

Hitachi Oil-Flooded Screw Compressors

HITACHI
Inspire the Next

HISCREW

NEXT II series (7.5-150kW)



Evolution of Air Compressor

- Economic Efficient, High Standard Oil-Flooded Rotary Screw Compressor **HISCREW** series

How to realize higher economic efficiency and reduction of environmental burden has become a great **CHALLENGE** for the air compressor industry in the 21st century.

Hitachi, with long-year-accumulated technology, offers a perfect answer to this challenge.

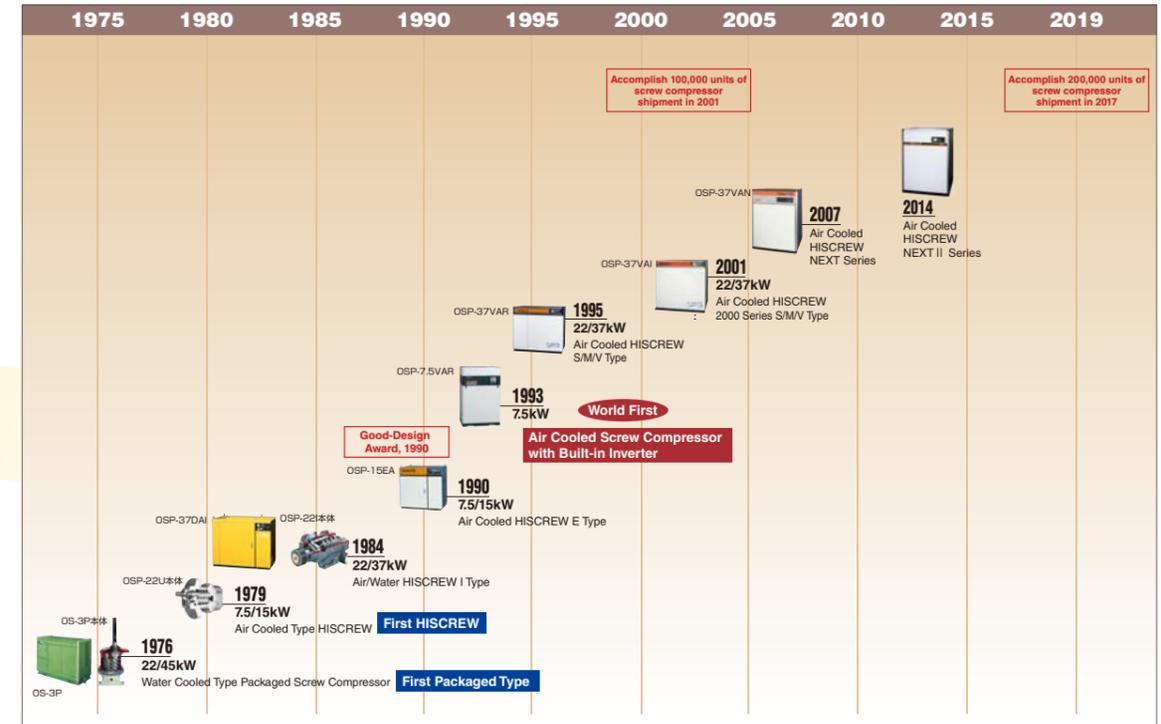
Hitachi, to pursue the ultimate goal of higher Energy-Saving performance together with less environmental burdens, adds **NEXT II series** to the highly-reputed **HISCREW** as a new line-up.

Hitachi, aiming to further development, provides solutions for different industries.

Hitachi, by developing new core technology, will continue providing highly-advanced screw air compressors to satisfy the needs of every customer.



Evolution of Hitachi COMPRESSOR



From Small to Large, Extensive Line-Up of High Economic Efficiency and Environmental Performance, Solution for Diversified High-Level Demands

7.5–15kW Class

NEXT II series VPLUS, M type

Pursuit of Energy-Saving and Easy-to-use, Economic Small Class

- VSD
- Water-Cooled
- Fixed Speed Type
- Built-in Dryer
- Air-Cooled
- Without Dryer



100kW Class

NEXT II series VPLUS, M type

High Reliability and Maintenance Friendly

- VSD
- Water-Cooled
- Fixed Speed Type
- Built-in Dryer
- Air-Cooled
- Without Dryer



22/37kW Class

NEXT II series VPLUS, M type

Highly Improved Energy-Saving, Widely-Used Class with great variation

- VSD
- Water-Cooled
- Fixed Speed Type
- Built-in Dryer
- Air-Cooled
- Without Dryer



150kW Class

NEXT II series Dual type

2 Units of 75kW Compressor in 1 Package

- VSD
- Water-Cooled
- Fixed Speed Type
- Built-in Dryer
- Air-Cooled
- Without Dryer



55/75kW Class

NEXT II series VPLUS, M type

Pursuit of Energy-Saving and Environmental Performance, Middle Class

- VSD
- Water-Cooled
- Fixed Speed Type
- Built-in Dryer
- Air-Cooled
- Without Dryer



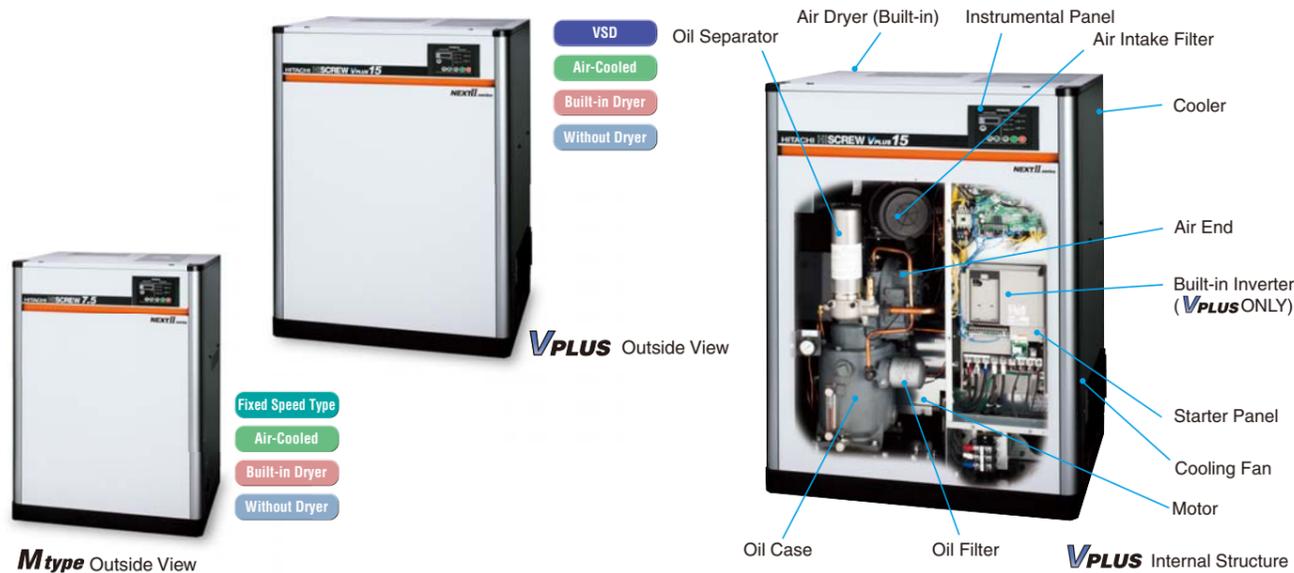
List of Model NEXT II series

Model	VSD				Fixed Speed Type			
	VPLUS (Vtype)				M type			
	Air-Cooled		Water-Cooled		Air-Cooled		Water-Cooled	
	Built-in Dryer	Without Dryer	Built-in Dryer	Without Dryer	Built-in Dryer	Without Dryer	Built-in Dryer	Without Dryer
7.5	○	○			○	○		
11	○	○			○	○		
15	○	○			○	○		
22	○	○			○	○	○	○
37	○	○			○	○	○	○
55	○	○	○	○	○	○	○	○
75	○	○	○	○	○	○	○	○
100		○		○		○		○
150(75×2)		○		○		○		

