Do you have a problem with oil mist, water or other contaminants in your compressed air?

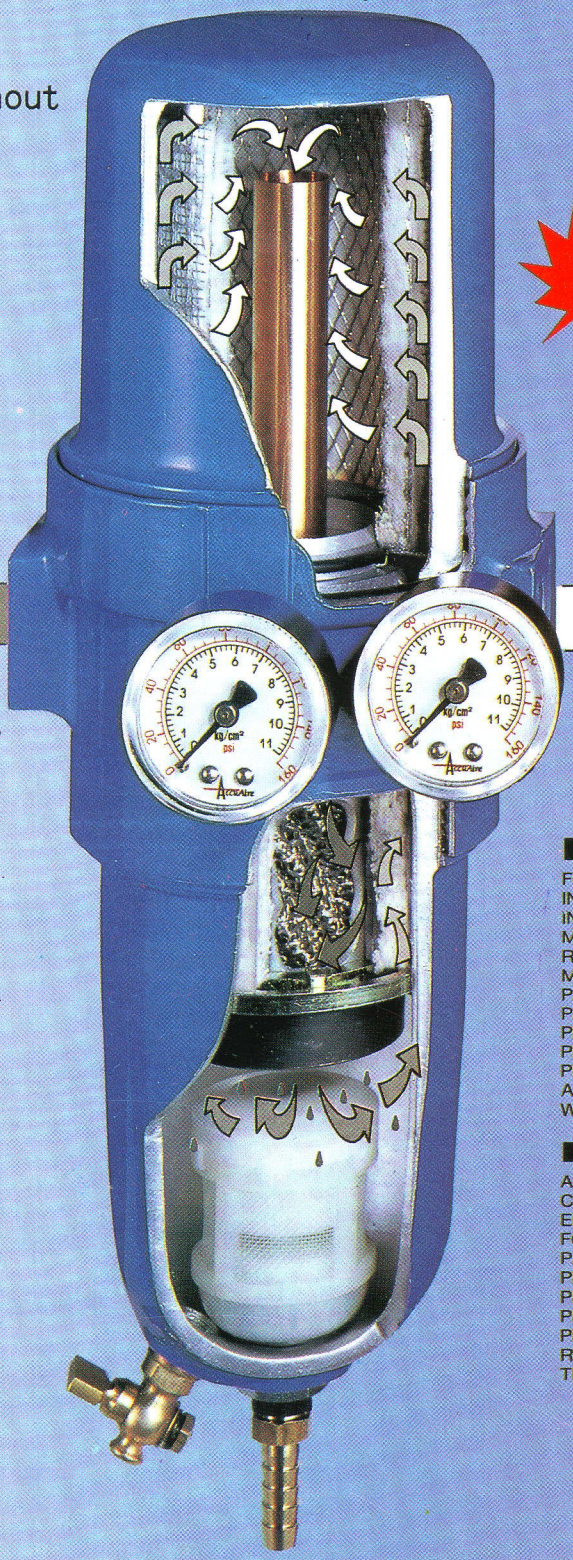
UNICOM 3in1 MULTI DRY FILTER

Continuously removes over 99.99% of oil mist, solid particles of 0.01 microns, and 100% of liquid water.
Delivers ultra-clean dry air without refrigeration.

COMPRESSED AIR CLEANING SYSTEM
FOR YOUR SENSITIVE AIR EQUIPMENT
AND CRITICAL APPLICATIONS

NEW!

PATENTS PENDING WORLDWIDE



ADVANTAGES

1 ULTIMATE PERFORMANCE WITH MINIMAL PRESSURE DROP

The 3-in-1 MULTI DRY FILTER combines three separate filter elements (designed for different purposes) and two chambers in a single body. Together they remove 100% of the liquid water, and 99.99% of the oil mist and solid particles larger than 0.01 microns.

2 3 STAGE FILTRATION SYSTEM

1st coalescer, 2nd filter and 3rd specially-designed oil mist filter.

