

OIL-FLOODED SCREW NEXT II series 11-160kW



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For more information, please consult Hitachi dealer nearest to you.

Due to product improvements, the specifications, appearance, etc. of the samples described in the manual are subject to change without notice.
The samples are presented in printed form and sometimes slightly different from actual products in color.



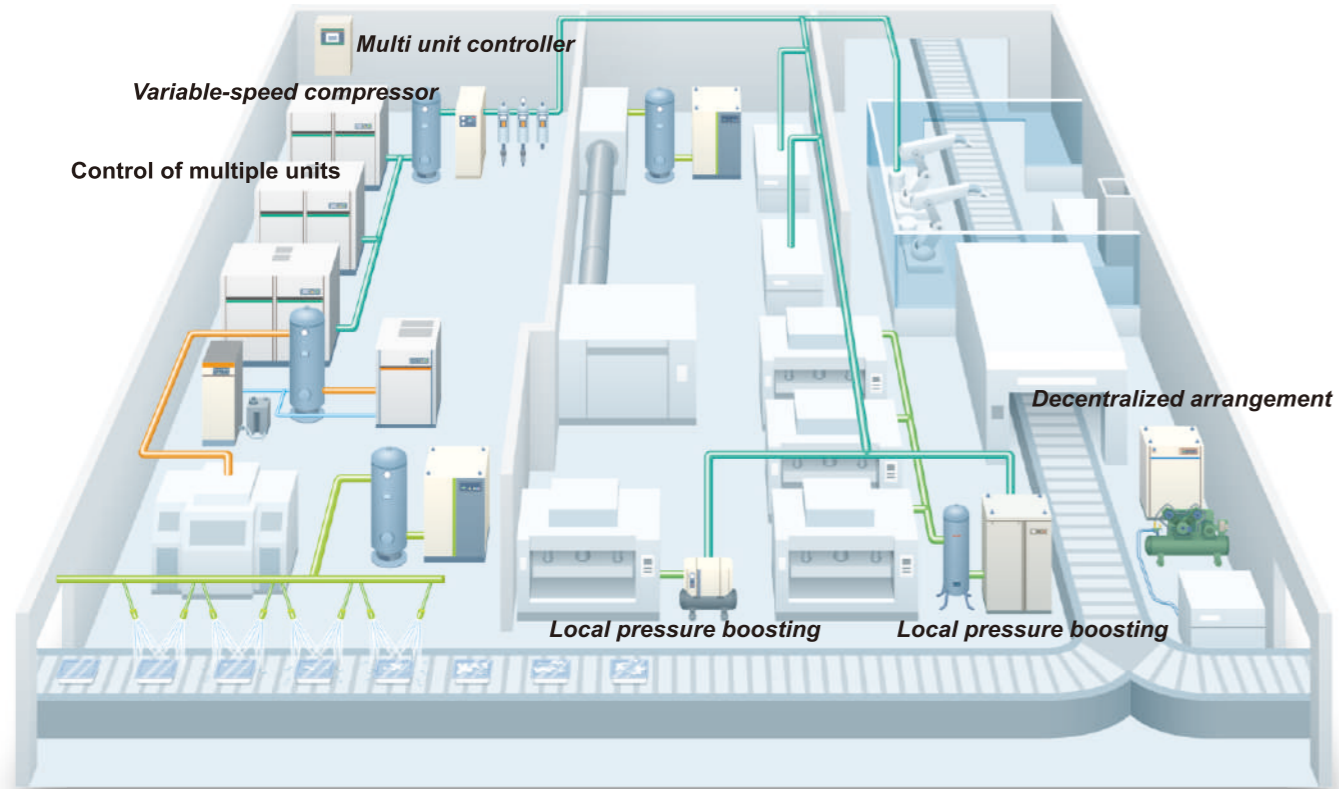
Hitachi – A Trusted Expert in Air Compressors

With a history of more than a century, Hitachi Compressor has always treated 100% customer satisfaction as the source of enterprise development.

As the leading compressor manufacturer in Japan, we are committed to continuous technological innovation and development of air compressors to meet each customer's requirements. Our products are available in power from 0.2kW to 770kW and types of piston, scroll, screw, etc.

Hitachi can provide customers with the most suitable compressed air systems in both oil and oil-free applications.

We believe, with our high-quality and efficient air compressor products, multiple compressed air solutions and perfect pre-sales and after-sales services, Hitachi will become your most trusted compressed air expert.



