Hitachi Rotary Screw Compressors

HITACHI
Inspire the Next

HISCREW

NEXT II series (7.5-75kW)

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

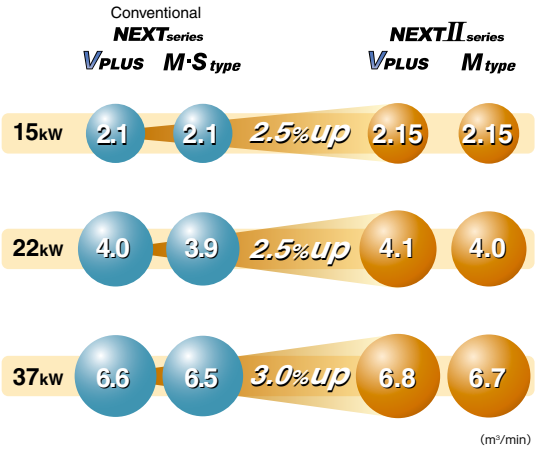
NEXT II series

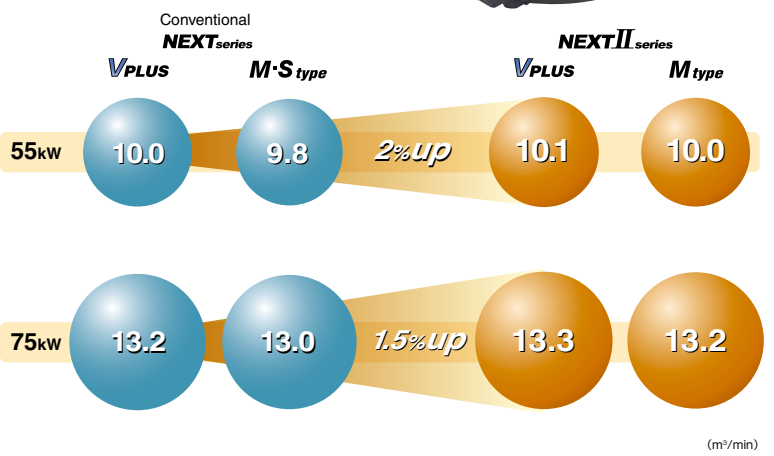
Full Range Loaded with High Efficiency Motor

New Developed Air-End

Hitachi Latest Innovation of Air-End Technology

(22/37kW)

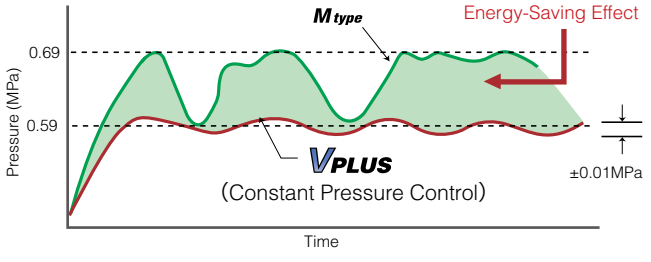




High Efficiency Capacity Control

VPLUS

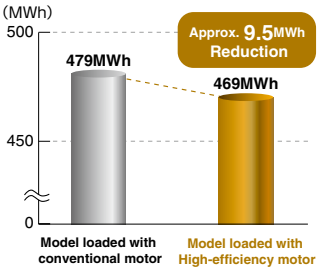
Since Constant Pressure Control allows highly precise pressure control within range of ±0.01MPa, supply of compressed air at necessary pressure is possible with high efficiency.



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) (22–75kW)

VPLUS Mtype

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

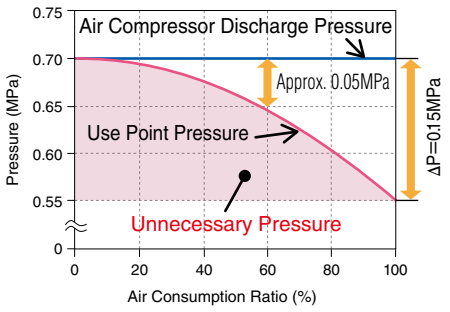
Example of effect by IPC

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)

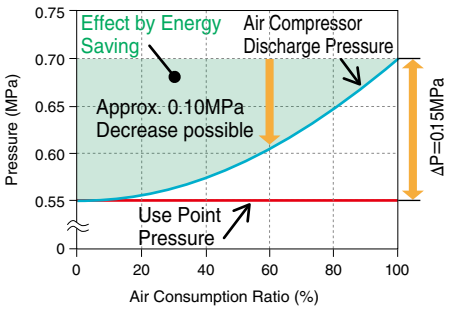
① IPC-OFF (Conventional inverter control model)

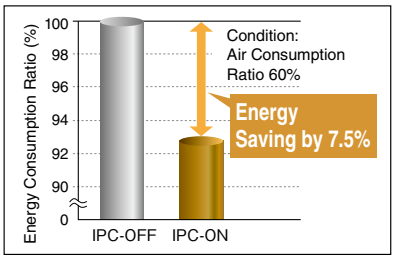
・Control the air compressor discharge pressure at 0.70MPa



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 (22–75kW)

Significant Improvement of User-friendly

*The image described above has been modified.

