



DSP SERIES

Oil Free Rotary Screw Air Compressors

30–300 hp • 22–240 kW



ABOUT SULLAIR

Since 1965, Sullair has been leading innovation in the field of screw compression and vacuum technology. With more than 50 years of experience, we have made a new round of innovation in this field. Sullair adopts the most advanced technology, equipment and production processes to provide customers with the best air compressors and vacuum equipment to meet the most demanding requirements of customers. Sullair has a first-class screw rotor design, which leads the industry trend in this field.

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 compressors are in it for the long haul, driven by the design of the legendary Air End. In factories and on jobsites all over the world, you will find Sullair compressors standing the test of time, running consistently today like they did on day one.

HIGH PERFORMANCE

Sullair is constantly innovating to improve the performance of our compressors. For our portable line, this means longer run-time at the jobsite. For our stationary compressors, this means more energy efficiency. With energy costs often far exceeding the upfront cost of a compressor, Sullair is committed to helping you manage your operating expenses — for as long as they run!

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

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 m³			Pressure Dew Point °F (°C)	Oil (incl. vapor) mg/m³
	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°)	—



OIL FREE

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.

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DSP SERIES

RELIABLE 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:

- Allowable ambient temperature 104°F (40°C)
- Noise-reducing package including:
 - Full enclosure as standard
 - Mechanical and electrical vibration isolation
 - VSD fan
- VSD packages under 100 hp (75 kW) include DCBL motors
- Maintenance and service friendly features including:
 - External grease fittings on 50 hp (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:

- Simple LCD monitor screen
- Lead/Lag capability
- Optional communication protocols include MODBUS and BACnet



DSP75 Model Features Include:

- 1a and 1b. 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





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.



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 DSP FEATURES



INNOVATIVE AIR END CONSTRUCTION

Key features:

- Rotor design, material and coating optimized for efficiency
 - Stainless steel rotors in 1st and 2nd stage
 - Patented PTFE-free rotor coating
 - Rotor housing coated internally

Benefits:

- All aspects of the air end have been carefully engineered to provide long life and high efficiency
 - The stainless steel rotors, patented rotor coating and coated housing provide long life of air end



PATENTED HIGH PRE-COOLER DESIGN (AIR COOLED UNITS)

Key features:

- Stainless steel high pre-cooler placed before aftercooler

Benefits:

- Helps prevent thermal fatigue and premature failure of the aftercooler, providing higher reliability and durability



MOTORIZED ISOLATION VALVE (MIV)

Key features:

- Located at the compressed air discharge, the MIV helps avoid migration of moisture back into the compressor package when the DSP is not running
 - Opens when the motor is running and closes when the motor is off

Benefits:

- Provides additional protection for the compressor against downstream humidity – one of the biggest enemies of oil free screw compressors

OIL MIST REMOVER (OMR)

Key features:

- Removes oil mist from gearcase with 99.99% efficiency

- Maintains gearcase at negative pressure

Benefits:

- Recaptured oil mist is returned, reducing gearcase top offs needed — saving you money

- Helps ensure a cleaner production environment around the compressor

CAPACITY CONTROL SYSTEM

FIXED SPEED

Key features:

- Spool type — simple design

- Pneumatically controlled

- Designed to operate 1 million cycles/year

Benefits:

- High reliability and durability

- Lower maintenance cost

- Longer maintenance intervals

VARIABLE SPEED DRIVE

Key features:

- No inlet valve on VSD

- Two speed reduction

- Turndown works always in the most efficient range of specific power. Below turndown DSP works load/unload at minimum point of turndown

Benefits:

- No restriction means no air losses at inlet

- Minimize power consumption at unload condition

- Power consumption at no load is reduced up to 30% vs fixed speed of same model

MOTORS, INVERTERS AND PHASE MONITOR

Key features:

- Hitachi motors
 - IE3, TEFC and IP44 (Fixed Speed 22-240 kW models and VSD 160-240 kW models)
 - TEFC, DCBL-PPM and IE4 (DSP37V, DSP55V and DSP75V models)

- VSD fan motors on DSP22–75

- Hitachi inverters

- Phase monitor standard

Benefits:

- Support provided in house — no external motor suppliers to navigate

- Motors are high efficiency and very compact

- More efficient cooling system

- Support provided in house — no external inverter suppliers to navigate

- Protects the compressor against improper reverse rotation at startup

Single-Stage, Air-Cooled (15/22/37/55kW)

Single-Stage, Water-Cooled (15/22/37/55kW)



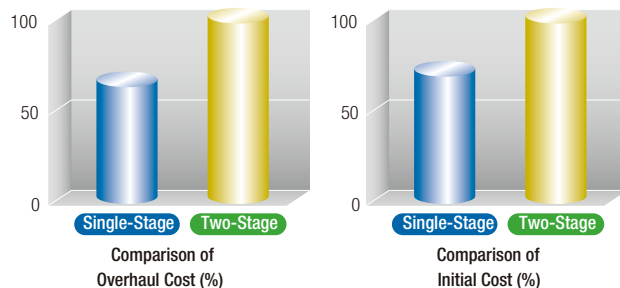
*The above picture shows the internal structure of 55kW Air-Cooled model (V-type).

Cut Down Overhaul and Initial Cost

Comparison of cost with the same air capacity level

Because there is only one air-end for DSP Single-Stage model, the initial cost is lower than Two-Stage model.

The overhaul cost, which covers the most of maintenance cost, is about 60% of Two-Stage for the same reason.