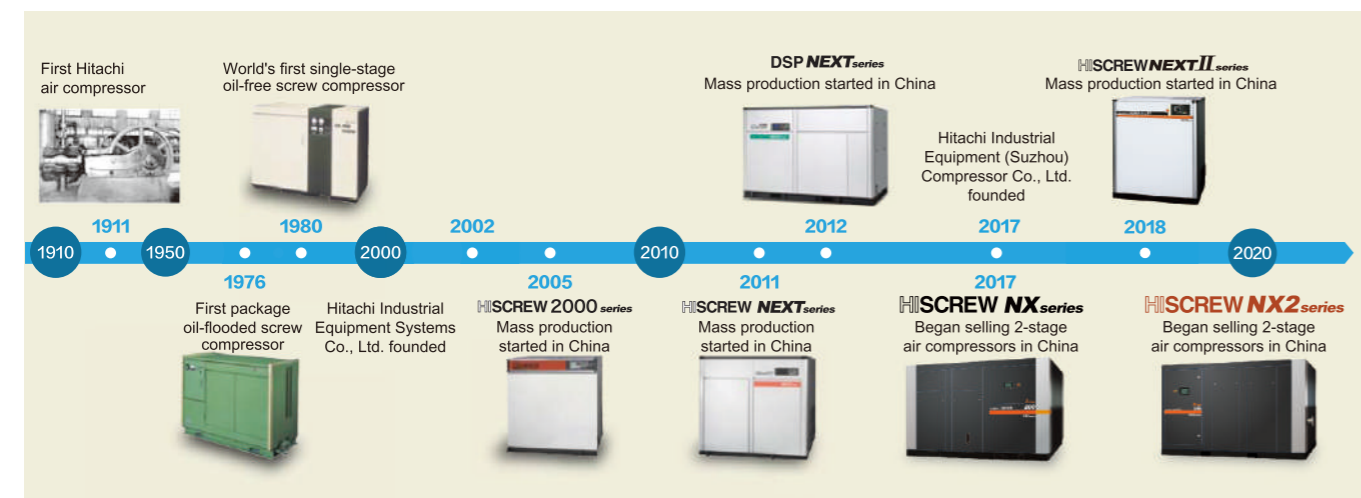
Ultimate evolution of air compressor - OSP NEXT II series

We are proud to introduce **OSP NEXT II series**, a new milestone in Hitachi innovation of air compressor technology.

With outstanding reliability, premium efficiency and industry leading performance, **OSP NEXT II series** will undoubtedly match your requirements for air compressors.



History of Hitachi Air Compressor



Model list

Model		Nominal Output (kW)									
		11	15	22	37	55	75	110	132	160	
Variable speed type	VPLUS (Vtype)	Air-cooled	○	○	○	○	○	○	○	○	○
		Water-cooled					○	○	○		○
Fixed speed type	Mtype	Air-cooled	○	○	○	○	○	○	○	○	○
		Water-cooled					○	○	○	○	○

OSP NEXT II series

Hitachi Aired

High-performance

The rotor profile designed by Hitachi provide high performance and high efficiency.



All-in-one structure

The integral structure of the oil separator and the aired reduces the pressure loss and minimizes the energy loss.(22/37kW Vplus)



22/37kW Vplus Aired

Directly-coupled design

No transmission loss by the directly-coupled design of the high-efficient DCBL motor and the aired.(22-75kW Vplus)



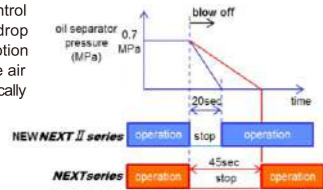
55/75kW Vplus Aired



Intelligent control

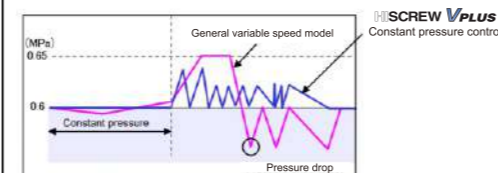
Rapid Air Blow-Off Control

"NEW HISCREW OIL NEXT" is the new synthesis oil which hardly foams during oil case air pressure releasing. This achieves shorten blow-off time, and as a result, both auto stop time and unloading time shorten. This rapid blow-off control prevents a pressure drop when the air consumption is increased when the air compressor is automatically stopped.



Constant pressure control

Since Constant Pressure Control allows highly precise pressure control within range of $\pm 0.01\text{MPa}$, supply of compressed air at necessary pressure is possible with high efficiency.



Long term maintenance cycle & easy maintenance

Package Filter as standard

The filter is mounted on the air intake of the air compressor as standard. The touch panel shows maintenance indication according to the set value.



Oil Separator Element

Spin-on type filter is adopted with excellent maintenance. It employs a large oil separator element, delivers a stable oil separation performance.



Large Air Intake Filter

Cartridge type filter is used for easy replacement. The two-stage method of inertial separation and special designed media improves filtration efficiency.



Hitachi DCBL Motor

Energy-saving

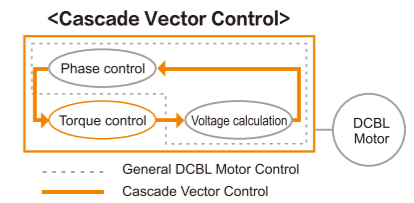
DCBL Controller

Retry function as standard

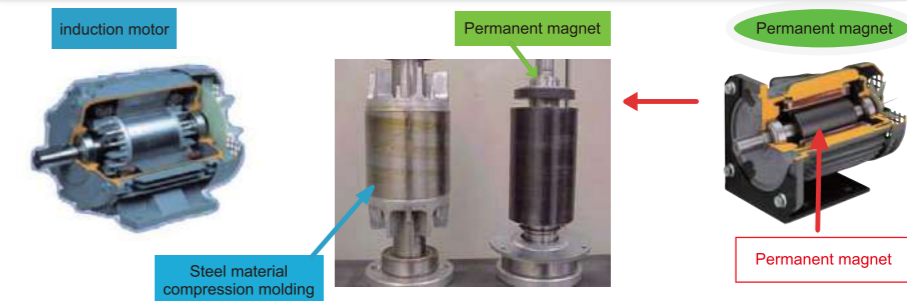
Retry function is available for the occasion of minor failures of controller. The compressor can retry up to three times with its own function in case of controller trip. So, it is possible to eliminate the influence to the operation of the compressor from outside disturbance.

