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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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HITACHI screw compressors

HITACHI
Inspire the Next

High efficiency and Energy saving

HISCREW

NEXT STAGE SCREW

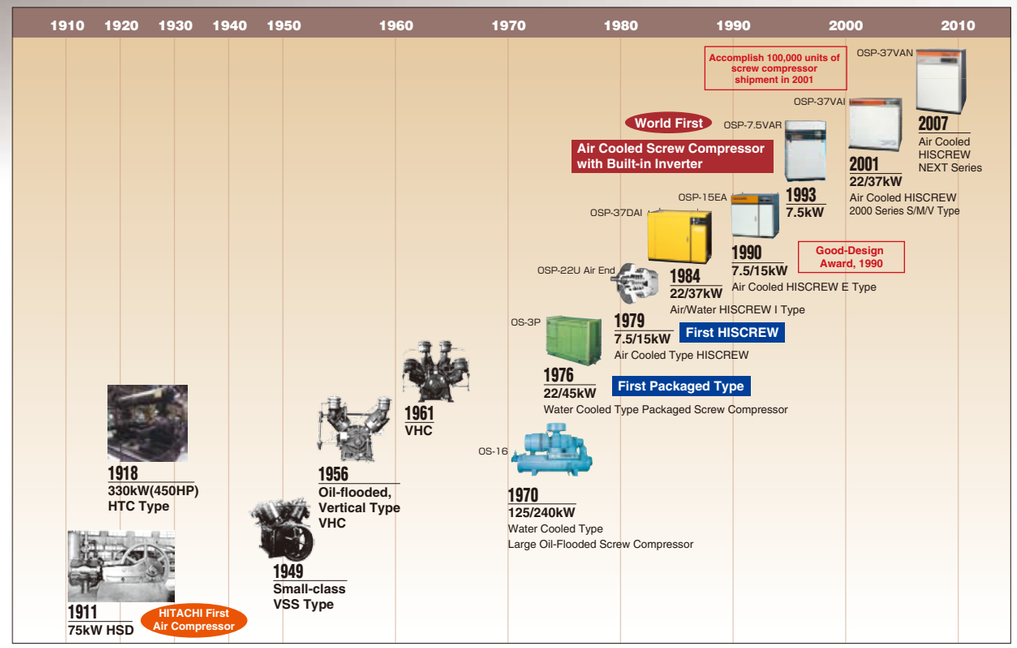
7.5–240kW GENERAL CATALOG

Evolution of Air Compressor
A Collaboration of Economic Efficiency and Environmental Concerns HISCREW series

NEXT STAGE SCREW

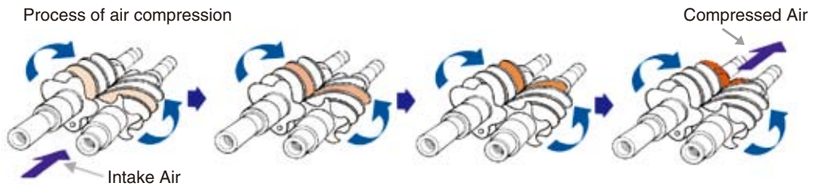
How to realize higher economic efficiency and reduction of environmental burden has become a great CHALLENGE for the air compressor industry in the 21st century.
HITACHI, with long-year-accumulated technology, offers a perfect answer to this challenge.
HITACHI, to pursue the ultimate goal of higher Energy-Saving performance together with less environmental burdens, adds NEXTseries with varied types and specs to the highly-reputed HISCREW as a new line-up.
HITACHI, aiming to further development, provides solutions for different industrials.
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



Compression Principle

A screw compressor uses two meshing rotors (known as male/female rotor), to compress the air.
To prevent air leakage and lubricate the rotors, lubricating oil is injected and sealed in the compression casing.



INDEX

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 series
VPLUS, M type, S type

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

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

▶ P9–10

22/37kW Class

NEXT series
VPLUS, M type, S type

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

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

▶ P11–14

55/75kW Class

NEXT series
VPLUS, M type, S type

Pursuit of Energy-Saving and Environmental Performance, Middle Class

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

▶ P15–16

100–150kW Class

2000 Series
VPLUS, M type, S type

High Performance, Compact Package, Wide Application Large Class

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

▶ P19

2000 Series
Dual type

V/M Type in 1 Package, Large Variable Speed Control Class

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

▶ P20

125–240kW Class

2-stage series
S type

Higher Efficiency, Compact, Large 2-stage Class

Fixed Speed Type
Water-Cooled
Without Dryer

▶ P21

Intermediate Series 22/37kW(1.57MPa)

Intermediate Series 1.57MPa
M type

HISCREW of medium pressure type, provides pressure of 1.57MPa

Fixed Speed Type
Air-Cooled
Without Dryer

▶ P22

Auxiliary Equipment ▶ P22–26
System Structure ▶ P27–28
Precaution ▶ P29–30

When selecting HISCREW, besides FAD, pressure and voltage, V/M/S type should also be considered as well.

＊For details of control types, please refer to the next page.

