SULLAIR®

DSP SERIES

CE

Oil Free Rotary Screw Air Compressors

22–240 kW



ISO 8573-1 CLASS 0
SULLAIR COMPRESSORS
OIL FREE

Sullair and Hitachi

When Sullair became A Hitachi Group Company in July, 2017 — two compressor titans joined forces — bringing customers more solutions to achieve their compressed air needs.

Since 1965, Sullair has been recognized worldwide as an innovator and leader in rotary screw compression and vacuum technology. Now combining more than 100 years of Hitachi compressor engineering experience with the dedicated sales, service and distribution experience of Sullair — presenting the DSP Series of Oil Free Rotary Screw Compressors. The DSP Series represents the best of more than 50 years of Hitachi oil free compressor experience and expertise.

RELIABILITY.
DURABILITY.
PERFORMANCE.

These are the pillars that drive the quality of Sullair compressed air solutions. It's a promise we keep with every machine we make.

RELIABILITY

Customers who work with Sullair have found that the intangibles make all the difference — things like trust, confidence, and peace of mind. They go to work every day having full faith in their equipment, as well as the knowledge that dedicated distributors and Sullair personnel have their back every step of the way.

DURABILITY

Bulletproof. Built to last. However you spin it, Sullair compressed air solutions are in it for the long haul, driven by the design of the legendary air end. In factories and shops all over the world, you'll find Sullair compressors that have stood the test of time, running consistently today like they did on day one.

PERFORMANCE

You have high expectations for your operations, and we make machines that share your work ethic. Sullair compressed air solutions do what they're supposed to do, and they do it extremely well for a very long time. And working with us means not only access to clean, quality air, but also the tools you need to optimize this vital resource.

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THE SULLAIR OIL FREE SEAL

The Sullair Oil Free Seal is your assurance the compressor produces the clean air needed to help ensure the highest quality production in your facility. All Sullair compressors which meet the ISO standard for Class 0 oil free air ISO 8573-1 carry the Sullair Oil Free Seal.

OIL FREE COMPRESSION AND ROTARY SCREW DEPENDABILITY

The DSP Series rotary screw air compressors are the perfect choice for applications requiring completely oil free air, including:

- Pharmaceuticals
- Food and beverage manufacturing
- Electronics
- High-technology manufacturing
- Textile manufacturing
- Robotics
- Automotive
- Paint

The roots of the DSP Series come from Hitachi — with thousands of successful oil free rotary screw compressor installations around the world today.

Why Oil Free?

In many operations, compressed air comes into contact with items in the manufacturing process. When air purity is critical — oil free air is essential. Oil particulates in compressed air can contaminate downstream processes and production. Oil Free compressors eliminate potential contamination as no oil or lubricant is introduced into the air compression process. Reduced risk of contamination helps improve your business operations and profitability.







AIR QUALITY STANDARDS

ISO 8573-1 CLASSES

Class	Solid Particle Maximum number of particles per m^3			Pressure Dew Point °F (°C)	Oil (incl. vapor) mg/m^3
	0.1–0.5 micron	0.5–1.0 micron	1.0–5.0 micron		
0	**As specified by the end-user or manufacturer, and more stringent than Class 1**				
1	≤ 20,000	≤ 400	≤ 10	≤ -94° (-70°)	0.01
2	≤ 400,000	≤ 6,000	≤ 100	≤ -40° (-40°)	0.10
3	—	≤ 90,000	≤ 1,000	≤ -4° (-20°)	1.00
4	—	—	≤ 10,000	≤ 37.4° (3°)	5.00
5	—	—	≤ 100,000	≤ 44.6° (7°)	—
6	—	—	—	≤ 50° (10°)	—

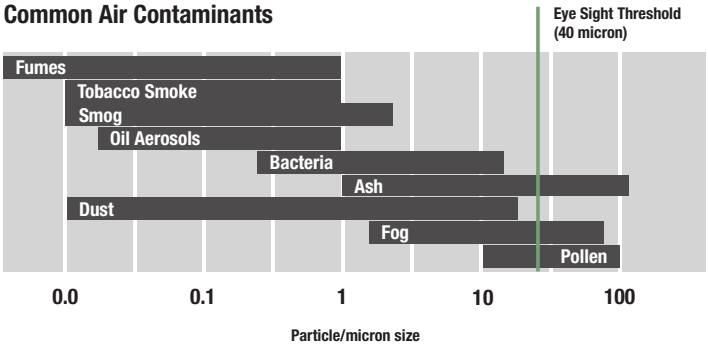
Class 0 Oil Free Air — For applications in which air purity is essential, including pharmaceuticals, food and beverages, electronics, automotive painting, and textiles.

DSP Series compressors are certified oil free under ISO8573-1.

ISO 8573-1 CLASS 0 SULLAIR COMPRESSORS

OIL FREE

Common Air Contaminants



DSP SERIES

The DSP Series brings advanced oil free operations right where it is needed: your facility! Built on Hitachi engineering, the DSP is designed to supply oil free air reliably, efficiently and quietly — today and tomorrow.