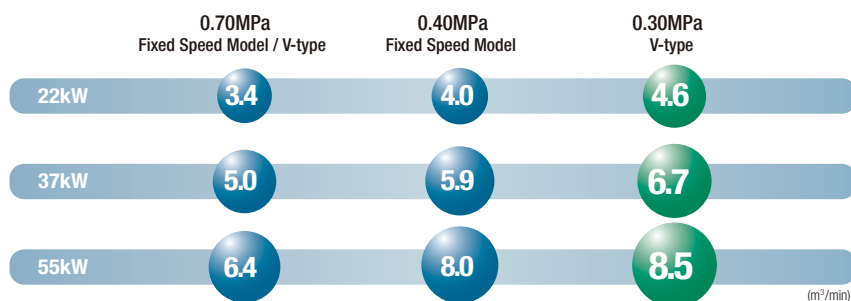
*Example of Hitachi 55kW (Single-Stage) and 45kW (Two-Stage), Without Dryer model

Expanded Line-Up (Low Pressure)

0.30MPa model is newly added

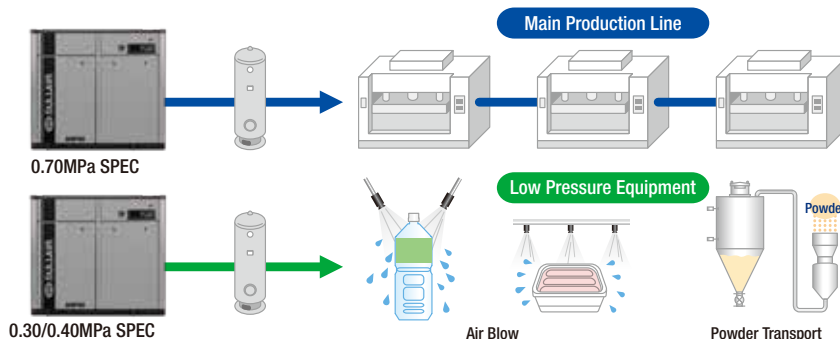
V-type 0.30MPa and Fixed Speed Model 0.40MPa models are available for low pressure application to save the energy.

Capacity Comparison



Applications

In case that the pressure requirement is higher than blower but lower than standard compressor SPEC, low pressure SPEC DSP can be your solution.



Specifications

■ Air-Cooled, Fixed Speed Model (15–55kW)

[] : Indicates model with Dryer integrated.

Model		DSP15AYS[R]N2		DSP22AYS[R]N2		DSP37AYS[R]N2		DSP55AYS[R]N2	
Item・Unit									
Discharge Pressure	MPa	0.70	0.40	0.70	0.40	0.70	0.40	0.70	0.40
Discharge Air Capacity	m³/min	2.0	2.5	3.4	4.0	5.0	5.9	6.4	8.0
Nominal Motor Output	kW	15		22		37		55	
Motor Type	—	4-Pole TEFC Motor							
Intake Air Pressure / Temperature	℃	Atmospheric Pressure / 0 – 45[2 - 45]							
Discharge Temperature	℃	Ambient Temperature +15 or below							
Discharge Air Pipe Connection	B	Rc1		Rc1-1/2					
Starting Method	—	Full Voltage Start		Star-Delta (3 contact)					
Driving Method	—	V-Belt+Gear-Driven							
Oil Quantity	L	12 (Not filled)				18 (Not filled)			
Cooling Fan Motor Output	kW	0.4		0.65		0.9			
Coolant Pump Motor Output (50/60Hz)	kW	0.2/0.3							
[Dryer]	P.D.P	℃	[10 (Under Pressure)]	—	[10 (Under Pressure)]	—	[10 (Under Pressure)]	—	[10 (Under Pressure)]
	Refrigerator Nominal Output	kW	[0.5]	—	[1.2]	—	[1.45]	—	[1.45]
	Refrigerant	—	[R407C]	—	[R410A]	—	[R410A]	—	[R410A]
Weight	kg	770[800]		850 [910]		1,080 [1,230]		1,330 [1,480]	
Dimensions (W×D×H)	mm	1,400×970×1,400				1,830×980×1,580 [2,230×980×1,580]			
Sound Level (1.5m from front)	dB(A)	62	63	63	64	66	68	68	70

■ Air-Cooled / Water-Cooled, V-type Model (22–55kW)

[] : Indicates model with Dryer integrated.