HISCREW NEXT II series (7.5-15kW)

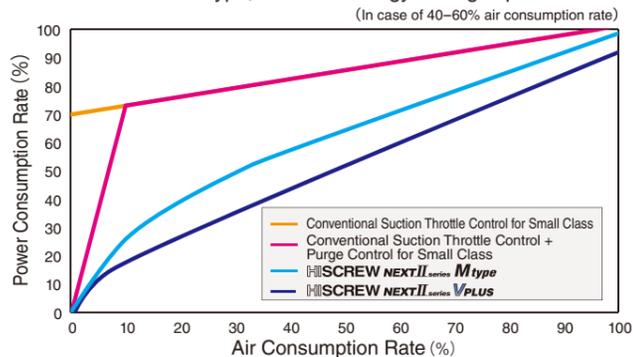
VPLUS, M type

Compact type with inherited **NEXT series** technology
Pursuit of Excellent Economic Efficiency,
Environmental Performance, Easy Maintenance



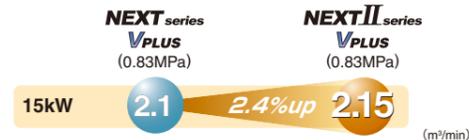
Energy-Saving

In addition to high performance of the compressor itself, overall energy-saving can be achieved. Compared with the common suction throttle valve type, 30–40% energy-saving is possible.



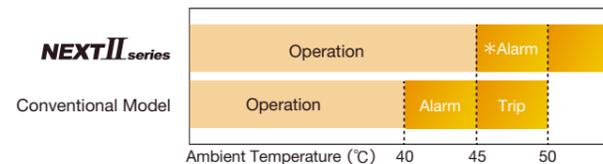
New Developed Air-End

Hitachi Latest Innovation of Air-End Technology.

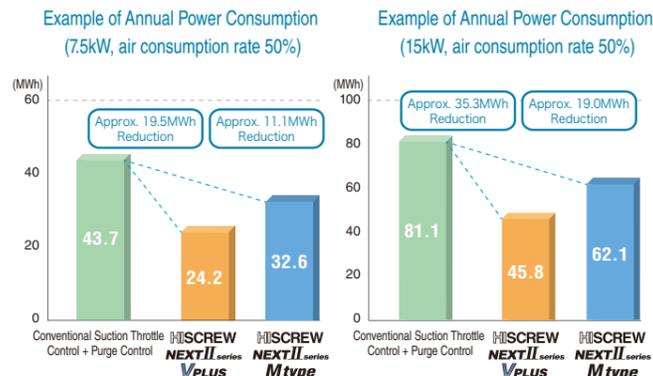


Up to 50°C

- 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.



Calculation Condition: (1) Pressure Setting: NEXT-Vplus 0.73MPa Others 0.83MPa
(2) 6,000hr/year Operation

Long Cycle, Easy Maintenance

Overhaul Cycle – 8 years

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



*Condition: 6,000hr or less Operation Time.

Possible of Oil Change Every 2 years

Designed for Hitachi Oil-injected Screw Air Compressor Oil change cycle is every 2 years or 12,000hr which comes first.*



*Condition: 6,000hr or less Operation Time.

Package Filter as Standard

- Easy maintenance
- Maintenance information is indicated on the touch panel periodically.



Standard Specification

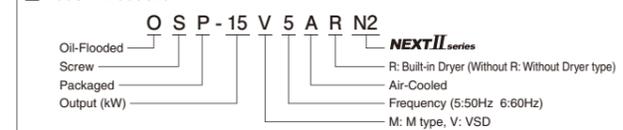
7.5-15kW (VPLUS, M type)

Item - Unit	Model	OSP-7.5VA(R)N2	OSP-11VA(R)N2	OSP-15VA(R)N2	OSP-7.5M5A(R)N2 OSP-7.5M6A(R)N2	OSP-11M5A(R)N2 OSP-11M6A(R)N2	OSP-15M5A(R)N2 OSP-15M6A(R)N2
Cooling Method	—	Air-Cooled					
Nominal Output	kW	7.5	11	15	7.5	11	15
Rated	Discharge Pressure	0.83					
	Discharge Capacity	1.05		1.63		2.15	
PQ WIDE MODE	Discharge Pressure	0.7	0.9	0.7	0.9	—	
	Discharge Capacity	1.17	0.96	1.79	1.53	2.4	2.04
Intake Air Pressure/Temperature	—	Atmospheric Pressure / 0–45°C (2–45°C)					
Discharge Temperature	°C	Ambient Temperature / +15 or below					
Driving Method	—	Inverter + 4-Pole TEFC Motor with V-Belt Drive			4-Pole TEFC Motor with V-Belt Drive		
Starting Type	—	Soft Start			Direct-on-line		
Lubricating Oil	—	NEW HISCREW OIL NEXT					
Lubricating Oil Quantity	L	5	6	7	5	6	7
[Dryer]	P.D.P	[10 (Under Pressure)]					
	Refrigerant Nominal Output	kW	[0.3]	[0.5]	[0.3]	[0.5]	[0.5]
Refrigerant	—	[R407C]					
Discharge Pipe Diameter	—	Rc 3/4		Rc 1		Rc 3/4	
Dimension (WxDxH)	mm	860x770x1,175		950x780x1,250		860x770x1,175	
Weight	kg	300 (320)	360 (385)	390 (415)	295 (315)	355 (380)	375 (400)
Sound Level	dB [A]	53	55	56	53	55	56

Notes:

- Capacity is measured according to ISO 1217, Third Edition, Annex C. Capacity after the built-in dryer is decreased by 3%.
- Pressures are indicated as the gauge pressure.
- Sound Level is the converted value under the condition of 1.5m in front and 1m height in an anechoic room. It may vary in different operating conditions and/or different environments with echo of actual field installations. Sound level may be increased by 3dB at PQ WIDEMODE ON.
- P.D.P is measured at 30 degree C of the ambient temperature, 45 degree C of the dryer inlet temperature and rated discharge pressure. P.D.P may be 13 degree C at PQ WIDEMODE ON and 0.7MPa of discharge pressure. P.D.P may be worth at the lower discharge pressure than above conditions at PQ WIDEMODE ON.
- Contact the supplier for the dryer and filters selection at PQ WIDEMODE ON.
- The transformer installation space is required for the built-in dryer for the model other than 200V/50Hz, 200-220V/60Hz.
- Do NOT use any oil other than "NEW HISCREW OIL NEXT".
- Install the proper size air receiver tank and the earth leakage circuit breaker which are out of scope of supply from Hitachi.
- Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.

Model Introduction



HISCREW NEXT II series (22-75kW)



