



# MICROPURE® FILTRATION

A Senney Enterprises Filtration Company

## Sterile Air/Gas Filters



# Segmented Filtration Design

- Different than typical cartridge style element
- Element built with Modular SS support Discs with filtration media in-between.
- Element height is built to application needs
- Unit Held Together by compression
- Only Filtration Media is replaced.



# Advantages of Segmented Filtration

- High Quality Materials
  - Robust stainless steel construction(316)
  - Media made from PTFE
  - High Temperature and Pressure Resistance
- Unique Design
  - Ability for Bi-directional flow
  - Autoclave Sterilization possible
  - Compact Design

# Advantages of Segmented Filtration

- Economical
  - Life of media
    - 150 cleanings or 1 year under normal working conditions\*
  - Cost of media
    - Fraction to conventional cartridges
  - Reduced Inventory Space
  - Quick Return on Investment and Low Cost of Ownership

# Advantages of Segmented Filtration

- Environmentally Friendly
  - Less filter changes per year
  - Less waste being thrown away.

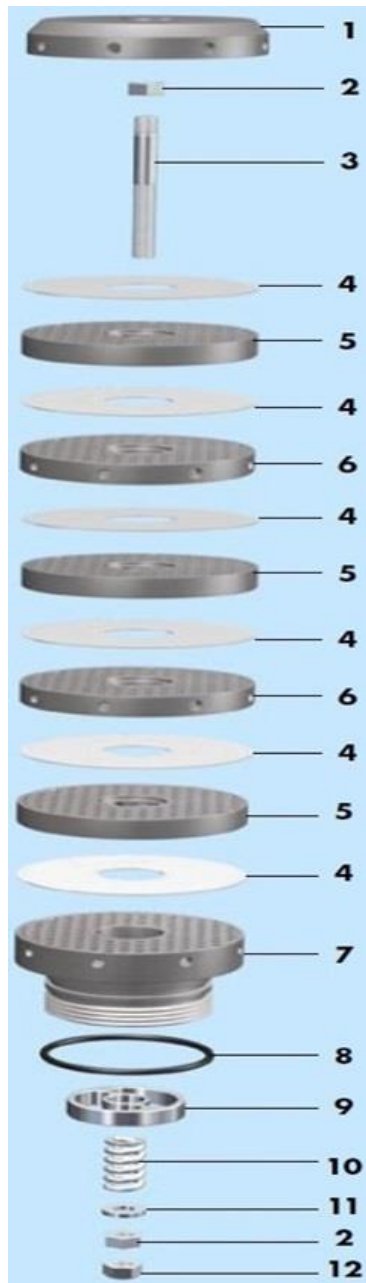




# Filter Overview

# Filter Overview

| Housing Assembly |             |                                                                                                                                       |
|------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Diagram #        | Item Number | Description                                                                                                                           |
| A                | PG-ALL      | Pressure Gauge, 0-16 bar,0-232 psi                                                                                                    |
| B                | HSG-NUT     | DIN 11851 Closure Nut                                                                                                                 |
| C                | HSG-Top     | Housing Top                                                                                                                           |
| D                | GKT-        | Housing Seal gaskets. DIN 11851 gasket                                                                                                |
| E                | HSG-Bot     | Housing Bottom                                                                                                                        |
| F+G              | CDK-ALL     | 2 Valve Condensate Drain Kit. Each Valve includes two threaded connections and Viton seals for use in between valves and housing base |
| H                | Pipe Seal   | Gasket for ensuring Proper Sealing of Pipe to mating pipe. This is to be provided by the customer depending on the pipe connection    |

