



# DSP SERIES

Oil Free Rotary Screw Air Compressors

30-300 hp ■ 22-240 kW



# 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.



**OIL FREE**

## 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

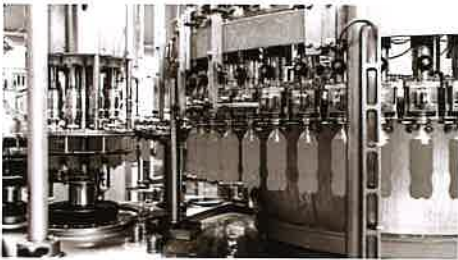
The DSP Series rotary screw air compressors are the perfect choice for applications requiring completely oil free air, including:

- 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 <sup>3</sup>			Pressure Dew Point °F (°C)	Oil (incl. vapor) mg/m <sup>3</sup>
	0.1–0.5 micron	0.5–1.0 micron	1.0–5.0 micron		
<b>0</b>	<b>As specified by the end-user or manufacturer, and more stringent than Class 1</b>				
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°)	—

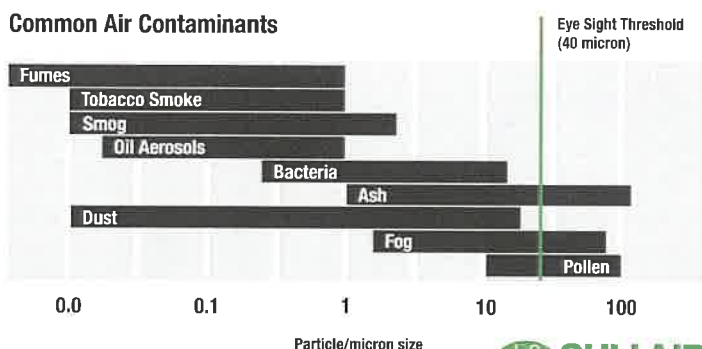
**Class 0 Oil Free Air** — For applications in which air purity is essential, including pharmaceuticals, food and beverages, electronics, automotive painting, and textiles.

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



**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 and efficiently — today and tomorrow.



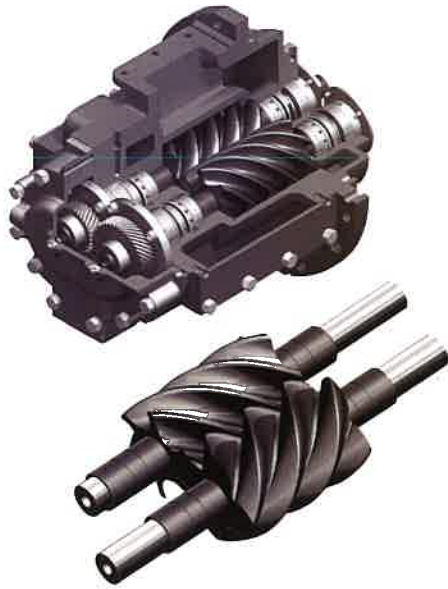
TWO-STAGE DRY SCREW PRODUCT OVERVIEW														
Horsepower	30	40	50	60	75	100	125	150	175	200	215	250	300	
Motor Output (kW)	22	30	37	45	55	75	90	110	132	145	160	200	240	
Air-Cooled/Fixed Speed	■	■	■	■	■	■	■	■	■	■	■	■	■	
Air-Cooled/Variable Speed			■	■	■	■	■	■	■	■	■	■	■	
Water-Cooled/Fixed Speed				■	■	■	■	■	■	■	■	■	■	
Water-Cooled/Variable Speed					■	■	■	■	■	■	■	■	■	
	← 100–128 psi			← 100–135 psi						← 110–125–145 psi				
	← 114 cfm													→ 1430 cfm →

## Key features:

- Wye-Delta or VSD Starter
- Phase Monitor
- Altitude capable to 9,000 feet
- Oversized motor options available for peak usage needs

## Warranty information:

- All DSP Series Compressors feature a 3 year package warranty



## INNOVATIVE AIR END DESIGN

- Patented taper rotor design optimized for efficiency
- Stainless steel coating robotically applied to rotors in both 1st and 2nd stages provides superior corrosion resistance and durability
- Patented PTFE-free rotary coating designed for long life
  - 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

