

## VACU-SHIELD TRAPS AND FILTERS

# RECHARGEABLE AND SEALED TRAPS

The Rechargeable and Sealed Traps are ANCORP's recommended traps for applications that experience heavy gas loads or continuous use. These traps can protect your system from backstreaming pump oil and/or your pump from contaminants created upstream within your system.



## CONTENTS

1. Product Features.....	2
2. Media Summary.....	2
3. Stainless Steel Media.....	3-4
4. Copper Media.....	5-6
5. Activated Charcoal Media.....	7
6. Activated Alumina Media.....	8
7. When Do You Change Your Trap?.....	9

## Product Features

The VSRC AND VSSC series fore-line traps provide a rechargeable and sealed shield within your vacuum system. They are positioned between the rough vacuum pump and the diffusion pump to prevent backstreaming of oil into the diffusion pump. They also protect your pump from contaminants created upstream in your system.

Vacu-Shield traps allow multiple trapping media to be used with the same body. The VSRC traps have a coaxial port design for installation and a simple 2-piece clamped body design for easy media recharging and trap cleaning. The VSSC traps have a simple, one-piece body design with ISO-QF and hose end connections.

### VSRC - Rechargeable Trap

Trapping media: copper, stainless steel, activated alumina, activated charcoal

2-Stage trapping system

- Stage 1: stainless steel baffle - extends the life of the media
- Stage 2: adsorbent or coalescing media 2-stage trapping system

Simple, clamped two piece body design

Electropolished body

ISO-QF connection (other options available)

### VSSC - Sealed Trap

Trapping media: copper or stainless steel

2-stage trapping system

- Stage 1: stainless steel baffle - extends the life of the media
- Stage 2: coalescing media

Simple, one piece body design

ISO-QF and Hose end connections (other options available)

## MEDIA SUMMARY

The Coaxial traps feature various media options:

- Stainless Steel
- Copper
- Activated Charcoal (Rechargeable Only)
- Activated Alumina (Rechargeable Only)

Each type of media provides protection for different environments. Stainless steel and copper provide excellent protection against pump oil backstreaming, activated charcoal protects against organics, and activated alumina protects against water vapor and acids.

TRAP AND FILTER MEDIA	PUMP OIL BACKSTREAMING	WATER VAPOR	ACID	ORGANICS
Stainless Steel	X			
Copper	X			
Activated Charcoal				X
Activated Alumina		X	X	

## Stainless Steel Media

Stainless Steel trapping media provides protection from pump fluid backstreaming. It maximizes time between cleaning services, provides great performance in corrosive environments, and is an excellent physical barrier to hydrocarbons.

While scrubber cannot be packed as tightly as copper wool, stainless steel is generally non-reactive and therefore non-corroding.

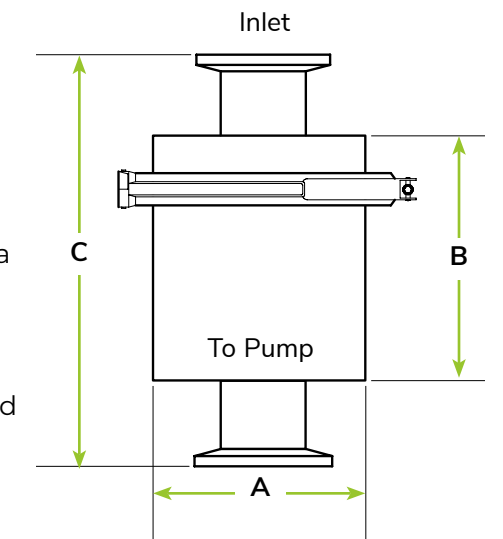
If process compatibility is uncertain, stainless media is the safest recommendation.