Model		DSP22AVS[R]N2		DSP37AVS[R]N2		DSP55AVS[R]N2		DSP37WVS2		DSP55WVS2	
Item・Unit		Air-Cooled						Water-Cooled			
Cooling Method	—										
Discharge Pressure	MPa	0.70	0.30	0.70	0.30	0.70	0.30	0.70	0.30	0.70	0.30
Discharge Air Capacity	m³/min	3.4	4.6	5.0	6.7	6.4	8.5	5.0	6.7	6.4	8.5
PQ WIDEMODE	Discharge Pressure	MPa	0.60	—	0.60	—	0.60	—	0.60	—	0.60
	Discharge Air Capacity	m³/min	3.7	—	5.5	—	7.0	—	5.5	—	7.0
	Discharge Pressure	MPa	0.40 [0.50]	—	0.40 [0.50]	—	0.40 [0.50]	—	0.40	—	0.40
	Discharge Air Capacity	m³/min	4.3 [4.0]	—	6.4 [6.0]	—	8.2 [7.6]	—	6.4	—	8.2
PQ WIDEMODE Range	MPa	0.40 – 0.70 [0.50 – 0.70]	—	0.40 – 0.70 [0.50 – 0.70]	—	0.40 – 0.70 [0.50 – 0.70]	—	0.40 – 0.70	—	0.40 – 0.70	—
Nominal Motor Output	kW	22		37		55		37		55	
Motor Type	—	4-Pole TEFC Motor									
Intake Air Pressure / Temperature	°C	Atmospheric Pressure / 0 – 45[2 – 45]						Atmospheric Pressure / 0 – 45			
Discharge Temperature	°C	Ambient Temperature +15 or below						Cooling Water Temperature +13 or below			
Discharge Air Pipe Connection	B	Rc1-1/2									
Starting Method	—	Inverter						Inverter			
Driving Method	—	V-Belt+Gear-Driven									
Oil Quantity	L	12 (Not filled)		18 (Not filled)				14 (Not filled)			
Cooling Fan Motor Output	kW	0.75				0.9		0.2			
Cooling Water Flow Rate	L/min	80									
Cooling Water Temperature	°C	—						32 or below			
Cooling Water Pipe Connection	B	—						Rc1			
Coolant Pump Motor Output (50/60Hz)	kW	0.2/0.3						—			
[Dryer]	P.D.P	°C	[10 (Under Pressure)]	—	[10 (Under Pressure)]	—	[10 (Under Pressure)]	—	—		
	Refrigerator Nominal Output	kW	[1.2]	—	[1.45]	—	[1.45]	—	—		
	Refrigerant	—	[R410A]	—	[R410A]	—	[R410A]	—	—		
Weight	kg	900 [960]		1,140 [1,290]		1,270 [1,420]		1,110		1,240	
Dimensions (W×D×H)	mm	1,650×970×1,400		1,830×980×1,580 [2,230×980×1,580]				1,830×980×1,580			
Sound Level (1.5m from front)	dB(A)	63	64	66	68	68	70	64	66	64	66

■ Water-Cooled, Fixed Speed Model (15–55kW)

Model		DSP15WYSN2		DSP22WYSN2		DSP37WYSN2		DSP55WYSN2	
Item • Unit									
Discharge Pressure	MPa	0.70	0.40	0.70	0.40	0.70	0.40	0.70	0.40
Discharge Air Capacity	m³/min	2.0	2.5	3.4	4.0	5.0	5.9	6.4	8.0
Nominal Motor Output	kW	15		22		37		55	
Motor Type	—	4-Pole TEFC Motor							
Intake Air Pressure / Temperature	°C	Atmospheric Pressure / 0 – 45							
Discharge Air Temperature	°C	Cooling Water Temperature +13 or below							
Discharge Air Pipe Diameter	B	Rc1		Rc1-1/2					
Cooling Water Flow Rate	L/min	50				80			
Cooling Water Temperature	°C	35 or below							
Coolant Water Pipe Diameter	B	Rc3/4				Rc1			
Starting Method	—	Full Voltage Start		Star-Delta (3-contact)					
Driving Method	—	V-Belt + Gear-Driven							
Lubricating Oil Quantity	L	10 (Not filled)				14 (Not filled)			
Cooling Fan Motor Output	kW	0.05				0.1			
Weight	kg	770		830		1,030		1,280	
Dimensions (W×D×H)	mm	1,400×970×1,400 1,830×980×1,580							
Sound Level (1.5m from front side)	dB(A)	62	63	63	64	64	66	64	66

NOTE:

- Capacity is measured according to ISO 1217, fourth edition, Annex C.
- Sound level is the equivalent value at 1.5m in front and 1m height in an anechoic room, under full load operation with no auto drain function. It may vary in different operation conditions or environments. Sound level may be increased by 2dB when PQ WIDEMODE is ON.
- P.D.P is measured at 30 degree C of intake air temperature and rated discharge pressure.
P.D.P can be much worse at 0.40MPa or lower discharge pressure. P.D.P can be 13 degree C at 0.60MPa of discharge pressure PQ WIDEMODE ON.
- Built-in dryer 0.30MPa model is NOT available.
- Capacity after built-in dryer is decreased by 3%.
- In case of dust-proof or package filter option, maximum ambient temperature is limited up to 40 degree C, and discharge air temperature of air-cooled models is atmospheric temperature +18 degree C or less.
- Earth leakage circuit breaker is out of supply scope from Sullair.
- These air compressors are not designed, intended or approved for breathing air applications.

- Pressures are indicated as the gauge pressure.
- Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.

- Protruding objects such as discharge pipe are not included in Dimension.
- Sullair may make improvements and / or changes in the appearance and / or specifications described in this publication at anytime without notice.



Two-Stage, Air-Cooled (22/37/45/55/75/90/100/120kW)



*The above picture shows 45kW Air-Cooled model (V-type).

IPC Control (Intelligent Pressure Control)

By estimating use point pressure in accordance with air consumption, IPC control decreases discharge pressure during low load operation, which enables Energy-Saving.

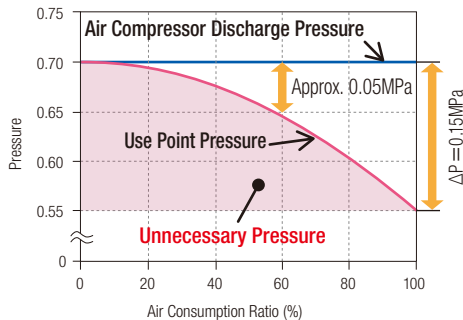
Example of effect by IPC

- Conditions**
- Air compressor: DSP37AVTN2
 - Control pressure setting: 0.70MPa
 - Use point pressure during full load: 0.55MPa
 - Piping pressure loss during full load: 0.15MPa

Graph of pressure change (Theoretical values)

