

# Arrow sintered bronze



**PNEUMATIC EXHAUST MUFFLERS**



**BREATHER VENTS**



**SPEED CONTROL MUFFLERS**



**IN-LINE FILTERS**



**IN-LINE TOOL FILTER**

## **Fluid Power Accessories**

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## BREATHER VENTS

These breather vents have many applications, including vacuum relief or pressure equalization on gear boxes, oil tanks or reservoirs. Common uses can be found on single acting cylinders or valves to prevent dirt and foreign particles from entering ports open to the atmosphere.

Units have a nickel plated steel insert. All have standard pipe thread fittings for quick assembly and removal for cleaning. The filter element within the standard breather vent is rated for 40 micron filtration and can also be obtained for 20 or 90 micron filtration on special order.

See performance charts for flow characteristics.

Maximum operating pressure: 150 PSI  
Operating temperatures: 35°F to 300°F



| part no.<br>NPT | part no.<br>BSP | thread<br>size | overall<br>length | dia.     | weight<br>lbs. |
|-----------------|-----------------|----------------|-------------------|----------|----------------|
| ASP-1BV         | ASP-1BVBS       | 1/8"           | 7/16"             | 7/16"    | .01            |
| ASP-2BV         | ASP-2BVBS       | 1/4"           | 5/8"              | 9/16"    | .02            |
| ASP-3BV         | ASP-3BVBS       | 3/8"           | 3/4"              | 11/16"   | .04            |
| ASP-4BV         | ASP-4BVBS       | 1/2"           | 7/8"              | 7/8"     | .06            |
| ASP-6BV         | ---             | 3/4"           | 1"                | 1 1/16"  | .10            |
| ASP-8BV         | ---             | 1"             | 1 5/16"           | 1 5/16"  | .23            |
| ASP-10BV        | ---             | 1 1/4"         | 1 13/32"          | 1 11/16" | .41            |
| ASP-12BV        | ---             | 1 1/2"         | 1 1/2"            | 2"       | .56            |

## PNEUMATIC EXHAUST MUFFLERS

Quiet Flow muffler/filters utilize porous sintered bronze directly bonded to nickel plated steel pipe thread fillings to diffuse air and muffle noise from the exhaust ports or valves, cylinders and air tools. These units offer a combination of small size with the greatest possible sound deadening qualities to reduce exhaust noise to acceptable levels within OSHA noise requirements.

In addition, these units are used as filters for gasoline, oil and air. Standard unit contains a 40 micron element, and 20 or 90 micron units are available on special order. Model ASP-420 is a female thread (1/2" - 20) muffler for use on exhaust ports of most solenoid valves. It can be used with "exhaust to atmosphere" valves, including Skinner, Peter Paul, Allied, KIP, Pre Dyne or any muffler using 1/2" - 20 threads on the sleeve.

See performance chart for flow information and sound characteristics.

Maximum operating pressure: 300 PSI  
Operating temperatures: 35°F to 300°F

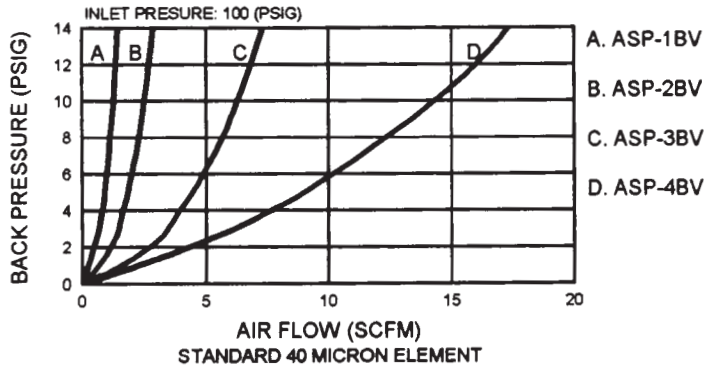


| part no.<br>NPT | part no.<br>BSP | thread<br>size | overall<br>length | dia.     | weight<br>lbs. |
|-----------------|-----------------|----------------|-------------------|----------|----------------|
| ASP-M*          | ---             | 10"-32         | 45/64"            | 5/16"    | .01            |
| ASP-1           | ASP-1BS         | 1/8"           | 1 1/8"            | 7/16"    | .02            |
| ASP-2           | ASP-2BS         | 1/4"           | 1 3/8"            | 9/16"    | .04            |
| ASP-3           | ASP-3BS         | 3/8"           | 1 1/2"            | 11/16"   | .06            |
| ASP-4           | ASP-4BS         | 1/2"           | 1 7/8"            | 7/8"     | .10            |
| ASP-6           | consult factory | 3/4"           | 2 1/4"            | 1 1/16"  | .18            |
| ASP-8           | consult factory | 1"             | 2 7/8"            | 1 5/16"  | .34            |
| ASP-10          | consult factory | 1 1/4"         | 3 1/4"            | 1 11/16" | .62            |
| ASP-12          | consult factory | 1 1/2"         | 3 11/16"          | 2"       | .88            |
| ASP-420**       | ---             | 1/2"-20<br>FEM | 1 3/16"           | 5/8"     | .04            |

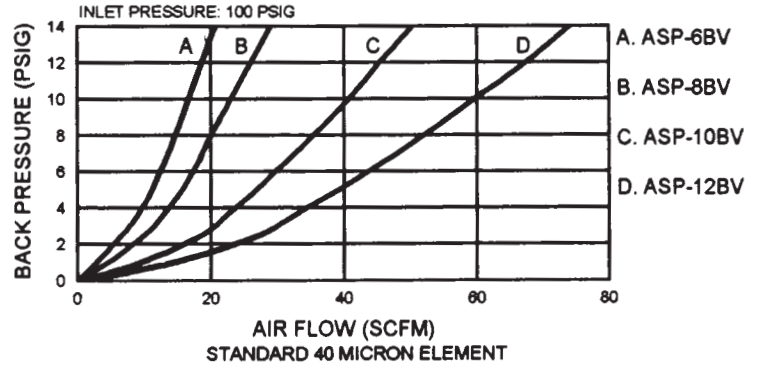
\* Furnished with gasket.  
\*\* Female threads -- fits most solenoid valve exhaust ports.