3 EXCELLENT DURABILITY & COOLING

The superior thermal conductivity of the durable aluminum body helps cool the compressed air and enhances the elimination of oil and water droplets.

4 COMPACT & SPACE SAVING

No pre-filter required.
Single unit is compact and eliminates leakage between separate components.

5 QUICK AND EASY TO REPLACE THE FILTER ELEMENT

Replaced in less than 1 minute.

6 PRESSURE GAUGES

Twin pressure gauges indicate when the filter elements should be replaced.

■APPLICATIONS

FOOD PROCESSING MACHINES
INJECTION MOLDING MACHINES
INSTRUMENTATION
MEDICAL EQUIPMENT
ROBOTICS
MEASURING MACHINES
PACKAGING MACHINES
PAINTING SYSTEMS
PHARMACEUTICAL EQUIPMENT
PRECISION MACHINE TOOLS
PRINTING MACHINES
AND THOUSANDS OF APPLICATIONS
WHICH NEED ULTRA-CLEAN AIR

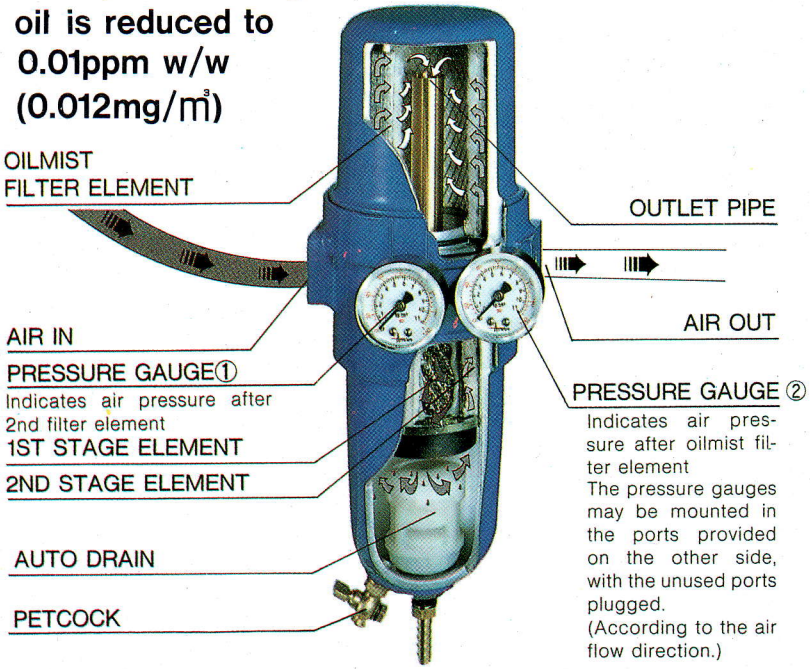
■INDUSTRIES/MANUFACTURERS

AUTOMOTIVE
CHEMICAL
ELECTRONICS
FOOD PROCESSING
PACKAGING
PHARMACEUTICALS
PLASTIC
PRECISION MACHINING
PRINTING
RUBBER
TEXTILES

The above photo is a cutaway model of T-105A(2/3 actual size)

How the 3in1 MULTI DRY FILTER provides ultra-clean air from a single unit.

The 3-in-1 MULTI DRY FILTER incorporates three separate filter elements and two chambers in a single body. The unit removes 100% of the liquid water, and 99.99% of the oil mist and solid particles larger than 0.01 microns. Residual oil is reduced to 0.01ppm w/w (0.012mg/m³)



STRUCTURE AND FUNCTIONS OF The 3-in-1 MULTI DRY FILTER

All unfiltered compressed air contains water, oil mist and solid particles. The air coming from the air line into the 3-in-1 MULTI DRY FILTER is accelerated and made to spin and tumble through the mesh in the first element. Water droplets stick to the surfaces of the mesh and unite with other droplets. Droplets grow in size, collect other contaminants, fall into the bowl and flow into the auto-drain.