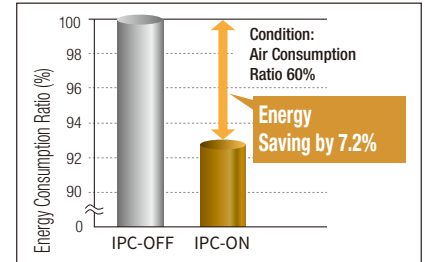
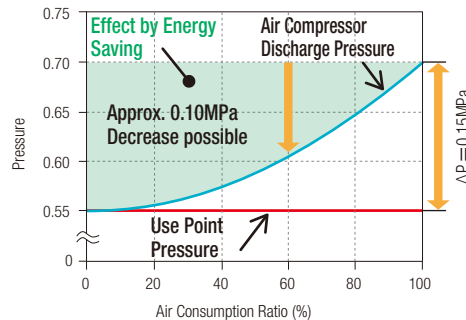
① IPC-OFF

Control the air compressor discharge pressure at 0.70MPa



② IPC-ON

Control the use point pressure at 0.55MPa



*Due to estimation control, use point pressure varies in accordance with use conditions.

IT Communication Functions

USB Flash Memory Possible for Data Logging

- *Necessary to prepare a USB flash memory device (5.5cm or smaller) on user's side.
- *Operation data for one day is approximately 400kB. (For reference)

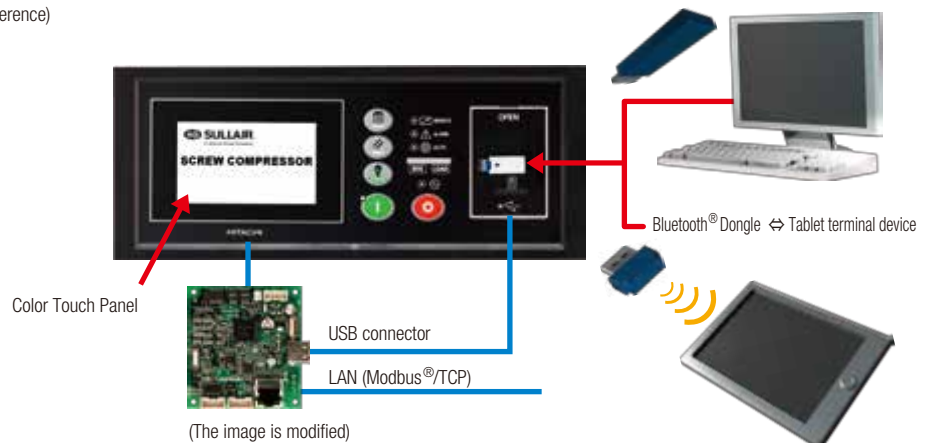
Web Server Function via Bluetooth®

- *Necessary to prepare a Bluetooth® USB dongle on your side.
- *For setting changes, part of the items are applicable.

Modbus® Communication

- Open network serial communication
- Modbus®/RTU is supported as standard
- *Modbus®/TCP support is optional.

USB flash memory (data retrieving)
(Standard) pressure/temperature/current/history/time



- *Bluetooth is the registered trademark of Bluetooth SIG, Inc (US).
- *Modbus is the registered trademark of Schneider Automation Inc.

Specifications

■ Air-Cooled (22/37kW)

[] : Indicates model with Dryer integrated.

Item • Unit		Model	Fixed Speed Model					
			DSP22AYT[R]N2		DSP30AYT[R]N2		DSP37AYT[R]N2	
Discharge Pressure		MPa	0.70	0.88	0.70	0.88	0.70	0.88
Discharge Air Capacity		m³/min	3.7	3.2	4.7	4.0	5.6	4.7
Discharge Air Capacity at PQ wide ON of 0.6MPa			—					
Nominal Motor Output		kW	22		30		37	
Motor Type		—	4-Pole TEFC					
Intake Air Pressure / Temperature		°C	Atmospheric Pressure / 0 – 45 [2 – 45]					
Discharge Temperature		°C	Ambient Temperature + 15 or below					
Discharge Pipe Diameter		B	Rc1-1/2					
Starting Method		—	Star-Delta (3 contact)					
Driving Method		—	V-Belt with Auto Tensioner+ Gear-Driven					
Lubricating Oil Filling		L	15 (Not filled)					
Output of Cooling Fan		kW	1.1 (Inverter)					
[Dryer]	P.D.P	°C	[10 (Under Pressure)]					
	Refrigerator Nomin al Output	kW	[1.45]					
	Refrigerant	—	[R410A]					
Weight		kg	1,120 [1,180]		1,230 [1,290]			
Dimensions (W×D×H)		mm	1,530×1,150×1,650					
Noise Level (1.5m from front side)		dB(A)	63	64	65	66	66	67

V-type Model	
DSP37AVT[R]N2	
0.70	0.88
5.5	4.6
6.0	5.6
37	
6-Pole DCBL	
Atmospheric Pressure/0 – 45 [2 – 45]	
Ambient Temperature + 15 or below	
Rc1-1/2	
Soft Start	
Direct Connection + Gear Driven	
15 (Not filled)	
1.1 (Inverter)	
[10 (Under Pressure)]	
[1.45]	
[R410A]	
950 [1,010]	
1,530×1,150×1,650	
66	67

■ Air-Cooled (45/55/75kW)

[] : Indicates model with Dryer integrated.

