AQL TEST KIT

SPECIFIC SAMPLE COLLECTION INSTRUCTIONS

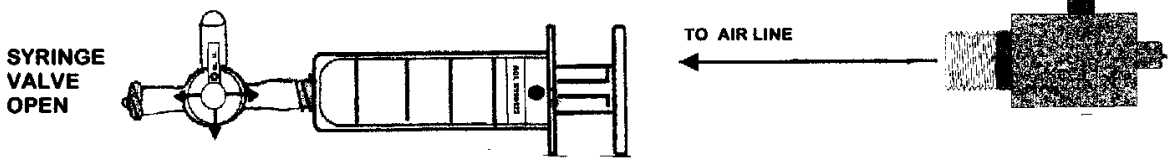
FROM A LOW PRESSURE (UP TO 25 PSI) SOURCE

Before sampling begins you must determine your sampling objectives. For example; do you want to know the quality of air stored within a cascade system, the current output air quality of a compressor or an air line, or maybe the quality of air produced from a compressor after purification filter maintenance. When sampling a compressor it is most common to first purge the system, perform any desire maintenance, such as filter replacement, then collect the sample. The compressor should be allowed to run for a short period to warm up before sampling and remember safety glasses should be used when working with compressors.

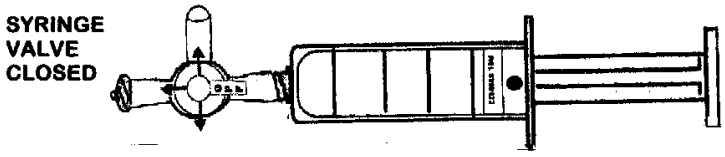
Sampling is an easy 2 step procedure: First, you will collect a sample of the air from your source into a sample syringe for the testing of component gases - then you will filter a measured volume of air through a filter cassette for determination of condensed oil mist.

COLLECTION OF GASES INTO A SAMPLE SYRINGE

1) **Clean the source discharge line or air line by briefly purging with air.**
2) **Connect the sampling block to the discharge fill line. If necessary, you will need to adapt to the 1/4" NPT fitting. Tighten connection.**
3) **The 20 mL source syringe, with the sample ID beginning with "S", is received with the 3-way valve in the OFF position toward the syringe.**
4) **Place the syringe onto the <u>top</u> sample port of the block. The luer fitting requires only a 1/4 clockwise turn. Do not over tighten.**
5) **Slowly open your line valve and pressurize the discharge or air line to your normal pressure that does NOT EXCEED 25 psi. Wait briefly to purge the valve then turn the 3-way valve on the syringe until the OFF position is at the side arm as shown below.**



6) **At this low pressure you will need to slowly pull back on the syringe plunger in order to pull the air sample into the syringe. Pull the plunger open to the stop point marked with a red line.**
7) **Grip the syringe with your thumb on the plunger and depress the plunger completely back into the syringe. Again slowly pull the plunger back. Repeat the syringe purge once more. Pull the plunger back a final time to capture the sample for testing.**
8) **While holding the base of the valve, turn the valve OFF position back to the syringe as shown below. THIS SYSTEM MUST NOT EXCEED 25 psi.**

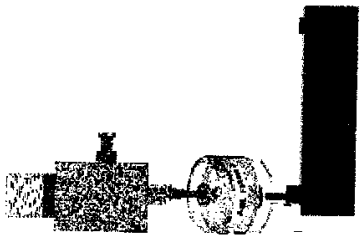


9) While gripping the base or body of the syringe valve (not the syringe) rotate 1/4 turn counter clockwise to remove the valve/syringe assembly. Close the compressor discharge line valve or air line valve. The source syringe sampling is complete.

FILTRATION OF SAMPLE THROUGH FILTER CASSETTE

1) Remove the two caps from both ends of the filter cassette. When received, the intake side of the filter will have a red cap. This side can also be identified by the white female luer fitting. This intake side of the filter is connected to the side sample port of the block with a 1/4 clockwise turn. Do not over tighten. Do not remove the clear shrink wrap from the filter.

2) Connect the flowmeter into the other side of the filter with a firm twisting motion. The flowmeter needs to be in a straight up & down vertical position. The completed assembly should be as shown below.



3) Slowly open your source valve and pressurize the discharge or air line to your normal pressure that does NOT EXCEED 25 psi. Read the flowmeter at eye level by noting the position of the middle of the ball. Begin timing of the air flow. Allow a minimum 500 liters of air to flow through the filter. The flow rate and sampling time will depend on the pressure in the line. Generally a pressure of 25 psi will produce a flow rate of about 88 LPM and would require a 6 minute sampling period. For lower pressure systems use the following pressure / flow correlations - 15 psi = 66 LPM = 8 minutes & 10 psi = 55 LPM = 10 minutes. The flowmeter ball should remain steady during the testing. If necessary read an average ball position.

4) After the filtration period close your line valve and disconnect the filter and flowmeter. Replace the caps on the filter. Record the flow rate and minutes filtered on the Field Data Record.

FIELD DATA RECORD AND SAMPLE SHIPPING

1) Complete all the information on the Field Data Record including the description and identification of the compressor system (model and serial number) or air source, the filter flow rate and time sampled, and the sample identification numbers from the syringe (Sxxxxx) and filter (Fxxxxx). Also record the odor of the air using the information on the Field Data Record.

2) Place the syringe and filter in the shipping container and return immediately to AQL. The pressure in the syringe is below DOT regulations and can be shipped via US Mail or by other parcel carriers.

3) This kit may contain an extra syringe and filter cassette that can be used in the rare event of sample media failure. ONLY 1 SYRINGE AND 1 FILTER CASSETTE IS NEEDED FOR EACH SAMPLE.

IF YOU HAVE QUESTIONS CALL AQL AT (630) 830-4018