- 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, 8501412, 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:

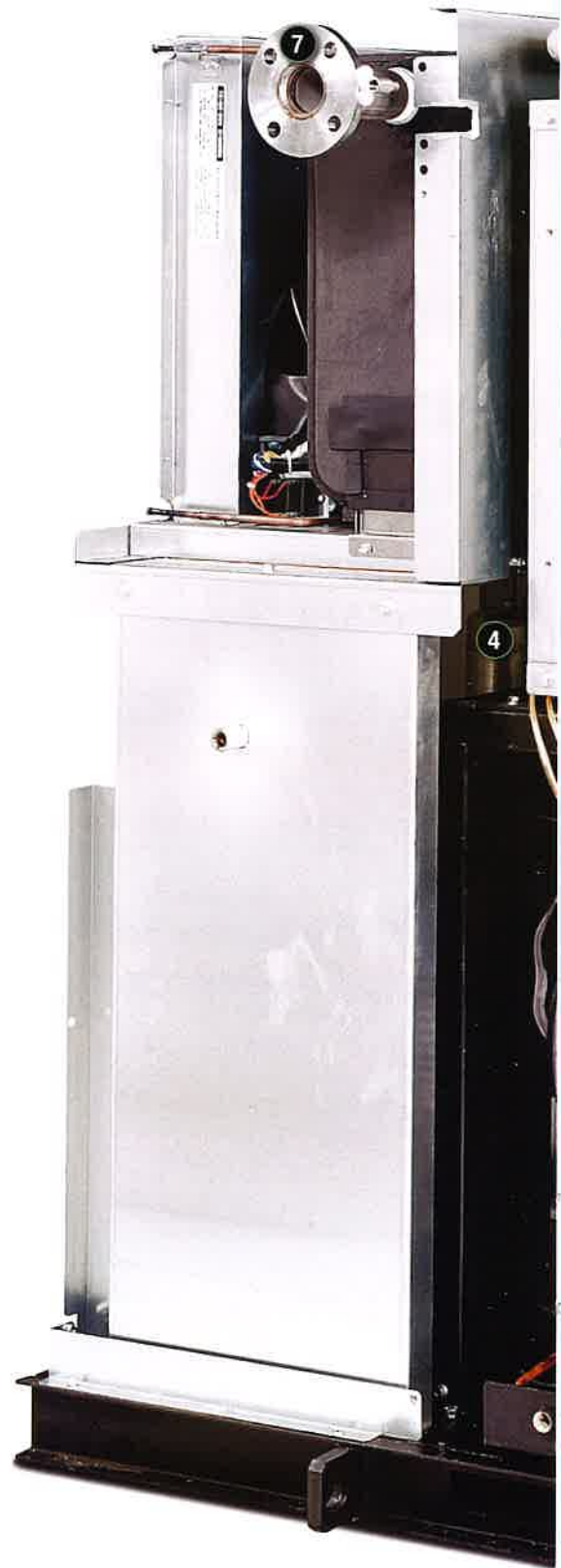
- Phase Monitor — providing protection from electrical issues
- Noise-reducing package including:
  - Full enclosure as standard
  - Mechanical and electrical vibration isolation
  - VSD fan
- VSD packages under 75kw include DCBL motors
- Maintenance and service friendly features including:
  - External grease fittings on 37kw motors and larger
  - Easy access to air and oil filter elements

