

# SP Oil / Water Separators

## SP 25 / SP 40 / SP 60



### Engineered Molecular Filtration

- No Messy Element Changes
- Separates Emulsified Condensate
- Guarantee Less Than 10 ppm Carryover
- Maintenance Free

# Sullair Capabilities

## Sullair Leadership

Since 1965, Sullair has been recognized around the world as an innovator and a leader in rotary screw compression and vacuum technology. For more than 40 years, Sullair



has designed and manufactured its own rotors and air end assemblies at the corporate headquarters in Michigan City, Indiana.

The award-winning rotary screw design sets the industry standards and delivers the quality and reliability one expects from a leader.



## Sullair Technology

Utilizing the most modern technologies, equipment and advanced manufacturing techniques, Sullair designs, manufactures, assembles, and tests the most innovative compressed air and vacuum products in the industry. Sullair

products are known around the world for their universally applicable design, outstanding craftsmanship and superior quality.

## Sullair's Statistical Process Control

Sullair's Statistical Process Control (SPC) system monitors rotor quality standards to assure consistent compressor and vacuum performance.

## Sullair's Commitment to Innovation

Underlying Sullair's leadership is a dedication to excellence and a commitment to innovation. Sullair is constantly exploring new ideas and seeking new ways to meet industry's need for increasingly energy efficient compressed air and vacuum solutions.

## The Sullair Stationary Air Power System



### This System includes:

- rotary screw compressor
- wet storage
- refrigerated dryer
- filters to meet your requirement
- dry storage
- flow controller
- drains
- oil/water separator
- ethernet-based eConnect™ to monitor and control the entire system

# The Performance of Sullair's SP Oil / Water Separators

## The Problem

Compressed air systems generate liquid condensate that is a combination of water, oil and various other contaminants. Failure to remove these contaminants is bad for the environment and risks substantial regulatory penalties and costly remediation.

For example: A 1000 cfm (1700 m<sup>3</sup>/hr) compressor with a refrigerated dryer can produce over 57,000 gallons (216 m<sup>3</sup>) of condensate per year. One gallon of oil can cover 4 acres of water surface. This oil:

- Inhibits the operation of water treatment plants by choking bacteria used for sewage digestion
- Kills plants, fish and animals by reducing oxygen in water

## The Green Solution

SP model Oil / Water Separators are engineered molecular filtration solutions for condensate discharge problems. These units are designed for molecular filtration of condensate, including emulsified lubricant solutions. SP units have a 100% Performance Guarantee of less than 10 ppm oil carryover.

SP model Oil / Water Separators are engineered to minimize maintenance and reduce the cost of dealing with wastewater streams. This advanced molecular filtration system removes all types of lubricants, providing a truly scientific solution to the condensate problem.

SP units are filled with a media bed formulated to attract and hold contaminants, while at the same time repelling water



molecules. Wastewater passes through the media bed and traps the contaminants. The lubricants are actually bonded to the media bed, virtually eliminating the possibility of ground water contamination from the spent bed.

Unlike gravity-type oil / water separators that use elements and time to pre-filter condensate, the SP units need no pumps, sensors, or pre-separation filter pads. In addition, the rugged internal piping and a fail-safe decompression chamber assure proper operation.

All SP Oil / Water Separators contain media of the highest quality substrate. The media is a product of a proprietary sequenced process that applies the proper layers under tight quality assurance standards.

In most cases, used SP unit disposal can be managed by a regular waste management pick up service, provided the proper paperwork is completed.

# Features and Benefits of Sullair's SP Oil / Water Separator

- Less than 10 ppm guarantee
- Rugged HDPE construction
- Easy installation
- Place it and forget it
- Maintenance free
- No pumps, sensors, or pre-separation filter pads
- No messy element changes
- No power consumption
- No fumes
- No odors
- Disposal as non-hazardous special waste
- Environmentally considerate

SP's are proven to handle condensate containing these common compressor lubricants (including emulsified and silicone condensate solutions)

(NOTE: ++ Silicone Pak required):

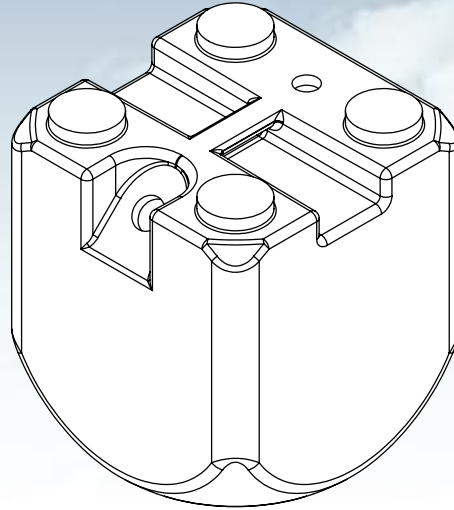
- Polyglycols
- Diester-based lubricants
- PAO-based lubricants
- Glycol-based lubricants
- Silicon-based fluids (++)
- Hydraulic lubricants
- Food grade lubricant
- Mineral-based lubricants