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

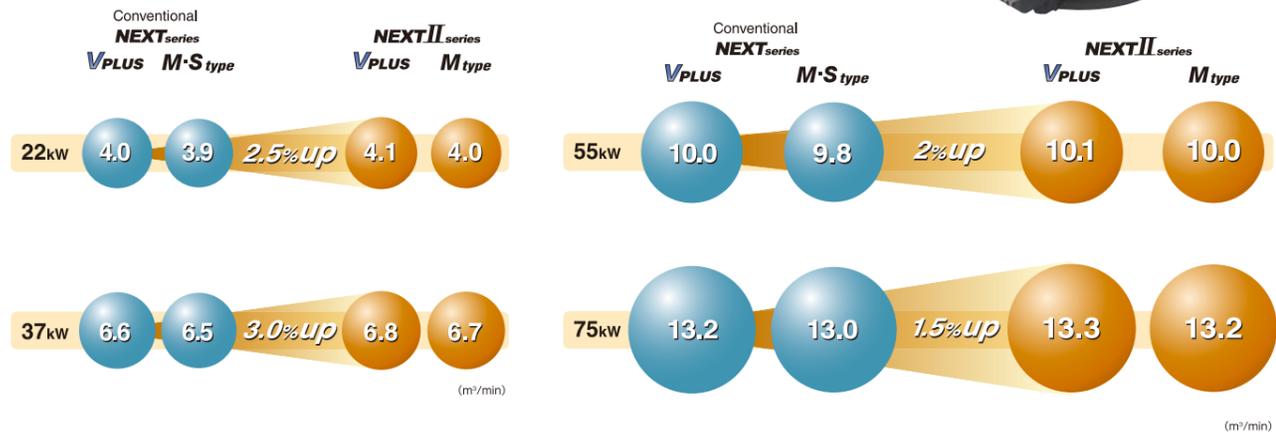
NEXT II series

Full Range Loaded with High Efficiency Motor



New Developed Air-End

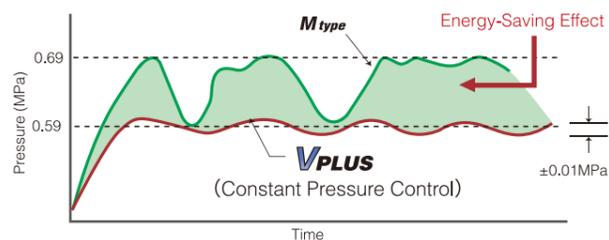
Hitachi Latest Innovation of Air-End Technology



High Efficiency Capacity Control

VPLUS

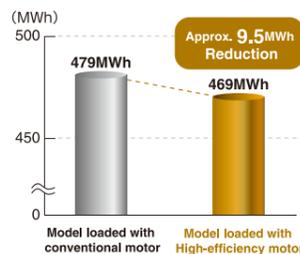
Since Constant Pressure Control allows highly precise pressure control within range of ± 0.01 MPa, supply of compressed air at necessary pressure is possible with high efficiency.



M type

On M type models, I+P control (purge + motor auto START/STOP) is applicable during partial load operation. Also, Energy-Saving can be achieved by loading High-Efficiency motor.

Example of Annual Power Consumption (75kW)



Calculation Condition:
415V/50Hz,
Air Compressor Load Ratio at 90%,
6,000h/year Operation Time,
Except auxiliary equipment

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.

Patent JP4425768 and others

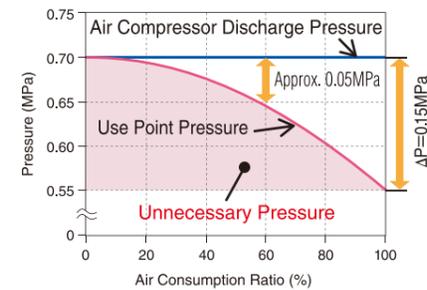
Example of effect by IPC

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)

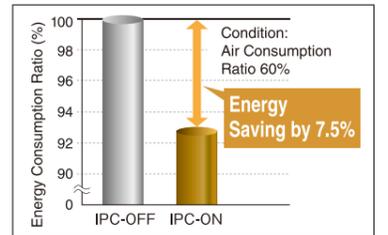
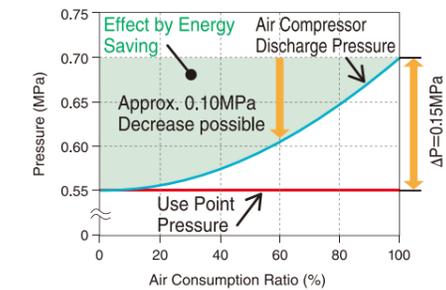
① IPC-OFF (Conventional inverter control model)

• Control the air compressor discharge pressure at 0.70MPa



② IPC-ON (NEXT II series)

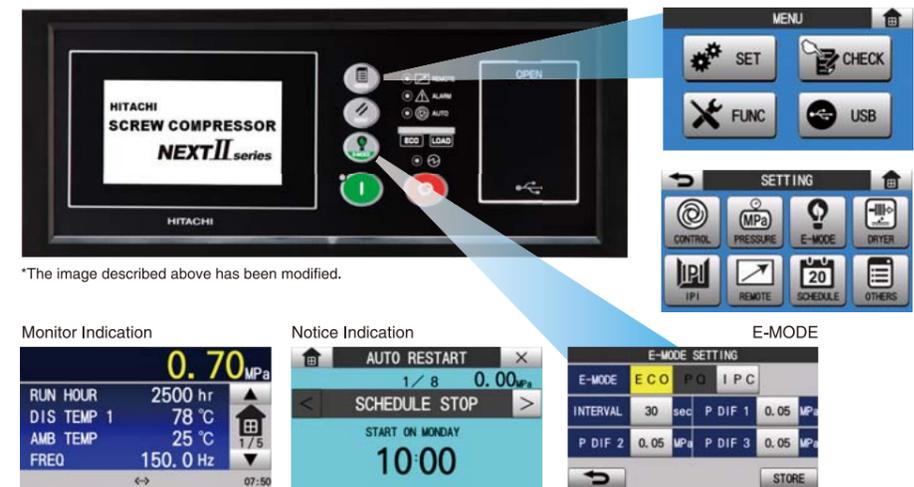
• Control the use point pressure at 0.55MPa



*Due to estimation control, use point pressure varies in accordance with use conditions.
*IPC control range of the constant speed unit is air consumption ratio of 50% or more.

Multi-Function Touch Panel

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



*The image described above has been modified.

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 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.

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

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

Color Touch Panel

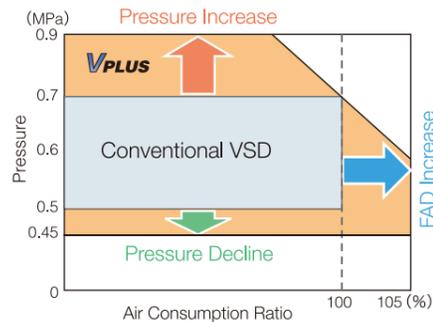


HISCREW NEXT II series (22-75kW)

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

22/37kW		0.45	0.50	0.60	0.70	0.85
Model	Discharge Pressure MPa	FAD (m³/min)				
22kW	4.3	4.3	4.3	4.1	3.6	
37kW	7.1	7.1	7.1	6.8	6.2	

55/75kW		0.45	0.50	0.60	0.70	0.85
Model	Discharge Pressure MPa	FAD (m³/min)				
55kW	10.6	10.6	10.6	10.1	9.1	
75kW	14.0	14.0	14.0	13.3	12.0	

Unit: m³/min.

Various System Combinations with VPLUS

To respond to the change of air use, Hitachi provides various system combinations with VSD for further Energy-Saving.

V-M Combination System

If 2 or 3 compressors are necessary, Hitachi V-M combination system is your excellent choice. There is great merit on Hitachi V-M combination system which divides 1 compressor into 2.

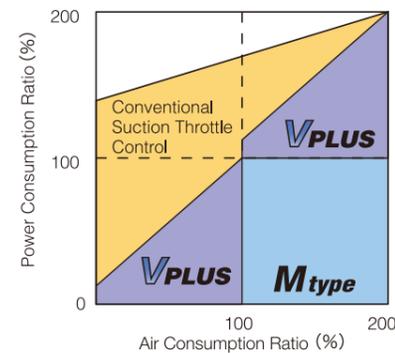
Single-V System/Multi-V System

Besides V-M Combination System, Energy-Saving is also possible with any combination such as Single-V multi-unit control system, or Multi-V multi-unit control system etc.

Example Effect of V-M Combination System

- Energy consumption is similar to the one of 75kW V plus.
- Power consumption is saved by **39%** or **164MWh/year**, when the air consumption ratio is 60% at pressure of 0.6MPa.

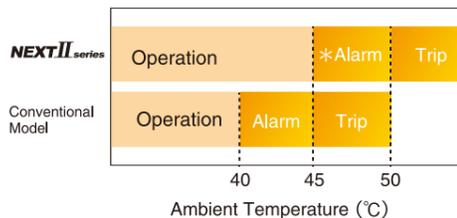
* Calculation condition: 6,000h/year running



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.

Package Filter as Standard

- Easy maintenance
- Maintenance information is indicated on the touch panel periodically.