List of Model

Model / Motor Output (kW)	VSD				Fixed Speed Type							
	Vplus(Vtype)				M type				S type			
	Air-Cooled		Water-Cooled		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	Built-in Dryer	Without Dryer	Built-in Dryer	Without Dryer
7.5	○	○			○	○						
11	○	○			○	○						
15	○	○			○	○			○	○		
22	○	○	○	○	○	○	○	○	○	○		
37	○	○	○	○	○	○	○	○	○	○		
55	○	○	○	○	○	○	○	○	○	○	○	○
75	○	○	○	○	○	○	○	○	○	○	○	○
100		○		○		○		○		○		○
110						○		○		○		○
150 (75×2)		○*		○*		○		○				
125–240												○
22/37						○						

NEXT series　2-stage series　2000 Series　Intermediate Series(1.57MPa)

＊Combination of 75kW V type and 75kW M type

Advanced Technology of Energy-Saving and High Efficiency Aiming at Ultimate Shape of High Performance

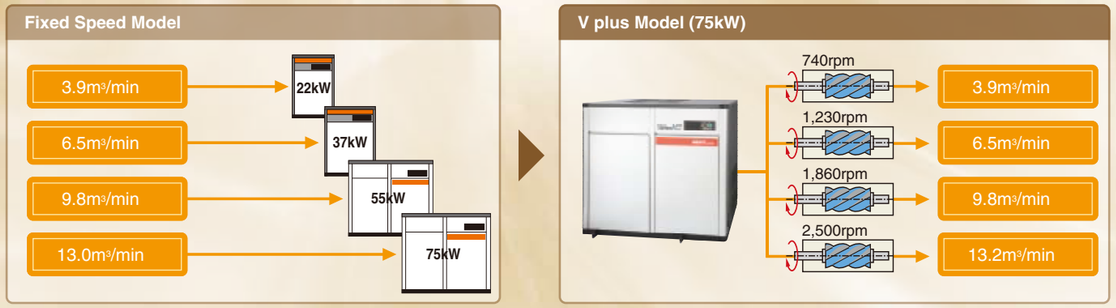
Variable speed control (VSD) enables to exert Energy-Saving effect

NEXT Generation of Compressor with Expertise in Saving Unnecessary Power Consumption

VPLUS (Variable Rotation Speed Control System of Motor)

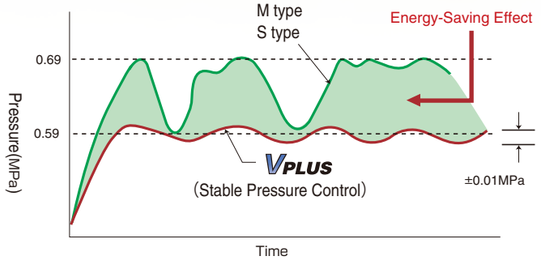
Variable Speed Control to Respond to the Necessary Used Air on V plus

Compared to the conventional Fixed Speed type, optimal capacity control of V plus is possible to respond to the need of used air.
Therefore, power consumption is reduced by cutting the unnecessary work.



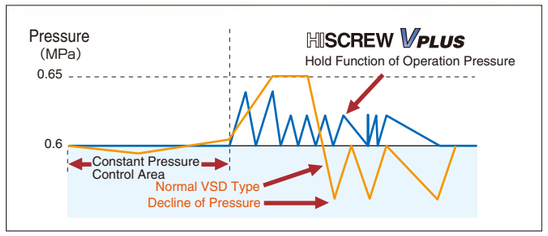
Provide Necessary Compressed Air at Necessary Pressure by Stable Pressure Control

Since highly precise pressure control within change of ±0.01MPa is possible, necessary amount of compressed air at required pressure is provided to the application equipment with high efficiency.
Further, significant energy-saving can be achieved since the setting of pressure is at scale of 0.01MPa.



Hold Function of Operation Pressure
(JP No. 3262011 and others, Japan Regional Award)

It is possible to keep the setting pressure during low load operation by HITACHI unique control logic.For conventional VSD type, because decline of pressure occurs in case of low load operation or automatic Start/Stop operation, it is necessary to set the pressure higher than the target pressure in advance. Due to the hold function of operation pressure on V plus, further energy-saving is possible.



PQ WIDE MODE to Enlarge the Applicable Range (JP No. 3516108 and others, Japan Regional Award)

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

● Air Capacity at PQ WIDE MODE Unit:m³/min

7.5–15kW

Model \ Discharge Pressure MPa	0.5	0.6	0.7	0.83	0.9
7.5kW	1.15	1.15	1.15	1.03	0.96
11kW	1.75	1.75	1.75	1.6	1.5
15kW	2.35	2.35	2.35	2.1	2.0

55–75kW

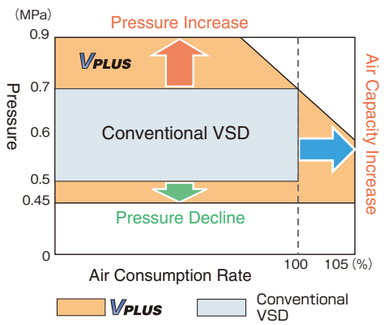
Model \ Discharge Pressure MPa	0.45	0.50	0.60	0.70	0.85
55kW	10.5	10.5	10.5	10.0	9.0
75kW	13.9	13.9	13.9	13.2	11.9

