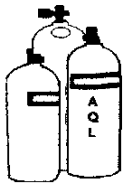


AQL TEST KIT

SPECIFIC SAMPLE COLLECTION INSTRUCTIONS

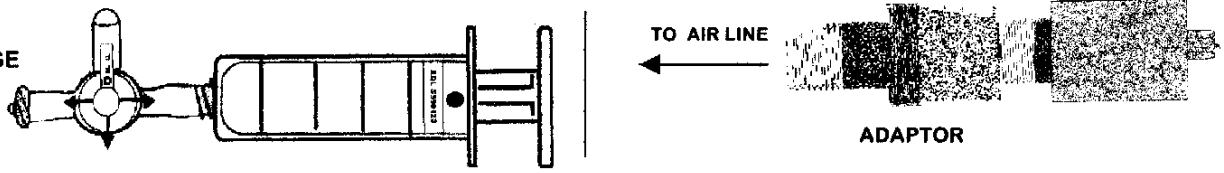
FROM A MEDIUM PRESSURE (UP TO 500 PSI) SOURCE

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.

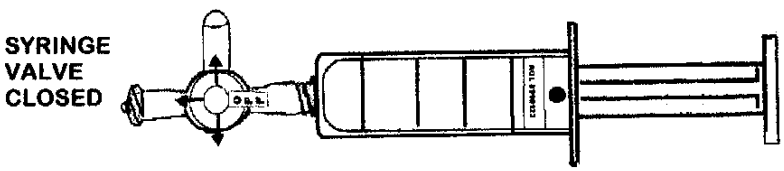
Sampling is an easy 2 step procedure: First, you will collect a sample of the air from your source into a sample syringe for the testing of component gases - then you will filter a measured volume of air through a filter cassette for determination of condensed oil mist.

COLLECTION OF GASES INTO A SAMPLE SYRINGE

1) Clean the compressor fill station discharge line or air line by briefly purging with air.
2) Connect the sampling block to the discharge fill line. For medium pressure air line sampling you will need to use the CGA 346/347 to 1/4" NPT adaptor. Hand tighten.
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 top 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 about 50 - 75 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) Slowly increase the pressure of the line to 100 psi. At about 80 - 90 psi the plunger of the syringe will open and move to the upper stop.
7) Grip the syringe with your thumb on the plunger and depress the plunger completely back into the syringe. Release the plunger and allow it to again completely open. Repeat the syringe purge once more. The syringe plunger will again open.
8) If possible, slowly increase the pressure of the line to 150 psi and while holding the base of the valve, turn the valve OFF position back to the syringe as shown below. Close the valve immediately after reaching 150 psi and DON'T EXCEED 150 psi. If 100 psi is maximum pressure of system close valve in same manner as instructed above.

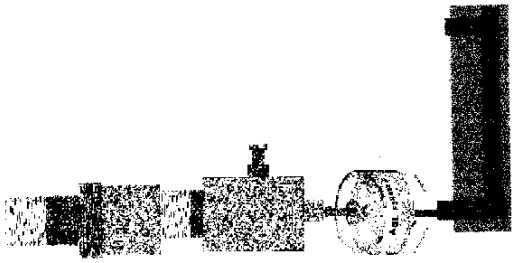


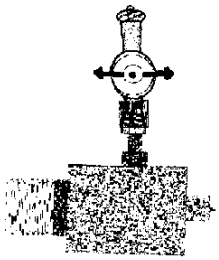
9) While gripping the base or body of the syringe valve (not the syringe) rotate 1/4 turn counter clockwise to remove the valve/syringe assembly. Close the compressor discharge line valve or air line valve. The source syringe sampling is complete.

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.





Port Valve in use on Block

3) Slowly open your line valve and increase the pressure until you reach an optimum flow of 50 LPM (liters per minute) on the flowmeter. DO NOT exceed 400 psi. Read the flowmeter at eye level by noting the position of the middle of the ball. Begin timing the air flow. Allow 400 - 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 about 300 psi will produce a flow rate of about 50 - 55 LPM and would require a 10 minute sampling period. For lower pressure systems use the following pressure / flow correlations - 200 psi = 30 LPM = 15 minutes & 100 psi = 24 LPM = 20 minutes. The flowmeter ball should remain steady during the testing. If necessary read an average ball position.

Note: For lower pressure systems, 50 or 100 psi, you can increase the flow through the filter by closing the port on the top of the sampling block. The small blue handled Port Valve can be used for this. This valve is shipped in the closed position. Connect this valve to the top port by using the rotating lock side of the valve. With this port closed all the air will be going through the filter. At 50 psi the flow will be about 42 LPM and require 10 minutes of sampling. For a 100 psi air line the flow is 76 LPM with a 6 or 7 minute sampling time. WHEN BLOCKING THE TOP PORT DO NOT EXCEED A SYSTEM LINE PRESSURE OF 100 PSI.

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.

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