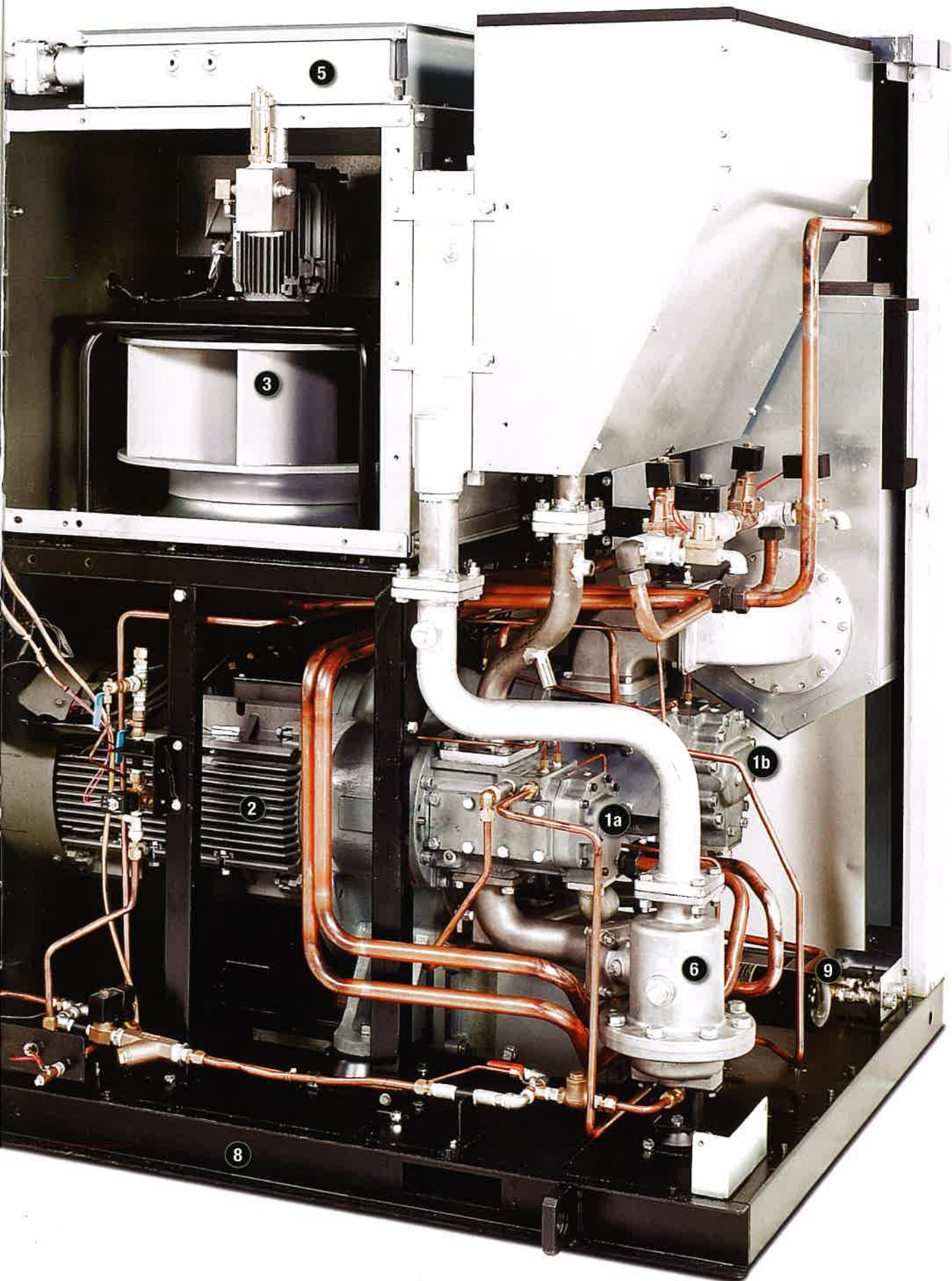
### Controller features include:

- Simple LCD monitor screen
- Lead/Lag capability
- Optional communication protocols include MODBUS and BACnet
- Gearbox lubrication features Sullair AWF<sup>®</sup> fluid for wide range of temperature applications

### 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





# TECHNICAL SPECIFICATIONS

FOR MORE INFORMATION, CONTACT YOUR  
LOCAL AUTHORIZED SULLAIR DISTRIBUTOR.