22–37kW

Model \ Discharge Pressure MPa	0.45	0.50	0.60	0.70	0.85
22kW	4.2	4.2	4.2	4.0	3.5
37kW	6.9	6.9	6.9	6.6	6.0

100kW

Model \ Discharge Pressure MPa	0.49	0.59	0.69	0.83	0.88
100kW	19.0	19.0	18.1	16.7	–



Excellent Energy-Saving Effect with Fixed Rotation Speed of Motor

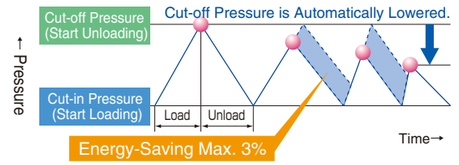
Auto Start/Stop for M type, Continuous Operation Function for S type as Standard Model

Mtype,Stype (Fixed Rotation Speed of Motor)

Since I type control system (Load/Unload Capacity Control) is loaded as standard on M type or S type, energy-saving is achieved.
Further energy-saving is possible by the combination of ECOMODE.

ECOMODE

●Energy-Saving control mode ECOMODE is equipped as standard.
●Possible to save up to 7.3MWh electric power every year in case of 37kW model
Responding to the load rate of compressor, the cut-off pressure is automatically lowered. Operation of energy-saving is achieved by reducing the unnecessary operation for increasing pressure.



V/M/S Type Control and Energy-Saving

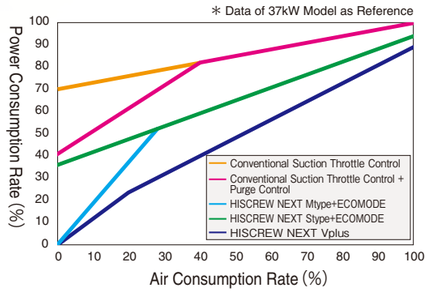
Capacity Control

Type of Control	Feature	Comparison/Effect	Type of Model			
U Type (Suction Throttle Valve)*	Discharge air capacity is controlled by nonstep control of open ratio of the suction throttle valve.	Pressure Fluctuation→Small Energy-Saving Effect→Small	S type	M type	—	—
I Type (Air Purge)	Discharge air capacity is controlled by open ratio of the suction throttle valve as 0% or 100%. In case of low load, shaft power input is reduced by lowering the pressure inside the oil tank/case.	Compared to U type Pressure Fluctuation→Big Energy-Saving Effect→Big	S type	M type	V type	V plus
P Type (Motor Auto Start/Stop)	Discharge air capacity is controlled by automatic Start/Stop of motor according to the pressure setting	Compared to I type Pressure Fluctuation→Big Energy-Saving Effect→Big	—	M type	V type	V plus
V Type (Variable Speed Control)	Discharge air capacity is controlled by adjustment of variable rotation speed of motor.	Pressure Fluctuation→Very Small Energy-Saving Effect→Maximum	—	—	V type	V plus
PQ WIDE MODE	Wide range of capacity setting is available for each pressure. Possible to increase the air capacity to 105% at low pressure setting	Pressure Fluctuation→Very Small Energy-Saving Effect→Maximum	—	—	—	V plus

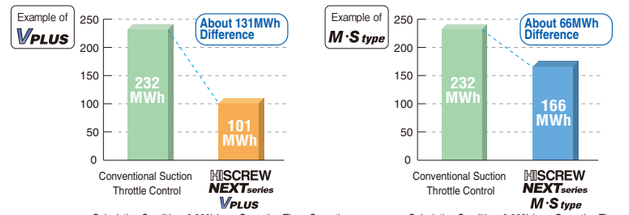
∗ Available on 22-75kW Models as Option

Energy-Saving

HITACHI will always provide highly-advanced air compressors. Performance of highly-reputed HISCREW V plus is further improved.



● Example of Annual Power Consumption (37kW Model, Air Consumption Rate 40%)



Calculation Condition: 6,000h/year Operation Time, Operation Pressure at 0.6MPa (V plus), 0.7MPa (Conventional Model)

Calculation Condition: 6,000h/year Operation Time (ECOMODE in use), Operation Pressure at 0.7MPa

