

## Combined Water and Particle Removal with a Single Cartridge

### FEATURES

- Available in popular "K-Series" size and spin-on style
- Lower pressure drop with higher particle and water removal efficiency
- Cleaner oil and reduced maintenance with existing filtration equipment

### DESCRIPTION

AH Series Cartridges remove free and emulsified water and particulate contamination from hydraulic oil in recirculating systems. Super-absorbent polymers capable of holding over 100 times their weight in water are combined with particle filtering media. The polymers chemically lock in water and swell when saturated. This increases the pressure drop and signals that the cartridge must be changed.

Velcon Filters pioneered the development of **Aquacon** super-absorbent filters for the demanding requirements of aviation jet fuel filtration. However, when the aviation cartridges were used with heavier oils, it was found that they were subject to high pressure drops. To overcome this limitation, AH Series Cartridges were developed specifically for hydraulic oil filtration. They offer the same extraordinary **Aquacon** water absorbing and particle removing capability as the aviation elements but with minimum pressure drop and high flow rates. Three hydraulic oil cartridges are offered:

**AH-40905S** is a good "chip removal" filter rated at 5 microns nominal as well as an effective water remover.

**AH-409P8S** combines water removal with excellent "silt control" characteristics for removing fine particles. The pure microglass fiber filter medium has a nominal 0.8 micron rating.

**AH-511P8SP** is the 0.8 micron design packaged in the popular 5 inch spin-on configuration. This design offers significant performance advantages over the several 5 inch water/particle removing spin-ons from other manufacturers which utilize fiberglass/cornstarch polymer technology and have a nominal rating of about 3 microns.

Advantages include:

1. More than double the fine particle removal efficiency.
2. Lower pressure drop and higher flow rate.
3. Greater water capacity.

AH-511P8SP Spin-On Style is shown at right. AH-40905S and AH-409P8S are shown below.



### APPLICATIONS

Water in hydraulic oil leads to corrosion, accelerated wear, additive breakdown, acid formation and microbial growth. Filtering with AH **Aquacon** Cartridges will remove virtually all free and emulsified water and minimize these problems.

AH-409 Cartridges were developed to add water removing capabilities to Schroeder HFB Series portable filters. These 4 in. x 9 in. "K" size filters will also fit many other housings already in the field.

The AH-511P8SP will improve filtration performance in existing systems by replacing 3 micron water removing filters already in place. For new installations, the SPH-6 spin-on filter head, which has an internal bypass set at 25 PSID, is available.

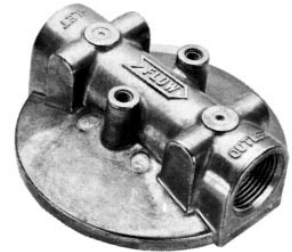
# Aquacon Hydraulic Oil Filters

## CARTRIDGE SPECIFICATIONS

CARTRIDGE:	AH-40905S	AH-409P8S	AH-511P8SP
Thread	N/A	N/A	1 1/2"-16
O.D. – Inches	3.9	3.9	5.1
I.D. – Inches	1.62	1.62	N/A
O.A.L. – Inches	9.2	9.2	10.9
Gaskets	Buna-N	Buna-N	Buna-N
Max Operating Temp. – ° F	250	250	250
Max Cartridge ΔP – psid	100	100	100
<b>Nominal Gravimetric</b>			
Filter Rating – microns	5	0.8	0.8
Surface Area – In <sup>2</sup>	480	450	780
Beta <sub>10</sub>	10	120	120
<b>Particle Size (Micrometers)</b>			
Where Beta = 75	25	6	6
ACFTD Capacity – gm	40	27	36
Water Capacity – ml	310	340	460

## SPH-6 SPIN-ON HEAD SPECIFICATIONS

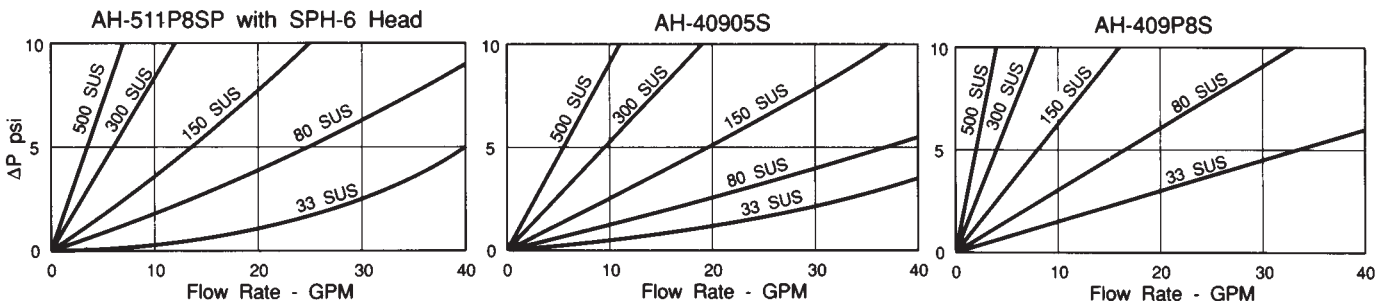
- Die cast aluminum
- 1 inch NPT inlet/outlet
- Face-to-face 5.4 inches
- Internal By-Pass valve set at 25 psid
- Mounting holes (Two)  
5/16 - 18 UNC-2B



### Notes:

1. Maximum system operating pressure for AH-511P8SP Spin-On is 100 psi.
2. **Aquacon** Cartridges will remove free and emulsified water to levels of 5 ppm or less. Multiple passes through the filter may be required to reach this level.
3. High water concentrations will cause the differential pressure to increase rapidly. If the pressure can exceed 100 psi, a bypass, pressure relief valve, or other means of protection should be installed.
4. AH cartridges have a higher initial pressure drop than equivalent size filters that only remove particles. Refer to the flow curves below before replacing an existing particle filter.
5. Cartridges should be changed when differential pressure reaches 25 psi, if there is a reduction in flow or after one year service, whichever occurs first.

## CARTRIDGE FLOW CURVES



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