**Note:** It is the user's responsibility to ensure process compatibility with all media.



### RECHARGEABLE TRAP WITH STAINLESS STEEL MEDIA

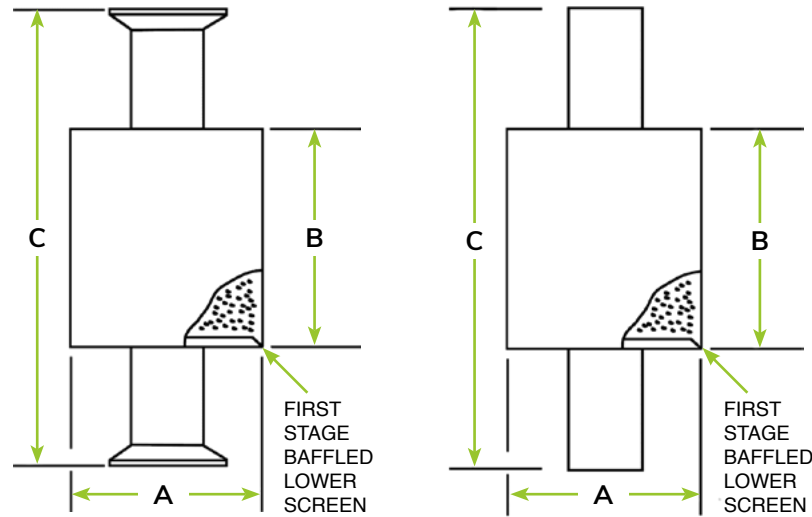
- Flanged body connection for large body diameter to ease assembly and ensure consistent seals.
- 2-stage trapping system
  - Stage 1: stainless steel baffle - extends the life of the media
  - Stage 2: coalescing media
- Materials:
  - Body, flanges and baffle: 304 stainless steel electropolished
  - Seal: Buna-N
- Fully charged



PART #	REFERENCE ID	A	B	C	CONNECTION
7500102	VSRC-200-QF16-S	2.00	3.80	5.90	QF16 FLANGE
7500112	VSRC-250-QF16-S	2.50	3.80	5.90	QF16 FLANGE
7500116	VSRC-250-QF25-S	2.50	3.80	5.90	QF25 FLANGE
7500122	VSRC-300-QF25-S	3.00	4.80	6.90	QF25 FLANGE
7500126	VSRC-300-QF40-S	3.00	4.80	6.90	QF40 FLANGE
7500132	VSRC-400-QF16-S	4.00	5.00	7.00	QF16 FLANGE
7500136	VSRC-400-QF25-S	4.00	5.00	7.00	QF25 FLANGE
7500140	VSRC-400-QF40-S	4.00	5.00	7.00	QF40 FLANGE
7500144	VSRC-400-QF50-S	4.00	5.00	8.00	QF50 FLANGE
7500152	VSRC-600-QF40-S	6.00	7.30	9.40	QF40 FLANGE
7500156	VSRC-600-QF50-S	6.00	7.30	10.40	QF50 FLANGE
7500160	VSRC-600-LF63-S	6.00	7.30	10.40	LF63 FLANGE
7500164	VSRC-600-LF80-S	6.00	7.30	10.40	LF80 FLANGE
7500172	VSRC-800-LF63-S	8.00	7.30	10.40	LF63 FLANGE
7500176	VSRC-800-LF80-S	8.00	7.30	10.40	LF80 FLANGE
7500180	VSRC-800-LF100-S	8.00	7.30	10.40	LF100 FLANGE

## SEALED TRAP WITH STAINLESS STEEL MEDIA

- Trapping mechanics: adsorption
- Materials:
  - 304 stainless steel
- Port terminations: ISO-QF and Hose Connection



PART #	REFERENCE ID	A	B	C	CONNECTION
7500004	VSSC-250-QF16-S	2.50	3.05	6.30	QF16 FLANGE
7500006	VSSC-250-QF25-S	2.50	3.05	6.30	QF25 FLANGE
7500016	VSSC-400-QF16-S	4.00	4.55	8.80	QF16 FLANGE
7500018	VSSC-400-QF25-S	4.00	4.55	8.80	QF25 FLANGE
7500020	VSSC-400-QF40-S	4.00	4.55	8.80	QF40 FLANGE
7500022	VSSC-400-QF50-S	4.00	4.55	8.80	QF50 FLANGE
7500002	VSSC-250-075-S	2.50	3.05	6.05	0.75 HOSE
7500008	VSSC-400-075-S	4.00	4.55	8.55	0.75 HOSE
7500010	VSSC-400-100-S	4.00	4.55	8.55	1.00 HOSE
7500012	VSSC-400-150-S	4.00	4.55	8.55	1.50 HOSE
7500014	VSSC-400-200-S	4.00	4.55	8.55	2.00 HOSE
7500032	VSSC-250-100-S	2.50	3.05	6.05	1.00 HOSE

## Copper Media

Copper trapping media provides protection from pump fluid back-streaming. It provides great performance in corrosive environments and is an excellent physical barrier to hydrocarbons.

The fine copper wool allows the media to be packed to a higher density than course stainless steel scrubble. Because they rely on coalescence to trap large molecules, ANCORP's wool and scrubble are not susceptible to rapid moisture saturation.

