

## 5. Filtration

### **Coalescing Filters (AO (pre) and AA(post))**

Coalescing filters are probably the most important items of purification requirements in a compressed air system, which are designed not only to filter oil vapor and water, but also to filter solid particles to an acceptable level as small as 0.01 micron in size. Usually, in the installation system, the first filter's purpose is to pre-filter, protect the high efficiency filters from bulk contamination to provide high quality compressed air. If the filters worked under damp or full of water adsorption condition, it would prevent the compressed air from getting through the filter element and the air flow would force the liquid to get through from the pores of the element media, thus increase working pressure drop and reduce filtration performance.

### **Activated Carbon Filters (ACS)**

Oil vapor can easily get through the coalescing filters in a state of gas, so the adsorptive filter must provide large activated carbon adsorptive bed. Because the damp air will reduce the adsorptive ability of the activated carbon, the adsorptive filter usually installed after the adsorptive dryer, to guarantee effective removal of oil vapor and peculiar odour. It is not used to remove liquid oil or aerosols, thus poor maintenance and lack of pre-filter will accelerate its invalidation.

The filter housing is aluminium alloy, die-cast with a tight and strong structure and has a long lifespan. All the housings are painted before cleaning, degreasing and special anti-corrosion treatment, which enhances its durability.

The filter housing's service life is 15 years and the filter elements can be used for 6000 to 8000 hours under working environment from temperature 1.5 up to 80°C, pressures under 10 bar and applicable to ocean platform operation.

Precise screw thread makes installation easier and parallel connection of the housing can save installation and maintenance space.

### **Condensate Separators (WS)**

Problems in air system

There usually are large amounts of water in compressed air systems which will corrode the air lines, permanently damaging valves, air cylinders and pneumatic tools and devices and reduce working efficiency of the after cooler/heat exchanger.

### **Benefits of having a condensate separator installed in an air system**

It reduces corrosion in the pipeline and damages to valves, air cylinders and electronic components by water

It protects the filter from bulk liquid contamination

It improves the air quality.

It protects the pre-filter of frozen dryer and adsorptive dryer.

It cuts down on operational and maintenance costs.

| AIRSTREAM FILTRATION           |                                 |        |      |          |          |                        |             |                  |
|--------------------------------|---------------------------------|--------|------|----------|----------|------------------------|-------------|------------------|
| Type                           | Description                     | NI/min | Scfm | Maximum  | Ø In-Out | Elements               |             |                  |
|                                |                                 |        |      | Pressure |          | AO                     | AA          | ACS              |
|                                |                                 |        |      |          |          | 1 micron               | 0.01 micron | Activated Carbon |
| <b>AYD017</b>                  | Air filter ½" 1000l/min         | 1000   | 35   | 16       | 15mm     | AYD-AO017              | AYD-AA017   | AYD-ACS017       |
| <b>AYD025</b>                  | Air filter ¾" 1500l/min         | 1500   | 53   | 16       | 15mm     | AYD-AO017              | AYD-AA017   | AYD-ACS017       |
| <b>AYD030</b>                  | Air filter ½" 2000l/min         | 2000   | 71   | 16       | 15mm     | AYD-AO030              | AYD-AA030   | AYD-ACS030       |
| <b>AYD058</b>                  | Air filter ¾" 3600l/min         | 3600   | 128  | 16       | 19mm     | AYD-AO058              | AYD-AA058   | AYD-ACS058       |
| <b>AYD080</b>                  | Air filter 1" 4800l/min         | 4800   | 171  | 16       | 25mm     | AYD-AO145              | AYD-AA145   | AYD-ACS145       |
| <b>AYD145</b>                  | Air filter 1 ½" 7200l/min       | 7200   | 257  | 16       | 32mm     | AYD-AO145              | AYD-AA145   | AYD-ACS145       |
| <b>AYD220</b>                  | Air filter 2" 12000l/min        | 12000  | 428  | 16       | 50mm     | AYD-AO220              | AYD-AA220   | AYD-ACS220       |
| <b>AYD330</b>                  | Air filter 2" 19000l/min        | 19000  | 678  | 12       | 50mm     | AYD-AA330              | AYD-AA330   | AYD-ACS330       |
| <b>AYD430</b>                  | Air filter 3" 25800l/min        | 25800  | 921  | 12       | 75mm     | AYD-AA430              | AYD-AO430   | AYD-ACS430       |
| <b>AYD620</b>                  | Air filter 3" 37200l/min        | 37200  | 1328 | 12       | 75mm     | AYD-AA620              | ADY-AO620   | AYD-ACS620       |
| CONDENSATE SEPARATORS          |                                 |        |      |          |          |                        |             |                  |
| <b>AYD-WS025</b>               | Condensate Separator ¾"         | 3600   | 128  | 16       | 19mm     | No elements applicable |             |                  |
| <b>AYD-WS050</b>               | Condensate Separator 1"         | 4500   | 160  | 16       | 25mm     | No elements applicable |             |                  |
| <b>AYD-WS100</b>               | Condensate Separator 1 ½"       | 10000  | 357  | 12       | 32mm     | No elements applicable |             |                  |
| <b>AYD-WS250</b>               | Condensate Separator 2"         | 25000  | 892  | 12       | 50mm     | No elements applicable |             |                  |
| SPARE PARTS FOR INLINE FILTERS |                                 |        |      |          |          |                        |             |                  |
| <b>AYD-ADPI</b>                | Differential Pressure Indicator |        |      |          |          |                        |             |                  |
| <b>AYD-ADPI/2</b>              | Indicator DPI - Button type     |        |      |          |          |                        |             |                  |
| <b>AYD-AID</b>                 | Internal float type drain       |        |      |          |          |                        |             |                  |
| <b>AYD-ALM</b>                 | Liquid Mirror                   |        |      |          |          |                        |             |                  |
| <b>AYD-HAD10B</b>              | External float drain, clear ½"  |        |      |          |          |                        |             |                  |
| <b>AYD-HAD20B</b>              | External float drain, 220 - 620 |        |      |          |          |                        |             |                  |