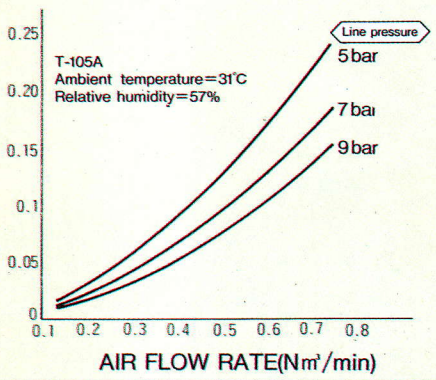
The water accumulates, lifts the float, and is instantly blown out through the drain tube. Approximately 95% of the liquid water is removed in the first element by combining a change in velocity, a tumblimg-spinning, and an expansion of the compressed air as it passes through.

The compressed air, now containing the remaining 5% of the liquid water, then enters the highly absorbent tightly wound second element. The air spins violently trying to find its way through the element Thousands of small tornados are formed. Remaining water droplets are pulled apart and vaporized in the vacuum of these vortices. Also, oil droplets and dust particles larger than 5 microns are eliminated in the second filter.

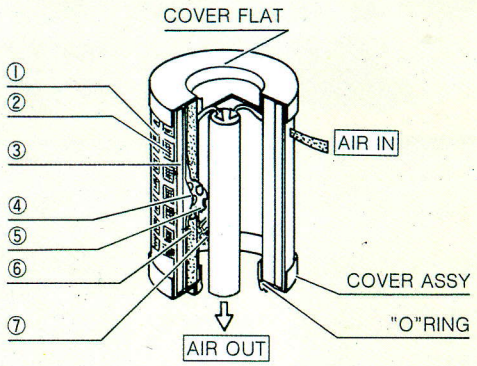
In the third element, 99.99% of oil mist and dust particles larger than 0.01 microns are eliminated.

In this way, clean dry air that will not harm air powered equipment is provided by the 3-in-1 MULTI DRY FILTER.

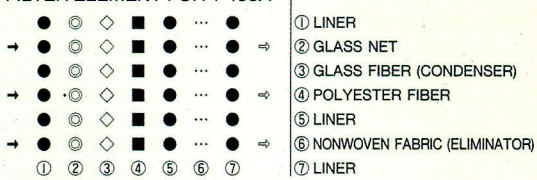
The 3-in-1 MULTI DRY FILTER AIR FLOW CHARACTERISTIC CURVE



STRUCTURE AND FUNCTIONS OF OIL MIST FILTER ELEMENT



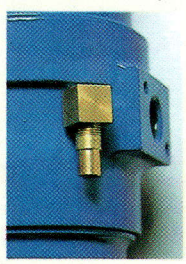
FORMATION OF OIL MIST FILTER ELEMENT FOR T-105A



The filter captures oil mist and solid particles in the compressed air and supplies clean air. The inner structure basically consists of a glass fiber ply (condenser) and a nonwoven fabric ply (eliminator). When oil mist and solid particles collide against the glass fiber, a molecular attraction is generated and they contact and adhere to the glass fiber ply. Even if there is no air flow tiny particles (less than 0.1 micron) will move in all directions by Brownian movement and contact and adhere to the glass fiber ply.

Although soild particles cannot be eliminated indefinitely, captured oil mist goes down to the fiber intersections and gathers together to make large oil droplets which eventually travel to the bottom of the filter. By a series of these actions oil mist is continuously removed from the air. The inner nonwoven fabric ply contains these large oil droplets by preventing them from being dispersed by air pressure. The droplets drain down to the collection area naturally by gravity.

There are two ways of discharging the collected oil mist.



1. AUTOMATIC DRAIN VALVE

When the air pressure drops below 1kg/㎠(14psi), the auto-drain automatically operates and drains the contents.

2. PETCOCK VALVE

In case of continuous operation, when the system is always pressurized, replace the automatic drain with the alternative petcock valve. Be sure to discharge accumulated oil by opening once a day. Otherwise, adjust the petcock so that a small amount of air leaks constantly.

OIL MIST FILTER ELEMENT REPLACEMENT

Replace the oil mist filter element once a year or when the difference in air pressure between the two gauges becomes more than 0.7kg/㎠ (10psi).