●Comparison on Power Consumption Unit: MWh ●Comparison of CO_2 Emission Unit: t

Output	Air Consumption Rate(%)	100	60	40	20	0	100	60	40	20	0
7.5kW	Conventional Suction Throttle Control	61	54	50	46	42	34	30	28	26	24
	Conventional Suction Throttle Control + Purge Control	61	54	50	37	24	34	30	28	21	13
	HISCREW NEXT Series V/M/S type	58/60/–	34/45/–	23/38/–	11/22/–	0/0/–	32/33/–	19/25/–	13/21/–	6/13/–	0/0/–
11kW	Conventional Suction Throttle Control	85	75	70	64	59	47	42	39	36	33
	Conventional Suction Throttle Control + Purge Control	83	73	68	50	32	46	41	38	28	18
	HISCREW NEXT Series V/M/S type	78/80/–	47/60/–	31/50/–	16/30/–	0/0/–	44/45/–	26/33/–	17/28/–	9/17/–	0/0/–
15kW	Conventional Suction Throttle Control	113	99	92	85	78	63	55	51	47	43
	Conventional Suction Throttle Control + Purge Control	113	99	92	68	44	63	55	51	38	25
	HISCREW NEXT Series V/M/S type	101/106/106	60/79/79	40/65/65	20/39/52	0/0/38	56/59/59	34/44/44	22/36/36	11/22/29	0/0/21
22kW	Conventional Suction Throttle Control	168	147	136	126	116	93	82	76	70	64
	Conventional Suction Throttle Control + Purge Control	166	146	135	100	66	92	81	75	56	36
	HISCREW NEXT Series V/M/S type	148/164/164	88/124/124	59/103/103	29/64/83	0/0/58	82/91/91	49/69/69	33/58/58	16/36/46	0/0/32
37kW	Conventional Suction Throttle Control	286	250	232	215	197	159	139	129	119	110
	Conventional Suction Throttle Control + Purge Control	281	246	229	170	111	156	137	127	95	62
	HISCREW NEXT Series V/M/S type	252/277/277	151/203/203	101/166/166	50/100/129	0/6/92	140/154/154	84/113/113	56/92/92	28/56/72	0/0/51

Calculation Condition: 6,000h/year Operation Time, pressure setting of 7.5-15kW V plus Models is 0.73MPa, others are 0.83MPa. Pressure setting of 22-37kW V plus is 0.6MPa, others are 0.7MPa. ECOMODE is in use for S/M type.
Default (0.000555t/kWh) is used as CO_2 emission coefficient.

Energy-Saving, Reduction of Running Cost and Easy-to-Use are realized by advanced technology on HISCREW NEXTseries

Low Pressure Drop Design

Besides large-size suction filter and oil separator, air dryer with lower pressure drop has been newly developed.
Energy-saving is maximized by minimizing the energy loss due to internal pressure loss.

Improved Reliability by Adoption of Large-Size Suction Filter

Suction filter has been enlarged by one size compared to conventional 2000 series.

Conventional 2000 series

1 Size-Up

NEXT series

Effective filtration area ratio of suction filter
(Comparison with conventional 2000 series)

Air Dryer

●Low Pressure Drop Stainless Heat Exchanger
New development of low pressure drop, stainless heat exchanger
Compared to the conventional 2000 series, the loss of pressure drop is reduced by 0.02MPa, and durability is also improved.

●Improvement of Reliability
Compared to the conventional 2000 series, the performance when operated in high-temperature surrounding is improved.

●Drain Function for Energy-Saving
Depending on the amount of compressed air necessary, the interval of drain is automatically adjusted by solenoid valve.
Unnecessary air compression is saved.
(V plus ONLY)

Oil Separator

●Reduction in Oil Consumption
Compared to the conventional 2000 series, the oil contained in the discharge air is reduced by 60% to 0.002cc/m³ level.
As compressors which use mineral oil, it is possible to reduce the necessary oil volume significantly.

●Stainless Housing
New development of stainless oil separator housing
Improved durability.

Long Cycle, Easy Maintenance

It is easy to carry out the inspection and maintenance, since the parts such as filters or check valve are all easily reachable after removing the front door.

●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.

●Possible of Oil Change Every 2 years
[NEW HISCREW OIL2000], oriented to Air Compressor, with top level of reliability
Oil change cycle is every 2 years, or 12,000hr whichever comes first.
The oil change cycle has been extended by reduction of oil consumption.

●Oil Separator
Adoption of easy-maintenance, spin-on type oil separator.

●Large Suction Filter
Adoption of large cartridge type suction filter high-efficiency of filtration and extension of filter cleaning interval.

Simple Operation

New development of simple and easy-to-look instrumental panel.
Possible to switch between ECOMODE, PQ WIDE MODE, and remote control by operation on the instrumental panel.
Possible of quick TROUBLESHOOTING referring to the information on the monitor in case of trouble.

●One-Touch to Change Pressure Setting
Easy to change pressure setting on the instrumental panel to achieve energy-saving.

●Instantaneous Power Interruption (IPI) Restart Function as Standard Equipment
Automatic restart is available after instantaneous power interruption.
(Standard for V plus and M type)

●Cascade Vector Control Logic* by HITACHI Original Technology
Both Quick Response and High Reliability are Possible due to PID Control.
All the control logics of variable speed control used on V plus are exclusively developed by HITACHI.
With the control system of the discharge pressure at scale of ±0.01MPa, quick response, excellent load following capacity and high reliability are achieved.

＊22–75kW

System Upgrade (JP No. 3547314 and others)

Flexible response to the need of Energy-Saving is possible by the V plus-centered HITACHI unique system upgrade.
Obvious difference in total merit is easy to find.

●V-M Combination System
If 2 or 3 compressors are necessary, HITACHI V-M combination system is your BEST 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.

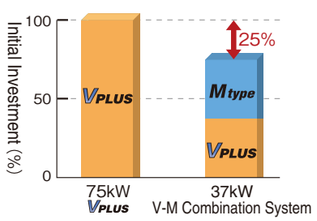
＊For system structure, refer to P27.