## FLOW CHARACTERISTICS -- BREATHER VENTS

ASP-1BV, ASP-2BV, ASP-3BV & ASP-4BV  
BACK PRESSURE VS. AIR FLOW

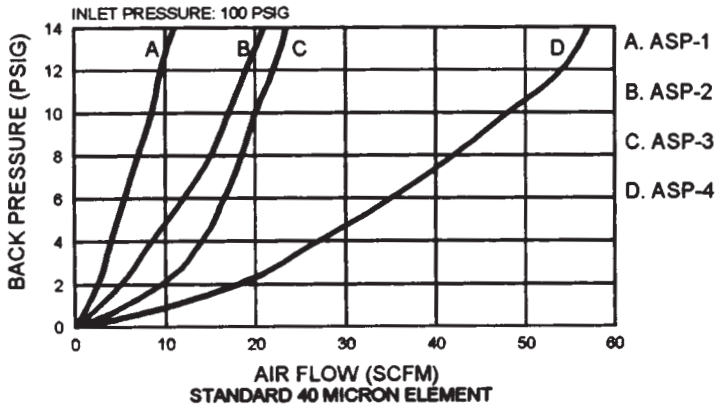


ASP-6BV, ASP-8BV, ASP-10BV & ASP-12BV  
BACK PRESSURE VS. AIR FLOW

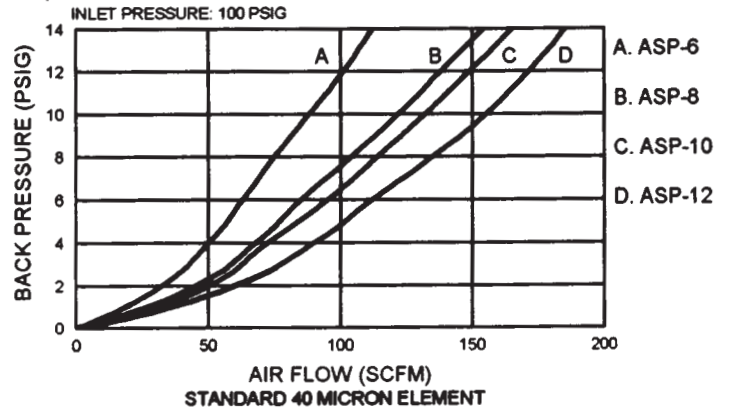


## FLOW CHARACTERISTICS -- PNEUMATIC EXHAUST MUFFLERS

ASP-1, ASP-2, ASP-3 & ASP-4  
BACK PRESSURE VS. AIR FLOW



ASP-6, ASP-8, ASP-10 & ASP-12  
BACK PRESSURE VS. AIR FLOW



## SOUND CHARACTERISTICS -- PNEUMATIC EXHAUST MUFFLERS

| back pressure (PSIG) | ASP-1: 1/8" |    | ASP-2: 1/4" |    | ASP-3: 3/8" |    | ASP-4: 1/2" |     | ASP-6: 3/4" |     | ASP-8: 1"   |     | ASP-10: 1 1/4" |     | ASP-12: 1 1/2" |     |
|----------------------|-------------|----|-------------|----|-------------|----|-------------|-----|-------------|-----|-------------|-----|----------------|-----|----------------|-----|
|                      | flow (SCFM) | dB | flow (SCFM) | dB | flow (SCFM) | dB | flow (SCFM) | dB  | flow (SCFM) | dB  | flow (SCFM) | dB  | flow (SCFM)    | dB  | flow (SCFM)    | dB  |
| 1                    |             |    |             |    |             |    |             |     |             |     |             |     |                |     |                |     |
| 2                    | 4           | 72 | 5           | 75 | 9.5         | 81 | 17          | 92  | 32          | 99  | 45          | 109 | 38             | 102 | 52             | 111 |
| 3                    |             |    |             |    |             |    |             |     |             |     |             |     | 54             | 103 | 82             | 112 |
| 4                    | 5           | 72 | 8           | 75 | 14          | 83 | 28          | 94  | 50          | 101 | 68          | 107 | 70             | 107 | 108            | 111 |
| 5                    |             |    |             |    |             |    |             |     |             |     |             |     |                |     |                |     |
| 6                    | 6           | 73 | 12          | 76 | 16.5        | 83 | 35          | 98  | 63          | 101 | 84          | 106 | 85             | 106 | 126            | 110 |
| 7                    |             |    |             |    |             |    |             |     |             |     |             |     |                |     |                |     |
| 8                    | 7           | 73 | 15          | 82 | 18.5        | 83 | 42          | 99  | 75          | 102 | 104         | 106 | 110            | 105 | 150            | 109 |
| 9                    |             |    |             |    |             |    |             |     |             |     |             |     |                |     |                |     |
| 10                   | 7           | 76 | 16          | 83 | 20          | 84 | 48          | 100 | 88          | 102 | 122         | 106 | 131            | 105 | 162            | 109 |
| 11                   |             |    |             |    |             |    |             |     |             |     |             |     |                |     |                |     |
| 12                   | 9           | 78 | 19          | 84 | 22          | 84 | 53          | 101 | 101         | 102 | 138         | 106 | 154            | 105 | ---            | --- |
| 13                   |             |    |             |    |             |    |             |     |             |     |             |     |                |     |                |     |
| 14                   | 11          | 80 | 21          | 84 | 23.5        | 85 | 57          | 101 | 112         | 103 | 154         | 106 |                |     |                |     |

Inlet pressure 100 psi.

## SUPER QUIET FLOW ECONOMY PNEUMATIC SILENCERS / MUFFLERS

A new concept in muffler design incorporates a 50 mesh, self-cleaning, stainless steel screen in a strong, protective glass-filled nylon housing which is ultrasonically welded for maximum strength.

This unit offers greater flow with less pressure drop than the ASP Series, while reducing noise levels. See performance charts for flow information and sound characteristics.

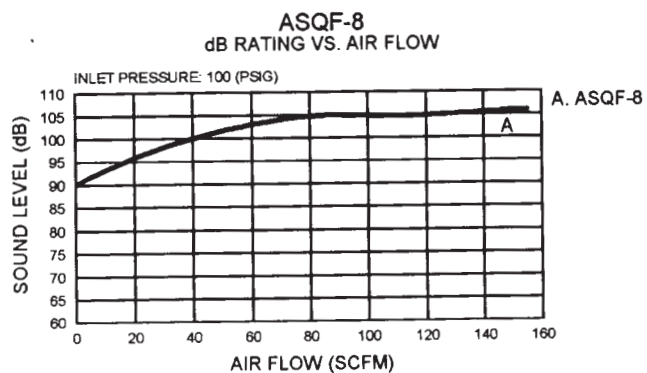
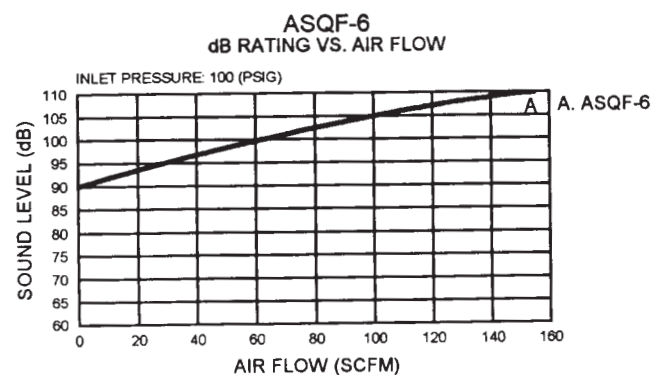
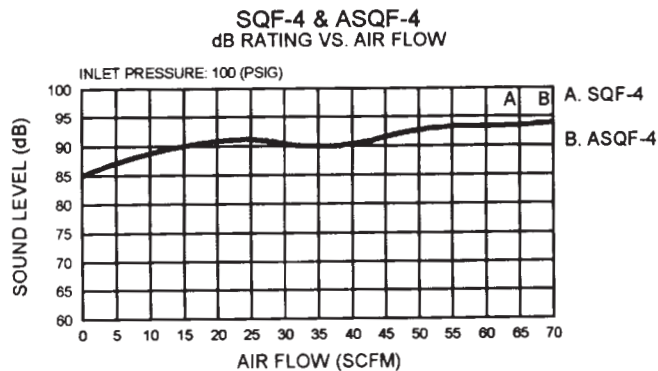
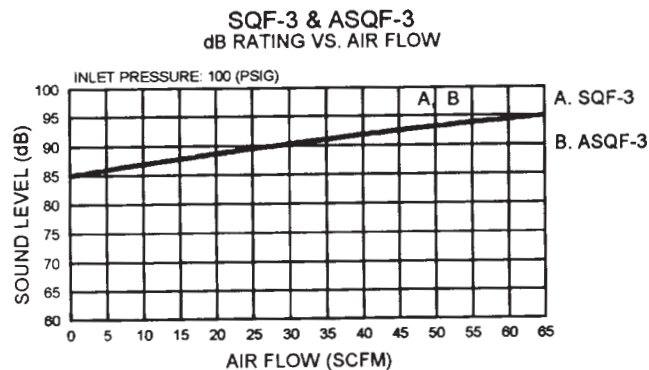
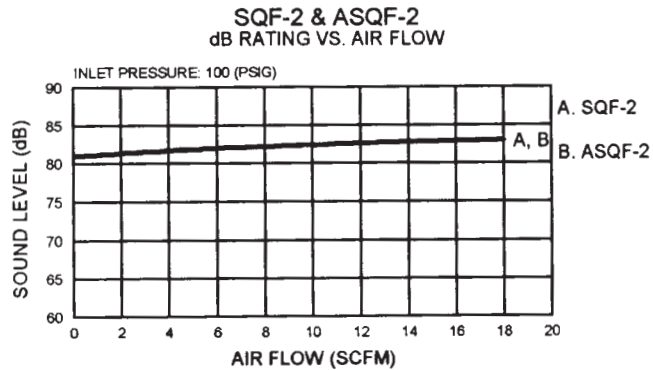
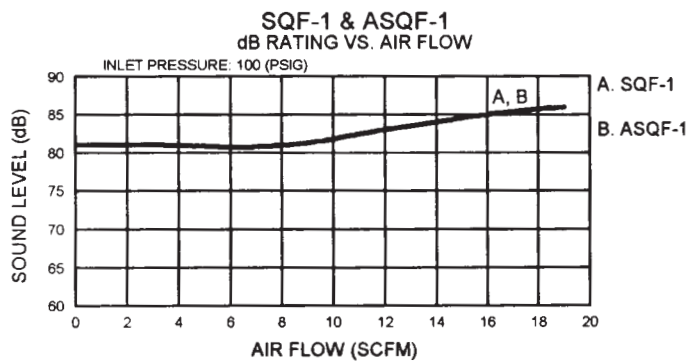
Maximum operating pressure: 150 PSI

Operating temperatures: 35°F to 120°F



| part no. | NPT  | overall length | diameter | weight lbs. |
|----------|------|----------------|----------|-------------|
| SQF-1    | 1/8" | 2 7/64"        | 13/16"   | .02         |
| SQF-2    | 1/4" | 2 15/64"       | 13/16"   | .03         |
| SQF-3    | 3/8" | 3 27/64"       | 1 1/4"   | .09         |
| SQF-4    | 1/2" | 3 35/64"       | 1 1/4"   | .09         |

## SOUND CHARACTERISTICS -- PNEUMATIC SILENCERS / MUFFLERS





**SUPER QUIET FLOW  
HEAVY-DUTY METAL PNEUMATIC SILENCERS / MUFFLERS**

Units 1/8" through 1" feature a 50 mesh, self-cleaning, stainless steel screen, corrosion-resistant aluminum shell, high flow and minimal back pressure.

When installed on the exhaust ports of pneumatic valves, metal pneumatic silencers are a quick and inexpensive way to help reduce work area noise. At the same time, they protect the inside of pneumatic valves from contamination which can enter through the exhaust ports.

See performance charts for flow information and sound characteristics.

SHELL CONSTRUCTION: Aluminum.

Maximum supply pressure: 300 PSI

Operating temperatures: 35°F to 160°F

CAUTION: Operation at temperatures approaching 32°F could result in freeze up due to air line moisture.