Cascade Vector Control

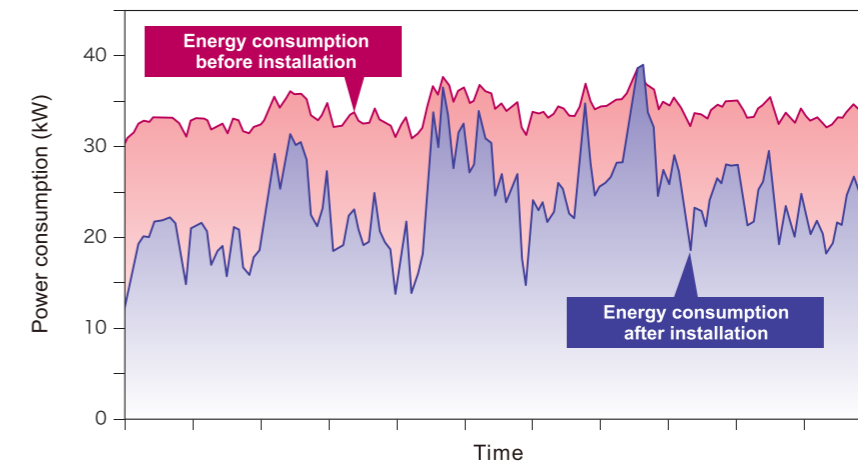
By adding Vector Control in a line from Cascade to the normal DCBL control, both high efficiency and high reliability are achieved.



The difference between permanent magnet motor and induction motor



Example of energy saving in variable speed compressor



Before installation

- Average load rate: 52%
- Power consumption 23,600 kWh/month

After installation

- 37 kW variable speed compressor × 1 unit installed
- Reduction in power consumption: **34%** (Calculated value)

Note: Before installation, energy saving diagnosis was performed on the existing model(37kW fixed speed compressor x 1 unit).



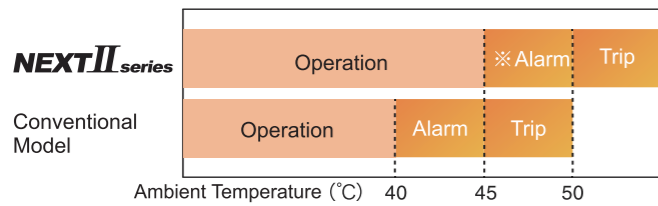
**More Efficiency
Fit to Improve Productivity
Higher Level of User-friendly**

NEXT II series

High Reliability

Up to 50°C

- Standard up to 45°C
- Operation is possible under 50°C



Ambient temperature alarm will be indicated when ambient temperature is over 45°C. Continuous operation at higher than 45°C may shorten lifetime of lubricating oil and electric parts.

NEW HISCREW OIL NEXT

- Designed for screw air compressor.
- Oil change cycle is every 2 years or 12,000hr which comes first.



Overhaul Cycle 11-75kW - 8 years 110-160kW - 6 years

The overhaul cycle of Airend is every 6-8 years, since the combination of high-performance bearing and high-precision oil filtration system is adopted.



*Condition : 6,000hr or less Operation Time ,
Overhaul cycle for 1.0MPa specification machine is 4 years.

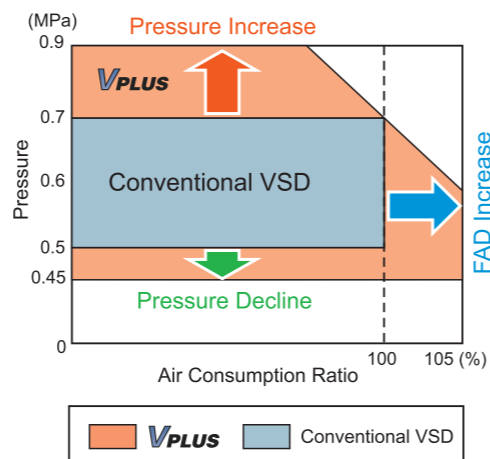
Versatility in Hitachi original Technology

PQ WIDE MODE

PQ WIDE MODE, by automatically adjusting the maximum rotation speed of the compressor, enables to increase the discharge FAD in case that the pressure declines. Compared to conventional VSD, compressor is possible to operate at a wider range of pressure (P) and FAD (Q)

FAD at PQ WIDE MODE

Model	Discharge Pressure MPa	0.45	0.50	0.60	0.70	0.85	0.90	0.95
11kW	-	1.79	1.79	1.79	1.63	1.53	-	-
15kW	-	2.4	2.4	2.4	2.15	2.04	-	-
22kW	4.3	4.3	4.3	4.1	3.6	-	-	-
37kW	7.1	7.1	7.1	6.8	6.2	-	-	-
55kW	10.6	10.6	10.6	10.1	9.1	-	-	-
75kW	14.0	14.0	14.0	13.3	12.0	-	-	-
110kW	22.5	22.5	22.5	21.5	19.3	-	-	-
160kW	29.5	29.5	29.5	29.5	26.9	26.0	25.2	-