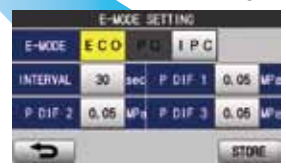
Various Functions Available

Menu

Monitor Indication

Notice Indication

E-MODE



Operation Data Logging

Main Functions

① Schedule Operation (Weekly Timer)
② Instantaneous Power Interruption (IPI) Restart Function
③ Alternate Operation (Option)
④ Multi-unit Control (Option)
⑤ AUTO Operation
⑥ Communication Function
⑦ Web Server Function
⑧ Display/Store of Operation Data
⑨ Store/Load of Settings
⑩ Maintenance Time Notification
⑪ Operation Data Memory, Display in Graph
⑫ Display of Shutdown and Alarm History

IT Communication Functions (22–75kW)

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)

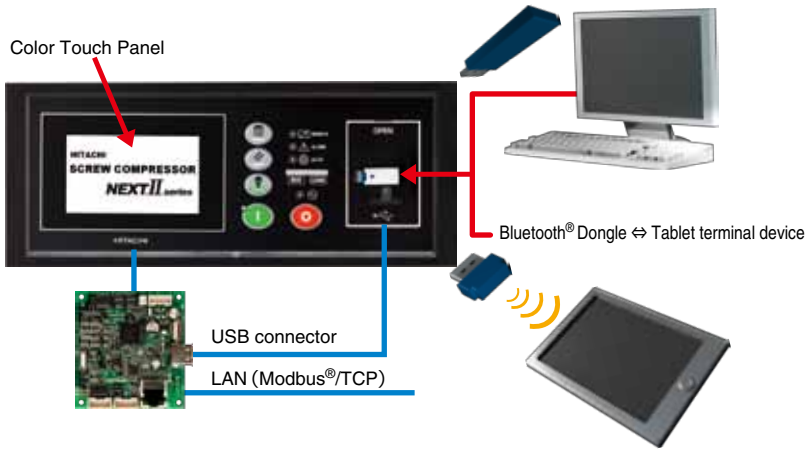
Web Server Function via Bluetooth®

*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.

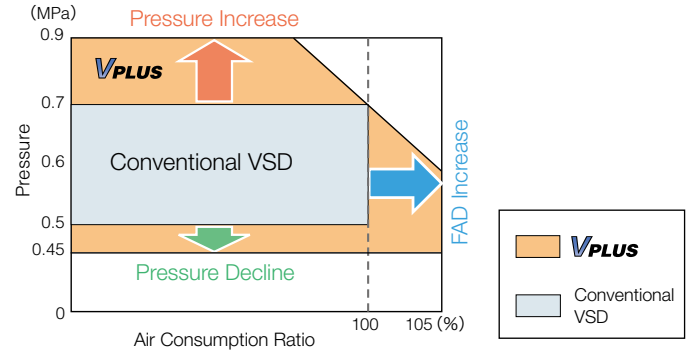


・Bluetooth is the registered trademark of Bluetooth SIG, Inc (US).
・Modbus is the registered trademark of Schneider Automation Inc.

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

7.5–15kW

Model \ Discharge Pressure MPa	0.5	0.6	0.7	0.85	0.9
7.5kW	1.17	1.17	1.17	1.05	0.96
11kW	1.79	1.79	1.79	1.63	1.53
15kW	2.4	2.4	2.4	2.15	2.04

22/37kW

Model \ Discharge Pressure MPa	0.45	0.50	0.60	0.70	0.85
22kW	4.3	4.3	4.3	4.1	3.6
37kW	7.1	7.1	7.1	6.8	6.2

55/75kW

Model \ Discharge Pressure MPa	0.45	0.50	0.60	0.70	0.85
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.

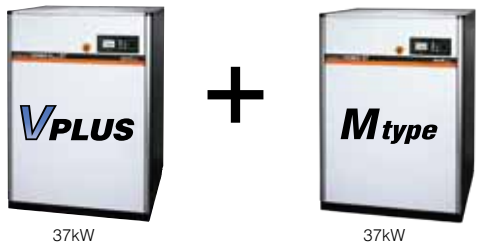
Single-V System/Multi-V System

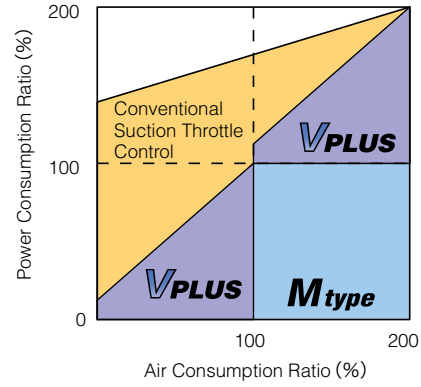
Besides V-M Combination System, Energy-Saving is also possible with any combination such as Single-V multi-unit control system, or Multi-V multi-unit control system etc.