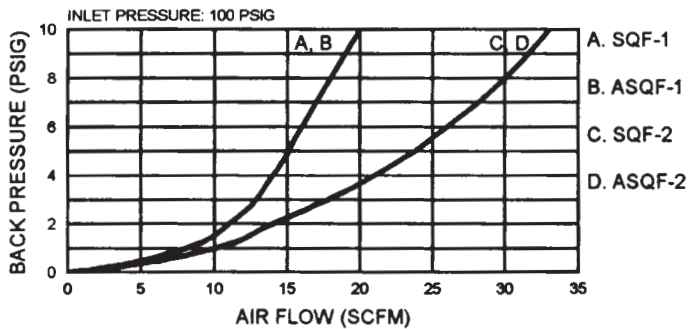
| part no. | NPT female | overall length | flats  | weight lbs. |
|----------|------------|----------------|--------|-------------|
| ASQF-1F  | 1/8"       | 1 7/8"         | 5/8"   | .05         |
| ASQF-2F  | 1/4"       | 1 7/8"         | 5/8"   | .06         |
| ASQF-3F  | 3/8"       | 3 1/4"         | 1"     | .23         |
| ASQF-4F  | 1/2"       | 3 1/4"         | 1"     | .38         |
| ASQF-6F  | 3/4"       | 4 5/8"         | 1 5/8" | .56         |
| ASQF-8F  | 1"         | 4 5/8"         | 1 5/8" | .58         |
| ASQF-10F | 1 1/4"     | 5 1/2"         | 2 1/2" | .75         |
| ASQF-12F | 1 1/2"     | 5 1/2"         | 2 1/2" | .81         |
| ASQF-16F | 2"         | 6 7/16"        | 3"     | 1.62        |

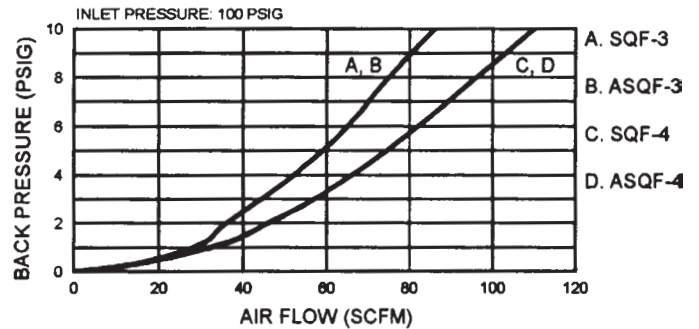
| part no. | NPT male | overall length | flats  | weight lbs. |
|----------|----------|----------------|--------|-------------|
| ASQF-1M  | 1/8"     | 1 7/8"         | 5/8"   | .06         |
| ASQF-2M  | 1/4"     | 1 7/8"         | 5/8"   | .06         |
| ASQF-3M  | 3/8"     | 3 1/4"         | 1"     | .21         |
| ASQF-4M  | 1/2"     | 3 1/4"         | 1"     | .23         |
| ASQF-6M  | 3/4"     | 4 5/8"         | 1 5/8" | .56         |
| ASQF-8M  | 1"       | 4 5/8"         | 1 5/8" | .58         |

**FLOW CHARACTERISTICS -- PNEUMATIC SILENCERS / MUFFLERS**

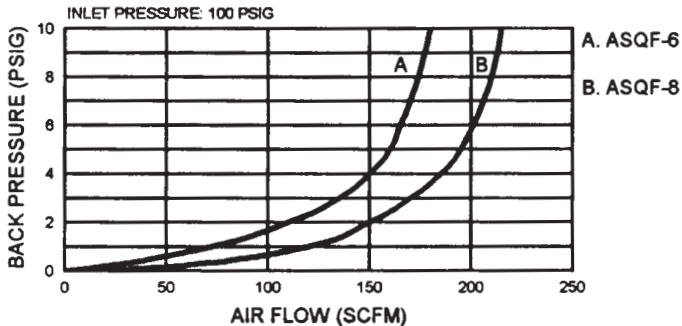
**SQF-1, SQF-2, ASQF-1 & ASQF-2  
BACK PRESSURE VS. AIR FLOW**



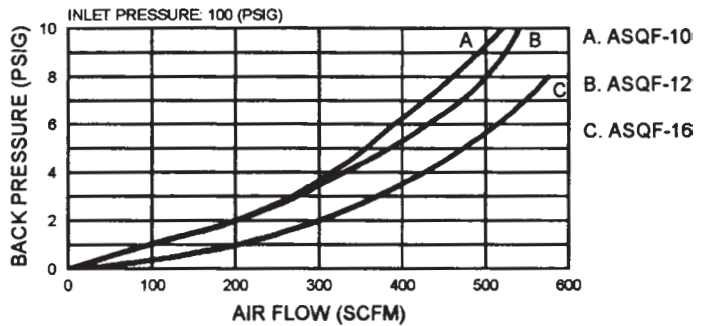
**SQF-3, SQF-4, ASQF-3, & ASQF-4  
BACK PRESSURE VS. AIR FLOW**



**ASQF-6 & ASQF-8  
BACK PRESSURE VS. AIR FLOW**



**ASQF-10, ASQF-12 & ASQF-16  
BACK PRESSURE VS. AIR FLOW**



## SUPER QUIET FLOW RECLASSIFIERS / MUFFLERS

The reclassifier / muffler is used to treat exhaust air in many in-plant and white room pneumatic operations. It can be installed as a completely new unit or its patented coalescing reclassifier element can be purchased separately for installation on existing ASQF mufflers.

### MEETS OSHA LIMITS SET TO REDUCE SOUND LEVELS AND EXHAUSTED OIL MIST.

Per OSHA 1910.95, a worker must not be exposed to sound levels above 90 dBA for any eight-hour work shift of a 40-hour work week. Per OSHA 29CFR 1910.10, a worker's cumulative exposure to oil mist must not exceed 4.32 particles per million (PPM) in any eight-hour work shift of a 40-hour work week. Based on an intake of 50 PPM at 100 PSIG, the reclassifier / muffler reduces the exhausted oil mist to .015 PPM. The reservoir has a drain plug that is also designed for use with continuous 1/4" drain tubing.

Maximum operating conditions: 160 SCFM, 300 PSIG

Maximum operating temperature: 160°F

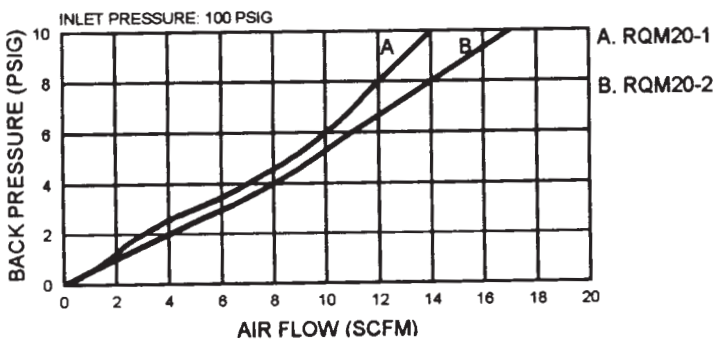


| RECLASSIFIER / MUFFLER |      |                |         |                    |             | RECLASSIFIER REPLACEMENT ELEMENT |                |         |             |
|------------------------|------|----------------|---------|--------------------|-------------|----------------------------------|----------------|---------|-------------|
| part no.*              | NPT  | overall length | width   | reservoir capacity | weight lbs. | part no.                         | overall length | width   | weight lbs. |
| RQM20-1M               | 1/8" | 3 1/8"         | 1 5/8"  | .5 oz.             | .075        | RQMK20                           | 2 3/4"         | 1 5/8"  | .04         |
| RQM20-1F               | 1/8" | 3 1/8"         | 1 5/8"  | .5 oz.             | .075        | RQMK20                           | 2 3/4"         | 1 5/8"  | .04         |
| RQM20-2M               | 1/4" | 3 1/8"         | 1 5/8"  | .5 oz.             | .075        | RQMK20                           | 2 3/4"         | 1 5/8"  | .04         |
| RQM20-2F               | 1/4" | 3 1/8"         | 1 5/8"  | .5 oz.             | .075        | RQMK20                           | 2 3/4"         | 1 5/8"  | .04         |
| RQM40-3M               | 3/8" | 4 3/4"         | 2 7/16" | 1.4 oz.            | .220        | RQMK40                           | 4 5/16"        | 2 7/16" | .10         |
| RQM40-3F               | 3/8" | 4 3/4"         | 2 7/16" | 1.4 oz.            | .220        | RQMK40                           | 4 5/16"        | 2 7/16" | .10         |
| RQM40-4M               | 1/2" | 4 3/4"         | 2 7/16" | 1.4 oz.            | .220        | RQMK40                           | 4 5/16"        | 2 7/16" | .10         |
| RQM40-4F               | 1/2" | 4 3/4"         | 2 7/16" | 1.4 oz.            | .220        | RQMK40                           | 4 5/16"        | 2 7/16" | .10         |
| RQM80-6M               | 3/4" | 6 1/4"         | 3 5/16" | 3.5 oz.            | .575        | RQMK80                           | 5 1/2"         | 3 5/16" | .21         |
| RQM80-6F               | 3/4" | 6 1/4"         | 3 5/16" | 3.5 oz.            | .575        | RQMK80                           | 5 1/2"         | 3 5/16" | .21         |
| RQM80-8F               | 1"   | 6 1/4"         | 3 5/16" | 3.5 oz.            | .575        | RQMK80                           | 5 1/2"         | 3 5/16" | .21         |

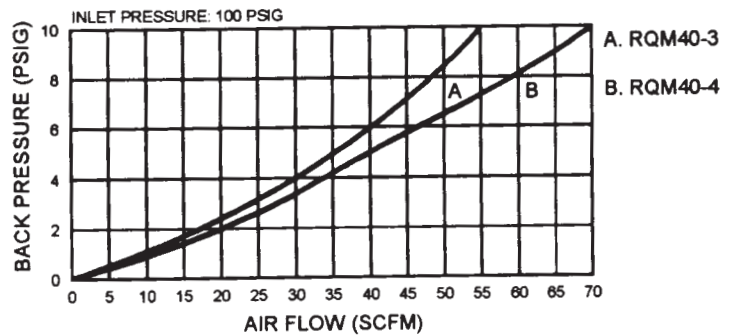
\* Suffix F designates female thread, M male thread.