IPC Control (Intelligent Pressure Control)

VPLUS M type

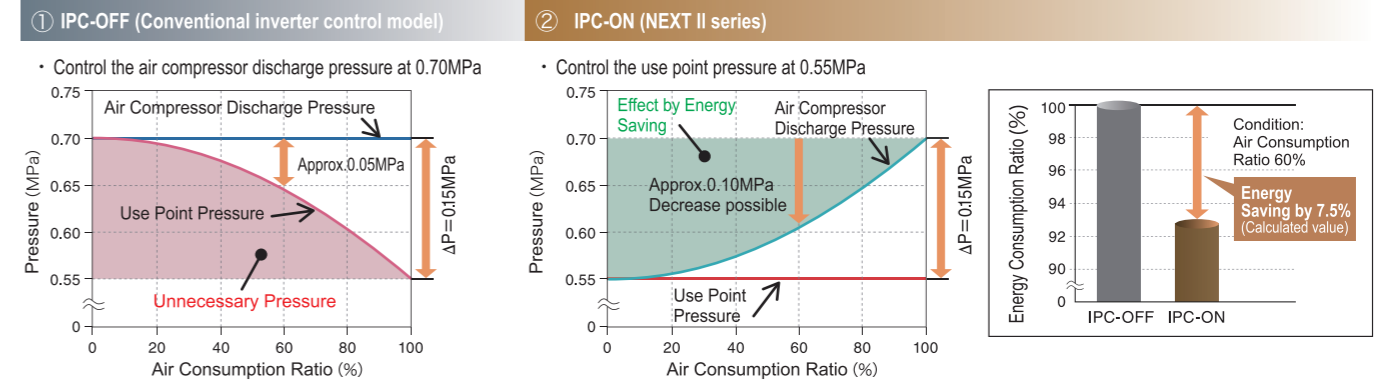
By estimating use point pressure in accordance with air consumption, IPC control decreases discharge pressure during low load operation, which enables Energy-Saving.

Patent JP4425768 and others

Example of effect by IPC

- Conditions
- Air compressor: OSP-37VAN2
 - 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)



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

Multi-Function Touch Screen*

- Significant Improvement of User-friendly
- Various Functions Available
- Operation Data Logging

Main Functions

- Schedule Operation (Weekly Timer)
- Instantaneous Power Interruption (IPI) Restart Function
- Alternate Operation (Option)
- Multi-unit Control (Option)
- AUTO Operation
- Communication Function
- Web Server Function
- Display/Store of Operation Data
- Store/Load of Settings
- Maintenance Time Notification
- Operation Data Memory, Display in Graph
- Display of Shutdown and Alarm History

*IT communication function is only for 22kW or bigger models with touch screen. Touch screen less option is available for OSP-22/37MAN2.

IT Communication Functions*

USB Flash Memory Possible for Data Logging

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

Web Server Function via Bluetooth®

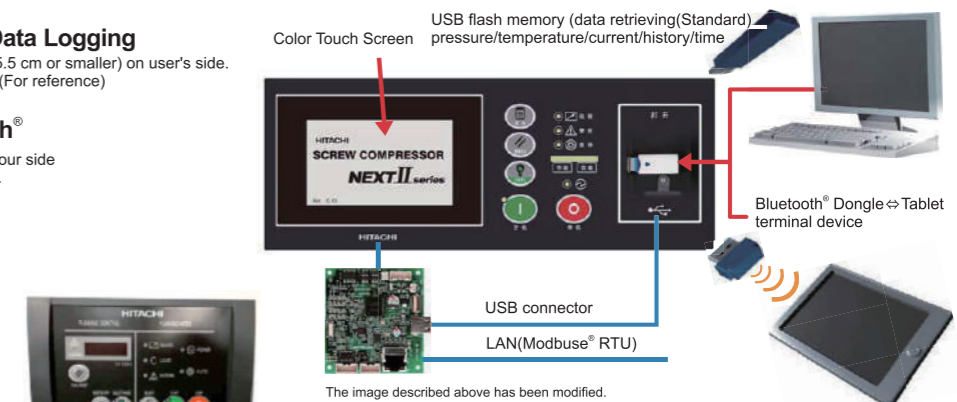
*Necessary to prepare a Bluetooth® USB dongle on your side.
*For setting changes, part of the items are applicable.

Modbus® Communication

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

*Modbus®/TCP support is optional.

*IT communication function is only for 22kW or bigger models with touch screen. Touch screen less option is available for OSP-22/37MAN2.