Example Effect of V-M Combination System

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

∗ Calculation condition: 6,000h/year running

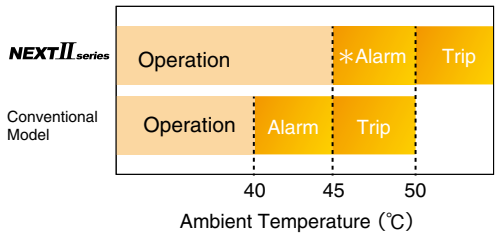




High Reliability

Up to 50℃

- Standard up to 45℃
- Operation is possible under 50℃



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

Package Filter as Standard

- Easy maintenance
- Maintenanse 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 (7.5–37kW)

VPLUS (Air-Cooled)

Item・Unit \ Model			OSP-7.5VA(R)N2		OSP-11VA(R)N2		OSP-15VA(R)N2		OSP-22VA(R)N2		OSP-37VA(R)N2	
Cooling Method		–	Air-Cooled									
Nominal Output		kW	7.5		11		15		22		37	
		HP	10		15		20		30		50	
Rated	Discharge Pressure	MPa	0.83						0.7			
		PSI	120						102			
	Discharge Capacity	m³/min	1.05		1.63		2.15		4.1		6.8	
		CFM	37		58		76		145		240	
PQ WIDE MODE	Discharge Pressure	MPa	0.7	0.9	0.7	0.9	0.7	0.9	0.6	0.85	0.6	0.85
		PSI	102	131	102	131	102	131	87	123	87	123
	Discharge Capacity	m³/min	1.17	0.96	1.79	1.53	2.4	2.04	4.3	3.6	7.1	6.2
		CFM	41	34	63	54	85	72	152	127	251	219
Intake Air Pressure/Temperature		–	Atmospheric Pressure / 0–45℃ (2–45℃)									
Discharge Temperature		℃	Ambient Temperature/ +15 or below									
Driving Method		–	Inverter + 4-Pole TEFC Motor with V-Belt Drive						DCBL Direct Drive			
Starting Type		–	Soft Start									
Lubricating Oil		–	NEW HISCREW OIL NEXT									
Lubricating Oil Quantity		L	5		6		7		10		15	
[Dryer]	P.D.P	℃	[10 (Under Pressure)]									
	Refrigerator Nominal Output	kW/HP	[0.3/0.4]		[0.5/0.7]				[1.3/1.8]		[1.5/2.0]	
	Refrigerant	–	[R407C]						[R410A]			
Discharge Pipe Diameter		–	Rc 3/4		Rc 1				Rc 1-1/2			
Dimension (W×D×H)		mm	860×770×1,175		950×780×1,250				1,000×1,050×1,550		1,200×1,150×1,650	
Weight		kg	300 (320)		360 (385)		390 (415)		450 (510)		670 (740)	
Sound Level		dB [A]	53		55		56		56		60	

M type (Air-Cooled)

Item・Unit \ Model			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	OSP-22M5A(R)N2 OSP-22M6A(R)N2	OSP-37M5A(R)N2 OSP-37M6A(R)N2
Cooling Method		–	Air-Cooled				
Nominal Output		kW	7.5	11	15	22	37
		HP	10	15	20	30	50
Rated	Discharge Pressure	MPa	0.83			0.7 <0.85> [1.0]	
		PSI	120			102 <123> [145]	
	Discharge Capacity	m³/min	1.05	1.63	2.15	4.0 <3.7> [3.3]	7.2 <6.6> [5.8]
		CFM	37	58	76	141 <124> [113]	237 <212> [191]
Intake Air Pressure/Temperature		–	Atmospheric Pressure / 0–45℃ (2–45℃)				
Discharge Temperature		℃	Ambient Temperature/ +15 or below				
Driving Method		–	4-Pole TEFC Motor with V-Belt Drive				
Starting Type		–	Direct-on-line			Star-Delta	
Lubricating Oil		–	NEW HISCREW OIL NEXT				
Lubricating Oil Quantity		L	5	6	7	10	15
[Dryer]	P.D.P	℃	[10 Under Pressure)]				
	Refrigerator Nominal Output	kW/HP	[0.3/0.4]	[0.5/0.7]		[1.3/1.8]	[1.5/2.0]
	Refrigerant	–	[R407C]			[R410A]	
Discharge Pipe Diameter		–	Rc 3/4	Rc 1		Rc 1-1/2	
Dimension (W×D×H)		mm	860×770×1,175	950×780×1,250		1,000×1,050×1,550	1,200×1,150×1,650
Weight		kg	295 [315]	355 [380]	375 [400]	670 [730]	970 [1,040]
Sound Level		dB [A]	53	55	56	57	60