## FLOW CHARACTERISTICS -- RECLASSIFIERS / MUFFLERS

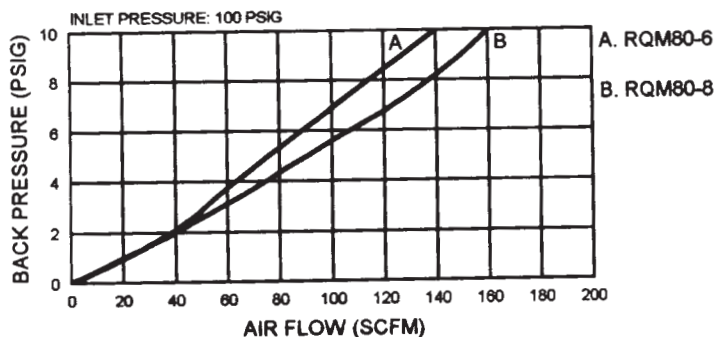
RQM20-1 & RQM20-2  
BACK PRESSURE VS. AIR FLOW



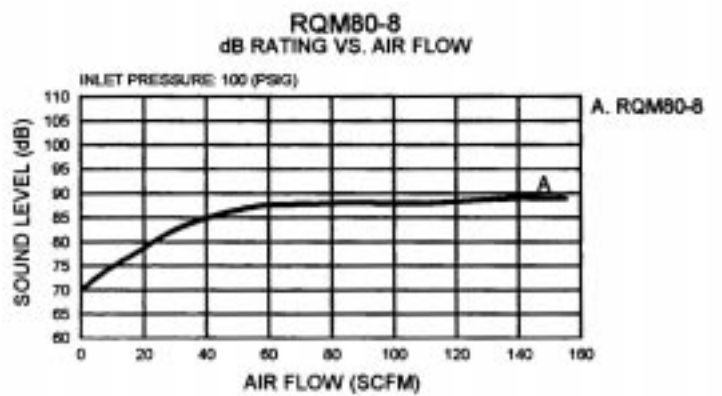
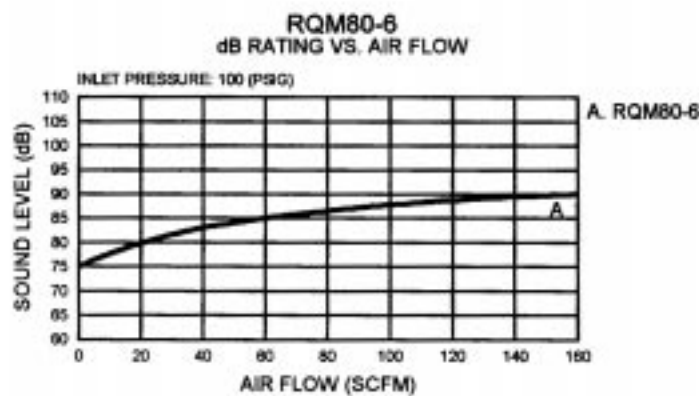
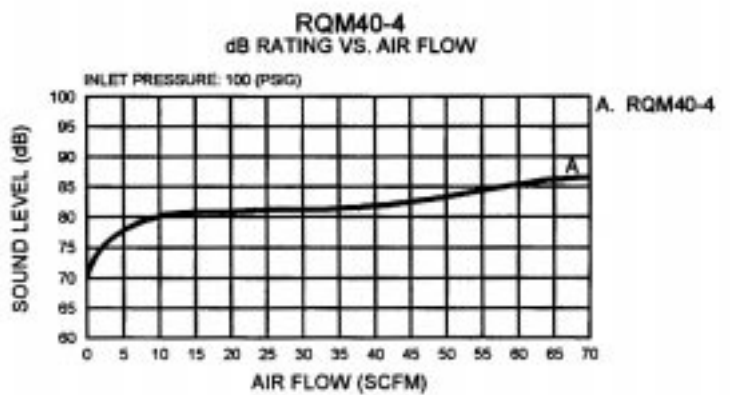
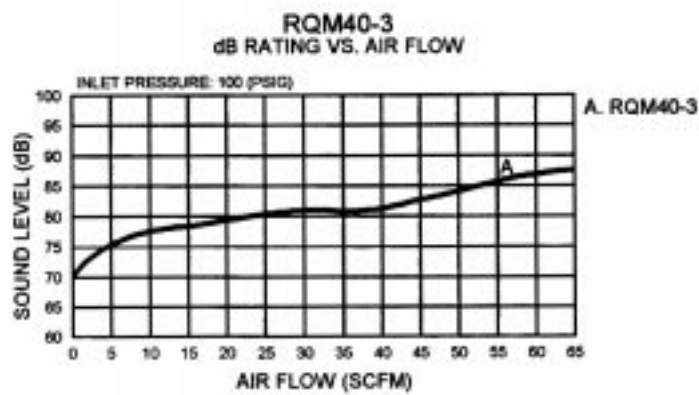
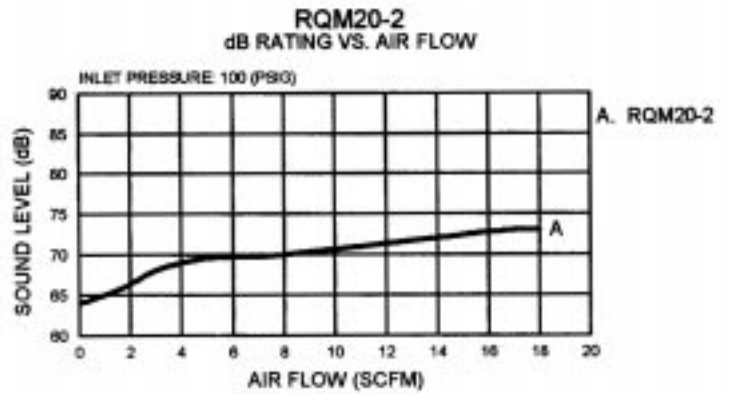
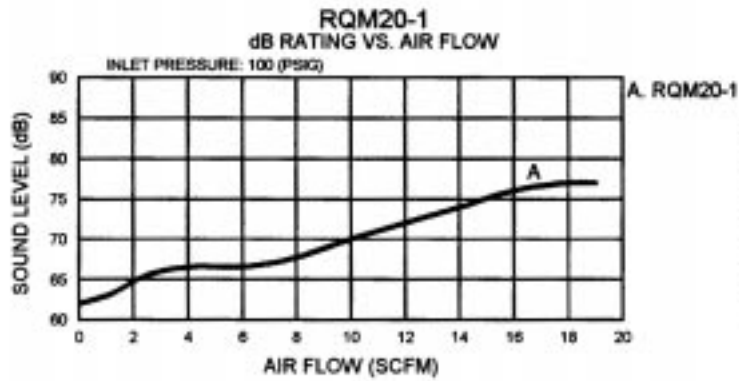
RQM40-3 & RQM40-4  
BACK PRESSURE VS. AIR FLOW



RQM80-6 & RQM80-8  
BACK PRESSURE VS. AIR FLOW



**SOUND CHARACTERISTICS -- RECLASSIFIERS / MUFFLERS**



## SPEED CONTROL MUFFLERS

Quiet Flow speed control mufflers provide an infinite variation of metering air flow at an acceptable sound level on exhaust ports of air valves with complete safety.

With linear adjusting ability, the speed of an operating cylinder or air tool may be increased or decreased with the adjusting screw. The final position is then locked in place by the lock nut. Objectionable exhaust air noise is eliminated by the surrounding sleeve of sintered bronze.

Complete safety in operation is featured in Quiet Flow speed control mufflers. The sintered bronze sleeve is held securely in position and protected by an integral shroud. Unit contains a 40 micron element.

High flow units offer more surface area for increased flow.