## Process Comparison

Process Comparison	SP Units	Flotation / Gravity	Flotation with Sorbent Final Filter	Boil Off
Polyglycols, Silicones & Emulsified	Yes	No	No	Yes
Performs equally with all lubricants	Yes	No	No	Yes
Electric power required	No	No	Yes	Yes
Maintenance free	Yes	No	No	No
Pump required	No	No	Yes	No
Sensors required	No	No	Yes	Yes
Odor free	Yes	No	No	No

# How the SP Oil / Water Separator Works

1. SP model Oil / Water Separators are simple, efficient, and maintenance free.
2. The condensate from the waste stream is piped directly into the SP inlet and flows through a specially engineered internal decompression chamber.
3. The condensate comes into contact with the media bed and the lubricant bonds to the media bed.
4. The cleansed water passes through the media and flows to the outlet.
5. Monitor Water discharged from SP Oil / Water Separators
6. When planned change period is reached or water turns cloudy the separator should be replaced.



## Specifications

Specifications	SP-25	SP-40	SP-60
Inlet (see notes below)	6 x .25" brass hose barbs	6 x .25" brass hose barbs	6 x .25" brass hose barbs
Outlet (see notes below)	1 x .50" schedule 80 PVC hose barb	1 x .50" schedule 80 PVC hose barb	1 x .50" schedule 80 PVC hose barb
Height (H)	21.75"	41.75"	41.75"
Width (A/B)	20"	20"	20"
Maximum flow (gpm)	3	3	3
Maximum psig	2	2	2
Maximum / minimum temperature	155°F / 33°F	155°F / 33°F	155°F / 33°F
Minimum weight	200 lbs	330 lbs	470 lbs

NOTES:  
SP model Oil / Water Separators are filled by volume, not by weight.

INLET NOTE: The inlet hub is fitted with 6 x .25" brass hose barbs that accommodate .25" inside diameter hose to be fastened with a drive clamp.

OUTLET NOTE: The outlet hub is fitted with 1 x .50" schedule 80 PVC hose barb that accommodates .50" inside diameter hose to be fastened with a drive clamp.

# Model Selection and Size Table

Any size SP Oil / Water Separators can be used with all compressor sizes regardless of lubricant or humidity; the amount of lubricant in condensate determines the lifespan of each unit. This hour chart is based on 3.5 ppm carryover performance.

Life expectancy of the SP Oil / Water Separators depends on the amount of lubricant carryover from the compressor(s).

Contaminant absorption capacity is approximately 50% of media bed volume.

**Hour Chart**

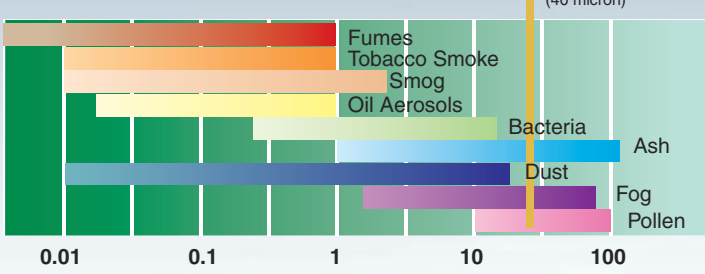
hp	Discharge scfm	SP-25 hours	SP-40 hours	SP-60 hours
5	20	200,000		
10	40	100,000		
15	75	75,000		
20	100	50,000		
25	125	40,000		
30	150	30,000		
40	200	24,000		
50	250	20,000	30,000	
60	300	15,000	24,000	
75	375	12,000	20,000	30,000
100	500	10,000	16,000	24,000
125	600	8,000	13,000	20,000
150	750		11,000	17,000
200	1000		8,000	13,000
300	1600			8,000
350	1900			7,000
400	2200			6,000
450	2350			5,600
500	2500			4,800
600	3000			4,000

