Scroll Laboratory Air Systems





Scroll Laboratory Air The complete solution

Built on the principle of single point connections, BeaconMedæs offers the complete solution Scroll Air Package. With design focus on overall system efficiency and serviceability, coupled with the state of the art TotalAlert Embedded control system, this all-inclusive Scroll laboratory air package is in a class of its own.

- Designed to ISO 13485 standards and procedures
- New dryer system to deliver Class 1-2-0 air, with minimal leak points and improved serviceability
- Non-threaded fittings and connectors to reduce potential leak points and conserve energy
- Single point connections for outflow, electrical and drainage.
- Touchscreen controls for system operation, alarms and warnings, service screens and event logs
- Embedded web server, remote monitoring and e-mail/pager alerts
- Ethernet connectivity for simple installation

Scroll Compressor

- Minimal moving parts ensure a long operating life with minimum number of service interventions.
- With no need for oil lubrication in the compression chamber, you are guaranteed high-quality, oil-free air.
- The scroll elements are belt-driven, eliminating the need for a gearbox. Oil-free in every way.

Suction opening	
Suction	
chamber	
Cooling	
fan	
ian	
Fixed scroll	
Orbiting scroll	
Compression chamber	
Delivery	



Desiccant Dryer

Clean, Laboratory Air

The air dryer delivers clean, dry air all the time. The drying towers are sized specifically to match the compressor capacity and are capable of producing a -40 pressure dew point.

The unique aftercooler design ensures effective dryer operation even under heavy duty conditions, guaranteeing dew point performance.

High efficiency coalescing filters remove particles and liquids from the air stream to protect the dryers and to protect your air delivery. The repressurization cycle in the dryer add an additional safeguard against desiccant dusting and valve wear.

Dryer Efficiency – Dew Point Purge

The heatless desiccant dryers utilize dew point dependent purge control to guarantee the lowest possible energy losses for desiccant regeneration while delivering a totally stable and reliable dew point. Purge air is minimized with tower switching based on dew point readings, so when the air demand is low, so is your energy consumption. With less purge air required to regenerate the drying towers, you save additional energy dollars.

Simplicity

Designed for efficiency in the air system, the air dryer's simple design begins with an "easy access" top loading cartridge for simple removal and superior performance. The easy access design eliminates the need to remove desiccant columns or disturb surrounding pipework and filters to change desiccant cartridges, saving time and effort during maintenance.

The fitted silencers on the dryer reduce the noise level of the dryer and allow for quiet operation. As the silencers are external to the dryer, service is easy - no extrusions need to be removed, allowing for fast and efficient servicing.



Touchscreen Functionality

The Scroll Laboratory systems feature high-detail touchscreen controls. All systems incorporate a large "system" screen with additional "unit" screens for each pump/motor combination. Easy-to-read color graphics and icons make navigation a breeze and portray the system's vital information.

- Motion sensor activates touchscreens, preserving the screen life
- Self-diagnostic alerts to inform you of potential system problems before becoming alarm/shutdown conditions

TotalAlert Embedded

The TotalAlert Embedded controls enable you to network your Scroll system with your TotalAlert alarm panels through your facility's Ethernet. By simply connecting the control panel to an Ethernet hub, you can monitor the system remotely from any computer on the facility's network. No additional wiring, no additional software - all inclusive out of the gate.

- *Text/e-mail alerts and alarms notify the right people immediately*
- Ethernet communication compatible with TotalAlert alarm systems



Trend screens for historical analysis of problems or potential problems.

MAINTENANCE - UNIT 1 🛛 🔀						
SERVICE ITEM	DUE IN					
CHECK BELT TENSION	26 DAYS					
15 HP UNIT BASIC KIT	-5 DAYS					
15 HP UNIT EXT KIT	933 DAYS					
GREASE PUMP BEARINGS	4225 HOURS					
REPLACE PUMP TIP SEALS	9225 HOURS					

Service screens with countdown timers and alerts for upcoming maintenance items.