Item • Unit		Model	Fixed Speed Model					
			DSP45AYT[R]N2		DSP55AYT[R]N2		DSP75AYT[R]N2	
Discharge Pressure		MPa	0.70	0.93	0.70	0.93	0.70	0.93
Discharge Air Capacity (50Hz/60Hz)		m³/min	7.4/7.8	6.2/6.5	9.2	7.2/7.7	13.0	10.5/11.1
Discharge Air Capacity at PQ wide ON of 0.6MPa			—					
Nominal Motor Output		kW	45		55		75	
Motor Type		—	2-Pole TEFC Flange					
Intake Air Pressure / Temperature		°C	Atmospheric Pressure / 0 – 45 [2 – 45]					
Discharge Temperature		°C	Ambient Temperature + 15 or below					
Discharge Pipe Diameter		B	2 (Flange)					
Starting Method		—	Star-Delta (3 contact)					
Driving Method		—	Direct Connection + Gear Driven					
Lubricating Oil Filling		L	25 (Not filled)					
Output of Cooling Fan		kW	1.5 (Inverter)				2.2 (Inverter)	
[Dryer]	P.D.P	°C	[10 (Under Pressure)]					
	Refrigerator Nominal Output	kW	[2.2]				[3.0]	
	Refrigerant	—	[R410A]				[R407C]	
Weight		kg	1,600 [1,750]				1,860 [2,030]	
Dimensions (W×D×H)		mm	2,000×1,300×1,800				2,250×1,300×1,800	
Noise Level (1.5m from front side)		dB(A)	63	65	63	65	68	

V-type Model			
DSP55AVT[R]N2		DSP75AVT[R]N2	
0.70	0.93	0.70	0.93
9.3	7.7	12.6	10.9
9.6	9.3	13.0	12.6
55		75	
6-Pole DCBL			
Atmospheric Pressure / 0 – 45 [2–45]			
Ambient Temperature + 15 or below			
2 (Flange)			
Soft Start			
Direct Connection + Gear Driven			
25 (Not filled)			
1.5(Inverter)		2.2(Inverter)	
[10 (Under Pressure)]			
[2.2]		[3.0]	
[R410A]		[R407C]	
1,340[1,490]		1,560[1,730]	
2,000×1,300×1,800		2,250×1,300×1,800	
63	65	67	68

■ Air-Cooled (90/100/120kW)

Model Item · Unit		Fixed Speed Model					
		DSP90AYTN2		DSP100AYTN2		DSP120AYTN2	
Discharge Pressure	MPa	0.70	0.93	0.70	0.93	0.70	0.93
Discharge Air Capacity	m³/min	16.6	13.9	18.0	15.4	20.5	17.3
Nominal Motor Output	kW	90		100		120	
Motor Type	—	2-Pole TEFC Flange					
Intake Air Pressure / Temperature	°C	Atmospheric Pressure / 0 – 45					
Discharge Temperature	°C	Ambient Temperature +15 or below					
Discharge Pipe Diameter	B	2 (Flange)					
Starting Method	—	Star-Delta (3 contact)					
Driving Method	—	Direct Connection + Gear Driven					
Lubricating Oil Filling	L	26 (Not filled)					
Output of Cooling Fan	kW	1.5×2					
Weight	kg	2,200				2,380	
Dimensions (W×D×H)	mm	2,150×1,520×1,975					
Noise Level (1.5m from front side)	dB(A)	68	70	69	71	72	73

V-type Model	
DSP100AVTN2	
0.70	0.93
18.0	15.4
100	
2-Pole TEFC Flange	
Atmospheric Pressure / 0 – 45	
Ambient Temperature + 15 or below	
2 (Flange)	
Inverter	
Direct Connection + Gear Driven	
26 (Not filled)	
1.5×2	
2,300	
2,150×1,520×1,975	
69	71

NOTE:

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

2. Sound level is the equivalent value at 1.5m in front and 1m height in an anechoic room, under full load operation with no auto drain function. It may vary in different operation conditions or environments. Sound level may be increased by 2dB when PQ WIDEMODE is ON.

3. PD.P is measured at 30 degree C of intake air temperature and rated discharge pressure.
PD.P can be much worse at 0.60MPa or lower discharge pressure. PD.P can be 13 degree C at 0.60MPa of discharge pressure PQ WIDEMODE ON.

4. Capacity after built-in dryer is decreased by 3%.

5. In case of dust-proof or package filter option, maximum ambient temperature is limited up to 40 degree C, and discharge air temperature of air-cooled models is atmospheric temperature +18 degree C or less.
6. Earth leakage circuit breaker is out of supply scope from Sullair.

7. These air compressors are not designed, intended or approved for breathing air applications.

8. Pressures are indicated as the gauge pressure.

9. Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.

10. Protruding objects such as discharge pipe are not included in Dimension.

11. Sullair may make improvements and / or changes in the appearance and / or specifications described in this publication at anytime without notice.

Two-Stage, Water-Cooled (45/55/75/90/100/120kW)



*The above picture shows the internal structure of 45kW Water-Cooled model (V-type).

IPC Control (Intelligent Pressure Control)

By estimating use point pressure in accordance with air consumption, IPC control decreases discharge pressure during low load operation, which enables Energy-Saving.