2in1 MULTI DRY FILTER

The unit eliminates 100% of the oil and water droplets plus solid particles larger than 5 microns.

※ 1st stage filter and 2nd stage filter have the same structure as the 3-in-1 MULTI DRY FILTER. (No oil mist filter element is installed in this model.)

ADVANTAGES

①STABLE REMOVAL EFFICIENCY

The unit Incorporates 2 filters and 2 chambers to remove oil and water droplets plus dust particles larger than 5 microns and delivers ultra clean dry air.

② EXCELLENT DURABILITY AND COOLING

The aluminum body provides excellent strength and helps to cool the compressed air. The cooling greatly increases the elimination of oil and water droplets.

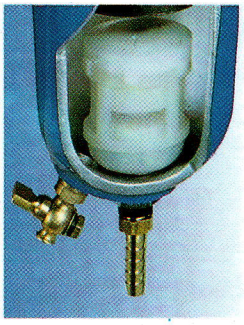
③QUICK AND EASY TO REPLACE THE FILTER ELEMENTS

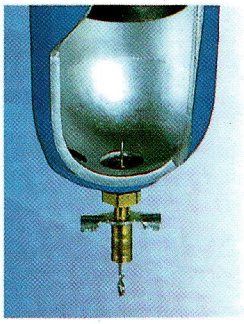
Replaced in less than 1 minute.

④PRESSURE GAUGE

The pressure gauge indicates when the filter element should be replaced.

There are two ways of discharging drain.



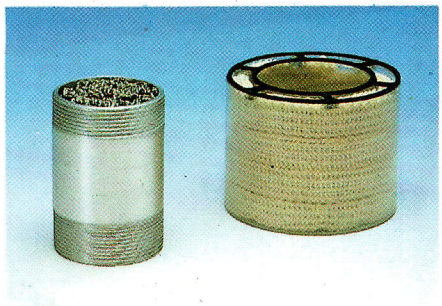


1. AUTO DRAIN

When adequate liquid accumulates, the float rises and opens the valve, and the accumulated liquid is discharged. Since the internal area of the auto-drain is covered with a screen, it will not malfunction as often as conventional auto-drains. To prevent the auto-drain from freezing during system shutdown periods in cold weather, the petcock may be used to drain any remaining accumulated liquid after system shutdown.

2. WEEP DRAIN

Continuously leaks small amount of air along with the liquid and prevents liquid from accumulating. Discharged air is no more than 1.7~5.0ℓ/min. (0.06~0.18cfm)



1st element　　2nd element

●Replacement of 1st and 2nd elements in the MULTI DRY FILTERS

The service life of the 1st filter element(made of special stainless steel) and 2nd filter element(made of special cotton cloth) depends on the amount of oil and contaminants in the compressed air.

Please replace or clean the 1st element every 4-6 months or every 1000 operating hours.

Please replace the 2nd element at the same intervals or whenever the pressure drop of the pressure gauge① becomes more than 0.7kg/㎠ (10psi).

■SPECIFICATIONS

3-in-1 MULTI DRY FILTER　　2-in-1 MULTI DRY FILTER

	AUTO DRAIN TYPE			WEEP DRAIN TYPE			AUTO DRAIN TYPE			WEEP DRAIN TYPE		
MODEL NO.	T-103A	T-105A	T-107A	T-103W	T-105W	T-107W	D-103A	D-105A	D-107A	D-103W	D-105W	D-107W
MAX PRESSURE kg/㎠(psi)	9.9(140)			9.9(140)			9.9(140)			9.9(140)		
TEMPERATURE RANGE ℃(℉)	5-60(41-140)			5-60(41-140)			5-60(41-140)			5-60(41-140)		
OIL ELIMINATION ppm w/w	※ 0.01			※ 0.01			———			———		
SOLID PARTICLE ELIMINATION μm	※ 0.01			※ 0.01			5			5		
MAX FLOW RATEN ℓ/min(cfm)	300(11)	750(26)		300(11)	750(26)		300(11)	750(26)		300(11)	750(26)	
PORT SIZE "PT	1/4	3/8	1/2	1/4	3/8	1/2	1/4	3/8	1/2	1/4	3/8	1/2
DIMENSIONS mm	85X100X260	110X130X310		85X100X260	110X130X310		85X100X210	110X130X310		85X100X210	110X130X310	
WEIGHT kg(lb)	1.12(2.46)	1.90(4.18)		1.07(2.35)	1.85(4.07)		0.95(2.09)	1.60(3.52)		0.90(1.98)	1.55(3.41)	