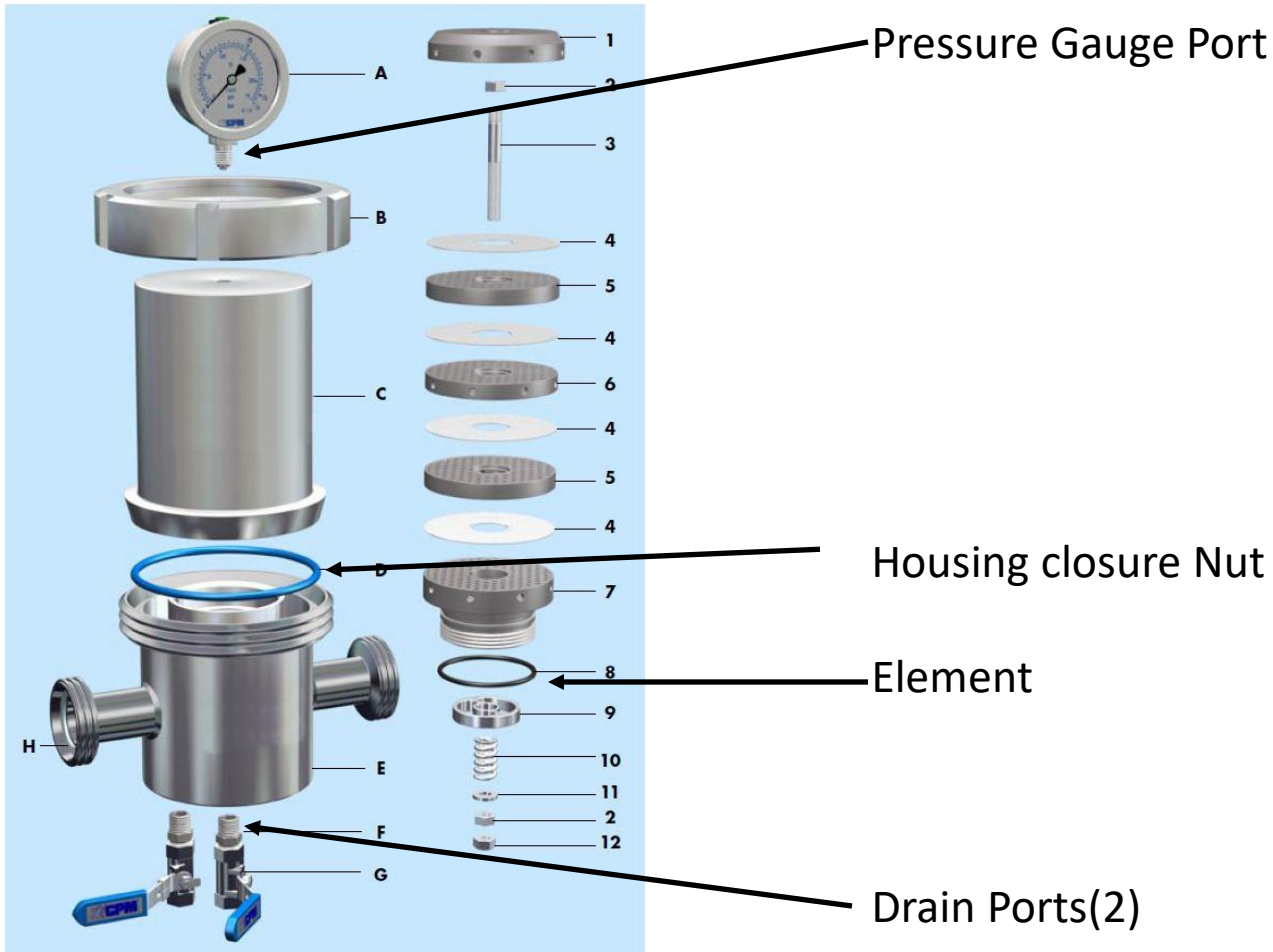


# Element Overview

# Element Overview

| Element Assembly Components |                                                  |
|-----------------------------|--------------------------------------------------|
| Diagram #                   | Description                                      |
| 1                           | End Plate                                        |
| 2                           | 13 mm Hex Nut                                    |
| 3                           | M8 Threaded Rod                                  |
| 4                           | Micron rated Stainless Media                     |
| 5                           | Stainless Steel Support Disc with interior Holes |
| 6                           | Stainless Steel Support Disc with Exterior Holes |
| 7                           | Headpiece                                        |
| 8                           | Teflon O-ring                                    |
| 9                           | Headpeice Spacer                                 |
| 10                          | 75 KG compression spring                         |
| 11                          | 13 mm SS washer                                  |
| 12                          | 13 mm Locking nut with Nylon insert              |