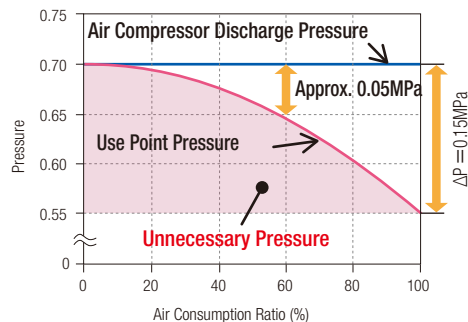
Example of effect by IPC

- Conditions**
- Air compressor: DSP37AVTN2
 - Control pressure setting: 0.70MPa
 - Use point pressure during full load: 0.55MPa
 - Piping pressure loss during full load: 0.15MPa

Graph of pressure change (Theoretical values)

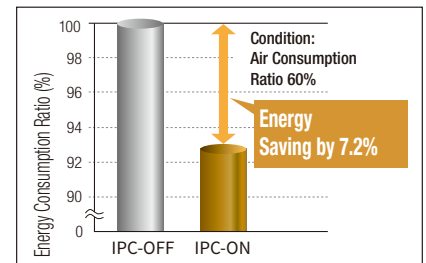
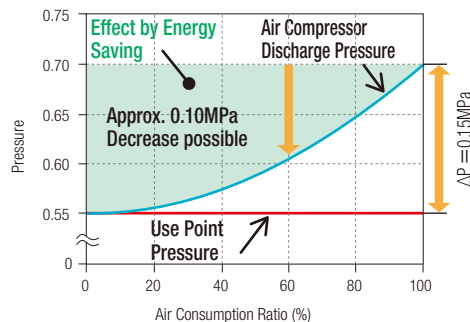
① IPC-OFF

Control the air compressor discharge pressure at 0.70MPa



② IPC-ON

Control the use point pressure at 0.55MPa



*Due to estimation control, use point pressure varies in accordance with use conditions.

IT Communication Functions

USB Flash Memory Possible for Data Logging

- *Necessary to prepare a USB flash memory device (5.5cm or smaller) on user's side.
- *Operation data for one day is approximately 400kB. (For reference)

Web Server Function via Bluetooth®

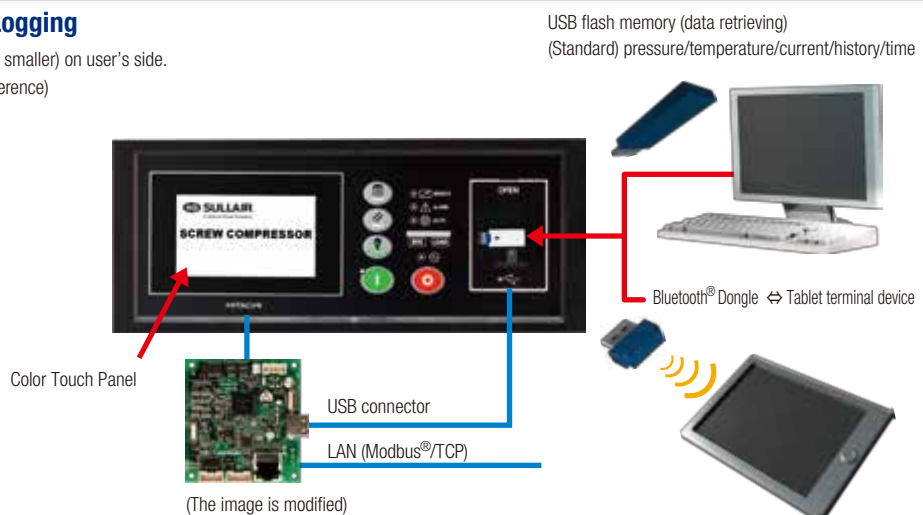
- *Necessary to prepare a Bluetooth® USB dongle on your side.
- *For setting changes, part of the items are applicable.

Modbus® Communication

Open network serial communication
Modbus®/RTU is supported as standard

- *Modbus®/TCP support is optional.

- Bluetooth is the registered trademark of Bluetooth SIG, Inc (US).
- Modbus is the registered trademark of Schneider Automation Inc.



Specifications

■ Water-Cooled (45/55/75kW)

[] : Indicates model with Dryer integrated.

Item - Unit		Model	Fixed Speed Model					
			DSP45WYTN2		DSP55WYTN2		DSP75WYTN2	
Discharge Pressure		MPa	0.70	0.93	0.70	0.93	0.70	0.93
Discharge Air Capacity (50Hz/60Hz)		m³/min	7.5/7.9	6.4/6.7	9.4	7.4/7.9	13.2	10.7/11.3
Discharge Air Capacity at PQ wide ON of 0.6MPa			—					
Nominal Motor Output		kW	45		55		75	
Motor Type		—	2-Pole TEFC Flange					
Intake Air Pressure / Temperature		—	Atmospheric Pressure / 0 – 45 [2 – 45]					
Discharge Temperature		°C	Cooling Water Temperature +13 or below					
Discharge Pipe Diameter		B	2 (Flange)					
Starting Method		—	Star-Delta (3 contact)					
Driving Method		—	Direct Connection + Gear Driven					
Lubricating Oil Filling		L	15 (Not filled)					
Output of Cooling Fan		kW	0.05 ×2					
Cooling Water Capacity		L/min	90				120	
Cooling Water Temperature		°C	35 or below					
Cooling Water Pipe Dime		B	Rc 1-1/4					
[Dryer]	P.D.P	°C	[10 (Under Pressure)]					
	Refrigerator Nominal Output	kW	[2.2]				[3.0]	
	Refrigerant	—	[R410A]				[R407C]	
Weight		kg	1,580 [1,730]				1,710 [1,880]	
Dimensions (W×D×H)		mm	2,000×1,300×1,800					
Noise Level (1.5m from front side)		dB(A)	63		63		65	66