NEW HISCREW OIL NEXT

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



Standard Specification

22/37kW (VPLUS, Mtype)

Item/Unit	Model	OSP-22VA(R)N2	OSP-37VA(R)N2	OSP-22M5A(R)N2 OSP-22M6A(R)N2	OSP-37M5A(R)N2 OSP-37M6A(R)N2
Cooling Method	-	Air-Cooled			
Nominal Output	kW	22	37	22	37
Rated	Discharge Pressure	0.7			
	Discharge Capacity	0.7 <0.85> [1.0]			
PQ WIDE MODE	Discharge Pressure	0.6	0.85	0.6	0.85
	Discharge Capacity	4.3	3.6	7.1	6.2
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0-45°C (2-45°C)			
Discharge Temperature	°C	Ambient Temperature / +15 or below			
Driving Method	-	DCBL Direct Drive		4-Pole TEFC Motor with V-Belt Drive	
Starting Type	-	Soft Start		Star-Delta	
Lubricating Oil	-	NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	10	15	10	15
[Dryer]	P.D.P	[10 (Under Pressure)]			
	Refrigerator Nominal Output	kW	[1.2]	[1.45]	[1.2]
Discharge Pipe Diameter	-	Rc 1-1/2			
Dimension (WxDxH)	mm	1,000x1,050x1,550	1,200x1,150x1,650	1,000x1,050x1,550	1,200x1,150x1,650
Weight	kg	450 [510]	670 [740]	670 [730]	970 [1,040]
Sound Level	dB [A]	56	60	57	60

55/75kW (VPLUS)

Item/Unit	Model	OSP-55VA(R)N2	OSP-75VA(R)N2	OSP-55VW(R)N2	OSP-75VW(R)N2	
Cooling Method	-	Air-Cooled		Water-Cooled		
Nominal Output	kW	55	75	55	75	
Rated	Discharge Pressure	0.7				
	Discharge Capacity	10.1				
PQ WIDE MODE	Discharge Pressure	0.6	0.85	0.6	0.85	
	Discharge Capacity	10.6	9.1	14.0	12.0	
Intake Air Pressure/Temperature	-	Atmospheric Pressure / 0-45°C (2-45°C)				
Discharge Temperature	°C	Ambient Temperature +15 or below		Water Temperature +13 or lower		
Driving Method	-	DCBL Direct Drive				
Starting Type	-	Soft Start				
Lubricating Oil	-	NEW HISCREW OIL NEXT				
Lubricating Oil Quantity	L	28 (Not filled)	39 (Not filled)	17 (Not filled)	26 (Not filled)	
[Dryer]	P.D.P	[10 (Under Pressure)]				
	Refrigerator Nominal Output	kW	[2.2]	[1.9]	[2.2]	[1.9]
Cooling Water	Refrigerant	-	[R407C]	[R410A]	[R407C]	[R410A]
	Temperature	°C	-	-	35 or below	-
Quantity	L/min	-	-	100	125	
	Discharge Pipe Diameter	B	-	-	Rc 2	
Discharge Pipe Diameter	B	Rc 2				
Dimension (WxDxH)	mm	2,000x1,200x1,800				
Weight	kg	1,230 (1,350)	1,405 (1,555)	1,070 (1,190)	1,240 (1,390)	
Sound Level	dB [A]	64	66	63	65	

55/75kW (Mtype)

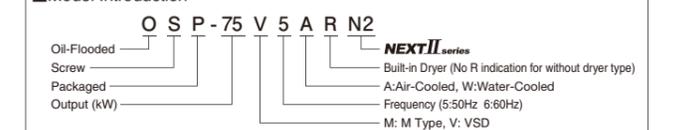
Item/Unit	Model	OSP-55M5A(R)N2 OSP-55M6A(R)N2	OSP-75M5A(R)N2 OSP-75M6A(R)N2	OSP-55M5W(R)N2 OSP-55M6W(R)N2	OSP-75M5W(R)N2 OSP-75M6W(R)N2	
Cooling Method	-	Air-Cooled		Water-Cooled		
Nominal Output	kW	55	75	55	75	
Rated	Discharge Pressure	0.7 <0.85> [1.0]				
	Discharge Capacity	10.0 <9.0> [8.3]		13.2 <11.9> [10.9]		
Intake Air Pressure/Temperature	MPa	Atmospheric Pressure / 0-45°C (2-45°C)				
Discharge Temperature	°C	Ambient Temperature +15 or below		Water Temperature +13 or lower		
Driving Method	-	2-Pole TEFC Motor with Gear Driving				
Starting Type	-	Star-Delta				
Lubricating Oil	-	NEW HISCREW OIL NEXT				
Lubricating Oil Quantity	L	29 (Not filled)	40 (Not filled)	17 (Not filled)	26 (Not filled)	
[Dryer]	P.D.P	[10 (Under Pressure)]				
	Refrigerator Nominal Output	kW	[2.2]	[1.9]	[2.2]	[1.9]
Cooling Water	Refrigerant	-	[R407C]	[R410A]	[R407C]	[R410A]
	Temperature	°C	-	-	35 or below	-
Quantity	L/min	-	-	100	125	
	Discharge Pipe Diameter	B	-	-	Rc 2	
Discharge Pipe Diameter	B	Rc 2				
Dimension (WxDxH)	mm	2,000x1,200x1,800				
Weight	kg	1,500 (1,620)	1,755 (1,905)	1,340 (1,460)	1,590 (1,740)	
Sound Level	dB [A]	65	67	64	66	

Notes:

- Capacity is measured according to ISO 1217, Third Edition, Annex C. Capacity after the built-in dryer is decreased by 3%.
- Pressures are indicated as the gauge pressure.
- Sound Level is the converted value under the condition of 1.5m in front and 1m height in an anechoic room. It may vary in different operating conditions and/or different environments with echo of actual field installations. Sound level may be increased by 3dB at PQ WIDEMODE ON. P.D.P is measured at 30 degree C of the ambient temperature, 45 degree C of the dryer inlet temperature and rated discharge pressure. P.D.P may be 13 degree C at PQ WIDEMODE ON and 0.6MPa of discharge pressure. P.D.P may be worth at the lower discharge pressure than above conditions at PQ WIDEMODE ON.
- Contact the supplier for the dryer and filters selection at PQ wide mode ON.
- The transformer installation space is required for the built-in dryer for the model other than 200V/50Hz, 200-220V/60Hz.

- Do NOT use any oil other than "NEW HISCREW OIL NEXT".
- Install the proper size air receiver tank and the earth leakage circuit breaker which are out of scope of supply from Hitachi.
- Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.

Model Introduction



HISCREW NEXT II series (100kW)

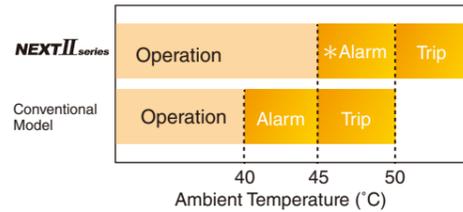


VSD Fixed Speed Type Air-Cooled Water-Cooled Without Dryer

High Reliability & Maintenance Friendly

Up to 50°C

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



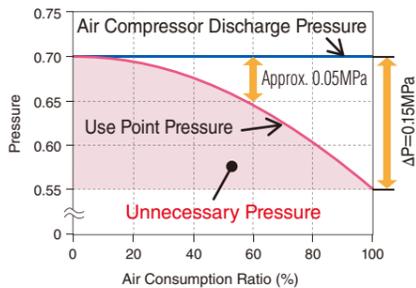
* Ambient temperature alarm will be indicated when ambient temperature is over 45°C. Continuous operation at higher than 45°C may shorten lifetime of lubricating oil and electric parts.

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.