# Filter Seals

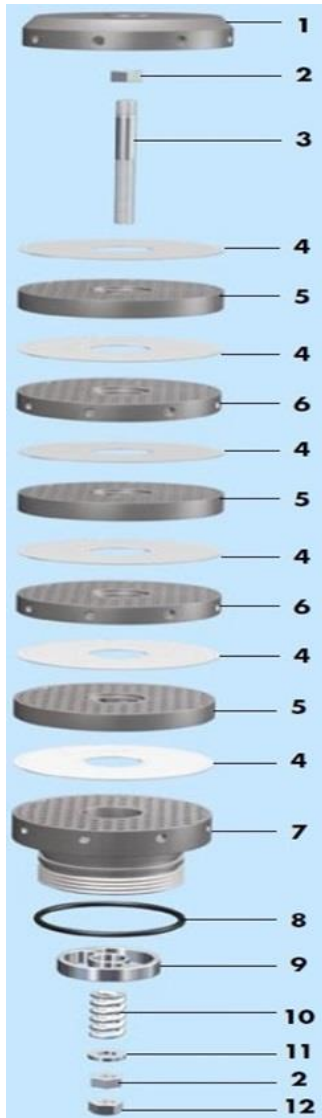


# Spare Parts Kit

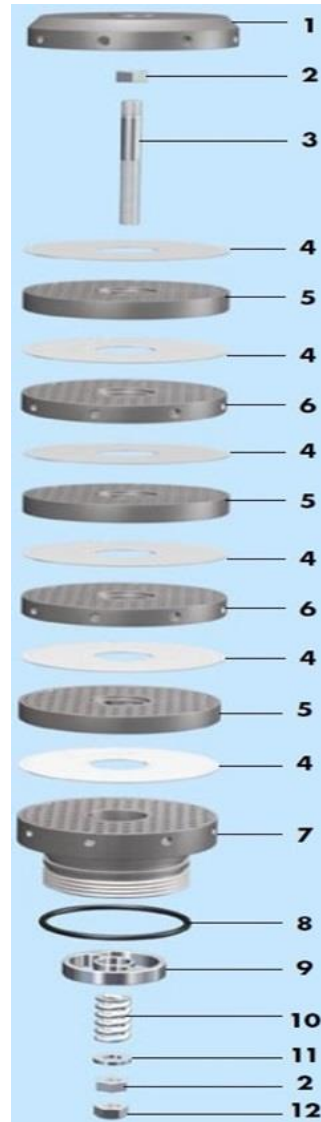
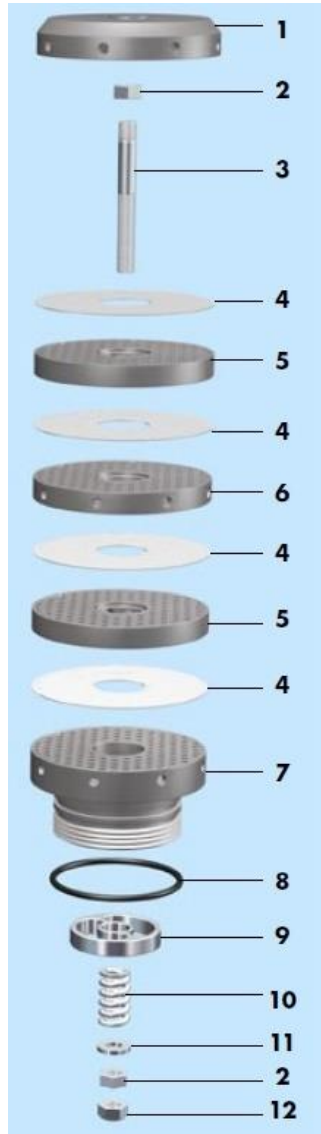
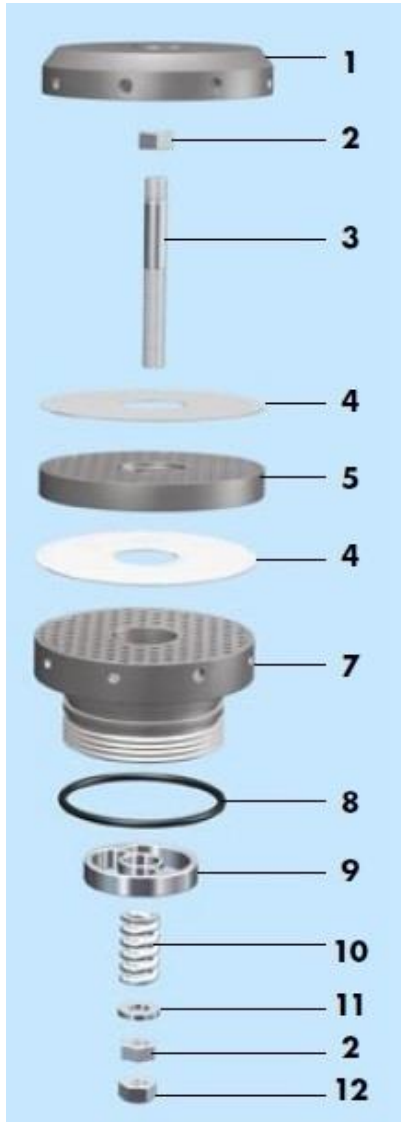
## SPK-140 Details