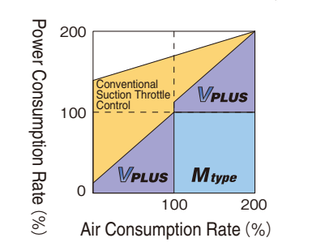
Example Effect of V-M Combination System

❶ Energy consumption is similar to the one of 75kW V plus.
❷ About **25**% of the initial investment can be saved.
❸ Power consumption is reduced by **39**% or **164** MWh/year, when the air consumption rate is 60% at pressure of 0.6MPa.

＊Calculation condition: 6,000h/year running

＋





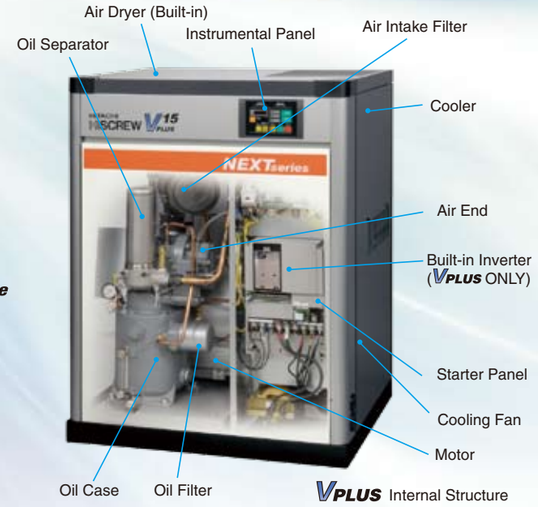
HISCREW NEXT series 7.5/11/15kW Class

V PLUS, M type, S type

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

M type, S type Outside View

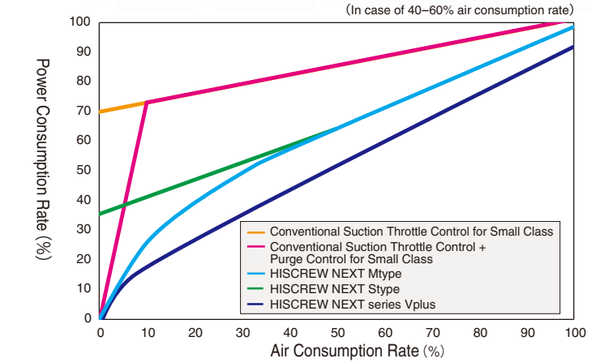
V PLUS Outside View

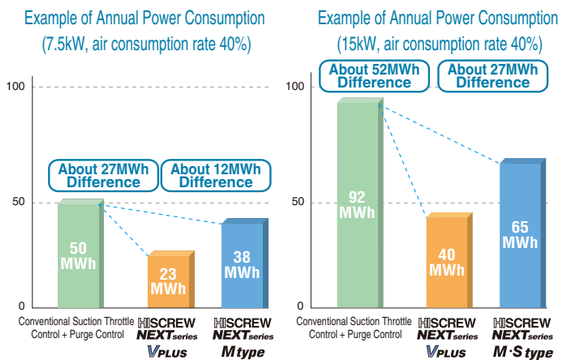


V PLUS Internal Structure

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.

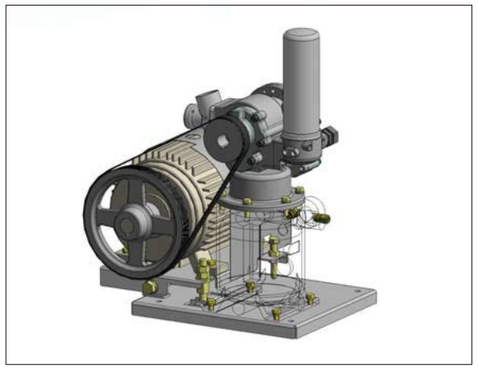




Calculation Condition: (1)Pressure Setting: NEXT-Vplus 0.73MPa Others 0.83MPa
(2)6,000hr/year Operation

New V-Belt Adjustment Mechanism

Tension of V-belt can be adjusted by 2 bolts.*
It is much easier to carry out the maintenance.



Easy Cleaning of Cooler

Possible to access the cooler by ONLY removing the right cover.

Dust-Proof Starter Panel Structure

Structure of independent suction and ventilation duct, separated from the internal air ventilation of the air compressor is adopted. Moreover, it is possible to change the cooling fan of the inverter* easily.

*Ask your distributor to carry out the service.

STANDARD SPECIFICATIONS

V PLUS (Variable Speed Control Type)

Item・Unit		Model	OSP-7.5VA (R) N		OSP-11VA (R) N		OSP-15VA (R) N	
Cooling Method		–	Air Cooled					
Motor Nominal Output		kW	7.5		11		15	
Rated	Discharge Pressure	MPa	0.83					
	Discharge Capacity	m³/min	1.03		1.6		2.1	
PQ WIDE MODE	Discharge Pressure	MPa	0.7	0.9	0.7	0.9	0.7	0.9
	Discharge Capacity	m³/min	1.15	0.96	1.75	1.5	2.35	2.0
Working Range of PQ WIDE MODE		MPa	0.7–0.9					
Suction Pressure/Temperature		–	Atmospheric Pressure/0–40℃(5–40℃)					
Temperature of Discharge Air		℃	Ambient Temperature+15(10) or below					
Driving System		–	4-Pole TEFC Motor with V-Belt Driven by Inverter					
Capacity Control Type		–	V+I+P type					
Starter Type		–	Soft Start					
Lubricating Oil		–	New HISCREW OIL 2000					
Lubricating Oil Filling Amount		L	5		6		7	
Air Dryer	Outlet Dew Point	℃	10 Under Pressure					
	Refrigerator Nominal Output	kW	0.3		0.5			
	Coolant Used/Control Method	–	R407C/Capillary Tube					
Discharge Air Pipe Diameter		–	Rc 3/4		Rc 1			
External Dimension (W×D×H)		mm	840×760×1,175		930×770×1,250			
Weight		kg	295 (315)		345 (370)		360 (390)	
Noise Level (1.5m from the front)		dB[A]	53		55		56	