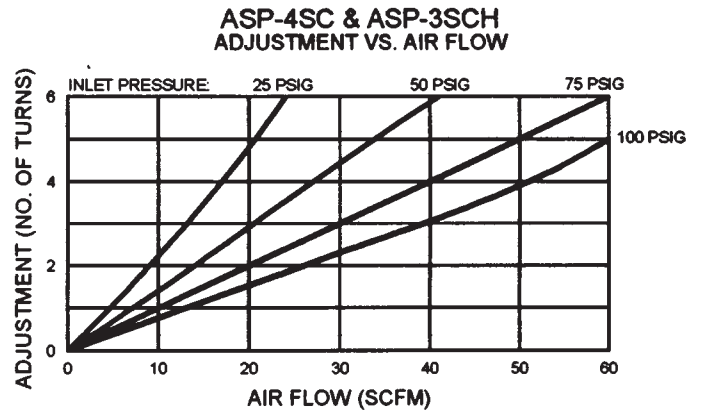
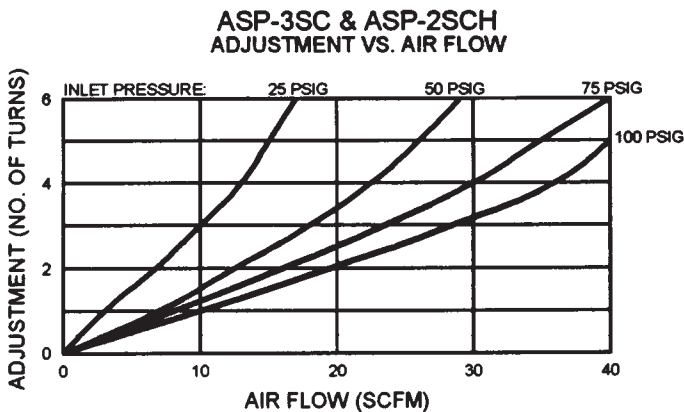
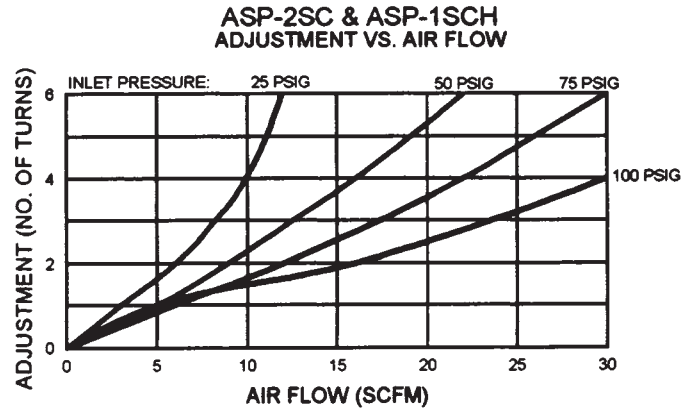
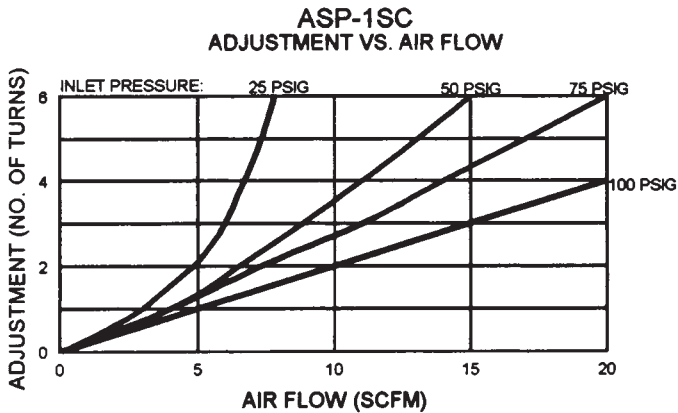
Maximum operating pressure: 300 PSI  
Operating temperatures: 35°F to 300°F



| part no.* | NPT  | max adj flow SCFM | approx height full oper | hex     | weight lbs |
|-----------|------|-------------------|-------------------------|---------|------------|
| ASP-1SC   | 1/8" | 20                | 1 5/16"                 | 1/2"    | .07        |
| ASP-2SC   | 1/4" | 30                | 1 9/16"                 | 9/16"   | .09        |
| ASP-3SC   | 3/8" | 40                | 1 5/8"                  | 11/16"  | .14        |
| ASP-4SC   | 1/2" | 60                | 2"                      | 7/8"    | .25        |
| ASP-6SC   | 3/4" | 70                | 2 3/8"                  | 1 1/16" | .42        |
| ASP-8SC   | 1"   | 100               | 2 1/2"                  | 1 5/16" | .56        |
| ASP-1SCH  | 1/8" | 30                | 1 9/16"                 | 9/16"   | .09        |
| ASP-2SCH  | 1/4" | 40                | 1 5/8"                  | 11/16"  | .14        |
| ASP-3SCH  | 3/8" | 60                | 2"                      | 7/8"    | .25        |
| ASP-4SCH  | 1/2" | 70                | 2 3/8"                  | 1 1/16" | .42        |

\*Suffix H indicates high flow.

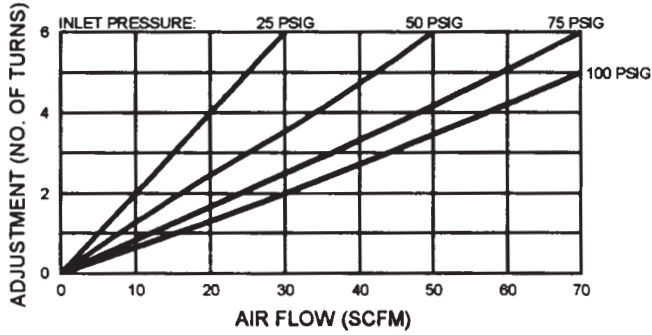
## FLOW CHARACTERISTICS VS. ADJUSTMENT - SPEED CONTROL MUFFLERS



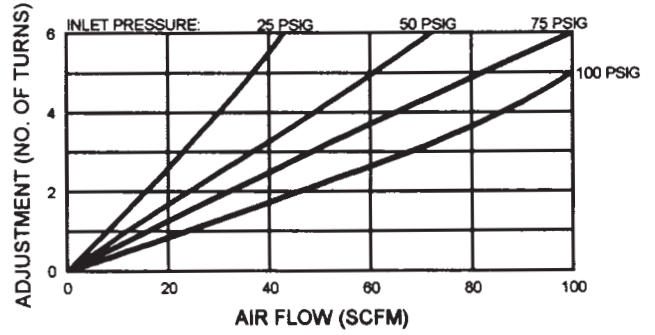


**FLOW CHARACTERISTICS VS. ADJUSTMENT**

**ASP-6SC & ASP-4SCH**  
ADJUSTMENT VS. AIR FLOW

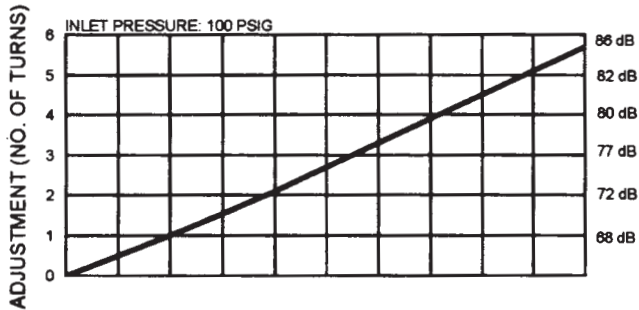


**ASP-8SC**  
ADJUSTMENT VS. AIR FLOW

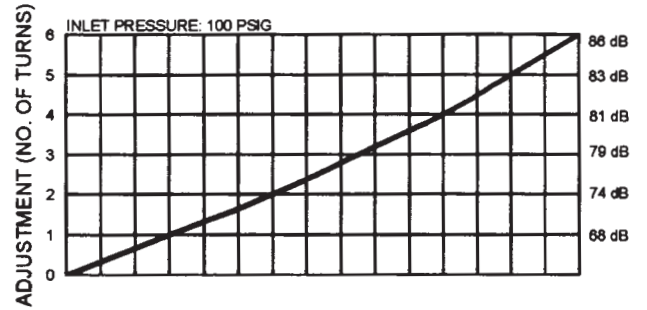


**SOUND CHARACTERISTICS VS. ADJUSTMENT**

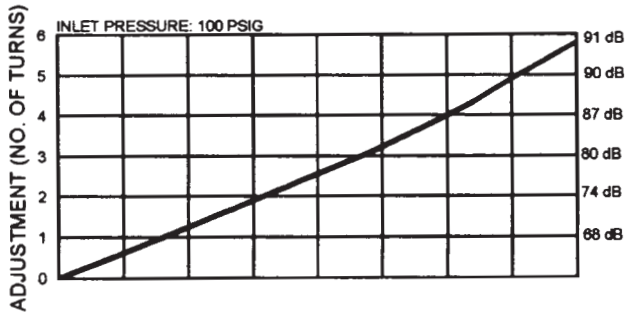
**ASP-1SC**  
ADJUSTMENT VS. dB RATING



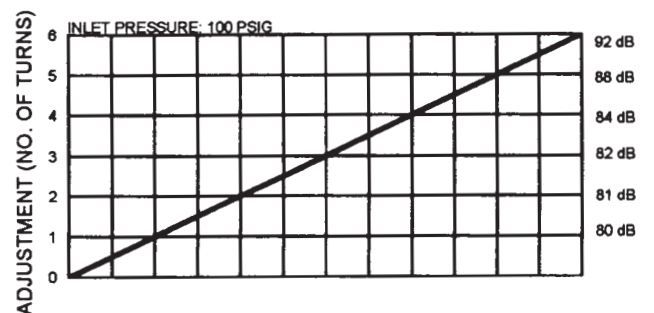
**ASP-2SC & ASP-1SCH**  
ADJUSTMENT VS. dB RATING



