrees C
<b>PROCESS CONNECTIONS</b>	¼" FPT	3/8" FPT
<b>ANALYSER CONNECTIONS</b>	1/8" Tube standard ¼" Tube available	1/8" Tube standard ¼" Tube available

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