



# HSP

5 to 75 hp.  
Sullair HSP Rotary Screw Vacuum Systems

### Standard Equipment

- NEMA frame ODP motor
- Heavy duty structural base
- Inlet air filter
- Air or water-cooled heat exchanger
- Temperature control valve
- High temperature shutdown switch
- High discharge pressure protection
- Full voltage starter
- Coupling guard
- Mechanical running test
- Initial charge of fluid
- Inlet isolation valve
- Incoming power circuit breaker
- Dual control - full load/no load or automatic start/stop
- Automatic re-start upon return of power after an outage
- Discharge vent connection to outdoors
- 2-year warranty on the vacuum unit
- Bearing fluid filter and recirculating pump strainer (400 acfm and larger)
- Low fluid pressure shutdown switch (400 acfm and larger)
- Recirculating pump (400 acfm and larger)

### Standard Features

#### Lower operating costs.

Consumes less power. Requires little or no water.

#### Lower installation costs.

Duplex packages through 300 acfm per machine.

#### Complete instrumentation/monitoring.

Takes guesswork out of maintenance.

#### Constant vacuum level

Integral capacity regulation adjusts throughput to demand.

#### Flexible system controls.

Optimum efficiency for your demand cycles.

#### HSP system capacity.

Ranges from 78 acfm to 1000 acfm.

Sullair's Hospital Suction Package (HSP) systems are specifically designed to provide continuous vacuum for hospital applications. Manufactured from Sullair's proven Rotary Screw Vacuum System, they meet or exceed the requirements for packaged vacuum pumps per NFPA 99, Health Care Facilities.

As HSP systems do not require water, savings are immediate. The inherent high efficiency of the rotary screw mechanism, combined with 0 to 100 percent capacity control, which matches throughput to demand, provides significant energy savings.

#### Packages

Simplex HSP systems have a capacity range from 78 to 1000

acfm. Duplex packages are available from 78 to 300 acfm per pump. Larger systems are supplied as separate packages. Each machine in an HSP system is equipped with an inlet isolation valve, dual-wafer soft-seat inlet check valve, initial charge of fluid, and ten-micron oversized inlet filter.

#### Capacity control

Integral capacity control holds constant system vacuum level against varying load demand.

#### Vacuum units

Single-stage, heavy-duty, lubricated asymmetrical profile rotary screw type. Smaller units (300 acfm and under) are equipped with tapered roller bearings. Larger units (400 acfm and above) have angular contact ball and cylindrical roller bearings.

#### Motors

230/460V or 575V standard NEMA T-frame C-faced with class B insulation, open drip-proof squirrel cage induction type. 50Hz systems are available with performance identical to 60Hz operation.

#### Coupling

Motor is C-face mounted to vacuum unit and coupled directly through nonlubricated flexible coupling.

#### Starters

Full voltage magnetic with 120V control circuit transformer, circuit breaker disconnect and three-phase over-load protection. Each HSP contains mounted starting/control system in a NEMA 1 (300 acfm and smaller)

or NEMA 12 (400 acfm and larger) enclosure giving true redundancy on multiple machine systems and providing a means of safe electrical maintenance on an off-line pump.

#### Discharge air/fluid separation system

Combination fluid reservoir and pleated, high efficiency coalescing separator element (two-stage elements on 650 acfm and larger units) with overpressure relief device and fluid level sight glass. Each VS unit of the HSP system contains its own dedicated reservoir/separator for true redundancy on duplex systems. Each is equipped with discharge vent, for connection to the outdoors, per NFPA 99 Health Care Facilities.

#### Cooling/lubrication system

Fluid removes heat of compression from vacuum unit and is circulated by vacuum differential or a fluid pump, driven by separate motor through an air-cooled heat exchanger. Equipment includes fan, full flow fluid filter, fluid thermal bypass valve and fluid pressure gauge (400 acfm and larger). Water-cooled models are also available.

#### Controls

Each HSP is equipped with a dual set-point vacuum switch and hand-off-auto selector switch. The control system can be field adjusted at any time for constant vacuum level control (achieved through built-in automatic inlet capacity regulation), full-load/no-load continuous run cycling, or automatic start/stop through differential vacuum set-

ting. This flexibility allows the user to achieve the most efficient control scheme against varying load demand.

**Automatic alternation**

Optional automatic alternator is housed in a NEMA 12 enclosure with machine run lights and is provided for wall mounting. Alternation is accomplished through a programmable controller with a panel-mounted digital readout timer, which can be field adjusted to alternate lead/lag at programmed intervals. The lead machine carries base load demand and lag machine(s) will remain as automatic standby for emergency situations or if demand exceeds lead machine capability.

**Protective devices**

Each VS unit in the HSP system is equipped with incoming power circuit breaker, high discharge temperature switch, high discharge pressure switch and low lubricant pressure switch (400 acfm and larger); main drive, fluid pump and fan motors are overload protected.

**Automatic re-start**

As recommended by NFPA 99, Health Care Facilities, each VS unit in the HSP system is equipped with circuitry that will re-start the units upon return of power after an outage.

**Gauge panel**

Each VS unit in the HSP system is equipped with monitoring gauges for system vacuum, discharge temperature, lubricant pressure (400 acfm and larger) inlet filter maintenance, fluid filter maintenance and discharge separator maintenance.

**Sound control**

All HSP systems are available with an optional sound attenuating enclosure for installation in critical areas of the facility.

**Warranty**

Sullair vacuum units are warranted for two years. If a unit

fails during the warranty period, we will provide a replacement unit. After the warranty period, we will continue to support your vacuum unit with factory exchange and rebuild programs.

**HSP Specifications (Simplex)**

<b>Model*</b>	<b>HP/kW</b>	<b>Capacity scfm-free air @ 19"/25" HgV</b>	<b>Shaft bhp @ 19"/25" HgV</b>
<b>80</b>	5/4	43/19	4.0/3.7
<b>120</b>	7.5/5.5	44/20	6.7/6.1
<b>150</b>	10/7.5	53/24	8.5/7.6
<b>200</b>	15/11	72/32	13.9/12.3
<b>250</b>	15/11	90/40	13.6/12.1
<b>300</b>	20/15	113/51	18.9/18.1
<b>400</b>	30/22	158/71	21.4/18.8
<b>550</b>	40/30	197/89	30.7/25.8
<b>650</b>	50/37	231/104	37.7/32.3
<b>800</b>	60/45	296/133	41.4/36.9
<b>1000</b>	75/55	378/171	63.1/56.3

\*Model number indicates nominal acfm.



Sullair Corporation is a member of the Compressed Air Challenge, sponsored by the United States Department of Energy.



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