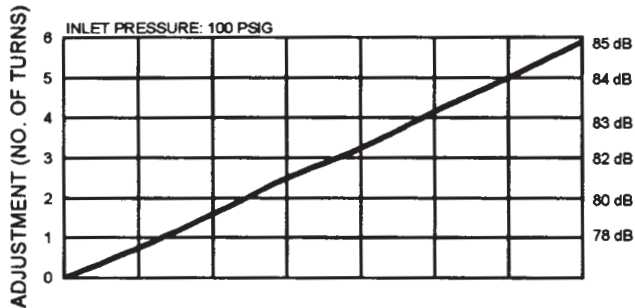
**ASP-3SC & ASP-2SCH**  
ADJUSTMENT VS. dB RATING



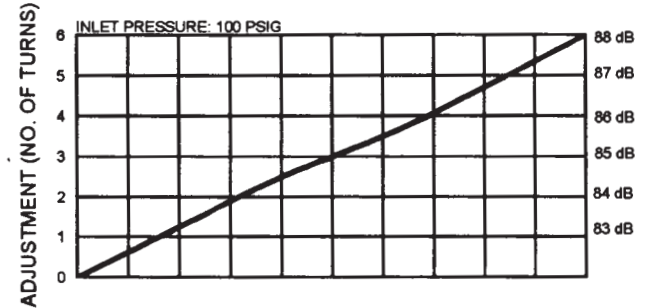
**ASP-4SC & ASP-3SCH**  
ADJUSTMENT VS. dB RATING



**ASP-6SC & ASP-4SCH**  
ADJUSTMENT VS. dB RATING



**ASP-8SC**  
ADJUSTMENT VS. dB RATING



## IN-LINE TOOL FILTER

This unique, compact in-line filter provides low pressure drop, high air flow and is designed for air tools. The inlet can be attached directly to pneumatic air tools, protecting the tool with a 40 micron sintered metal element. The bronze element has a large surface area allowing long service before cleaning. But best of all the filter weighs less than 1/2 ounce.



Maximum operating pressure: 500 PSIG  
Operating temperatures: 35°F to 300°F

| part no. | NPT male x female | overall length | hex  | weight oz |
|----------|-------------------|----------------|------|-----------|
| 9132     | 1/4"              | 1 9/16"        | 5/8" | .5        |

## IN-LINE NIPPLE FILTERS

This inexpensive disposable in-line nipple filter is ideal for the filtration of water, oil and air. It is compact and lightweight and can be installed at the point of use. Unique unit construction features a brass fitting that contains a conically shaped, porous sintered bronze filter element. The shape of the filter element is conical, rather than disc, to provide a larger filtering flow and a true, uninterrupted axial flow.



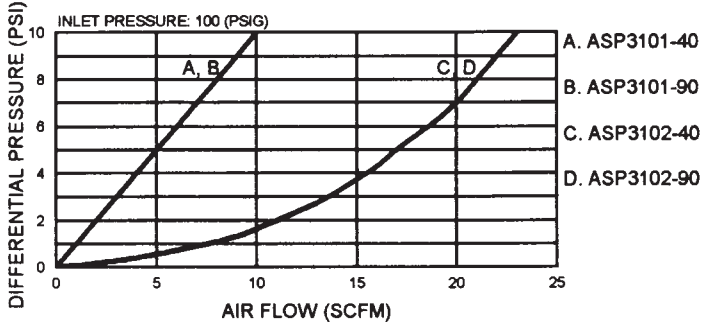
The porous sintered bronze element is available in the nominal filtration rating of 40 or 90 microns to insure minimum pressure drop.

Maximum operating pressure: 300 PSI  
Operating temperatures: 35°F to 300°F

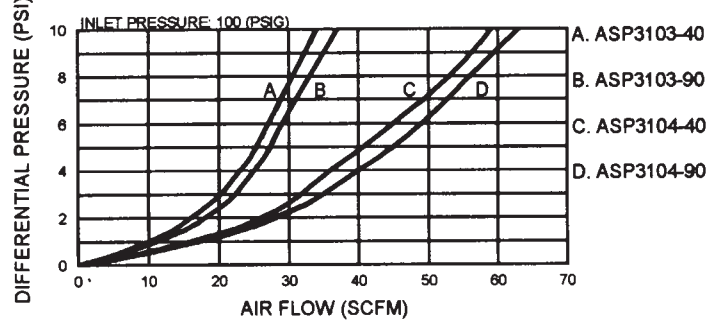
| part no.   | NPT  | overall length | hex    | weight lbs |
|------------|------|----------------|--------|------------|
| ASP3101-40 | 1/8" | 1 1/4"         | 7/16"  | .04        |
| ASP3101-90 | 1/8" | 1 1/4"         | 7/16"  | .04        |
| ASP3102-40 | 1/4" | 1 1/2"         | 9/16"  | .08        |
| ASP3102-90 | 1/4" | 1 1/2"         | 9/16"  | .08        |
| ASP3103-40 | 3/8" | 1 3/4"         | 11/16" | .14        |
| ASP3103-90 | 3/8" | 1 3/4"         | 11/16" | .14        |
| ASP3104-40 | 1/2" | 2"             | 7/8"   | .86        |
| ASP3104-90 | 1/2" | 2"             | 7/8"   | .86        |

## FLOW CHARACTERISTICS -- IN-LINE NIPPLE FILTERS

ASP3101 & ASP3102  
DIFFERENTIAL PRESSURE VS. AIR FLOW



ASP3103 & ASP3104  
DIFFERENTIAL PRESSURE VS. AIR FLOW





| part no.* | NPT  | overall length | diameter | weight lbs | element & seal | spring kit |
|-----------|------|----------------|----------|------------|----------------|------------|
| 9071      | 1/8" | 2 5/16"        | 3/4"     | .08        | EK9072         | SK9072     |
| 9072      | 1/4" | 2 5/16"        | 3/4"     | .08        | EK9072         | SK9072     |
| 9073      | 3/8" | 2 5/16"        | 3/4"     | .08        | EK9072         | SK9072     |
| 9074      | 1/2" | 3 1/4"         | 1 1/2"   | .46        | EK9074         | SK9052     |
| 9074M     | 1/2" | 3 13/16"       | 1 1/2"   | .46        | EK9074         | SK9052     |
| 9076      | 3/4" | 3 1/4"         | 1 1/2"   | .46        | EK9074         | SK9052     |
| 9076M     | 3/4" | 3 13/16"       | 1 1/2"   | .46        | EK9074         | SK9052     |

\*Use Suffix V for viton seals. For 90 or 20 micron elements, use micron size as dash number and add to part no. (i.e. 9072-20; EK9072-20).

## AIR / OIL IN-LINE FILTERS

This in-line filter is designed specifically for the protection of small air tools, such as impact wrenches, nut runners, grinders and screwdrivers. It reduces downtime, prevents costly tool repairs and extends tool life.

The all-anodized, lightweight aluminum housing is compact and can be used directly before the air tool. Elements can be replaced quickly at nominal cost.

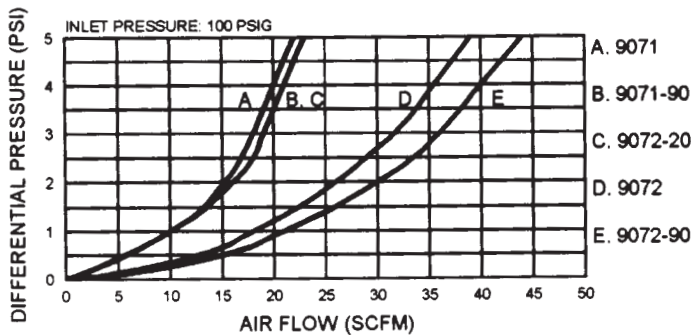
The standard element is 40 micron, which insures minimum pressure drop. Elements can be obtained in 20 or 90 micron filtration on special order.

The in-line filter can also be used in low pressure hydraulic applications. When using for hydraulic applications, a 20 micron element is recommended. Special viton O-rings are available for oil systems where chemical action may be a problem.

