Global Filtration Technology
Spin-On Filters
12A T/50A T Series

Applications for Spin-On Filters

- Mobile Equipment
- Hydrostatic Drives
- Industrial Power Units
- Reservoir Breathers

Often, economic conditions dictate what type of filter is used on a piece of equipment. When costs are tight, you need a filter that is inexpensive, yet uncompromising in performance and quality. Parker’s spin-on filters fit that need. They are built to fit demanding design parameters in today's mobile and industrial equipment. No compromising.

Mounting
- 6 hole pattern for flexibility

Indicator Gauge
- Shows at a glance when the canister needs changing

Ports
- Both NPT and SAE straight thread available

Disposable Canister
- No mess, oil is contained inside
- Easy to handle
- Single and double lengths for longer life

Interchangeability
- Parker canisters fit many competitors’ heads. Contact Hydraulic Filter Division for part numbers

TYPICAL LOCATIONS

RETURN

SUCTION

OFFLINE

BREATHER
## Typical Element Performance: 12AT

<table>
<thead>
<tr>
<th>Media Code</th>
<th>Filter Media</th>
<th>Beta Ratios</th>
<th>Particle Size / Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>25C</td>
<td>Cellulose</td>
<td>B&lt;sub&gt;25&lt;/sub&gt;=2</td>
<td>25 / 50%</td>
</tr>
<tr>
<td>10C</td>
<td>Cellulose</td>
<td>B&lt;sub&gt;10&lt;/sub&gt;=2</td>
<td>10 / 50%</td>
</tr>
<tr>
<td>03C</td>
<td>Cellulose</td>
<td>B&lt;sub&gt;3&lt;/sub&gt;=2</td>
<td>3 / 50%</td>
</tr>
<tr>
<td>20B</td>
<td>Microglass</td>
<td>B&lt;sub&gt;20&lt;/sub&gt;=75</td>
<td>20 / 98.7%</td>
</tr>
<tr>
<td>10B</td>
<td>Microglass</td>
<td>B&lt;sub&gt;10&lt;/sub&gt;=75</td>
<td>10 / 98.7%</td>
</tr>
</tbody>
</table>

Actual results are dependent on system flow rates, fluid viscosities, and other parameters.

## Typical Element Performance: 50AT

<table>
<thead>
<tr>
<th>Media Code</th>
<th>Filter Media</th>
<th>Beta Ratios</th>
<th>Particle Size / Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>25C</td>
<td>Cellulose</td>
<td>B&lt;sub&gt;25&lt;/sub&gt;=2</td>
<td>25 / 50%</td>
</tr>
<tr>
<td>10C</td>
<td>Cellulose</td>
<td>B&lt;sub&gt;10&lt;/sub&gt;=2</td>
<td>10 / 50%</td>
</tr>
<tr>
<td>03C</td>
<td>Cellulose</td>
<td>B&lt;sub&gt;3&lt;/sub&gt;=2</td>
<td>3 / 50%</td>
</tr>
<tr>
<td>20B</td>
<td>Microglass</td>
<td>B&lt;sub&gt;20&lt;/sub&gt;=75</td>
<td>20 / 98.7%</td>
</tr>
<tr>
<td>10B</td>
<td>Microglass</td>
<td>B&lt;sub&gt;10&lt;/sub&gt;=75</td>
<td>10 / 98.7%</td>
</tr>
</tbody>
</table>

Actual results are dependent on system flow rates, fluid viscosities, and other parameters.

### Beta Rating

- B<sub>25</sub> = 2 ........................................................................ 50.0%
- B<sub>10</sub> = 2 .................................................................... 95.0%
- B<sub>3</sub> = 2 ....................................................................... 98.7%
- B<sub>20</sub> = 75 ................................................................. 99.5%
- B<sub>1000</sub> ................................................................. 99.99%

### Efficiency at (X) Particle Size

- 25 / 50%
- 10 / 50%
- 3 / 50%
- 20 / 98.7%
- 10 / 98.7%
- 10 / 98.7%
- 3 / 98.7%

Actual results are dependent on system flow rates, fluid viscosities, and other parameters.
Spin-On Filters
12AT/50AT Series

Installation and Specification Data
Model 12AT

Pressure Ratings:
Maximum Allowable Operating Pressure (MAOP): 150 psi (10.3 bar)

Design Safety Factor: 2.5:1

Operating Temperatures:
-40°F to 225°F (-40°C to 107°C)

Element Collapse Rating:
100 psid minimum

Element Condition Indicators:
- Gauge: Color coded 15/25 psi
- Pressure Switch: Normally open
  20 ±/− 2 psi
  5 Amps @ 24 VDC
- Vacuum Switch: Normally open
  5" ±/− 1" Hg
  1.0 Amp @ 120 VAC

Filter Material:
- Head: Aluminum
- Canister: Low Carbon Steel

Shipping Weights (approximate):
1.6 lbs.