(2)



LAS Series Scroll Air Compressors Meet ISO 8573-1 Class 1.2.0

ISO 8573-1 (2010) Class	Solid Particulate			Water			Oil / Hydrocarbons			
	Maximum number of particles per m ³			Mass Concentration	Vapor Pressure Dewpoint		Liquid	Total Oil Aerosol Liquid & Vapor		
	0.1 - 0.5 micron	0.5 - 1 micron	1 - 5 micron	mg/m³	°C	°F	g/m³	mg/m³		
0	As specified by the equipment user or supplier and more stringent than Class 1									
1	≤ 20,000	≤ 400	≤ 10	-	≤ -70	≤ -9 4	-	≤ 0.01		
2	≤ 400,000	≤ 6,000	≤ 100	-	≤ -40	≤ -40	-	≤ 0.1		
3	-	≤ 90,000	≤ 1,000	-	≤ -20	≤ -4	-	≤1		
4	-	-	≤ 10,000	-	≤ +3	≤+37.4	-	≤ 5		
5	-	-	≤ 100,000	-	≤ +7	≤ +44.6	-	-		
6	-	-	-	≤ 5	≤+10	≤ +50	-	-		
7	-	-	-	< 5-10	-	-	-	-		
8	-	-	-	-	-	-	-	-		
9	-	-	-	-	-	-	-	-		
Х	-	-	-	≤ 10	-	-	-	> 10		

Typical Industries We Serve with LAS Series



CLEANROOM (ISO 8573-1 Class 1.2.0)



FOOD & BEVERAGE (ISO 8573-1 Class 1.2.1)



PHARMACEUTICAL (ISO 8573-1 Class 2.2.1)



LASERS & OPTICS (ISO 8573 Class 1.2.1)



SILICON WAFER (ISO 8573-1 Class 1.2.1)



UNIVERSITIES & RESEARCH CENTERS (ISO 8573 Class 1.2.0)

Perfectly Adapted for Analytical Instruments and Gas Generators



Reliability



Aftercooler Design

The Aftercoolers have separate cooling fans from those used for cooling the compressors. Individual fans ensure temperatures to the dryer of 15 degrees above ambient. Another insurance that the dryers will operate as designed, providing low dew point air.



Fittings and Connections

Anodized aluminum blocks and flanged fittings are utilized throughout the air stream design. Flanged and O-ring type connections make servicing the system a snap and prevent costly leaks in the air stream.

Zero Loss Electronic Drain

The Zero Loss Electronic drain valve ensures that your drains are fully cleared without wasting any of the air, adding to the overall cost-efficiency of the Scroll Laboratory Air System.

Maintenance Made Simple

Scroll Towers

While minimizing footprint, the tower design allows ease of access to all sides of the compressor, motor, belts, and aftercoolers. Belt adjustments are easy to make. Greasing bearings and tip seal changes are much more efficient and can be performed on site.



Dryer Towers

Desiccant towers are easy to reach and simple to remove for service. Inlet and outlet filter cartridges are easily reachable and removable without obstructions. Basic servicing does not require extra steps or items to remove.



The TotalAlert Embedded (TAE) control panel features an intrinsically safe 24v within the panel. Service personnel are at less risk while performing maintenance tasks with the control panel. With the edition of TAE control boards, there's even less wiring in the control panel.







Electrical Connections

The control panel comes pre-drilled to make the electrical connections as safe and quick as possible. Connections for main power, alarm contacts, and Ethernet are easily accessible. No metal shavings from hole drilling to damage the system.

Ease of Installation



Disassembly of System

All Scroll systems are designed to fit through standard doorways. The larger Scroll systems can quickly be disassembled for transport. Reassembly requires few steps with mistake-free reconnections ensuring your system is wired exactly as it was intended.



Outlet Connections

System connections are located in easy-to-pipe configurations. Inlet piping contains flex connectors as required by code, so no extra parts are required during installation. Connections are structurally supported so that potential weight damage to the piping is eliminated.

Space Saving Configurations

BeaconMedæs offers the Scroll in a variety of formats designed for ease of installation, maintenance, and above all, to save space over most other compressor types and configurations.

System Start Up

For every Scroll installation, an authorized BeaconMedæs service technician provides the system start-up. With critical functions relying on the air system, BeaconMedæs ensures the system's proper installation and functioning during start up.

- Proper system operation is assured
- Time and money savings if problems occur at start up
- Elimination of potential warranty issues in the future

Preventive Maintenance

The efficient operation and service friendly design of the Scroll Laboratory Air Systems keep maintenance interventions to a minimum in both frequency and time. Effective service access combined with extended service intervals reduces maintenance downtime and compressor availability

- Low level of consumable parts
- Direct access to all service points
- Service warning function available via the TotalAlert Embedded controller
- BeaconMedæs Planned Maintenance Program available