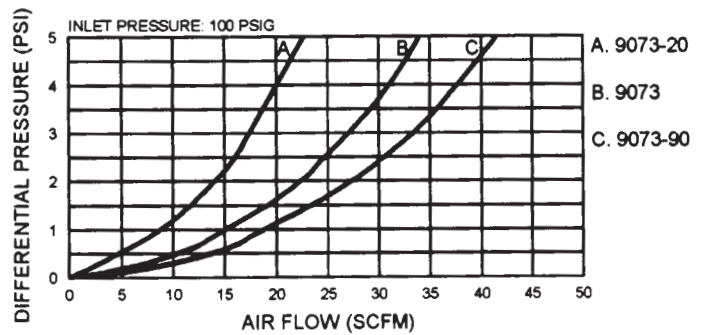
Maximum operating pressure: 500 PSI  
 Operating temperatures: 35°F to 200°F  
 For viton: 35°F to 400°F

## FLOW CHARACTERISTICS -- AIR / OIL IN-LINE FILTERS

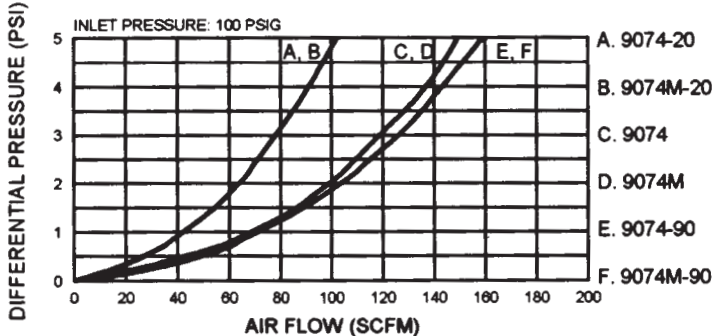
**9071 & 9072**  
DIFFERENTIAL PRESSURE VS. AIR FLOW



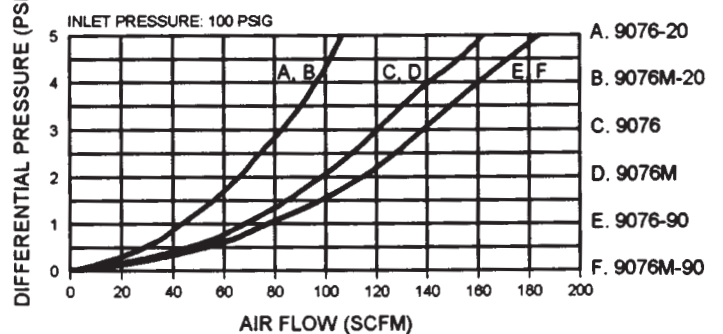
**9073**  
DIFFERENTIAL PRESSURE VS. AIR FLOW



**9074 & 9074M**  
DIFFERENTIAL PRESSURE VS. AIR FLOW



**9076 & 9076M**  
DIFFERENTIAL PRESSURE VS. AIR FLOW



## HYDRAULIC IN-LINE FILTERS

This hydraulic in-line filter provides protection for small, high pressure systems up to 3,000 PSI. By using this filter at the pressure side of a pump, foreign particles 25 microns and larger, such as those created by pump wear, are removed before damage can result to the valving in the system. A sintered bronze element ensures protection against crushing should dirt accumulate and increase pressure drop across the element.

The unique construction features an anodized aluminum housing for light weight, and a conically shaped sintered bronze element positioned by a retaining spring to allow true, uninterrupted axial flow. Special viton O-rings are available for oil systems where chemical action may be a problem. The standard 25 micron bronze filter element can be easily cleaned or replaced. Nominal filtration ratings of 90, 40, or 10 microns available.

Maximum operating pressure: 3000 PSI

Operating temperatures: 35°F to 200°F

For viton: 35°F to 400°F



| part no.* | NPTF         | overall length | diameter | weight lbs | element & seal | spring kit |
|-----------|--------------|----------------|----------|------------|----------------|------------|
| 9052      | 1/4"         | 3 1/4"         | 1 1/2"   | .46        | EK9052         | SK9052     |
| 9053      | 3/8"         | 3 1/4"         | 1 1/2"   | .46        | EK9052         | SK9052     |
| 9054      | 1/2"         | 4 15/16"       | 1 1/2"   | .83        | EK9054         | SK9054     |
| 9056      | 3/4"         | 4 15/16"       | 1 1/2"   | .83        | EK9054         | SK9054     |
| 9152      | 9/16"-18 SAE | 3 1/4"         | 1 1/2"   | .46        | EK9052         | SK9052     |
| 9153      | 3/4"-16 SAE  | 3 1/4"         | 1 1/2"   | .46        | EK9052         | SK9052     |

\*Use Suffix V for viton seals. For 90, 40, or 10 micron elements, use micron size as dash number and add to part no. (i.e. 9052-10; EK9052-10).

## HYDRAULIC IN-LINE FILTERS -- TEE-TYPE

This in-line filter provides protection for small, high pressure systems up to 5,000 PSI. The design is similar in performance to the model 9052 and 9053 filters, with the added convenience of a cleanable element that can be removed without breaking line connections. A filter access cap simply unscrews for easy element cleaning and replacement.

The anodized aluminum housing is lightweight. Porting is 1/4", 3/8" or 9/16"-18 SAE NPT pipe. Viton O-rings are offered for oil systems where chemical action may be a problem. The standard bronze filter element is 25 micron. Nominal filtration ratings of 90, 40, or 10 microns available.

Maximum operating pressure: 5,000 PSI

Operating temperatures: 35°F to 200°F

For viton: 35°F to 400°F

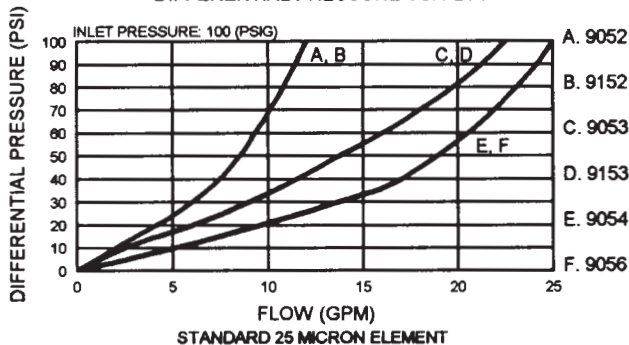


| part no.* | NPT          | overall length | diameter | weight lbs | element & seal | spring kit |
|-----------|--------------|----------------|----------|------------|----------------|------------|
| 9052T     | 1/4"         | 3 3/16"        | 2 1/8"   | .93        | EK9052         | SK9052T    |
| 9053T     | 3/8"         | 3 3/16"        | 2 1/8"   | .93        | EK9052         | SK9052T    |
| 9152T     | 9/16"-18 SAE | 3 3/16"        | 2 1/8"   | .93        | EK9052         | SK9052T    |

\*Use Suffix V for viton seals. For 90, 40, or 10 micron elements, use micron size as dash number and add to part no. (i.e. 9052T-10; EK9052-10).

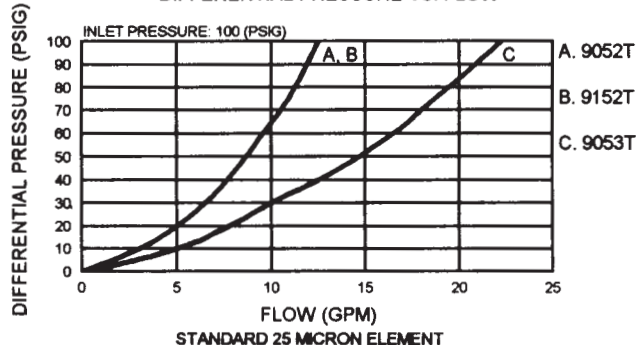
## FLOW CHARACTERISTICS -- HYDRAULIC IN-LINE FILTERS

9052, 9053, 9054, 9056, 9152 & 9153  
DIFFERENTIAL PRESSURE VS. FLOW



HYDRAULIC OIL MIL H 5606  
OIL TEMP. 100° F

9052T, 9053T, & 9152T  
DIFFERENTIAL PRESSURE VS. FLOW



HYDRAULIC OIL MIL H 5606  
OIL TEMP. 100° F



## ECONOMATIC DRAINS

ECONOMATIC drains are used to automatically drain filters, tanks, drain legs, aftercoolers and receivers. To trap large debris and sludge, a Y-strainer is included with the drain.

The drain can be set for manual operation or the drain interval and duration times can be preset. The drain interval can be adjusted between one to 60 minutes and the drain duration can be set from one to 30 seconds. The drain features: solid state adjustable controls, a corrosion-resistant, waterproof, molded solenoid coil, Buna N seals, a brass and stainless valve, a rust- and corrosion-proof NEMA 1 enclosure, an indicator light, and a heavy-duty, grounded, six-foot power cord.

| part no. | NPT  | dimensions |         |          | weight lbs. |
|----------|------|------------|---------|----------|-------------|
|          |      | length     | depth   | height   |             |
| 5702S    | 1/4" | 4 15/16"   | 4 7/16" | 3 11/16" | 1.6         |
| 5704S    | 1/2" | 5 7/16"    | 4 7/16" | 4 3/16"  | 2.4         |

Maximum operating pressure: 200 PSIG

Maximum fluid temperature: 165°F

Ambient temperatures: 35°F to 165°F

Voltage: 115/1/60 Amps: .25



## AIR FLOW CHECK VALVES

These are designed to protect workers from accidents caused by air hose whip, a potentially dangerous situation that occurs when air hoses snap while under high pressure loads.

When an air hose ruptures, the flow check valve senses an increase in air flow and automatically reduces the flow to a safe level. As a reminder to shut off the air supply before replacing the ruptured hoses, the check valve has an exhaust bleed rate of 9 SCFM at 100 PSI.