M type, S type (Fixed Speed Type)

Item・Unit	Model	M type	OSP-7.5M5A (R) N OSP-7.5M6A (R) N	OSP-11M5A (R) N OSP-11M6A (R) N	OSP-15M5A (R) N OSP-15M6A (R) N
		S type	–	–	OSP-15S5A (R) N OSP-15S6A (R) N
Cooling Method		–	Air Cooled		
Motor Nominal Output		kW	7.5	11	15
Discharge Pressure		MPa	0.83 〈0.7〉		
Discharge Capacity		m³/min	1.03 〈1.15〉	1.6 〈1.75〉	2.1 〈2.35〉
Suction Pressure/Temperature		–	Atmospheric Pressure/0–40℃(5–40℃)		
Temperature of Discharge Air		℃	Ambient Temperature+15(10) or below		
Driving System		–	4-Pole TEFC Motor with V-Belt Drive		
Capacity Control Type		M type	U + I + P type		
		S type	U + I type		
Starter Type		–	Full Voltage Starting		
Lubricating Oil		–	New HISCREW OIL 2000		
Lubricating Oil Filling Amount		L	5	6	7
Air Dryer	Outlet Dew Point	℃	10 Under Pressure		
	Refrigerator Nominal Output	kW	0.3	0.5	
	Coolant Used/Control Method	–	R407C/Capillary Tube		
Discharge Air Pipe Diameter		–	Rc 3/4	Rc 1	
External Dimension (W×D×H)		mm	840×760×1,175	930×770×1,250	
Weight		kg	290 (310)	340 (365)	350 (375)
Noise Level (1.5m from the front)		dB[A]	53	55	56

Notes:

1. Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments. For V plus type, 3 dB[A] is increased when PQ WIDEMODE is ON.
3. To reduce the pressure fluctuation it is necessary to install an air receiver tank of enough volume.
4. Earth leakage circuit breaker is NOT attached. Prepare it in advance.
5. Pressure is indicated as the gauge pressure.
6. ( ) indicates the values of Built-in Dryer type.
7. Dew point of outlet air of built-in dryer models is under 30℃ of ambient temperature, 45℃ of inlet air temperature and rated pressure. When PQ WIDEMODE of V plus type with Built-in Dryer is ON, the dew point of outlet air at minimum operation pressure is higher than the one above by 3℃.
8. It is necessary to install an air dryer or filter of larger size when operated pressure is below the pressure range of PQ WIDEMODE for V plus. Contact your nearest dealer or HITACHI local representative offices.
9. Dew point gets much worse if operated under 0.6MPa with Built-in Dryer.
10. Air capacity of Built-in Dryer may decrease by Max. 3% when drain condensates.
11. <> shows values of capacity under different discharge pressure.
12. Temperature of discharge air may vary in different environments.

Model Introduction

O S P - 15 S 5 A R N

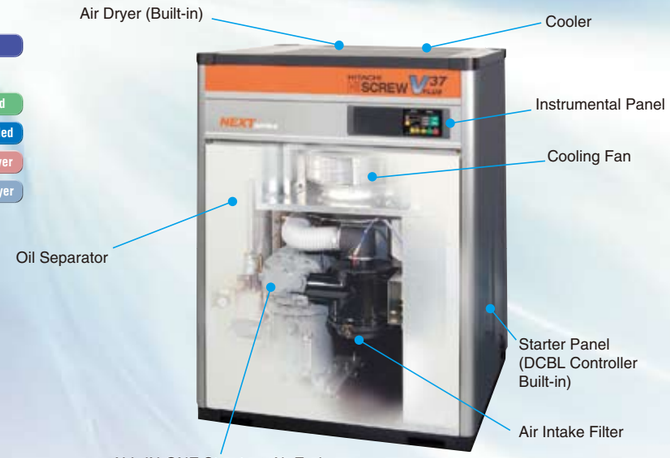
- O S P: Oil-Flooded Screw Packaged
- 15: Output (kW)
- S 5: S:I Type Control, M:P Type Control, V:VSD
- A: Air-Cooled
- R: Built-in Dryer (No R indication for without dryer type)
- N: NEXT series