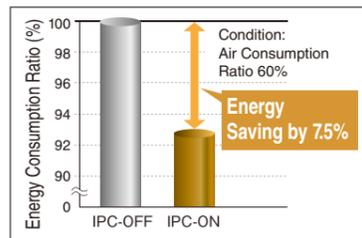
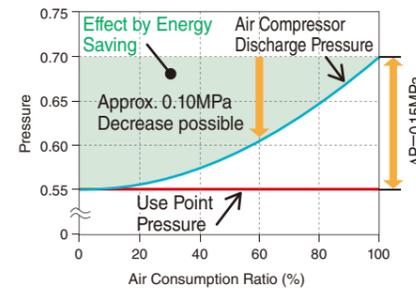
① IPC-OFF

- Control the air compressor discharge pressure at 0.70MPa



② IPC-ON

- Control the use point pressure at 0.55MPa



*The graph of pressure change above shows the theoretical values with piping pressure loss of 0.15MPa at full load. *Due to estimation control, use point pressure varies in accordance with use conditions.

Standard Specification

Model		OSP-100VAN2	OSP-100M5AN2 OSP-100M6AN2	OSP-100VWN2	OSP-100M5WN2 OSP-100M6WN2
Item-Unit					
Cooling Method		Air-cooled		Water-Cooled	
Nominal Output	kW	100			
Rated	Discharge Pressure	0.7	0.7 <0.85>	0.7	0.7 <0.85>
	Discharge Capacity	18.9	19.6 <17.6>	18.9	19.6 <17.6>
PQ WIDE Mode	Discharge Pressure	0.6-0.85	-	0.6-0.85	-
	Discharge Capacity	19.6-16.8	-	19.6-16.8	-
Intake Air Pressure/Temperature		Atmospheric pressure / 0-45°C			
Discharge Temperature	°C	Atmospheric Temperature + 15 or below		Temperature of Cooling Water + 13 or below	
Driving Method		Gear Drive			
Starting Type		Inverter	Star-delta	Inverter	Star-delta
Lubricating Oil		NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	50 (Not filled)		37 (Not filled)	
Nominal Output of Cooling Fan	kW	1.1x2 (with Inverter Control)		0.05x3	
Discharge Pipe Diameter	B	2-1/2			
Cooling Water	Temperature	35 or below			
	Quantity	150			
Dimension (WxDxH)	mm	2,550x1,500x1,800			
Weight	kg	3,000	2,900	2,900	2,800

- Note:
- Capacity is measured according to ISO 1217, Third Edition, Annex C.
 - Pressure is indicated as the gauge pressure.
 - Temperature of discharge air may vary from different environments.
 - Contact the supplier for the dryer and filters selection at PQ WIDEMODE ON.
 - Install the proper size air receiver tank and the earth leakage circuit breaker which are out of scope of supply from Hitachi.
 - Earth leakage circuit breaker need to be installed separately for each unit.
 - Do NOT use any oil other than "NEW HISCREW OIL NEXT".
 - Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.
 - < > show values of capacity under different discharge pressures.

HISCREW NEXT II series (150kW)

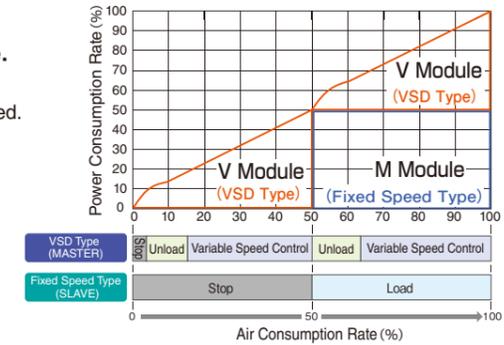


VSD Fixed Speed Type Air-Cooled Water-Cooled Without Dryer

Improvement of Energy-Saving Performance

- Evolved Energy-Saving feature is possible by loading 2 units of 75kW inside together with V-M combination control in V type.

VSD type with inverter as MASTER is preferred during operation. In case of increase in used air, the operation of Fixed Speed Type will be triggered. The change of load can be balanced by the revolution control of VSD type.



New Developed Air-End

Large capacity and high efficiency thanks to the improvement of rotor profile and optimization of oil lubricating method.

Automatic Switch-Over of Operation in case of Trouble

In case that operation of one compressor stops due to trouble, the total operation continues by automatically switching over to the other.

Maintenance Friendly

- Overhaul cycle is every 8 years. (2 years longer than the conventional model)
- Package filter on the suction port is standard.

High Reliability

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

Standard Specification

Model		OSP-150V5ADN2 OSP-150V6ADN2	OSP-150M5ADN2 OSP-150M6ADN2	OSP-150V5WDN2 OSP-150V6WDN2	OSP-150M5WDN2 OSP-150M6WDN2
Item-Unit					
Cooling Method		Air-cooled		Water-Cooled	
Nominal Output	kW	150 (75x2)			
Rated	Discharge Pressure	0.7 <0.85>			
	Discharge Capacity	26.5 <23.9>	26.4 <23.8>	26.5 <23.9>	26.4 <23.8>
Intake Air Pressure/Temperature		Atmospheric pressure / 0-45°C			
Discharge Temperature	°C	Atmospheric Temperature + 15 or below		Temperature of Cooling Water + 13 or below	
Driving Method		V module: coupling M module: Gear Drive	Gear Drive	V module: coupling M module: Gear Drive	Gear Drive
Starting Type		V module: Inverter soft start M module: Star-delta	Star-delta	V module: Inverter soft start M module: Star-delta	Star-delta
Lubricating Oil		NEW HISCREW OIL NEXT			
Lubricating Oil Quantity	L	79 (Not filled)	80 (Not filled)	52 (Not filled)	52 (Not filled)
Nominal Output of Cooling Fan	kW	2.2x2 (with Inverter Control)		0.05x4	
Discharge Pipe Diameter	B	3			
Cooling Water	Temperature	35 or below			
	Quantity	250			
Dimension (WxDxH)	mm	2,350x1,850x1,900			
Weight	kg	3,300	3,650	2,970	3,320

- Note:
- Capacity is measured according to ISO 1217, Third Edition, Annex C.
 - Pressure is indicated as the gauge pressure.
 - Temperature of discharge air may vary from different environments.
 - Install the proper size air receiver tank and the earth leakage circuit breaker which are out of scope of supply from Hitachi.
 - Earth leakage circuit breaker need to be installed separately for each unit.
 - Do NOT use any oil other than "NEW HISCREW OIL NEXT".
 - Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.
 - < > show values of capacity under different discharge pressures.