NOTE: Nℓ is the volume at atmospheric pressure.

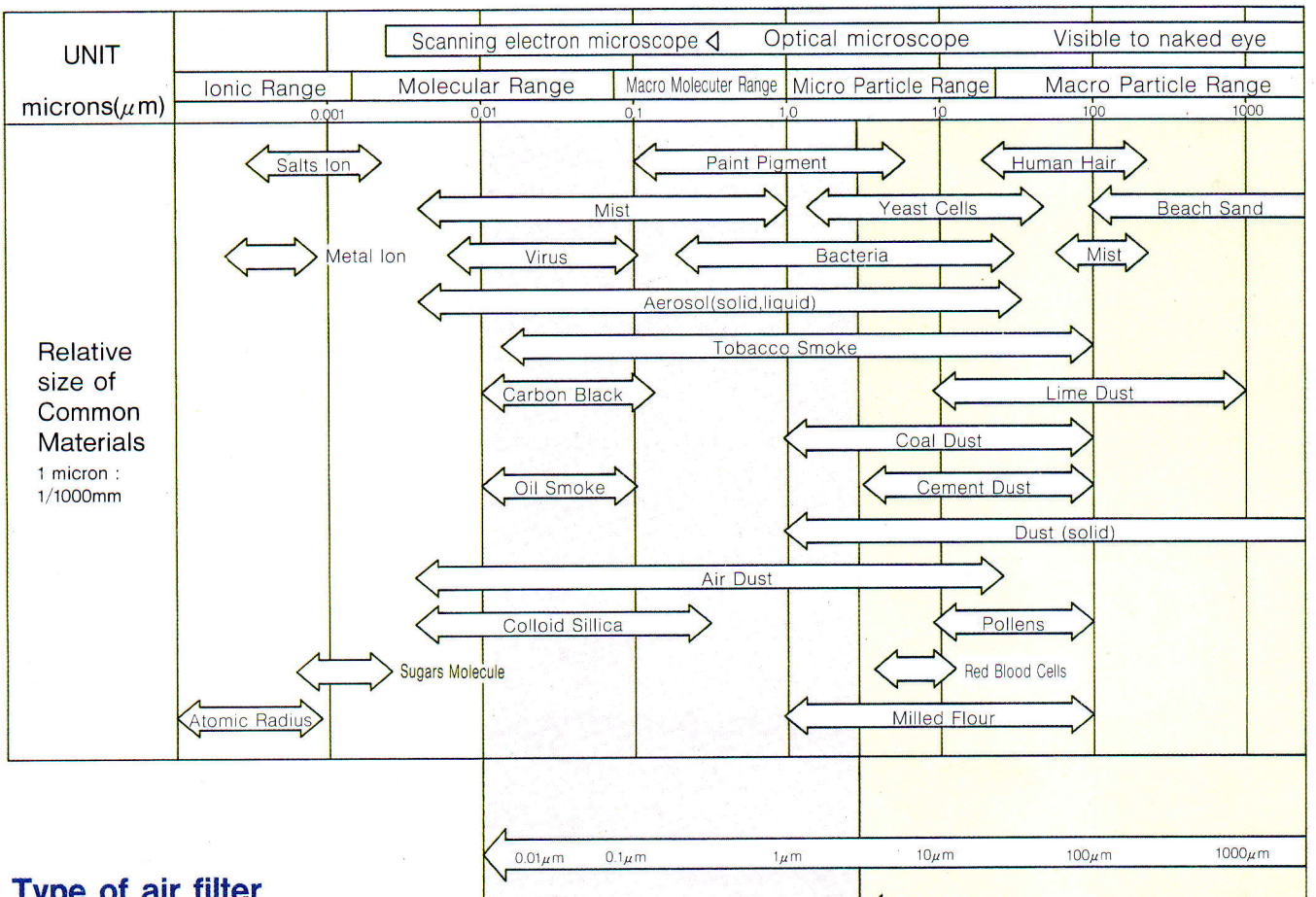
◆These specifications may be changed without notice.