HISCREW NEXT series 22/37kW Class

VPLUS

High-Level Performance with Advanced Technology

VPLUS Outside View

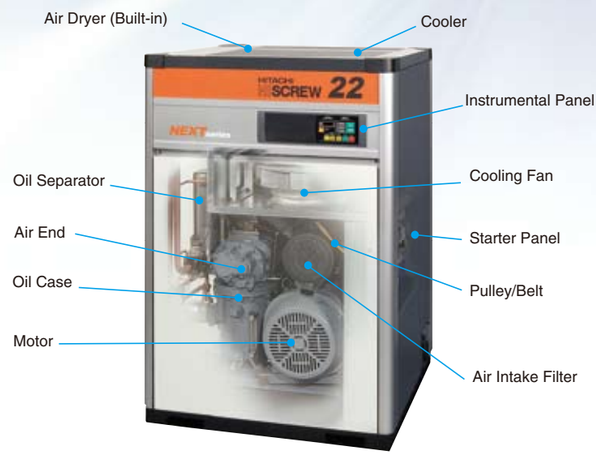


VPLUS Internal Structure

Mtype, Stype

New Developed Belt Automatic Tensioner Energy-Saving and Easy-To-Use are Achieved

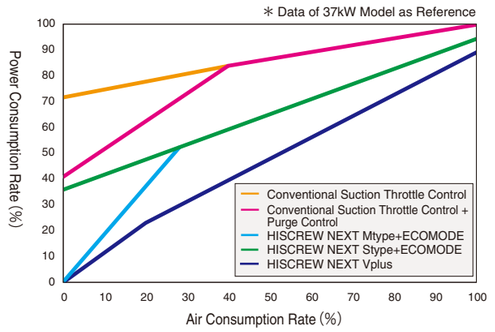
Mtype, Stype Outside View



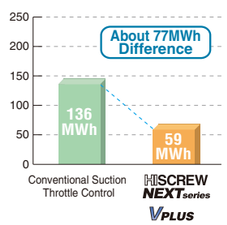
Mtype, Stype Internal Structure

Energy Saving (Vplus)

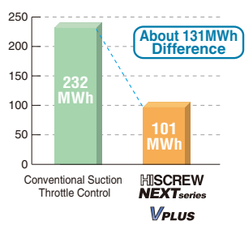
HITACHI will always provide highly-advanced air compressors. Performance of highly-reputed HISCREW V plus is further improved.



Example of Annual Power Consumption (22kW, air consumption rate 40%)



Example of Annual Power Consumption (37kW, air consumption rate 40%)



Calculation Condition:
(1)Pressure Setting: NEXT-Vplus 0.6MPa, Others 0.7MPa
(2)6,000hr/year Operation

ALL-IN-ONE Structure Air End

Zero transmission loss is possible by direct connection of air end and high-efficiency DCBL motor. Moreover, as the oil separator is directly connected to the air end, energy loss due to the pressure drop on the piping between is minimized.
As highly reliable mechanical seal is adopted as sealing between the DCBL motor and air end, oil is definitely prevented from entering the inside of motor.

DCBL Controller*

(JP No. 3255213 and others; Japan regional award)

* DCBL indicates DC Brush Less

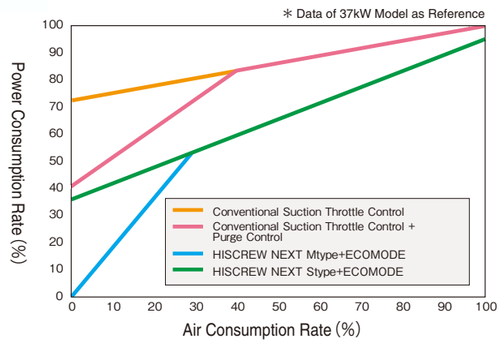
Instantaneous Power Interruption (IPI) Restart Function as Standard Equipment
IPI Restart Function by the DCBL controller when little accident occurs is equipped as standard.
Retry is performed up to 3 times according to the judgment by itself when the motor trips. So it is possible to eliminate the influence to the operation of the compressor from outside disturbance.

World First "Cascade Vector Control" Loaded*
World first to load "Cascade Vector Control" to air compressor.
By adding Vector Control in a line form (Cascade) to the normal DCBL control, both high efficiency and high reliability are achieved.

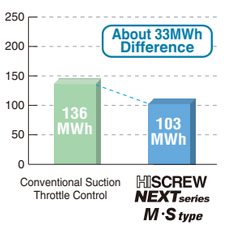
* As for packaged rotary screw compressor, until Nov. 2006

Energy Saving (Mtype, Stype)

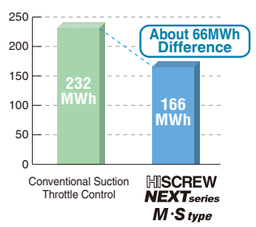
Since I type control system (Load/Unload Capacity Control) is loaded as standard on M type or S type, energy-saving is achieved.
Further energy-saving is possible by the combination of ECOMODE.



Example of Annual Power Consumption (22kW, air consumption rate 40%)



Example of Annual Power Consumption (37kW, air consumption rate 40%)



Calculation Condition: 6,000h/year Operation Time (ECOMODE in use), Operation Pressure at 0.7MPa

Belt Automatic Tensioner

New Developed Belt Automatic Tensioner as Standard Equipment
Adjustment of belt tension depending on the condition of operation, belt slip is effectively avoided.
Higher reliability is obtained by adopting the combination of highly durable V- belt.