PACKAGE WARRANTY • PACKAGE WARRANTY • PACKAGE WARRANTY
3 YEAR

Restrictions apply.



TWO-STAGE DRY SCREW PRODUCT OVERVIEW														
Motor Output (kW)	**22**	**30**	**37**	**45**	**55**	**75**	**90**	**100**	**120**	**132**	**145**	**160**	**200**	**240**
Air-Cooled/Fixed Speed	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Air-Cooled/Variable Speed			■		■	■		■				■		■
Water-Cooled/Fixed Speed				■	■	■	■	■	■	■	■	■	■	■
Water-Cooled/Variable Speed					■	■		■				■		■
	← 7.5 / 9.3 Bar →									← 7.5 / 9.3 / 10 Bar →				

Key features:

- Wye-Delta or VSD Starter
- Phase Monitor
- Altitude capable to 2740 meters

Warranty information:

- All DSP Series Compressors feature a 3 year package warranty when continuously serviced with genuine DSP parts. Restrictions apply.



INNOVATIVE AIR END DESIGN

- Patented taper rotor design optimized for efficiency
- Stainless steel rotors in 1st and 2nd stage and patented PTFE-free coating designed to:
  - Provide superior corrosion resistance
  - Increase durability
- Patented PTFE-free coating robotically applied for precise coverage
- Coating specifically engineered to help ensure rotor tolerances remain consistent, maximizing discharge capacity over the life of the unit
- Stator housing coated to provide additional corrosion protection



MOTORIZED ISOLATION VALVE

Automatically closes compressed air discharge when DSP shuts off — protecting the compressor from condensate backflow.



PATENTED OIL MIST REMOVER

Environmentally friendly solution to recapture gearcase oil mists

- Helps ensure oil free air compression
- Recycles gearcase oil to reduce oil topoffs needed
- Helps promote a cleaner production environment

PACKAGE DESIGNED TO OPTIMIZE ENERGY EFFICIENCY AND OIL FREE OPERATION

- Compact design
- VSD models feature a Patented No Inlet Valve Design
  - Eliminates negative pressure at unloading — helping increase shaft seal reliability
- Fixed speed models feature patented 3 or 5 way solenoid valve
- Interstage air purging
  - Provides energy savings when unloading
- Patented High Pre-Cooler Design
  - Redundant cooler helps prevent thermal fatigue and cooler failure
  - Helps reduce moisture content in compressed air

The DSP Series is covered by one or more of the following US patents: 6461112, 6561766, 6739841, 8801412, 9328731

DSP SERIES

RELIABLE HITACHI ENGINEERED PACKAGE DESIGN BASED ON MORE THAN 50 YEARS OF OIL FREE ROTARY SCREW EXPERIENCE

Designed for the ultimate in reliability the DSP Series Includes these key features:

- Phase Monitor — providing protection from electrical issues
- Noise-reducing package including:
  - Full enclosure as standard
  - Mechanical and electrical vibration isolation
  - VSD fan
- VSD packages under 75 kW include DCBL motors
- Maintenance and service friendly features including:
  - External grease fittings on 37 kW motors and larger
  - Easy access to air and oil filter elements
- Gearbox lubrication features Sullair AWF® fluid for wide range of temperature applications

Controller features include:

- 4.3″ Color Touch Screen
- Lead/Lag capability
- MODBUS RTU standard (TCP optional)
- USB memory data export in .csv format
- Bluetooth web connectivity





DSP75 Model Features Include:

1a and 1b. **HITACHI TWO-STAGE AIR END —** featuring stainless steel rotors and patented PTFE-free coating. Both first and second stage air ends are easy to remove separately for long-term maintenance needs.

2. **HITACHI TEFC ELECTRICAL MOTOR —** reliable, high efficiency — features external grease fittings

3. **CENTRIFUGAL COOLING FAN —** with efficient TEFC fan motor

4. **PATENTED OIL MIST REMOVER —** exclusive to DSP Series compressors. Gearcase oil mists are recaptured and recycling — improving ultimate air quality while reducing topoff requirements.

5. **AFTERCOOLER —** provides second stage of cooling in conjunction with patented High Pre-Cooler

6. **DRAIN SEPARATOR —** located before 2nd stage air end to help remove moisture from 1st stage compression

7. **FLANGE CUSTOMER CONNECTION —** simplifies installation

8. **SOLID BASEPLATE —** provides additional noise dampening

9. **EASY ACCESS OIL FILTER —** magnetic door panels do not need to be removed


5
3
2
1b
1a
6
9
8

TECHNICAL SPECIFICATIONS

FOR MORE INFORMATION, CONTACT YOUR LOCAL AUTHORIZED SULLAIR DISTRIBUTOR.