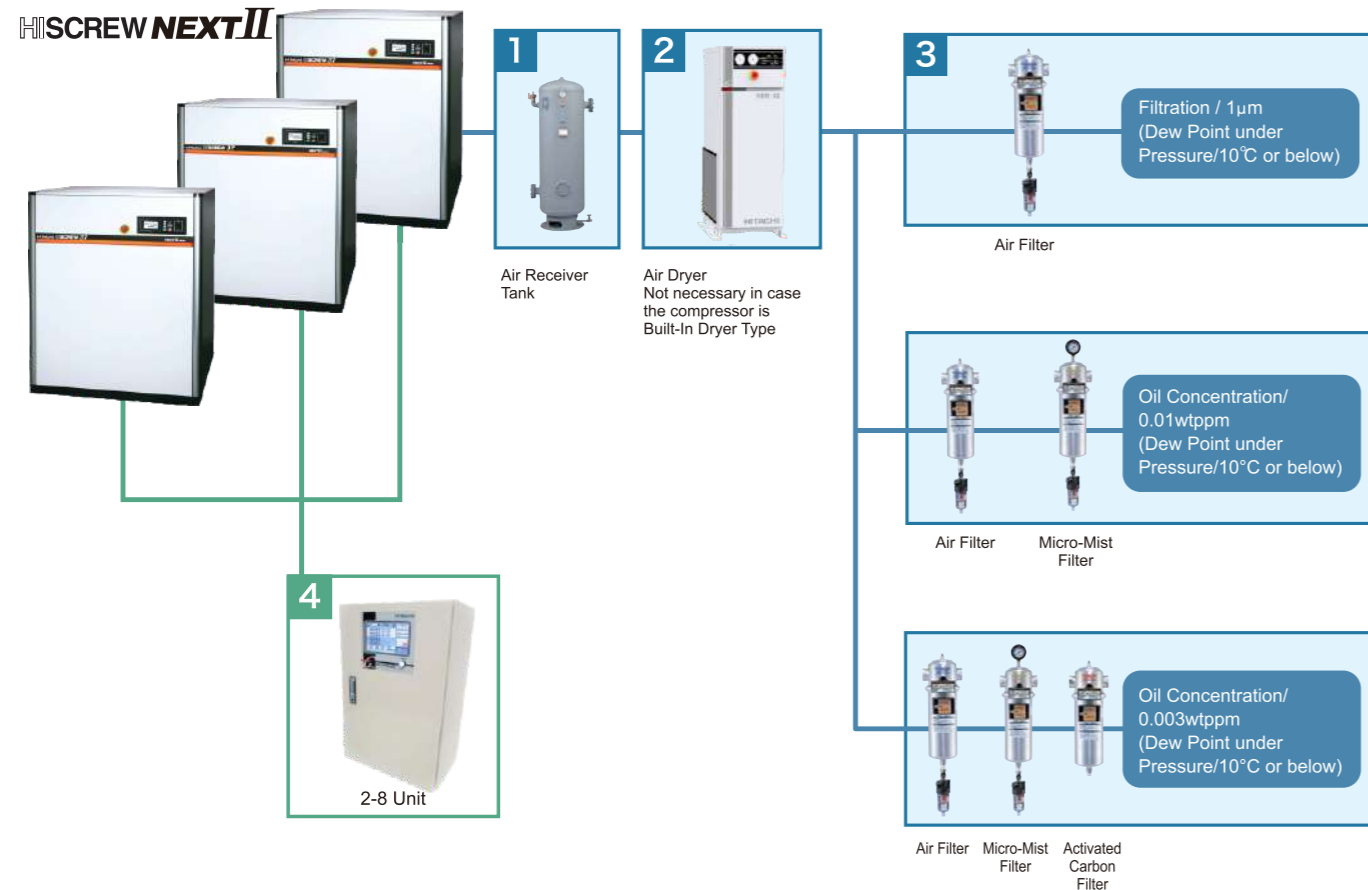


The image described above has been modified.

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

Auxiliary Equipment

Example of Oil-Flooded Screw Compressed Air System



1 Air Receiver Tank

In order to exert the energy saving effect of compressor, Hitachi recommend to choose the air receiver tank with following volume.

Air Receiver Tank volume list

kW	Model	Mtype		VPLUS
		Standard	ECOMODE	
11		0.15	0.28	0.15
15		0.28	0.43	0.28
22		0.43	0.70	0.43
37		0.70	1.24	0.43
45		0.70	1.24	-
55		1.24	1.24	0.70
75		1.24	2.26	1.24
110		2.26	4.0	4.0
132		4.0	8.0	4.0
160		4.0	8.0	4.0

Note : For detail information of above auxiliary equipment, contact your nearest dealer or Hitachi local representative office

2 Air Dryer

- Dry air of higher quality
- A rich line-up for your choice

3 Line Filter

- Various types of filter
(Air Filter, Micro-Mist Filter, Activated Carbon Filter)