V-type Model			
DSP55WVTN2		DSP75WVTN2	
0.70	0.93	0.70	0.93
9.5	8.0	12.9	11.4
9.8	9.5	13.4	13.0
55		75	
6-Pole DCBL			
Atmospheric Pressure / 0 ~ 45 [2 ~ 45]			
Cooling Water Temperature +13 or below			
2 (Flange)			
Soft Start			
Direct Connection + Gear Driven			
15 (Not filled)			
0.05 ×2			
90		120	
35 or below			
Rc 1-1/4			
[10 (Under Pressure)]			
[2.2]		[3.0]	
[R410A]		[R407C]	
1,320 [1,470]		1,410 [1,580]	
2,000×1,300×1,800			
63		65	66

■ Water-Cooled (90/100/120kW)

Model Item - Unit		Fixed Speed Model					
		DSP90WYTn2		DSP100WYTn2		DSP120WYTn2	
Discharge Pressure	MPa	0.70	0.93	0.70	0.93	0.70	0.93
Discharge Air Capacity	m³/min	16.8	14.0	18.3	15.6	21.0	17.6
Nominal Motor Output	kW	90		100		120	
Motor Type	—	2-Pole TEFC Flange					
Intake Air Pressure / Temperature	—	Atmospheric Pressure / 0 – 45					
Discharge Temperature	°C	Cooling Water Temperature +13 or below					
Discharge Pipe Diameter	B	2 (Flange)					
Starting Method	—	Star-Delta (3 contact)					
Driving Method	—	Direct Connection + Gear Driven					
Lubricating Oil Filling	L	16 (Not filled)					
Cooling Water Capacity	L/min	160				180	
Cooling Water Temperature	°C	35 or below					
Cooling Water Pipe Dime	B	Rc 1-1/2					
Weight	kg	2,050				2,230	
Dimensions (W×D×H)	mm	2,150×1,520×1,825					
Noise Level (1.5m from front side)	dB(A)	66	68	67	69	69	70

V-type Model	
DSP100WVTN2	
0.70	0.93
18.3	15.6
100	
2-Pole TEFC Flange	
Atmospheric Pressure / 0 – 45	
Cooling Water Temperature +13 or below	
2 (Flange)	
Inverter	
Direct Connection + Gear Driven	
16 (Not filled)	
160	
35 or below	
Rc 1 -1/2	
2,200	
2,150×1,520×1,825	
67	69

NOTE:

- Capacity is measured according to ISO 1217, fourth edition, Annex C.
- Sound level is the equivalent value at 1.5m in front and 1m height in an anechoic room, under full load operation with no auto drain function. It may vary in different operation conditions or environments. Sound level may be increased by 2dB when PQ WIDEMODE is ON.
- P.D.P is measured at 30 degree C of intake air temperature and rated discharge pressure. P.D.P can be much worse at 0.60MPa or lower discharge pressure. P.D.P can be 13 degree C at 0.60MPa of discharge pressure PQ WIDEMODE ON.
- Capacity after built-in dryer is decreased by 3%.
- In case of dust-proof or package filter option, maximum ambient temperature is limited up to 40 degree C.

- Earth leakage circuit breaker is out of supply scope from Sullair.
- These air compressors are not designed, intended or approved for breathing air applications.
- Pressures are indicated as the gauge pressure.
- Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.
- Protruding objects such as discharge pipe are not included in Dimension.
- Sullair may make improvements and / or changes in the appearance and / or specifications described in this publication at anytime without notice.

Two-Stage, Water-Cooled (132/145/160/200/240kW)

Two-Stage, Air-Cooled (132/145/160/200/240kW)



**High Capacity by Equipping New
NEXT II series Air-End**

Low Noise Low Vibration

**Compact Design by Optimized Layout of
Components**

**High Discharge Pressure Available
(up to 1.0MPa)**

High Reliability and Easy Maintenance

Totally enclosed flange motor is standard

New totally enclosed flange motor is applied to improve reliability.
Motor shaft in direct connection without coupling enables easy maintenance work.

High precool system (Air-Cooled models)

High precool system reduces temperature of extremely hot air to aftercooler and Two-Stage cooling structure improves reliability.

High Discharge Pressure Available

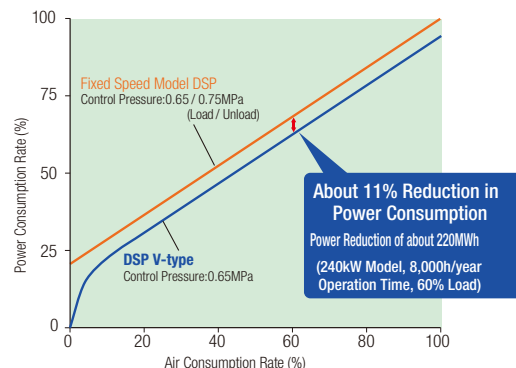
1.0MPa is available with high reliability.

Maintenance Friendly

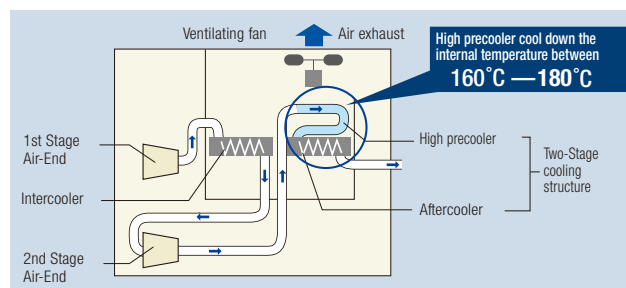
DSP series provides easy accessibility for inspection and maintenance.

Energy-Saving (V-type)

Further Energy-Saving is achieved by DSP NEXT II series with Built-in Inverter.



*Compared to conventional Load/Unload Control Type, lower pressure setting is possible due to the stable pressure control.