Optional Gauge Port Locations:
- RI - Right side of inlet
- LI - Left side of inlet
- RO - Right side of outlet
- LO - Left side of outlet

Linear Measure: millimeter
inch

PORTS (BOTH ENDS)
¾"-14 NPTF
OR
¾" SAE - 12

OPTIONAL 1/8 - 27 NPT GAUGE PORT (RIGHT SIDE INLET SHOWN, PLUGGED)
Installation and Specification Data
Model 50AT

Pressure Ratings:
Maximum Allowable Operating Pressure (MAOP): 150 psi (10.3 bar)

Design Safety Factor: 2.5:1

Operating Temperatures:
-40°F to 225°F (-40°C to 107°C)

Element Collapse Rating:
100 psid minimum

Element Condition Indicators:
- Gauge: Color coded 15/25 psi
- Pressure Switch: Normally open
  20 +/- 2 psi
  5 Amps @ 24 VDC
- Vacuum Switch: Normally open
  5" +/- 1" Hg
  1.0 Amp @ 120 VAC

Filter Material:
- Head: Aluminum
- Canister: Low Carbon Steel

Shipping Weights (approximate):
- Single length: 3.7 lbs.
- Double length: 5.3 lbs.

Optional Gauge Port Locations:
- RI - Right side of inlet
- LI - Left side of inlet
- RO - Right side of outlet
- LO - Left side of outlet

Ports: (both ends)
- 1/4”-11 NPTF
- 1 1/4” SAE-20

Linear Measure: millimeter
inch
Spin-On Filters
12AT/50AT Series

Reservoir Breather Assemblies 12AT and 50AT

Sizing
Select the proper size canister for the maximum rate of reservoir draw down or air exchange rate. As a rule of thumb, clean pressure drop should be limited to 0.18 psid (5” H₂O).

A pipe flange, weld collar, etc. may be used to connect the canister adaptor kit to the reservoir. Make sure that air is not able to leak around the adaptor. When mounting on the side of the reservoir, make sure the installation is above the surface of the fluid.

Recommended canister change out is after 500 hours of operation. More frequent replacement may be required when operated in heavily contaminated areas such as grinding operations, primary metal mills, and on mobile equipment. Under such conditions, increase replacement frequency to every 250 hours.

<table>
<thead>
<tr>
<th>Model</th>
<th>Air Rating*</th>
<th>Element</th>
<th>Adaptor Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12AT-03C</td>
<td>1 micron</td>
<td>926543</td>
<td>926876</td>
</tr>
<tr>
<td>12AT-10C</td>
<td>2 micron</td>
<td>921999</td>
<td>926876</td>
</tr>
<tr>
<td>12AT-25C</td>
<td>5 micron</td>
<td>925023</td>
<td>926876</td>
</tr>
<tr>
<td>50AT-03C</td>
<td>1 micron</td>
<td>926541</td>
<td>926875</td>
</tr>
<tr>
<td>50AT-10C</td>
<td>2 micron</td>
<td>926169</td>
<td>926875</td>
</tr>
<tr>
<td>50AT-25C</td>
<td>5 micron</td>
<td>926170</td>
<td>926875</td>
</tr>
</tbody>
</table>

* 99% Removal efficiency for particles larger than the stated size in air.

Graphs are for 03C canisters only. Total pressure drop across canister, adaptor, and pipe may be found by adding pressure drops below:

- 1.5% for each inch of 12AT adaptor or 3/4” pipe used.
- 3.0% for each 3/4” elbow used.
- 1.0% for each inch of 50AT adaptor or 1-1/4” pipe used.
- 2.0% for each 1-1/4” elbow used.