4 Multi Unit Control Panel

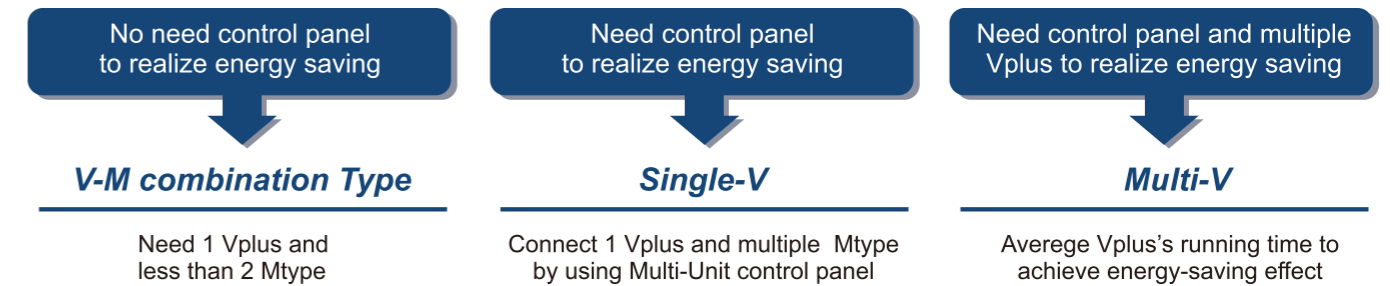
MULTI ROLLER *G* series

- Energy-saving
- Easy-to-read LCD touch screen equipped

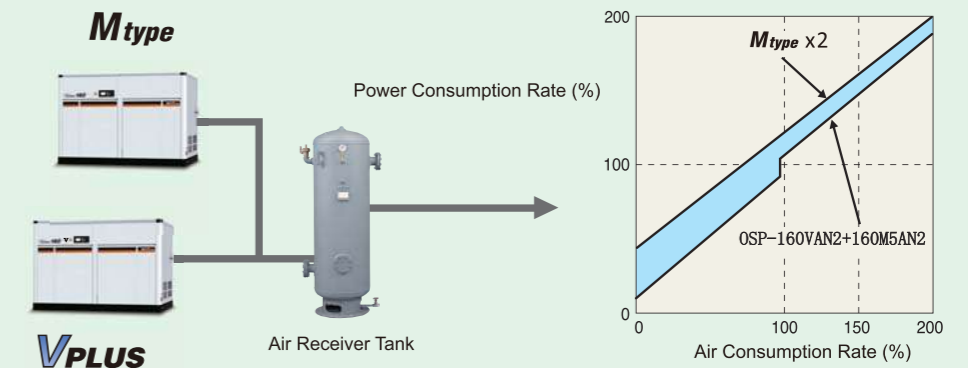
VPLUS's energy-saving solutions

Energy-saving solution

To respond to the change in air demand, connect VPLUS and Mtype, Hitachi provide three patterns of system structure to help you acquire energy-saving.

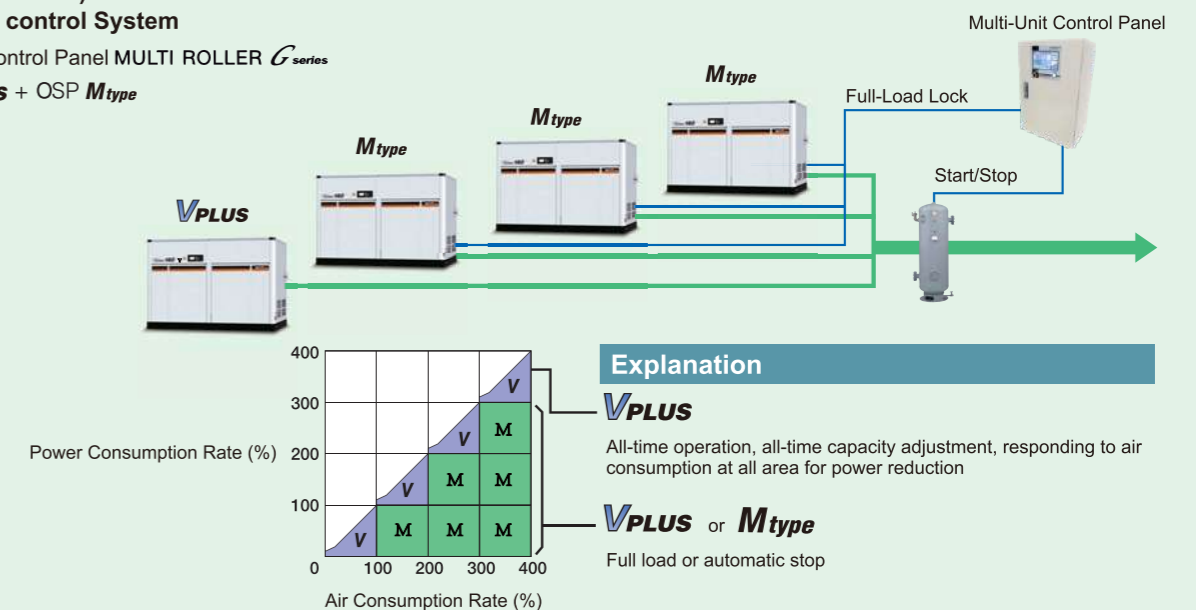


■ V-M combination Type



■ Single-V (Multi-V) Multi-Unit control System

Multi-Unit control Panel MULTI ROLLER *G* series
OSP VPLUS + OSP Mtype



Standard Specification Sheet (Vtype)