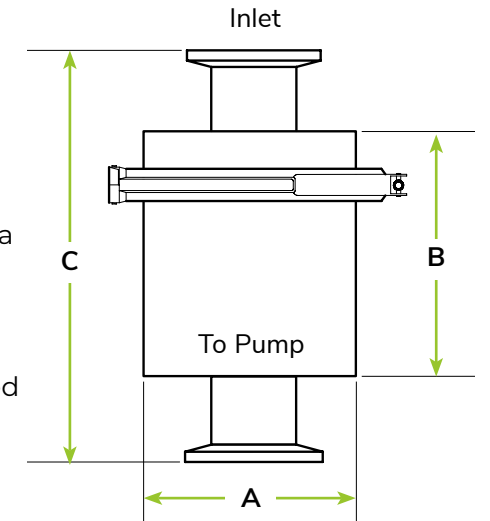


Copper, however, is a reactive material and is susceptible to corrosion and therefore may not be suitable for all processes.

**Note:** It is the user's responsibility to ensure process compatibility with all media.

## RECHARGEABLE TRAP WITH COPPER MEDIA

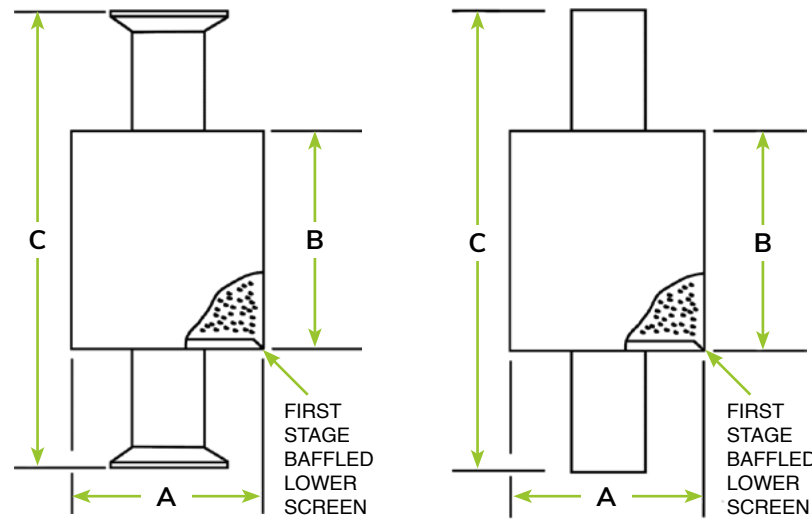
- Flanged body connection for large body diameter to ease assembly and ensure consistent seals.
- 2-stage trapping system
  - Stage 1: stainless steel baffle - extends the life of the media
  - Stage 2: coalescing media
- Materials:
  - Body, flanges and baffle: 304 stainless steel electropolished
  - Seal: Buna-N
- Fully charged



PART #	REFERENCE ID	A	B	C	CONNECTION
7500101	VSRC-200-QF16-C	2.00	3.80	5.90	QF16 FLANGE
7500111	VSRC-250-QF16-C	2.50	3.80	5.90	QF16 FLANGE
7500115	VSRC-250-QF25-C	2.50	3.80	5.90	QF25 FLANGE
7500121	VSRC-300-QF25-C	3.00	4.80	6.90	QF25 FLANGE
7500125	VSRC-300-QF40-C	3.00	4.80	6.90	QF40 FLANGE
7500131	VSRC-400-QF16-C	4.00	5.00	7.00	QF16 FLANGE
7500135	VSRC-400-QF25-C	4.00	5.00	7.00	QF25 FLANGE
7500139	VSRC-400-QF40-C	4.00	5.00	7.00	QF40 FLANGE
7500143	VSRC-400-QF50-C	4.00	5.00	8.00	QF50 FLANGE
7500151	VSRC-600-QF40-C	6.00	7.30	9.40	QF40 FLANGE
7500155	VSRC-600-QF50-C	6.00	7.30	10.40	QF50 FLANGE
7500159	VSRC-600-LF63-C	6.00	7.30	10.40	LF63 FLANGE
7500163	VSRC-600-LF80-C	6.00	7.30	10.40	LF80 FLANGE
7500171	VSRC-800-LF63-C	8.00	7.30	10.40	LF63 FLANGE
7500175	VSRC-800-LF80-C	8.00	7.30	10.40	LF80 FLANGE
7500179	VSRC-800-LF100-C	8.00	7.30	10.40	LF100 FLANGE