Auxiliary Equipment

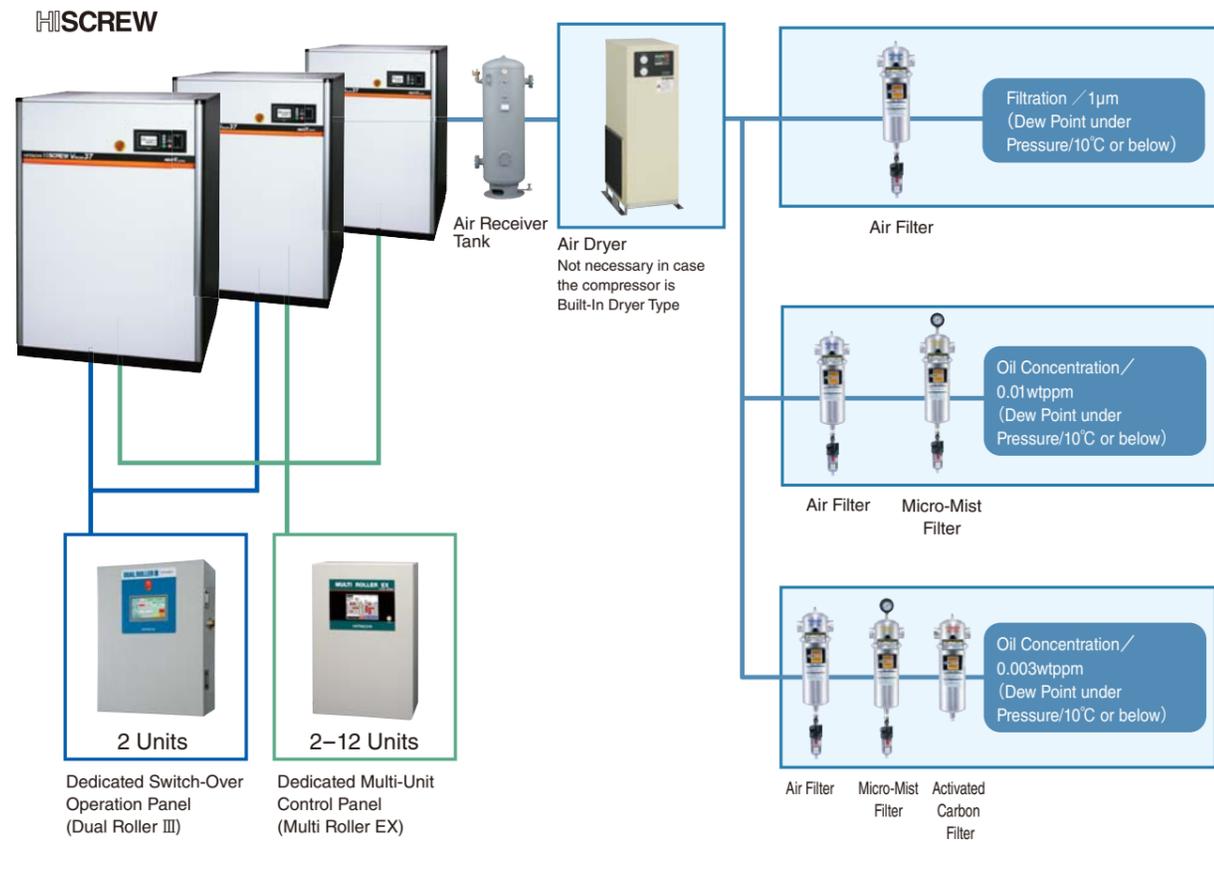
Environment Protection, Energy-Saving, Labor-Saving A Wide Variety of Auxiliary Equipment for Improving the Quality of Air

We recommend using the following auxiliary equipment with your compressors for effective and systematic use of your facilities.

Example of Oil-Flooded Screw Compressed Air System

For Hitachi Oil-Flooded Screw Compressor, V plus of Variable Speed Control and M type (possible to response to significant pressure change) are provided as various HISCREW series.

As solutions for higher demand of diversity, optional specifications and a wide variety of auxiliary equipment are provided.



Control Panel

Multi Unit Controller (MULTI ROLLER EX)

- Designed for Hitachi Air Compressor
- Efficient Control of Multiple Units
- Energy-Saving
- Various Functions Available



Alternate Operation Controller (Dual Roller III)

- Designed for Hitachi Air Compressor
- Efficient Control of 2 Units
- Energy-Saving



Standard Specification

Item	Model	Unit	MR 26-4	MR 26-8	MR 26-12
Power Supply	—		Single-phase AC100/200V (Common)		
Frequency	—		50/60Hz (Common)		
Controlled Unit	—		4	8	12
Input	Discharge Pressure	MPa	0 – 1 (Digital Indication)		
	Control	—	Answer (Operation), Failure		
Output	External	—	Start, Stop, Forced Start-up, Remote		
	Control	—	Run, Stop, Load, PID Command		
External	—		Start, Shutdown, Auto		
Controlled Discharge Pressure	—		Minimum ±0.001MPa setting		
Dimensions (W×D×H)	mm		400×200×600	500×200×900	500×200×1,200
Weight	kg		19	32	37

Standard Specification

Item	Model	Unit	SDR-3
Power Supply	—		AC100V (−10%+10%) [Possible for AC200V by switching connector]
Power Supply Frequency	—		AC100 to 240V±10% 50/60Hz [Single-phase]
Controllable Number of Units	—		2
Input	Frequency ×2	mA	4 – 20 (250Ω)
	Remote-Set [Remote] ×2	—	Connection using the contacts to which no voltage is applied [Power supply DC24V]
	Run [Operation] ×2	—	
	Failure [Shut down] ×2	—	
ElectricPulse · Extra ×2	—		Optional terminals
Output	Run ×2	—	1500ms w/out voltage
	Stop ×2	—	Pulse AC250V0.3A
	Load/Unload Command ×2	—	Dry contact
	Status ×2	—	AC250V0.3A
Pressure Detection	—		Built-in pressure sensor [0 – 1 MPa]
Operation Method	—		Following control [pressure/failure], Switching time [LAP/GAP], Schedule
Standard Function	—		Initial pump-up operation, Err. history, IPS restart, Remote operation
Dimensions (W×D×H)	mm		300×160×400
Weight	kg		10

⚠ Safety Precautions

■ Regarding compressor application

- The compressor described in this catalog utilizes only air as a gas. Absolutely avoid using it for compression of a gas other than air — this could result in a fire hazard or damage to the equipment.
- Never use compressed air for human breathing.

■ Regarding installation site

- Install this compressor indoors. Avoid using it at a place susceptible to moisture such as precipitation or vapors — this could result in a fire hazard, electric shock, rusting or shortened life of parts.
- There should be no explosive or flammable gas (acetylene, propane, etc.), organic solvent, explosive powder or flame used near the compressor — otherwise there is a fire hazard.
- Avoid using the compressor at a place where there is corrosive gas such as ammonia, acid, salt sulfurous acid gas, etc. — this could result in rusting, shortened life, or damage to the equipment.

■ Regarding usage

- Before use, be sure to read the instruction manual thoroughly for correct use of the compressor.
- Absolutely avoid modifying the compressor or its components—this could result in damage or malfunction.

Auxiliary Equipment

Hitachi Air Dryer

Hitachi Air Dryer HDR (Medium Size) series



HDR-7.5AXI

Specifications

Item·Unit	Model	HDR-7.5AXI	HDR-15AXI	HDR-22AXII	HDR-37AXII	HDR-55AX	HDR-75AX	HDR-100AX
Capacity (Note 1) 50/60Hz	m ³ /min	1.3/1.4	2.5/2.9	4.0/4.3	6.8/7.4	10.8/11.3	15.0/15.7	19.0/20.0
Inlet Pressure of Compressed Air	MPa	0.30 - 0.97			0.40 - 0.97			
Max. Inlet Temperature of Compressed Air	°C	80						
Ambient Temperature	°C	5 - 40						
Dew Point of Outlet Air	°C	10 Under Pressure						
Cooling Method of Condenser	-	Air-Cooled						
Refrigerant Control Device	-	Capillary Tube			Ejector			
Capacity Control Device	-	Hot Gas Bypass Valve						
Refrigerant Used	-	R407C						
Charged Quantity	g	250	380	600	1,000	1,650	2,000	
Finish Color	-	Ivory (Munsell No. 5Y8.5/1)						
Pipe Diameter	B	Rc 1			Rc 1-1/2		Rc 2	Rc 2-1/2
Dimensions (WxDxH) (200V Model)	mm	303x603x720		356x513x1,067	356x513x1,274	356x903x1,274	356x903x1,489	406x1,400x1,380
Dimensions (WxDxH) (400V Model)	mm	303x833x720	303x884x720	356x826x1,067	356x826x1,274	356x903x1,274	356x903x1,489	406x1,400x1,385
Weight (200V Model)	kg	44	46	74	87	135	170	280
Weight (400V Model)	kg	59	75	126	139	140	176	286
Accessories	-	Auto Drain Trap, Drain Valve						

NOTE:

- The capacity values above are measured at an ambient temperature of 30°C, inlet temperature of 45°C, inlet pressure of 0.70MPa.
- Dew point gets worse if operated at pressure below the range of operation pressure.
- The dimensions do NOT include protruding objects.
- In case of having solid objects such as rust in the inlet air flow, install a pre-filter on the inlet of dryer.