11-37kW Vtype

Item ·Unit	Model	OSP-11VAN2-L	OSP-15VAN2-L	OSP-22VAN2	OSP-37VAN2
Cooling Method	-	Air-Cooled			
Nominal Output	kW	11	15	22	37
Rated	Discharge Pressure	0.85			
	Discharge Air Capacity	1.63	2.15	4.1	6.8
PQ WIDE MODE	Discharge Pressure	0.7	0.9	0.7	0.9
	Discharge Air Capacity	1.79	1.53	2.4	2.04
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C			
Discharge Air Temperature	°C	Atmospheric Temperature + 15°C or below			
Driving Method	°C	4-pole TEFC motor with V-Belt Drive		DCBL Direct Drive	
Starting Method	-	Soft Start			
Lubricating Oil	-	NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	6	7	10	15
Nominal Output of Cooling Fan	kW	1.5 (with Inverter Control)		1.5 (with Inverter Control)	
Discharge Pipe Diameter	-	Rc1		Rc1-1/2	
Dimension (WxDxH)	mm	950x780x1,250		1,000x1,050x1,550	1,200x1,150x1,650
Weight	kg	350	372	450	670
Recommended Air Receiver Volume	m³	0.15 or bigger		0.28 or bigger	
Noise Level (1.5m from front side)	dB(A)	58	61	56	60

55-75kW Vtype

Item ·Unit	Model	OSP-55VAN2	OSP-75VAN2	OSP-55VWN2	OSP-75VWN2
Cooling Method	-	Air-Cooled		Water cooled	
Nominal Output	kW	55	75	55	75
Rated	Discharge Pressure	0.7			
	Discharge Air Capacity	10.1	13.3	10.1	13.3
PQ WIDE MODE	Discharge Pressure	0.6	0.85	0.6	0.85
	Discharge Air Capacity	10.6	9.1	14.0	12.0
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C			
Discharge Air Temperature	°C	Atmospheric Temperature + 15°C or below		Atmospheric Temperature + 13°C or below	
Driving Method	°C	DCBL Motor with Coupling			
Starting Method	-	Soft Start			
Lubricating Oil	-	NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	26	36	17	24
Nominal Output of Cooling Fan	kW	1.5 (with Inverter Control)	2.2 (with Inverter Control)	0.05 X 2	
Discharge Pipe Diameter	-	Rc2			
Dimension (WxDxH)	mm	2,000 x 1,200 x 1,800			
Weight	kg	1,230	1,405	1,070	1,240
Recommended Air Receiver Volume	m³	0.7 or bigger	1.24 or bigger	0.7 or bigger	1.24 or bigger
Cooling water	°C	35 or below			
	L/min			100	125
Cooling water pipe diameter	-	Rc2			
Noise Level (1.5m from front side)	dB(A)	64	66	63	65

110-160kW Vtype

Item ·Unit	Model	OSP-110VAN2	OSP-160VAN2	OSP-110VWN2	OSP-160VWN2
Cooling Method	-	Air-Cooled		Water cooled	
Nominal Output	kW	110	160	110	160
Rated	Discharge Pressure	0.7			
	Discharge Air Capacity	21.5	29.5	21.5	29.5
PQ WIDE MODE	Discharge Pressure	0.6	0.85	0.6	0.85
	Discharge Air Capacity	22.5	19.3	25.2	22.5
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C			
Discharge Air Temperature	°C	Atmospheric Temperature + 15°C or below		Atmospheric Temperature + 13°C or below	
Driving Method	°C	4-Pole TEFC Motor with Gear Driving			
Starting Method	-	Soft Start			
Lubricating Oil	-	NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	50	115	37	70
Nominal Output of Cooling Fan	kW	1.5 x 2 (with Inverter Control)	4.0 x 2 (with Inverter Control)	0.05 x 3	0.2
Discharge Pipe Diameter	-	2-1/2 in(Flange)		3 in(Flange)	
Dimension (WxDxH)	mm	2,550 x 1,500 x 1,800	2,700 x 2,000 x 1,890	2,550 x 1,500 x 1,800	2,700 x 2,000 x 1,890
Weight	kg	2,900	3,900	2,800	3,750
Recommended Air Receiver Volume	m³	4.0 or bigger			
Cooling water	°C	35 or below			
	L/min			180	
Cooling water pipe diameter	-	Rc2			
Noise Level (1.5m from front side)	dB(A)	75	79	72	

- Capacity is measured according to ISO 1217, Annex C.
- Discharge pressure is gauge pressure.
- Temperature of discharge air may vary from different environments.
- For Vtype/PLUS, when PQ wide mode is ON, it may be necessary to increase the size of the separate dryer, filter, etc. Please contact your nearest Hitachi sales representative.
- Be sure to install an air tank with more than the recommended capacity. For Mtype (constant speed compressor) to maximize (ECOMODE) energy efficiency, use air receiver tank which is recommended.
- Earth leakage breaker is not built in the compressor. Prepare by customer.
- Grounding must be used separately.