TYPICAL INSTALLATIONS MOUNTED ON TOP OR SIDE OF RESERVOIR

ALLOW 1.25” FOR CANISTER REMOVAL CLEARANCE

12AT

50AT

Parker Hannifin Corporation
Hydraulic Filter Division
Metamora, OH
Filter Service

Filter canisters need to be replaced when the pressure gauge reads the filter bypass setting. For example, if a 12AT filter has a 25 psi bypass valve, it needs to be replaced when the pressure gauge reads 25 psi. If no indicator of any kind is used, replace the canister after the first 50 hours of operation, and every 250 hours thereafter. More frequent replacement could be required depending on operating conditions.

When servicing a 12AT or 50AT filter, use the following procedure:

A. Shut down the main system and release pressure in the filter line.
B. Unthread the canister and discard it along with the accompanying seal. A strap wrench may be required.
C. Apply a small amount of lubricant to the new canister seal.
D. Install the new canister and hand tighten.

Accessory Parts List

<table>
<thead>
<tr>
<th>Description</th>
<th>12AT</th>
<th>50AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge - 15 psi</td>
<td>934238</td>
<td>934238</td>
</tr>
<tr>
<td>Gauge - 25 psi</td>
<td>934237</td>
<td>934237</td>
</tr>
<tr>
<td>Pressure switch-25 psi</td>
<td>926923</td>
<td>926923</td>
</tr>
<tr>
<td>Vacuum switch</td>
<td>926949</td>
<td>926949</td>
</tr>
<tr>
<td>Breather adaptor kit</td>
<td>926876</td>
<td>926875</td>
</tr>
<tr>
<td>Vacuum gauge</td>
<td>934239</td>
<td>934239</td>
</tr>
</tbody>
</table>

Replacement Canisters

<table>
<thead>
<tr>
<th>Media</th>
<th>12AT</th>
<th>50AT</th>
<th>50AT-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>25C</td>
<td>925023</td>
<td>926170</td>
<td>N/A</td>
</tr>
<tr>
<td>10C</td>
<td>921999</td>
<td>926169</td>
<td>927736</td>
</tr>
<tr>
<td>03C</td>
<td>926543</td>
<td>926541</td>
<td>N/A</td>
</tr>
<tr>
<td>20B</td>
<td>928764</td>
<td>928767</td>
<td>929446</td>
</tr>
<tr>
<td>10B</td>
<td>928763</td>
<td>928766</td>
<td>929445</td>
</tr>
<tr>
<td>03B</td>
<td>N/A</td>
<td>934200</td>
<td>932073</td>
</tr>
</tbody>
</table>

Indicator Gauge (15 PSI)

Indicator Gauge (25 PSI)

VACUUM SWITCH

PRESSURE SWITCH
Spin-On Filters
12AT/50AT Series

How To Order
Select the desired symbol (in the correct position) to construct a model code.

Example:

<table>
<thead>
<tr>
<th>BOX 1</th>
<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
<th>BOX 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>50AT</td>
<td>2</td>
<td>10C</td>
<td>N</td>
<td>25</td>
<td>DD</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

**BOX 1: Seals**
Symbol | Description
--- | ---
None | Buna

**BOX 2: Basic Assembly**
Symbol | Description
--- | ---
12AT | Spin-on (¾” nom.)
50AT | Spin-on (1¼” nom.)

**BOX 3: Length**
Symbol | Description
--- | ---
None | Single length canister (50 AT only)
2 | Double length canister (50 AT only)

**BOX 4: Canister Media**
Symbol | Description
--- | ---
25C* | Cellulose
10C | Cellulose
03C* | Cellulose
20B | Microglass
10B | Microglass
03B | Microglass

* Not available in 50AT-2

**BOX 5: Indicator**
Symbol | Description
--- | ---
N | None

**BOX 6: Bypass Setting**
Symbol | Description
--- | ---
25 | 25 psid
15 | 15 psid
3 | 3 psid
X | No bypass

**BOX 7: Ports**
Symbol | Description
--- | ---
12AT | 3/4” NPTF
BB | 3/4” NPTF
MM | SAE-12
50AT | 1-1/4” NPTF
DD | SAE-20
OO | SAE-20

**BOX 8: Gauge Port Location**
Symbol | Description
--- | ---
N | None
LI | Left side, inlet (standard)
LO | Left side, outlet (100 piece minimum)
RI | Right side, inlet (100 piece minimum)
RO | Right side, outlet (100 piece minimum)

**NOTE:** Gauges must be ordered separately.

*Please note the bolded options reflect standard options with a reduced lead-time. Consult factory on all other lead-time options.*