Notes:

1. Capacity is measured according to ISO 1217, Third Edition, Annex C.
   Capacity after the built-in dryer is decreased by 3%.
2. Pressures are indicated as the gauge pressure.
3. 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.
4. 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.
   【7.5/11/15kW】P.D.P may be 13 degree C at PQ WIDEMODE ON and 0.7MPa of discharge pressure.
   【22/37kW】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 .
5. Contact the supplier for the dryer and filters selection at PQ WIDEMODE ON .
6. The transformer installation space is required for the built-in dryer for the model other than 200V/50Hz, 200-220V/60Hz.
7. Do NOT use any oil other than “NEW HISCREW OIL NEXT” .
8. Install the proper size air receiver tank and the earth leakage circuit breaker which are out of scope of supply from Hitachi.
9. Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.

Standard Specification (55–75kW)

VPLUS (Air-Cooled/Water-Cooled)

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	
		HP	75		100		75		100	
Rated	Discharge Pressure	MPa	0.7							
		PSI	102							
	Discharge Capacity	m³/min	10.1		13.3		10.1		13.3	
		CFM	357		470		357		470	
PQ WIDE MODE	Discharge Pressure	MPa	0.6	0.85	0.6	0.85	0.6	0.85	0.6	0.85
		PSI	87	123	87	123	87	123	87	123
	Discharge Capacity	m³/min	10.6	9.1	14.0	12.0	10.6	9.1	14.0	12.0
		CFM	374	321	494	424	374	321	494	424
Intake Air Pressure/Temperature		–	Atmospheric Pressure / 0–45℃ (2–45℃)							
Discharge Temperature		℃	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)		22 (Not filled)	
[Dryer]	P.D.P	℃	[10 (Under Pressure)]							
	Refrigerator Nominal Output	kW	[2.2]		[3.0]		[2.2]		[3.0]	
	Refrigerant	–	[R410A]							
Cooling Water	Temperature	℃	–				35 or below			
	Quantity	L/min	–				100		125	
	Discharge Pipe Diameter	B	–				Rc 2			
Discharge Pipe Diameter		B	Rc 2							
Dimension (W×D×H)		mm	2,000×1,200×1,800							
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	

M type (Air-Cooled/Water-Cooled)

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
		HP	75	100	75	100
Rated	Discharge Pressure	MPa	0.7<0.85>[1.0]			
		PSI	102<123>[145]			
	Discharge Capacity	m³/min	10.0<9.0>[8.3]	13.2<11.9>[10.9]	10.0<9.0>[8.3]	13.2<11.9>[10.9]
		CFM	353<318>[293]	466<420>[385]	353<318>[293]	466<420>[385]
Intake Air Pressure/Temperature		–	Atmospheric Pressure / 0–45℃ (2–45℃)			
Discharge Temperature		℃	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)	22 (Not filled)
[Dryer]	P.D.P	℃	[10 (Under Pressure)]			
	Refrigerator Nominal Output	kW	[2.2]	[3.0]	[2.2]	[3.0]
	Refrigerant	–	[R410A]			
Cooling Water	Temperature	℃	–		35 or below	
	Quantity	L/min	–		100	125
	Discharge Pipe Diameter	B	–		Rc 2	
Discharge Pipe Diameter		B	Rc 2			
Dimension (W×D×H)		mm	2,000×1,200×1,800			
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:

1. Capacity is measured according to ISO 1217, Third Edition, Annex C.
   Capacity after the built-in dryer is decreased by 3%.
2. Pressures are indicated as the gauge pressure.
3. 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.
4. 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.
   【55/75kW】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 .
5. Contact the supplier for the dryer and filters selection at PQ wide mode ON .
6. The transformer installation space is required for the built-in dryer for the model other than 200V/50Hz, 200-220V/60Hz.
7. Do NOT use any oil other than “NEW HISCREW OIL NEXT” .
8. Install the proper size air receiver tank and the earth leakage circuit breaker which are out of scope of supply from Hitachi.
9. Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.

Products described in this catalog may differ from different countries or regions. Contact your nearest Hitachi representative office for details.
Product appearances and specifications in this catalog are subject to change with or without notice, as Hitachi continues to develop the latest technologies and products for its customers.

Hitachi Industrial Equipment Systems Co., Ltd.

For further information, please contact your nearest sales representative.

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EC97J1107

ISO9001
JQA-QM3443

Hitachi Screw Compressor is manufactured at a factory approved by Environmental Standard (ISO 14001) and Quality Standard (ISO9001) of International Organization for Standardization.

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