## SEALED TRAP WITH COPPER MEDIA

- Trapping mechanics: adsorption
- Materials:
  - 304 stainless steel
- Port terminations: ISO-QF and Hose Connection



PART #	REFERENCE ID	A	B	C	CONNECTION
7500003	VSSC-250-QF16-C	2.50	3.05	6.30	QF16 FLANGE
7500005	VSSC-250-QF25-C	2.50	3.05	3.05	QF25 FLANGE
7500015	VSSC-400-QF16-C	4.00	4.55	8.80	QF16 FLANGE
7500017	VSSC-400-QF25-C	4.00	4.55	8.80	QF25 FLANGE
7500019	VSSC-400-QF40-C	4.00	4.55	8.80	QF40 FLANGE
7500021	VSSC-400-QF50-C	4.00	4.55	8.80	QF50 FLANGE
7500001	VSSC-250-075-C	2.50	3.05	6.05	0.75 HOSE
7500007	VSSC-400-075-C	4.00	4.55	8.55	0.75 HOSE
7500009	VSSC-400-100-C	4.00	4.55	8.55	1.00 HOSE
7500011	VSSC-400-150-C	4.00	4.55	8.55	1.50 HOSE
7500013	VSSC-400-200-C	4.00	4.55	8.55	2.00 HOSE
7500031	VSSC-250-100-C	2.50	3.05	6.05	1.00 HOSE

## Activated Charcoal Media

Activated Charcoal trapping media provides protection from heavy metals (such as mercury) and organic solvents.

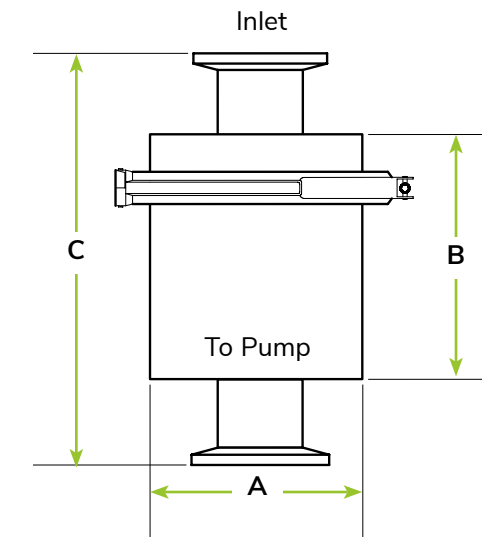
Charcoal media is quite hydrophilic. However, because it absorbs moisture fast, it must be replaced often.

**Note:** It is the user's responsibility to ensure process compatibility with all media.



## RECHARGEABLE TRAP WITH ACTIVATED CHARCOAL MEDIA

- Flanged body connection for large body diameter to ease assembly and ensure consistent seals.
- 2-stage trapping system
  - Stage 1: stainless steel baffle - extends the life of the media
  - Stage 2: coalescing media
- Materials:
  - Body, flanges and baffle: 304 stainless steel electropolished
  - Seal: Buna-N
- Fully charged



PART #	REFERENCE ID	A	B	C	CONNECTION
7500104	VSRC-200-QF16-O	2.00	3.80	5.90	QF16 FLANGE
7500114	VSRC-250-QF16-O	2.50	3.80	5.90	QF16 FLANGE
7500118	VSRC-250-QF25-O	2.50	3.80	5.90	QF25 FLANGE
7500124	VSRC-300-QF25-O	3.00	4.80	6.90	QF25 FLANGE
7500128	VSRC-300-QF40-O	3.00	4.80	6.90	QF40 FLANGE
7500134	VSRC-400-QF16-O	4.00	5.00	7.00	QF16 FLANGE
7500138	VSRC-400-QF25-O	4.00	5.00	7.00	QF25 FLANGE
7500142	VSRC-400-QF40-O	4.00	5.00	7.00	QF40 FLANGE
7500146	VSRC-400-QF50-O	4.00	5.00	8.00	QF50 FLANGE
7500154	VSRC-600-QF40-O	6.00	7.30	9.40	QF40 FLANGE
7500158	VSRC-600-QF50-O	6.00	7.30	10.40	QF50 FLANGE
7500162	VSRC-600-LF63-O	6.00	7.30	10.40	LF63 FLANGE
7500166	VSRC-600-LF80-O	6.00	7.30	10.40	LF80 FLANGE
7500174	VSRC-800-LF63-O	8.00	7.30	10.40	LF63 FLANGE
7500178	VSRC-800-LF80-O	8.00	7.30	10.40	LF80 FLANGE
7500182	VSRC-800-LF100-O	8.00	7.30	10.40	LF100 FLANGE