Specifications

■ Water-Cooled, V-type Model (160/240kW)

Item • Unit		Model	DSP160WVTN2			DSP240WVTN2		
Discharge Pressure	MPa	0.75	0.93	1.0	0.75	0.93	1.0	
Discharge Air Capacity	m³/min	28.5	24.8	23.2	40.5	35.0	32.5	
Nominal Motor Output	kW	160			240			
Motor Type	—	4-Pole TEFC Flange Motor						
Intake Air Pressure / Temperature	°C	Atmospheric Pressure / 0 - 45						
Discharge Air Temperature	°C	Cooling Water Temperature +13 or below						
Discharge Air Pipe Diameter	B	2-1/2 (Flange)			3 (Flange)			
Starting Method	—	Inverter						
Driving Method	—	Direct Connection With Motor + Gear-Driven						
Cooling Water Flow Rate	L/min	240			330			
Cooling Water Temperature	°C	35 or below						
Coolant Water Pipe Diameter	B	Rc2						
Lubricating Oil Quantity	L	40 (Not filled)			50 (Not filled)			
Cooling Fan Motor Output	kW	0.4						
Weight	kg	3,960			4,900			
Dimensions (W×D×H)	mm	2,500×1,600×1,925			2,800×1,800×1,950			
Sound Level (1.5m from front side)	dB(A)	70			71			

■ Air-Cooled, Fixed Speed Model (132-240kW)

Model		DSP132AYTN2			DSP145AYTN2			DSP160AYTN2			DSP200AYTN2			DSP240AYTN2		
Item • Unit																
Discharge Pressure	MPa	0.75	0.93	1.0	0.75	0.93	1.0	0.75	0.93	1.0	0.75	0.93	1.0	0.75	0.93	1.0
Discharge Air Capacity	m³/min	22.5	20.0	19.0	25.0	21.4	20.0	27.5	23.9	22.5	37.0	32.2	30.0	40.0	35.0	32.5
Nominal Motor Output	kW	132			145			160			200			240		
Motor Type	—	4-Pole TEFC Flange Motor														
Intake Air Pressure / Temperature	°C	Atmospheric Pressure / 0 - 45														
Discharge Air Temperature	°C	Ambient Temperature +15 or below														
Discharge Air Pipe Diameter	B	2-1/2 (Flange)									3 (Flange)					
Starting Method	—	Star-Delta(3-contact)														
Driving Method	—	Direct Connection With Motor + Gear-Driven														
Lubricating Oil Quantity	L	50 (Not filled)									60 (Not filled)					
Cooling Fan Motor Output	kW	4.4 (1.1×4)									6.0 (1.5×4)					
Weight	kg	3,860						3,960			5,000					
Dimensions (W×D×H)	mm	2,900×1,700×1,925									3,200×1,890×1,950					
Sound Level (1.5m from front side)	dB(A)	73	74		74	75		74	75		76	77		77	78	

■ Water-Cooled, Fixed Speed Model (132-240kW)

Model		DSP132WYTN2			DSP145WYTN2			DSP160WYTN2			DSP200WYTN2			DSP240WYTN2		
Item • Unit																
Discharge Pressure	MPa	0.75	0.93	1.0	0.75	0.93	1.0	0.75	0.93	1.0	0.75	0.93	1.0	0.75	0.93	1.0
Discharge Air Capacity	m³/min	23.4	20.7	19.6	26.0	22.2	20.6	28.5	24.8	23.2	37.0	32.2	30.0	40.5	35.0	32.5
Nominal Motor Output	kW	132			145			160			200			240		
Motor Type	—	4-Pole TEFC Flange Motor														
Intake Air Pressure / Temperature	°C	Atmospheric Pressure / 0 - 45														
Discharge Air Temperature	°C	Cooling Water Temperature +13 or below														
Discharge Air Pipe Diameter	B	2-1/2 (Flange)									3 (Flange)					
Starting Method	—	Star-Delta(3-contact)														
Driving Method	—	Direct Connection With Motor+Gear-Driven														
Cooling Water Flow Rate	L/min	200			210			240			300			330		
Cooling Water Temperature	°C	35 or below									35 or below					
Coolant Water Pipe Diameter	B	Rc2									Rc2					
Lubricating Oil Quantity	L	40 (Not filled)									50 (Not filled)					
Cooling Fan Motor Output	kW	0.4														
Weight	kg	3,760									4,600					
Dimensions (W×D×H)	mm	2,500×1,600×1,925									2,800×1,800×1,950					
Sound Level (1.5m from front side)	dB(A)	68	69		69	70		69	70		69	70		70	71	

NOTE:

- Capacity is measured according to ISO 1217, fourth edition, Annex C.
- Sound level is the equivalent value at 1.5m in front and 1m height in an anechoic room, under full load operation with no auto drain function. It may vary in different operation conditions or environments.
- In case of dust-proof or package filler option, maximum ambient temperature is limited up to degree C, and discharge air temperature of air-cooled models is atmospheric temperature +18 degree C or less.
- Earth leakage circuit breaker is out of supply scope from Sullair.
- These air compressors are not designed, intended or approved for breathing air applications.
- Pressures are indicated as the gauge pressure.
- Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.
- Rear duct (200mm depth) and other protruding objects such as a discharge pipe are not included in dimension.
- Sullair may make improvements and / or changes in the appearance and / or specifications described in this publication at anytime without notice.

RELIABILITY DURABILITY PERFORMANCE

SULLAIR ASIA PTE LTD

Add: 30 Pioneer Crescent, #10-15,
West Park BizCentral, Singapore 628560

Tel: +65 6305 7442

SEA.enquiry@sullair.com

SULLAIR.COM   



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