Standard Specification Sheet (Mtype)

11-37kW Mtype

Item ·Unit	Model	OSP-11MA5AN2-L	OSP-15M5AN2-L	OSP-22M5AN2(-L)	OSP-37M5AN2(-L)
Cooling Method	-	Air-Cooled			
Nominal Output	kW	11	15	22	37
Rated	Discharge Pressure	0.85 <0.7>	0.85 <0.7>	0.7 <0.85>[1.0]	0.7 <0.85>[1.0]
	Discharge Air Capacity	1.63 <1.79>	2.15 <2.4>	4.0 <3.7>(3.3)	7.2 <6.6>(5.8)
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C			
Discharge Air Temperature	°C	Atmospheric Temperature + 15°C or below			
Driving Method	°C	4-pole TEFC motor with V-Belt Drive			
Starting Method	-	Direct Connection/Star-Delta		Star-Delta	
Lubricating Oil	-	NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	6	7	10	15
Nominal Output of Cooling Fan	kW	1.5 (with Inverter Control)			
Discharge Pipe Diameter	-	Rc1		Rc1-1/2	
Dimension (WxDxH)	mm	950x780x1,250		1,000x1,050x1,550	1,200x1,150x1,650
Weight	kg	345	357	670	970
Recommended Air Receiver Volume	m³	0.15 or bigger	0.28 or bigger	0.43 or bigger	0.7 or bigger
Noise Level (1.5m from front side)	dB(A)	58	61	57	60

55-75kW Mtype

Item ·Unit	Model	OSP-55MAN2	OSP-75MAN2	OSP-55MWN2	OSP-75MWN2
Cooling Method	-	Air-Cooled		Water cooled	
Nominal Output	kW	55	75	55	75
Rated	Discharge Pressure	0.7 <0.85>[1.0]			
	Discharge Air Capacity	10.0-9.0>[8.3]	13.2<11.9>(10.9)	10.0-9.0>[8.3]	13.2<11.9>(10.9)
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C			
Discharge Air Temperature	°C	Atmospheric Temperature + 15°C or below		Atmospheric Temperature + 13°C or below	
Driving Method	°C	2-pole TEFC motor with Gear Driving			
Starting Method	-	Star-Delta			
Lubricating Oil	-	NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	27	38	17	24
Nominal Output of Cooling Fan	kW	1.5 (with Inverter Control)	2.2 (with Inverter Control)	0.05 X 2	
Discharge Pipe Diameter	-	Rc2			
Dimension (WxDxH)	mm	2,000 x 1,200 x 1,800			
Weight	kg	1,520	1,800	1,360	1,640
Recommended Air Receiver Volume	m³	1.24 or bigger			
Cooling water	°C	35 or below			
	L/min			100	125
Cooling water pipe diameter	-	Rc2			
Noise Level (1.5m from front side)	dB(A)	65	67	64	66

110-160kW Mtype

Item ·Unit	Model	OSP-110MAN2	OSP-132MAN2	OSP-160MAN2	OSP-110MWN2	OSP-132MWN2	OSP-160MWN2
Cooling Method	-	Air-Cooled			Water cooled		
Nominal Output	kW	110	132	160	110	132	160
Rated	Discharge Pressure	0.7 <0.85>[1.0]					
	Discharge Air Capacity	21.5<20.4>[17.0]	25.5<23.3>[21.0]	29.5<27.2>[24.5]	21.5<20.4>[17.0]	25.5<23.3>[21.0]	29.5<27.2>[24.5]
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C					
Discharge Air Temperature	°C	Atmospheric Temperature + 15°C or below			Atmospheric Temperature + 13°C or below		
Driving Method	°C	4-Pole TEFC Motor with Gear Driving					
Starting Method	-	Star-Delta					
Lubricating Oil	-	NEW HISCREW OIL NEXT					
Lubricating Oil Quantity	L	50	105	115	37	65	70
Nominal Output of Cooling Fan	kW	1.5 x 2 (with Inverter Control)	4.0 x 2 (with Inverter Control)		0.05 x 3	0.2	
Discharge Pipe Diameter	-	2-1/2 in(Flange)		3 in(Flange)		3 in(Flange)	
Dimension (WxDxH)	mm	2,550 x 1,500 x 1,800	2,700 x 2,000 x 1,890		2,550 x 1,500 x 1,800	2,700 x 2,000 x 1,890	
Weight	kg	2,800	3,450	3,600	2,700	3,300	3,420
Recommended Air Receiver Volume	m³	2.0 or bigger	4.0 or bigger		2.0 or bigger	4.0 or bigger	
Cooling water	°C	35 or below					
	L/min			180			
Cooling water pipe diameter	-	Rc 2					
Noise Level (1.5m from front side)	dB(A)	75	77	79	72	72	72

- Do NOT use any oil other than "NEW HISCREW OIL NEXT."
- If the voltage imbalance ratio exceeds 1% during rated load operation, or if the power transformer capacity is more than 10 times the motor output and exceeds 500 kVA, an AC reactor needs to be installed between the power and the air compressor to regulate and improve the power.
- Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.
- Appearance and specifications are subject to change without notice.
- Noise level is the converted value under the condition of 1.5m in front, 1m height, at full load running in an anechoic room. It may vary depending on capacity control and installation environment. For Vtype/PLUS, noise level may be increased by 3dB when PQ WIDEMODE is ON. It will be higher than indicated value in actual field installations with echo. It is not a guaranteed value.
- < > [] show values of capacity under different discharge pressures.
- 1.0 MPa model is ONLY available on 22/37/55/75kW Mtype. For details, contact your nearest Hitachi sales representative.
- IT communication function is only for 22kW or bigger models with touch screen. Touch screen less option is available for OSP-22/37MAN2.