## Activated Alumina Media

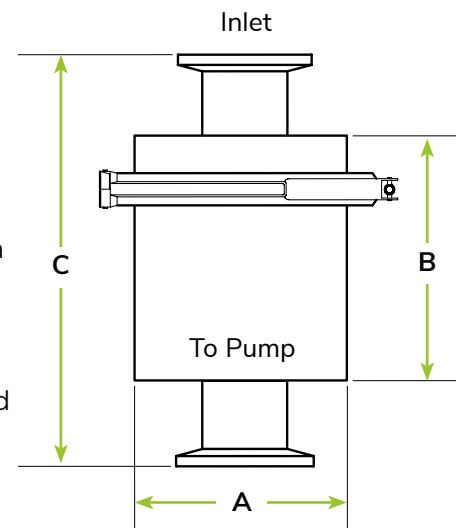
Activated Alumina trapping media provides protection from water vapors and acids. The media is small in size and can be packed into a fairly high density - providing an excellent mechanical barrier to large hydrocarbon molecules.

Alumina is a porous material. The pores are comparable in size to a water molecule and act as an excellent absorber of water. The main disadvantage is that these pores become saturated in applications with high moisture content, so alumina needs to be replaced often.

**Note:** It is the user's responsibility to ensure process compatibility with all media.

### RECHARGEABLE TRAP WITH ACTIVATED ALUMINA MEDIA

- Flanged body connection for large body diameter to ease assembly and ensure consistent seals.
- 2-stage trapping system
  - Stage 1: stainless steel baffle - extends the life of the media
  - Stage 2: coalescing media
- Materials:
  - Body, flanges and baffle: 304 stainless steel electropolished
  - Seal: Buna-N
- Fully charged



PART #	REFERENCE ID	A	B	C	CONNECTION
7500103	VSRC-200-QF16-A	2.00	3.80	5.90	QF16 FLANGE
7500113	VSRC-250-QF16-A	2.50	3.80	5.90	QF16 FLANGE
7500117	VSRC-250-QF25-A	2.50	3.80	5.90	QF25 FLANGE
7500123	VSRC-300-QF25-A	3.00	4.80	6.90	QF25 FLANGE
7500127	VSRC-300-QF40-A	3.00	4.80	6.90	QF40 FLANGE
7500133	VSRC-400-QF16-A	4.00	5.00	7.00	QF16 FLANGE
7500137	VSRC-400-QF25-A	4.00	5.00	7.00	QF25 FLANGE
7500141	VSRC-400-QF40-A	4.00	5.00	7.00	QF40 FLANGE
7500145	VSRC-400-QF50-A	4.00	5.00	8.00	QF50 FLANGE
7500153	VSRC-600-QF40-A	6.00	7.30	9.40	QF40 FLANGE
7500157	VSRC-600-QF50-A	6.00	7.30	10.40	QF50 FLANGE
7500161	VSRC-600-LF63-A	6.00	7.30	10.40	LF63 FLANGE
7500165	VSRC-600-LF80-A	6.00	7.30	10.40	LF80 FLANGE
7500173	VSRC-800-LF63-A	8.00	7.30	10.40	LF63 FLANGE
7500177	VSRC-800-LF80-A	8.00	7.30	10.40	LF80 FLANGE
7500181	VSRC-800-LF100-A	8.00	7.30	10.40	LF100 FLANGE

## When Do You Change Your Trap?

At this time, there is no commercially available indicator to determine when a trap's media has been saturated or used up. Instead, a preventative or scheduled maintenance program is used.

### SEALED TRAP

A sealed trap is designed to be installed, used, and discarded. Instead of recharging the media, the trap is used for 3-6 months, depending on your application, and then discarded.

### RECHARGEABLE TRAP

When working with alumina, the most common method is to wait until the system's base pressure begins to deteriorate.

When working with copper or stainless steel media, the recommended method is to develop a time-based maintenance schedule. Although the timing of the maintenance schedule is dependent on individual gas loads, cycling frequency, etc., vacuum systems that run continuously (24/7) typically change traps every three (3) to six (6) months. Assuming the system use is fairly consistent from one month to the next

1. Check the condition of the media on the outlet side of the trap after 3 months
2. Check each month until the media begins to show pump fluids on the outlet side of the trap
3. When saturated, replace the media and note the number of months of usage
4. Adjust maintenance schedule for system usage.