| Diagram # | Item Number        | Description                         | Quantity |
|-----------|--------------------|-------------------------------------|----------|
| 2         | Nut,13 mm          | 13 mm Hex Nut                       | 4        |
| 8         | Oring-3EPDM        | 3" EPDM Black O-ring                | 2        |
| 10        | Compression Spring | 75 KG compression spring            | 2        |
| 11        | Washer, 13 mm      | 13 mm SS washer                     | 4        |
| 12        | Nut, Lock 13 mm    | 13 mm Locking nut with Nylon insert | 4        |
| C         | GKT                | DIN 11851 Housing Gaskets           | 2        |

# Sterile Air/Gas Filter Design



# Modular Growth Capability



- Filter Capacity Growth can be achieved by added more support discs and filter media to your element.
- Multiple sizes fit into the same housing, so growth can be achieved without buying a new housing.

# Sterile Air/Gas Filter Design

## Unit Compression



- Unit is compressed and held together with compression spring.
- Element Stack is held secure by Threaded Rod and Nuts on both ends

# Sterile Air/Gas Filtration Media

- PTFE Membrane
- Absolute rated media
- Multiple micron level options to ensure sterile environment.
- Low PSID
- Media retains high quality and specs after every sterilization



# Sterile Air/Gas Filtration Media

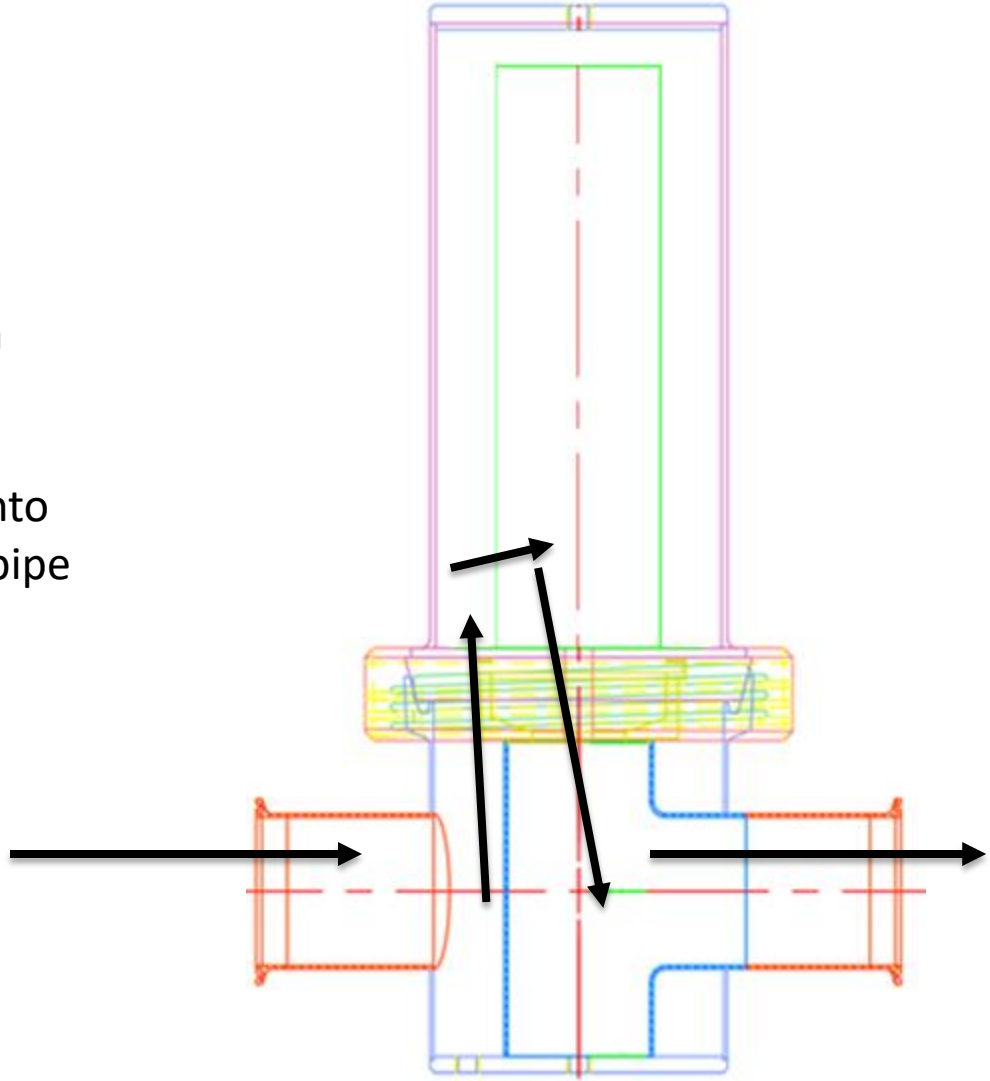
- Multiple sterilization methods possible
  - Air reverse flow
  - Autoclave
- No deterioration or higher PSID after sterilizations
- 150 cleanings possible prior to replacement
- Simple Visual inspection of media integrity
- Quick and simple media replacement process