Hitachi Air Dryer HDR (Large Size) series



HDR-150AX

Specifications

Item·Unit	Model	HDR-120WX	HDR-150WX	HDR-190WX	HDR-240WX	HDR-300WX	HDR-380WX	HDR-120AX	HDR-150AX	HDR-190AX	HDR-240AX	HDR-300AX	HDR-380AX	
Capacity (Note 1) 50/60Hz	m ³ /min	21/25	27/31	35/41	42/49	51/60	64/75	20/23	25/30	32/38	38/45	47/55	59/69	
Inlet Pressure of Compressed Air	MPa	0.30 - 0.97							0.30 - 0.97					
Max. Inlet Temperature of Compressed Air	°C	60												
Ambient Temperature	°C	2 - 40												
Dew Point of Outlet Air	°C	10 Under Pressure												
Cooling Method of Condenser	-	Water-Cooled						Air-Cooled						
Refrigerant Control Device	-	Capillary Tube												
Capacity Control Device	-	Hot Gas Bypass Valve												
Refrigerant Used	-	R407C												
Charged Quantity	g	1,900	2,000	2,700	3,400	2,000x2	2,000x2	2,200	3,600	3,500	4,400	2,500x2	3,000x2	
Finish Color	-	Ivory (Munsell No. 5Y8.5/1)												
Cooling Water Quantity	m ³ /h	2.5/2.9	2.7/3.0	3.0/3.2	3.6/3.8	3.4/4.0	4.3/5.0	-						
Pipe Diameter	B	2-1/2"	3"		4"	5"		2-1/2"	3"		4"	5"		
Dimensions (WxDxH)	mm	672x1,260x1,276	950x1,290x1,332		1,969x905x1,583	2,020x1,100x1,650		672x1,260x1,276	950x1,290x1,332		1,969x905x1,583	2,020x1,100x1,650		
Weight (200V Model)	kg	238	346	344	534	792	872	258	372	370	557	792	872	
Weight (400V Model)	kg	268	383	381	571	840	930	288	409	395	608	840	930	
Accessories	-	Auto Drain Trap, Drain Valve												

* JIS 10K Flange

NOTE:

- The capacity values above are measured at an ambient temperature of 32°C, inlet temperature of 40°C, inlet pressure of 0.69MPa.
- Dew point gets worse if operated at pressure below the range of operation pressure.
- The dimensions do NOT include protruding objects.
- In case of having solid objects such as rust in the inlet air flow, install a pre-filter on the inlet of dryer.

Line Filter

Air Filter*1

Micron Mist Filter*2

Activated Carbon Filter*3



Specifications

Item	Model	7.5BX	11BX	15BX	22B	37B	55B	75B	100B	125C	160C	200C	240B	
		Capacity (converted to the ambient pressure)	m ³ /min	1.2	1.8	2.4	3.9	6.6	10.6	13.8	20	27.6	32	40
Air Condition	Inlet Air Temperature	°C												
	Inlet Air Pressure	MPa												
Use Condition	Applicable Fluid	Compressed Air												
	Max. Pressure	MPa												
Connecting Pipe Diameter	B (A)	Rc3/4 (20)	Rc1 (25)		Rc1 (25)	Rc1½ (40)	Rc1½ (40)	Rc2 (50)	Rc2 (50)	2 1/2" (65)	3" (80)	3" (80)	4" (100)	
Common	Item	Model	HAF-7.5BX	HAF-11BX	HAF-15BX	HAF-22B	HAF-37B	HAF-55B	HAF-75B	HAF-100B	HAF-125C	HAF-160C	HAF-200C	HAF-240B
			Use Condition	Inlet Air Temperature Range	°C									
		Ambient Temperature Range	°C											
	Filtration Rating	µm	1*1											
	Filtration Efficiency	%	99.999											
	Pressure Drop (Loss)	Initial	MPa											
		Element Exchange	MPa											
	Dimension (Max. DiameterxLength)	mm	92x237	130x290.5		160x509	170x591	170x699	173x792	173x949	590x1,511	590x1,511	590x1,511	640x1,735
	Drain Outlet Diameter	B (A)	Rc1/4 (8)											
	Weight	kg	1	2	2.1	3	3.3	3.7	4.3	6	41	43	43	73
Air Filter	Item	Model	HMF-7.5BX	HMF-11BX	HMF-15BX	HMF-22B	HMF-37B	HMF-55B	HMF-75B	HMF-100B	HMF-125C	HMF-160C	HMF-200C	HMF-240B
			Use Condition	Inlet Air Temperature Range	°C									
		Ambient Temperature Range	°C											
	Density of Oil in the Discharge Air	wtppm	0.01*2											
	Pressure Drop (Loss)	Initial	MPa											
		Element Exchange	MPa											
	Dimension (Max. DiameterxLength)	mm	92x237	130x364		160x582	170x664	170x772	173x865	173x1,022	590x1,511	590x1,511	590x1,511	640x1,735
	Drain Outlet Diameter	B (A)	Rc1/4 (8)											
	Weight	kg	1	2	2.1	3	3.3	3.7	4.3	6	41	43	43	73
	Micron Mist Filter	Item	Model	HKF-7.5BX	HKF-11BX	HKF-15BX	HKF-22B	HKF-37B	HKF-55B	HKF-75B	HKF-100B	HKF-125C	HKF-160C	HKF-200C
Use Condition				Inlet Air Temperature Range	°C									
		Ambient Temperature Range	°C											
Density of Oil in the Discharge Air		wtppm	0.003*3											
Pressure Drop (Loss)		Initial	MPa											
		Element Exchange	MPa											
Dimension (Max. DiameterxLength)		mm	92x232	130x281.5		160x308	170x390	170x498	173x591	173x748	590x1,511	590x1,511	590x1,511	640x1,735
Drain Outlet Diameter		B (A)	Rc1/4 (8)											
Weight		kg	1	2	3	3.3	3.7	4.3	6	41	43	43	73	
Activated Carbon Filter		Item	Model	HAF-7.5BX	HAF-11BX	HAF-15BX	HAF-22B	HAF-37B	HAF-55B	HAF-75B	HAF-100B	HAF-125C	HAF-160C	HAF-200C
	Use Condition			Inlet Air Temperature Range	°C									
		Ambient Temperature Range	°C											
	Density of Oil in the Discharge Air	wtppm	0.003*3											
	Pressure Drop (Loss)	Initial	MPa											
		Element Exchange	MPa											
	Dimension (Max. DiameterxLength)	mm	92x232	130x281.5		160x308	170x390	170x498	173x591	173x748	590x1,511	590x1,511	590x1,511	640x1,735
	Drain Outlet Diameter	B (A)	Rc1/4 (8)											
	Weight	kg	1	2	3	3.3	3.7	4.3	6	41	43	43	73	

* JIS 10K Flange

● Make sure to install an air dryer before the filter.

*1 The density of oil in the inlet air is 3wtppm.

*2 According to "Test methods for oil aerosol content" of ISO8573-2, the density of oil in the inlet air is 3wtppm.

*3 According to "Test methods for oil aerosol content" of ISO8573-2, the density of oil in the inlet air is 0.01wtppm.

System Optimization

VPLUS

Maximized Effect of Energy-Saving by Combination with V plus centered

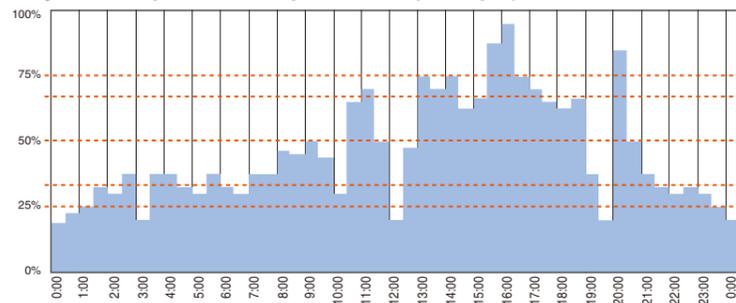
Method of Energy-Saving in case of multiple compressors setting

To respond to the change of used air, 3 patterns of optimal capacity control for air compressor are provided.