FIXED SPEED — 60 HZ	POWER		PRESSURE	PERFORMANCE	WEIGHT	DIMENSIONS — W x D x H	DBA
Model	hp	kW	psig (barg)	cfm (m <sup>3</sup> /min)	lbs (kg)	inches (mm)	
DSP2209AY	30	22	128 (8.8)	117 (3.3)	2930 (1330)	74.8 x 63.0 x 78.7 (1900 x 1600 x 2000)	69
DSP3009AY	40	30	128 (8.8)	141 (4.0)	3090 (1400)		70
DSP3709AY	50	37	128 (8.8)	166 (4.7)			71
DSP4509AY	60	45	135 (9.3)	230 (6.5)	3970 (1800)	95.8 x 65.7 x 81.9 (2434 x 1670 x 2080)	72
DSP5509AY	75	55	135 (9.3)	272 (7.7)			
DSP7509AY	100	75	135 (9.3)	392 (11.1)	4650 (2110)	105.7 x 65.7 x 81.9 2684 x 1670 x 2080	77
DSP9009AY	125	90	125 (8.6)	544 (15.4)	6130 (2780)	105.0 x 75.0 x 91.3 2666 x 1906 x 2318	
DSP11009AY	150	110	125 (8.6)	611 (17.3)	6460 (2930)		79
DSP13210AY	175	132	125 (8.6)	742 (21.0)	9039 (4100)	140.9 x 81.9 x 89 3579 x 2080 x 2261	77
DSP14510AY	200	145	125 (8.6)	805 (22.8)			78
DSP16010AY	215	160	125 (8.6)	894 (25.3)	9260 (4200)		80
DSP20010AY	250	200	125 (8.6)	1169 (33.1)	12,015 (5450)	150.4 x 88.6 x 92.1 3820 x 2250 x 2339	
DSP24010AY	300	240	125 (8.6)	1296 (36.7)			81
DSP4509WY	60	45	135 (9.3)	237 (6.7)	3900 (1770)	95.8 x 65.7 x 81.9 2434 x 1670 x 2080	65
DSP5509WY	75	55	135 (9.3)	279 (7.9)			70
DSP7509WY	100	75	135 (9.3)	399 (11.3)	4280 (1940)		75
DSP9009WY	125	90	125 (8.6)	551 (15.6)	5730 (2600)	105.0 x 75.0 x 85.4 2666 x 1906 x 2168	
DSP11009WY	150	110	125 (8.6)	622 (17.6)	6060 (2750)		76
DSP13210WY	175	132	125 (8.6)	770 (21.8)	8820 (4001)	125.2 x 78 x 89 3180 x 1981 x 2261	74
DSP14510WY	200	145	125 (8.6)	837 (23.7)			75
DSP16010WY	215	160	125 (8.6)	925 (26.2)			75
DSP20010WY	250	200	125 (8.6)	1169 (33.1)	11,140 (5053)	134.7 x 85.1 x 92.1 3421 x 2162 x 2339	
DSP24010WY	300	240	125 (8.6)	1303 (36.9)			76

VARIABLE SPEED — 60 HZ	POWER		PRESSURE	PERFORMANCE	WEIGHT	DIMENSIONS — W x D x H	DBA
Model	hp	kW	psig (barg)	cfm (m <sup>3</sup> /min)	lbs (kg)	inches (mm)	
DSP3709AV	50	37	128 (8.8)	162 (4.6)	2560 (1160)	74.8 x 63.0 x 78.7 (1900 x 1600 x 2000)	72
DSP5509AV	75	55	135 (9.3)	280 (7.9)	3590 (1630)	95.8 x 65.7 x 81.9 (2434 x 1670 x 2080)	70
DSP7509AV	100	75	125 (8.6)	385 (10.9)	4150 (1880)	105.7 x 65.7 x 81.9 2684 x 1670 x 2080	72
DSP9009AV	125	90	135 (9.3)	544 (15.4)	6350 (2880)	105.0 x 75.0 x 91.3 2666 x 1906 x 2318	77
DSP11009AV	150	110	135 (9.3)	611 (17.3)	6460 (2930)		79
DSP5509WV	75	55	135 (9.3)	283 (8.0)	3550 (1610)	95.8 x 65.7 x 81.9 2434 x 1670 x 2080	66
DSP7509WV	100	75	135 (9.3)	403 (11.4)	3750 (1700)		69
DSP9009WV	125	90	135 (9.3)	551 (15.6)	5840 (2650)	105.0 x 75.0 x 85.4 2666 x 1906 x 2168	75
DSP11009WV	150	110	135 (9.3)	622 (17.6)	5950 (2700)		76

Additional models available from 70 to 145 psi. Contact your authorized Sullair distributor for specifications and more information.



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