**APPLICATION NOTES:**

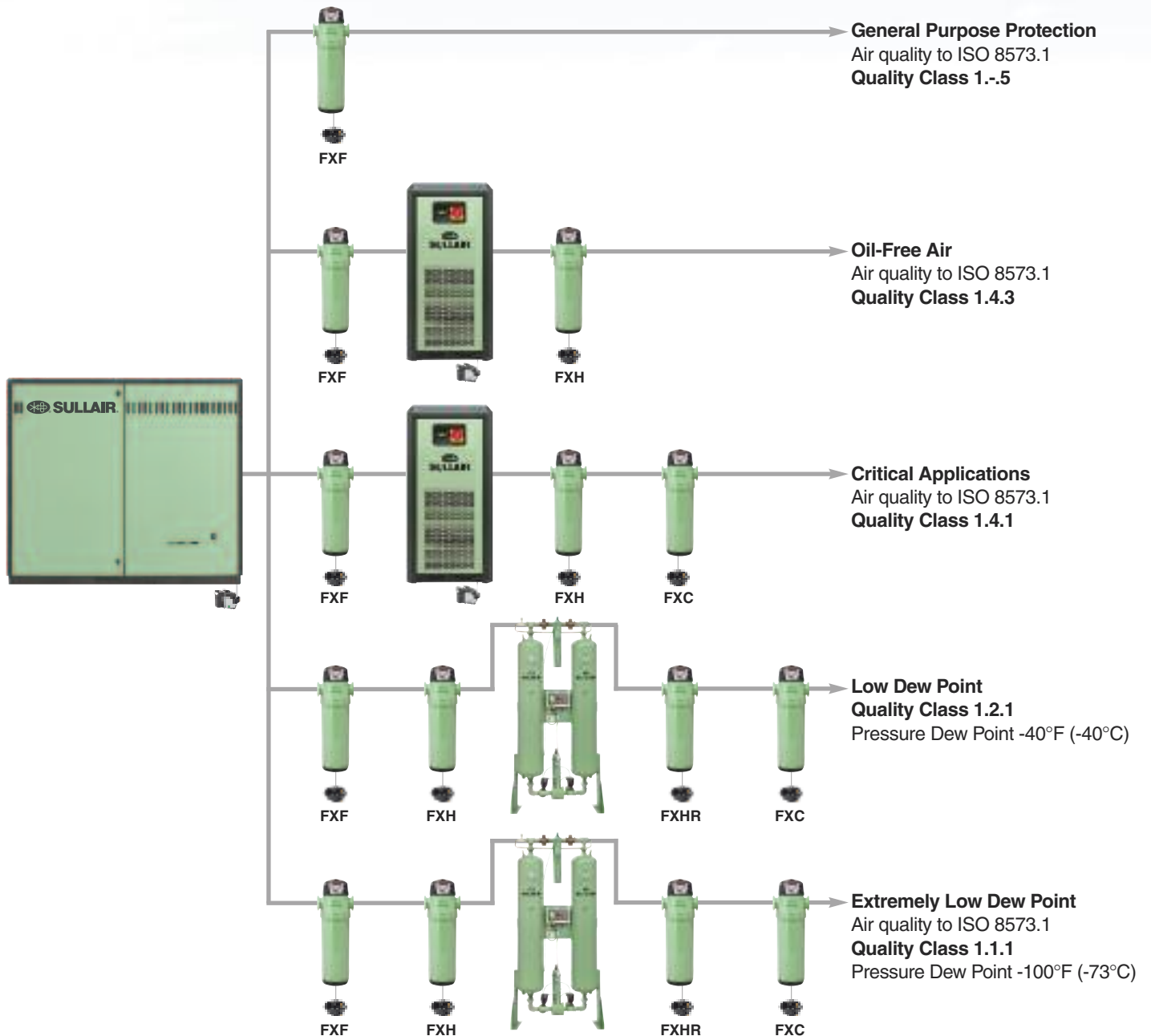
1. Application Chart calculations are operating hours and typical operating condensate flows.  
Life spans may vary due to differences in air compressor oil consumption rates, age and maintenance of compressor.
2. For larger applications, units may be installed in series or groups.
3. SP units are disposable units and do not require element changes.

# Air Quality Standards ISO 8573.1 Classes

Particle (micron) size of some common substances. Eye Sight Threshold (40 micron)



Class	Solid Particle Maximum number of particles per m <sup>3</sup>			Pressure Dew Point °F	Oil (incl. vapor) mg/m <sup>3</sup>
	0.1-0.5 micron	0.5-1 micron	1.0-5 micron		
1	100	1	0	-94	0.01
2	100,000	1,000	10	-40	0.1
3	-	10,000	500	-4	1.0
4	-	-	1,000	37	5.0
5	-	-	20,000	45	-
6	-	-	-	50	-



# Sullair's Compressed Air Products

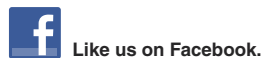
[www.sullair.com](http://www.sullair.com)




Fundamental to Sullair's leadership is a dedication to reduce not only the amount of natural resources consumed to create energy, but to minimize environmental impact, in both the manufacture and use of all our products. We are constantly exploring new ideas and seeking new technologies to meet the ever-increasing need for high quality, energy-efficient compressed air products and environmental sustainability.



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