※ A cartridge for 0.1 microns, 0.1ppm w/w will also be available soon.

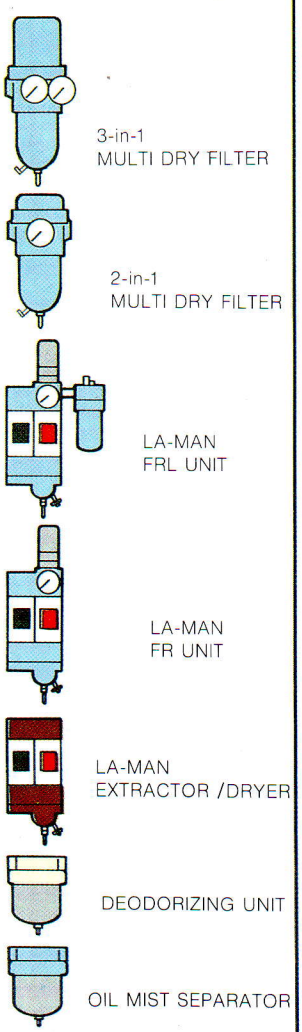
1/4" and 1/2" port size model will be available soon.

HOW TO SELECT A CLEAN AIR SYSTEM

SUBSTANCE SIZE CONTAINED IN THE ATMOSPHERE

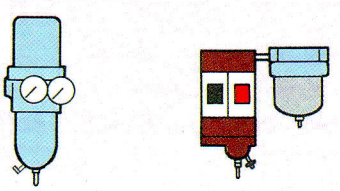


Type of air filter



To remove 99.99% of the oil mist, 100% of liquid water and solid particles of 0.01 microns

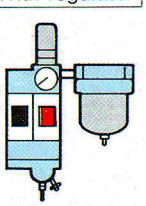
Filter combination



3-in-1 MULTI DRY FILTER

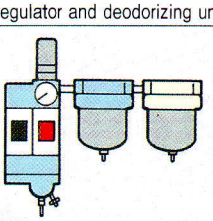
LA-MAN EXTRACTOR/DRYER +OIL MIST SEPARATOR

With regulator



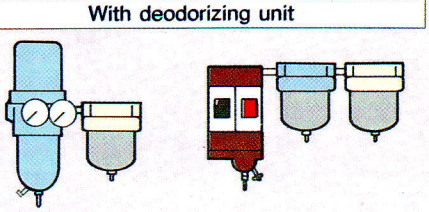
LA-MAN FR UNIT +OIL MIST SEPARATOR

With regulator and deodorizing unit



LA-MAN FR UNIT +OIL MIST SEPARATOR +DEODORIZING UNIT

With deodorizing unit

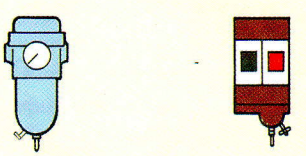


3-in-1 MULTI DRY FILTER +DEODORIZING UNIT

LA-MAN EXTRACTOR/DRYER +OIL MIST SEPARATOR +DEODORIZING UNIT

To remove 100% of liquid oil, water and solid particles over 5 microns

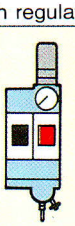
Fillter combination



2-in-1 MULTI DRY FILTER

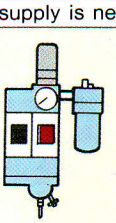
LA-MAN EXTRACTOR/DRYER

With regulator



LA-MAN FR UNIT

In case oil supply is necessary



LA-MAN FRL UNIT