These units are easy to install. The inlet pipe port of the check valve is threaded into the compressed air line upstream of the air hose. The air hose is threaded into the outlet port of the check valve.

| part no. | NPT  | shut off range* SCFM | overall length | flats  | weight lbs. |
|----------|------|----------------------|----------------|--------|-------------|
| 5074     | 1/2" | 85 +/- 10            | 3 7/8"         | 1 1/2" | .44         |
| 5076     | 3/4" | 100 +/- 10           | 3 7/8"         | 1 1/2" | .40         |

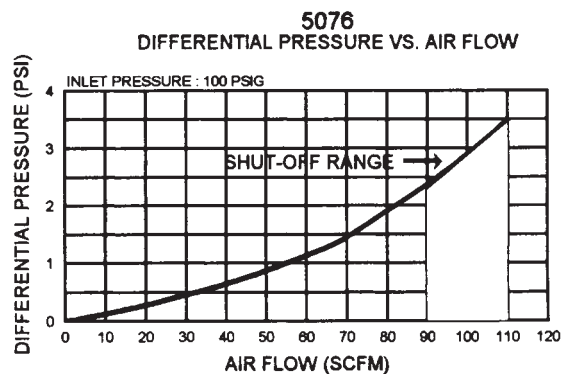
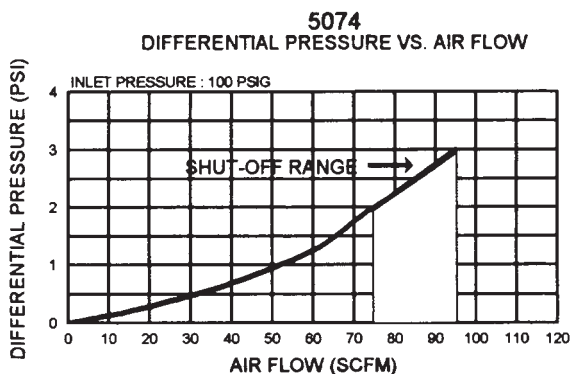
\*Based on an inlet pressure of 100 PSIG.

CONSTRUCTION: Protective, yet lightweight, anodized aluminum housing.

Maximum operating pressure: 300 PSI

Maximum temperature: 160°F

## FLOW CHARACTERISTICS -- AIR FLOW CHECK VALVES



## PRESSURE SNUBBERS

These units protect pressure instruments from sudden shock and ensure accurate gauge readings without surges and fluctuations. They use a brass housing with a porous bronze element and are capable of handling pressures to 10,000 PSI maximum. Unit also serves as an excellent mini in-line filter. Dry seal pipe threads are standard. SAE threads available upon special request.

| RECOMMENDED ELEMENT POROSITY RATING |   |                                      |          |             |
|-------------------------------------|---|--------------------------------------|----------|-------------|
| micron rating                       | color code  | recommended application              |          |             |
| 40                                  | none  | viscose fluids (over 500 SSU)        |          |             |
| 30                                  | black   | med. type oils (225 to 500 SSU)      |          |             |
| 25                                  | brown   | water and light oils (30 to 225 SSU) |          |             |
| 20                                  | green   | low viscosity fluids (under 30 SSU)  |          |             |
| 10                                  | red   | air and other gases                  |          |             |
| part no.                            | NPT   | overall length                       | diameter | weight lbs. |
| 602                                 | 1/4" M 1/4" F   | 1 3/8"                               | 3/4"     | .15         |
| 602-E                               | 5 replacement elements for 602. Specify micron rating desired.* |                                      |          | .03         |

\*Example: 602-E-40

Each unit is packaged with five elements of different micron ratings to allow each user to adjust snubbing capacity for the specific application. Low cost and designed for quick and simple change of elements make cleaning unnecessary.

Maximum operating pressure: 10,000 PSI  
Operating temperatures: 35°F to 300°F



## LOCKOUT SLIDE VALVES

Lockout slide valves protect workers performing service on equipment powered by pneumatic, hydraulic or electrical energy. With a customer-supplied padlock, they allow equipment to be locked out from the energy source. A standard industrial grade padlock with 1/4" diameter shackle is recommended.

### THREE-WAY SLIDE VALVES MEET OSHA LOCKOUT STANDARD

**29CRF 1910.147** when used with a customer-supplied padlock and identification tag. The three-way slide valve is for use in the main line, upstream of equipment. When closed, it shuts off the upstream air and exhausts the downstream air.

Body is black e-coat. Slide is 5% Teflon, high-impact, safety yellow plastic. Seals are pre-lubricated Buna O-rings. Screws are black coated steel.

Maximum operating pressure: 250 PSIG

Maximum operating flow: 140 SCFM

Operating temperatures: 35°F to 150°F

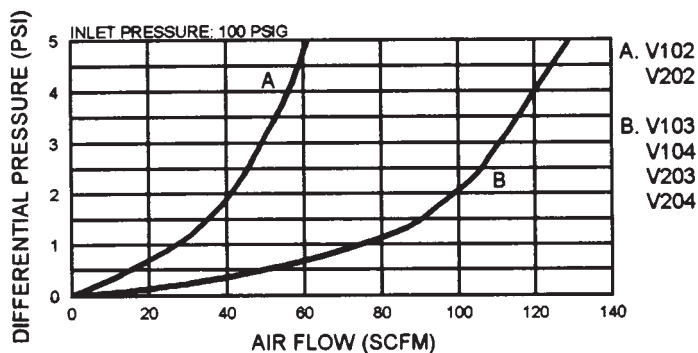
Exhaust bleed at 100 PSI: 7 SCFM



| part no. | NPTF | avg. C <sub>v</sub> | overall length | width    | depth    | weight lbs. |
|----------|------|---------------------|----------------|----------|----------|-------------|
| V202     | 1/4" | 2.7                 | 3 1/8"         | 1 11/16" | 1 15/16" | .40         |
| V203     | 3/8" | 6.4                 | 3 1/8"         | 1 11/16" | 1 15/16" | .40         |
| V204     | 1/2" | 6.4                 | 3 1/8"         | 1 11/16" | 1 15/16" | .40         |

## FLOW CHARACTERISTICS -- LOCKOUT SLIDE VALVES

V102, V103, V104 & V202, V203, V204  
DIFFERENTIAL PRESSURE VS. AIR FLOW





## PRESSURE SWITCH

The PDA4 pressure switch can be installed anywhere in a pneumatic or hydraulic system. It is often used to protect air compressors and pneumatically operated equipment from damage caused by over-pressurization. The unit can be set in a normally open or closed position in an adjustable actuation range from 10 PSIG to 110 PSIG with a +/-2% repeatability.

The pressure switch has standard 18" wire leads of 300 V, 22 SWG.

For simple installation, thread the unit into the gauge port of a regulator or pipe tee.

**CONSTRUCTION:** Zinc die cast and plastic housing, and NEMA 13 electrical enclosure which is UL approved.

Maximum operating pressure:  
300 PSI

Operating temperatures: 35°F to 180°F

| part no.   | NPT  | overall length | diameter | weight lbs.  | voltage     | inductive | resistive |
|--|------|----------------|----------|--|-------------|-----------|-----------|
| PDA4   | 1/4" | 1 5/8"         | 1 1/8"   | .25  | 125/150/VAC | 5 AMP     | 7 AMP     |
| standard electrical current  |      |                |          |  |             |           |           |
| <u>WIRE COLOR</u><br>black<br>green<br>red   |      |                |          | <u>CIRCUIT</u><br>common<br>normally closed<br>normally open |             |           |           |
| <i>Note: 20% differential for reset, and 1% repeatability when operated within recommended conditions.</i> |      |                |          |  |             |           |           |



## MINI IN-LINE DESICCANT DRYER (-40°F DEW POINT)

Used at the point-of-use, this patented, disposable, mini in-line desiccant dryer removes all traces of water vapor, oil vapor and dirt. It is often used directly upstream of blow guns or spray guns as final protection for critical parts blow off and paint spraying. Install in either direction; it functions in both directions. A 40 micron, porous bronze element removes fine dirt particles, an oil-removing media removes oil vapor and desiccant beads absorb water vapor. The see-through housing shows desiccant color change, which indicates that the dryer needs to be replaced. Full charge is a blue color, when the color changes to dark pink, filter needs to be replaced.

**CONSTRUCTION:** The housing is made of polycarbonate material which allows clear desiccant visibility. The large opening in the nylon guard shows color change when dryer needs replacing.

Maximum operating pressure: 125 PSI

Maximum flow capacity: 15 SCFM

Operating temperatures: 35°F to 130°F

| part no. | NPT/FPT | dimensions (inches) |          | weight oz. |
|----------|---------|---------------------|----------|------------|
|          |         | length              | diameter |            |
| DFD-10   | 1/4"    | 3 3/4"              | 1 11/16" | 2.8        |



## ARROW INLINE Y-STRAINER

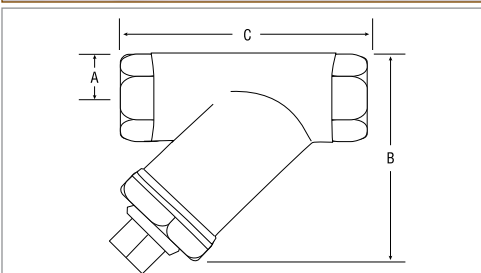
The Arrow inline Y strainer, when installed before a valve or drain will trap large debris and sludge. This application prevents malfunctions and extends the life of valves or drains.

Maximum pressure: 300 PSI WOG

150 Steam

**CONSTRUCTION:** Cast bronze housing and cap, stainless steel 50 mesh screen 3/8" Brass plug standard for quick draining.

**Special Feature:** Maintenance can be done without removal of unit from line.



| DIMENSIONS |      |            |        |          |            |
|------------|------|------------|--------|----------|------------|
| model no.  | NPT  | dimensions |        |          | weight oz. |
|            |      | A          | B      | C        |            |
| S202       | 1/4" | 15/32"     | 2 5/8" | 2 11/16" | 10.5       |
| S204       | 1/2" | 11/16"     | 2 7/8" | 2 11/16" | 12.6       |