FIXED SPEED — 50 Hz AIR COOLED	POWER	CAPACITY[1] @7 barg	CAPACITY[1] @9 barg	CAPACITY[1] @10 barg	WEIGHT	DIMENSIONS — W x D x H	SOUND LEVEL[2]
Model	**kW**	**m^3/min**	**m^3/min**	**m^3/min**	**kg**	**mm**	**dBA**
DSP22	22	3.7	3.2	—	1120	1530 x 1150 x 1650	64
DSP30	30	4.7	4	—	1230	1530 x 1150 x 1650	66
DSP37	37	5.6	4.7	—	1230	1530 x 1150 x 1650	67
DSP45	45	7.4	6.2	—	1600	2000 x 1300 x 1800	65
DSP55	55	9.2	7.2	—	1600	2000 x 1300 x 1800	65
DSP75	75	13	10.5	—	1860	2250 x 1300 x 1800	68
DSP90	90	16.6	13.9	—	2200	2150 x 1520 x 1975	70
DSP100	100	18	15.4	—	2200	2150 x 1520 x 1975	71
DSP120	120	20.5	17.3	—	2380	2150 x 1520 x 1975	73
DSP132	132	22.5	20	19	3860	2900 x 1700 x 1925	74
DSP145	145	25	21.4	20	3860	2900 x 1700 x 1925	75
DSP160	160	27.5	23.9	22.5	3960	2900 x 1700 x 1925	75
DSP200	200	37	32.2	30	5000	3200 x 1890 x 1950	77
DSP240	240	40	35	32.5	5000	3200 x 1890 x 1951	78
FIXED SPEED — 50 Hz WATER COOLED	**POWER**	**CAPACITY[1] @7 barg**	**CAPACITY[1] @9 barg**	**CAPACITY[1] @10 barg**	**WEIGHT**	**DIMENSIONS — W x D x H**	**SOUND LEVEL[2]**
Model	**kW**	**m^3/min**	**m^3/min**	**m^3/min**	**kg**	**mm**	**dBA**
DSP45W	45	7.5	6.4	—	1580	2000 x 1300 x 1800	63
DSP55W	55	9.4	7.4	—	1580	2000 x 1300 x 1800	63
DSP75W	75	13.2	10.7	—	1710	2000 x 1300 x 1800	66
DSP90W	90	16.8	14.0	—	2050	2150 x 1520 x 1825	68
DSP100W	100	18.3	15.6	—	2050	2150 x 1520 x 1825	69
DSP120W	120	21.0	17.6	—	2230	2150 x 1520 x 1825	70
DSP132W	132	23.4	20.7	19.6	3760	2500 x 1600 x 1925	69
DSP145W	145	26.0	22.2	20.6	3760	2500 x 1600 x 1925	70
DSP160W	160	28.5	24.8	23.2	3760	2500 x 1600 x 1925	70
DSP200W	200	37.0	32.2	30.0	4600	2800 x 1800 x 1950	70
DSP240W	240	40.5	35.0	32.5	4600	2800 x 1800 x 1950	71
VARIABLE SPEED — 50 Hz AIR COOLED	**POWER**	**CAPACITY[1] @7 barg**	**CAPACITY[1] @9 barg**	**CAPACITY[1] @10 barg**	**WEIGHT**	**DIMENSIONS — W x D x H**	**SOUND LEVEL[2]**
Model	**kW**	**m^3/min**	**m^3/min**	**m^3/min**	**kg**	**mm**	**dBA**
DSP37V	37	3.6–5.5	3.5–4.6	—	950	1530 x 1150 x 1650	67
DSP55V	55	6.5–9.3	5.8–7.7	—	1340	2000 x 1300 x 1800	65
DSP75V	75	6.3–12.6	6.5–10.9	—	1560	2250 x 1300 x 1800	68
DSP100V	100	8.1–18.0	8.5–15.4	—	2300	2150 x 1520 x 1975	71
DSP160V (+ Inverter Panel)	160	18.4–27.5	17.7–23.9	18.0–22.5	3960 (+400)	2900 x 1700 x 1925 (690 x 1175 x 1760)	75
DSP240V (+ Inverter Panel)	240	23.6–40.0	23.1–35.0	28.2–32.5	5000 (+540)	3200 x 1880 x 1950 (810 x 1360 x 1760)	78
VARIABLE SPEED — 50 Hz WATER COOLED	**POWER**	**CAPACITY[1] @7 barg**	**CAPACITY[1] @9 barg**	**CAPACITY[1] @10 barg**	**WEIGHT**	**DIMENSIONS — W x D x H**	**SOUND LEVEL[2]**
Model	**kW**	**m^3/min**	**m^3/min**	**m^3/min**	**kg**	**mm**	**dBA**
DSP55VW	55	5.7–9.5	5.2–8.0		1320	2000 x 1300 x 1800	63
DSP75VW	75	5.2–12.9	5.7–11.4		1410	2000 x 1300 x 1800	66
DSP100VW	100	8.2–18.3	8.6–15.6		2200	2150 x 1520 x 1825	69
DSP160VW	160	19.1–28.5	18.4–24.8	19.0–23.2	3960	2500 x 1600 x 1925	70
DSP240VW	240	23.9–40.5	23.1–35.0	22.8–32.5	4900	2800 x 1800 x 1950	71

[1] Capacity is measured according to ISO 1217, fourth edition, Annex C

[2] Sound levels measured at 9 barg pressures from 1.5m distance

NOTE: DSP air compressors are not designed, intended or approved for breathing air applications.

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