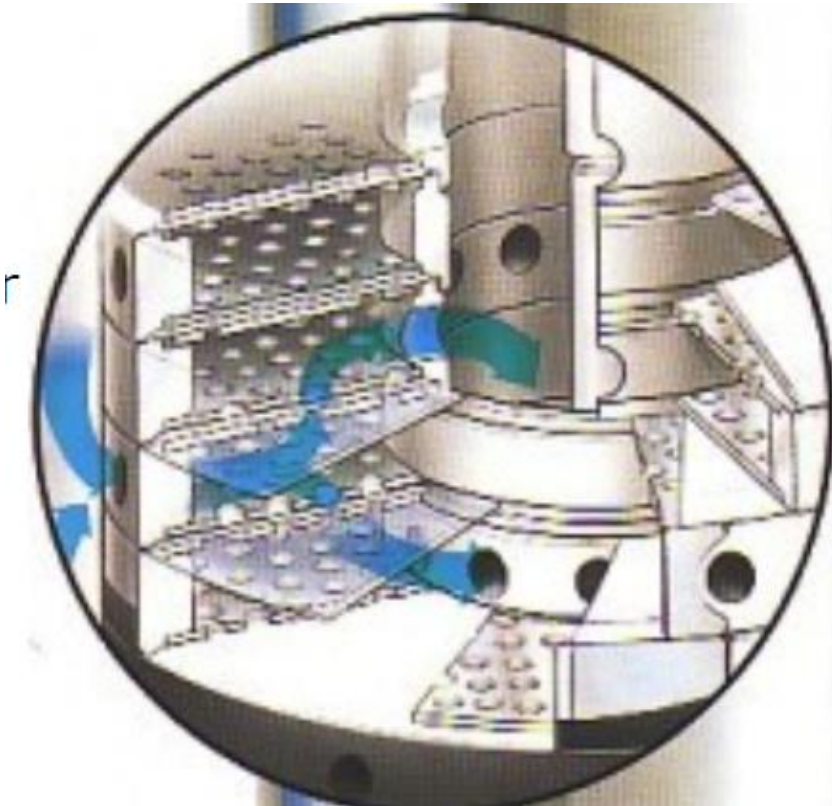
# Flow through Filter Housing

## Air flow through Filter Housing

- Air enters through inlet pipe
- Air goes into housing chamber
- Air goes through element from outside
- Air goes through filter media into clean side and through outlet pipe

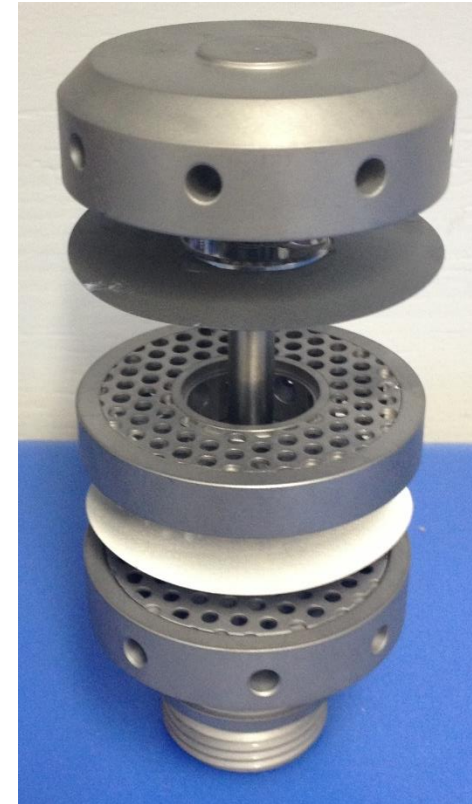


# Flow through filter



## **Air flow can be bidirectional**

- Air enters element through holes in disc
- Air goes up or down through filtration surface
- Air exits adjacent disc through opposite sided holes



2 Layer element with media

# Maintenance Information



# Disassembly Instructions



1. Loosen and Remove Housing nut
2. Remove Housing Top
3. Turn Element and pull out
4. Loosen and Remove nuts and compression spring
5. Remove Stainless steel support discs and media

# Routine Check Points



1. All Seal Points
2. Nuts and Washers
3. Compression Springs
4. Rod
5. Media Pieces

# Assembly Instructions



1. Insert rod and secure nut to endplate
2. Place filter media piece on endplate
3. Place disc with interior holes on media
4. Place filter media piece on disc
5. Place Disc with exterior holes on media
6. Repeat process (2-5) until desired number of layers is built.
7. Once last filter media piece is in place, install head plate, compression springs and nuts.



# Assembly Check Points

1. Compression Spring
2. Order of Support Discs
3. Check each Layer for media

## Assembly Continued

1. Insert Element into filter adapter
2. Turn element so locking tabs match with locks on filter adapter
3. Put on housing top
4. Secure nut to create housing seal

# Assembly Continued



1. Insert Element into filter adapter
2. Turn element so locking tabs match with locks on filter adapter
3. Put on housing top
4. Secure nut to create housing seal

# Lubrication Points



1. Any O-ring Seal
2. Threaded Rod
3. Threads on Housing Closure Nut



**Contact Info:**

Trey Senney  
Micropure Filtration INC.  
837 E. 79th St  
Cleveland Ohio 44103  
952-472-2323(Phone)  
216-849-9303(Cell)  
216-361-0500(Fax)  
[www.micropure.com](http://www.micropure.com)  
[tsenney@micropure.com](mailto:tsenney@micropure.com)

**Product Line:**

Sterile Air Filters  
Sterile Gas Filters  
Air Filters  
Culinary/Clean Air Filters  
Tank Vent Filters  
CO2 Filtration Systems