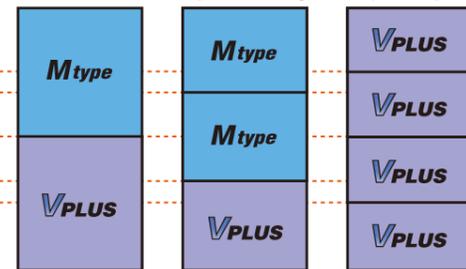
In case of setting multiple air compressors, install at least 1 unit of V plus is the key-point to achieve Energy-Saving.

In case of installing 1 unit of V plus with variable speed control, it is possible to adjust the capacity with the V plus. And part of the load operation on the fixed speed type is significantly reduced so as to achieve efficient operation.

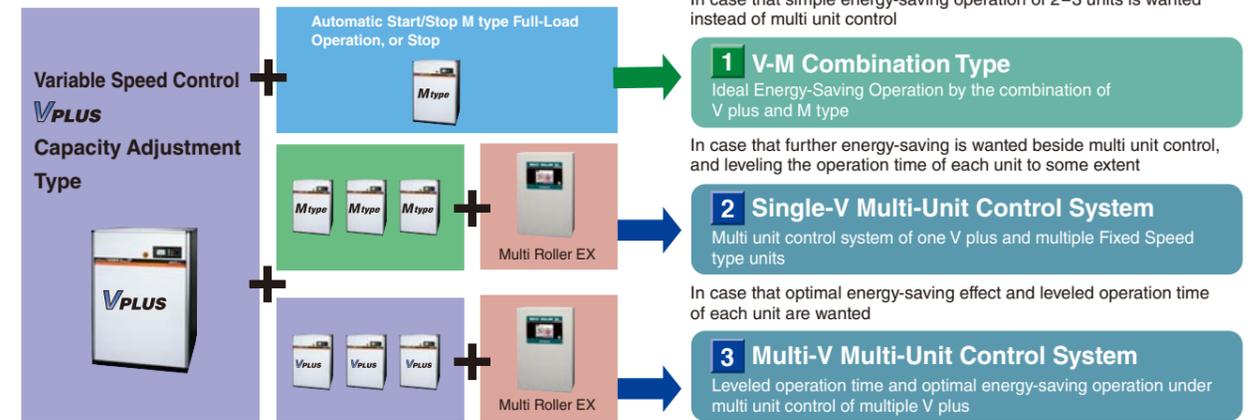
Daily Consumption of Compressed Air(Example)



Structure of Compressor System (Example)



3 Patterns of Energy-Saving System



In case that simple energy-saving operation of 2-3 units is wanted instead of multi unit control

1 V-M Combination Type
Ideal Energy-Saving Operation by the combination of V plus and M type

In case that further energy-saving is wanted beside multi unit control, and leveling the operation time of each unit to some extent

2 Single-V Multi-Unit Control System
Multi unit control system of one V plus and multiple Fixed Speed type units

In case that optimal energy-saving effect and leveled operation time of each unit are wanted

3 Multi-V Multi-Unit Control System
Leveled operation time and optimal energy-saving operation under multi unit control of multiple V plus

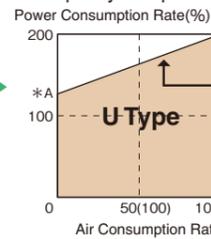
1 V-M Combination Type (JP 3547314) (2-3 units)

Conventional System

Conventional Compressor of Suction Throttle Type 1 unit



Air capacity and power consumption of 1 unit of 37kW is displayed as 100%.



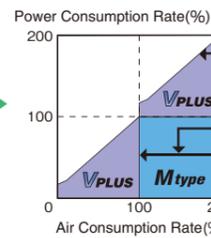
Explanation

U Type

Air Capacity Adjustment under U Type Control
Energy-Saving effect is not much
*A: Discharge Air Capacity→0%
Power Consumption→140%

V-M Combination Type

HISCREW VPLUS + HISCREW Mtype



Explanation

VPLUS

All-time operation, all-time capacity adjustment, responding to the air consumption at all area for power reduction

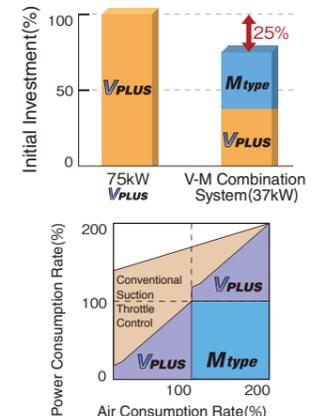
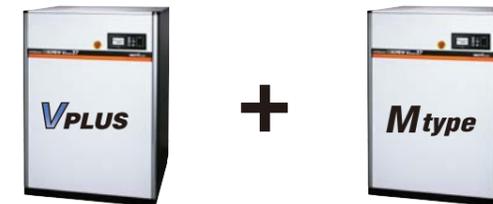
Mtype

Full load or automatic stop

Example of Energy-Saving Effect

- Power consumption is same featured as 75kW V plus.
- Reduction of **25%** in initial investment is possible.
- Reduction of power consumption up to **39%**, or about **165MWh/year** when the air consumption rate is 60%.

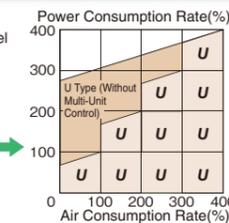
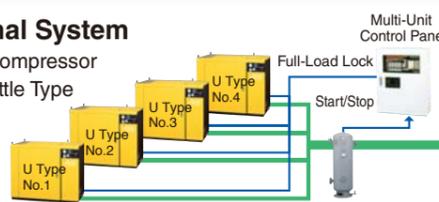
* Calculation condition: operation time is 6,000h/year, discharge pressure is 0.6MPa



2 Single-V 3 Multi-V Multi-unit Control Type (3-12 units)

Conventional System

Conventional Compressor of Suction Throttle Type (U Type)

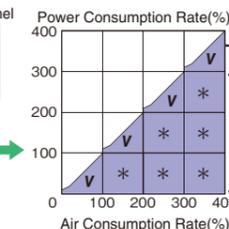
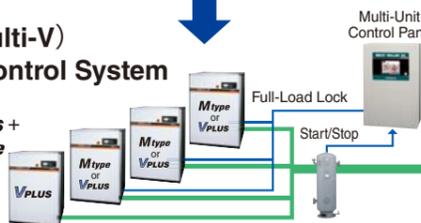


Explanation

Air Capacity Adjustment under U Type Control
Power reduction is possible, but can NOT reach the same level as Single-V.

Single-V (Multi-V) Multi-Unit Control System

Multi Roller EX + HISCREW VPLUS + HISCREW Mtype multi unit control or VPLUS



Explanation

VPLUS

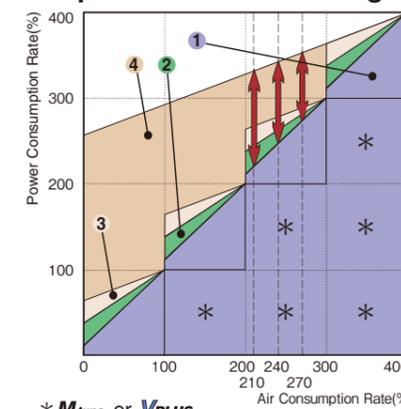
All-time operation, all-time capacity adjustment, responding to air consumption at all area for power reduction

Mtype or VPLUS

Full load or automatic stop

* Mtype or VPLUS

Example of Effect under Single-V Multi Unit Control



- Multi-Unit Control of Single-V / Multi-V
- Fixed Speed Type (M type) under Multi-Unit Control
- Suction Throttle Type under Multi-Unit Control
- Suction Throttle Type under Parallel Control (without Multi-Unit Control)

Air Consumption Rate	Energy-Saving Effect	
	④-①	④-②
270%	164	147
240%	205	171
210%	243	195

* Calculation Condition: 37kW air compressor without built-in air dryer x4 units (Same in efficiency and performance)
Operation time is 6,000h/year



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