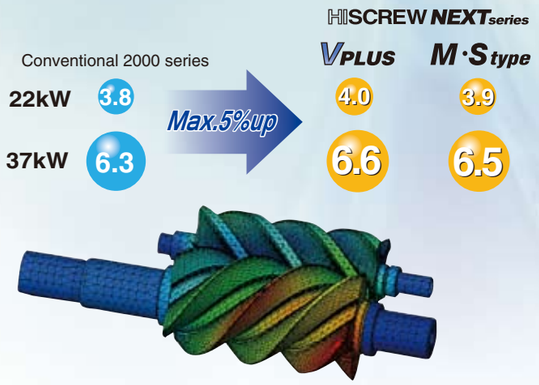
HISCREW NEXT series 22/37kW Class

VPLUS, M type, S type (Specification in Common)

Higher Performance Obtained by HITACHI Unique Profile of Rotors

NEW ECOPROFILE

HITACHI unique profile of rotors has been highly evolved. Compared to the conventional 2000 series, the air capacity is enlarged by 5% despite the discharge pressure or rotation speed.



Low Noise Design

The sound during operation is improved, due to the new developed profile of rotors, optimization of the vibration-proof structure and the improvement of the fan duct layout.

Low Pressure Drop Design

Besides the adoption of large suction filter, oil separator, and cooler, air dryer with low pressure drop has also been newly developed. The performance of energy-saving is maximized by minimizing the energy loss due to the pressure drop inside the compressor.

Cooling Fan (Air Cooled Type)

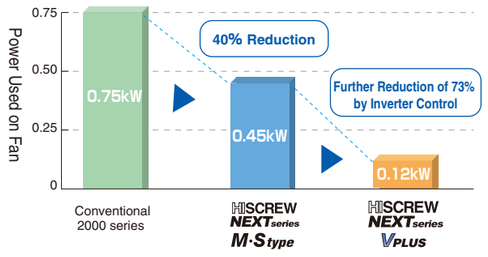
●High-Efficiency, Energy-Saving Turbo Fan

High-Efficiency, Energy-Saving Turbo Fan is newly developed. Compared to the conventional one, 40% of energy-saving has been obtained.

●Inverter Control

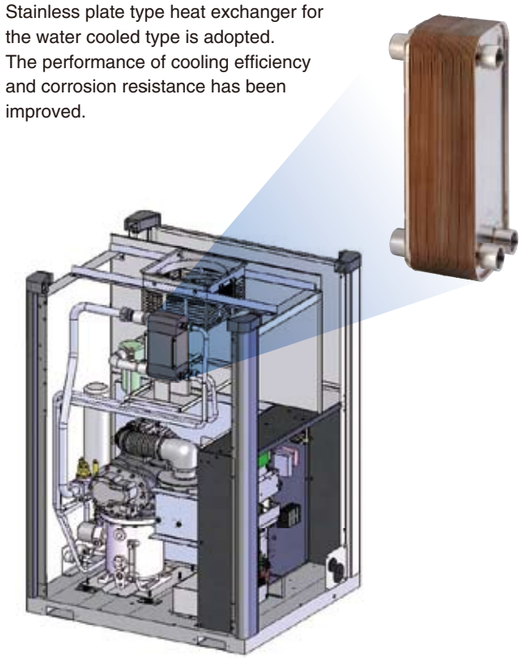
Also, inverter control of the turbo fan is possible on V plus. Higher energy-saving and silence is obtained. (V plus ONLY)

●Example of Comparison (22kW Model, Air Consumption Rate 40%)



Water Cooled Type

Stainless plate type heat exchanger for the water cooled type is adopted. The performance of cooling efficiency and corrosion resistance has been improved.



STANDARD SPECIFICATIONS

VPLUS (Variable Speed Control Type)

Item・Unit		Model	OSP-22VA (R) N		OSP-37VA (R) N		OSP-22VW (R) N		OSP-37VW (R) N	
Cooling Method		–	Air Cooled				Water Cooled			
Motor Nominal Output		kW	22		37		22		37	
Rated	Discharge Pressure	MPa	0.7				0.7			
	Discharge Capacity	m³/min	4.0		6.6		4.0		6.6	
PQ WIDE MODE	Discharge Pressure	MPa	0.6	0.85	0.6	0.85	0.6	0.85	0.6	0.85
	Discharge Capacity	m³/min	4.2	3.5	6.9	6.0	4.2	3.5	6.9	6.0
Working Range of PQ WIDE MODE		MPa	0.6–0.85							
Suction Pressure/Temperature		–	Atmospheric Pressure/0–40℃(5–40℃)							
Temperature of Discharge Air		℃	Ambient Temperature+15(10) or below				Temperature of Cooling Water Inlet + 13 or below			
Driving System		–	DCBL Direct Driving							
Capacity Control Type		–	V + I type, V + I + P type							
Starter Type		–	Soft Start							
Output of Cooling Fan		kW	0.75		1.5		0.05		0.05	
Lubricating Oil		–	New HISCREW OIL 2000							
Lubricating Oil Filling Amount		L	10		15		6.5		9.5	
Air Dryer	Outlet Dew Point	℃	10 Under Pressure							
	Refrigerator Nominal Output	kW	1.1							
	Coolant Used/Control Method	–	R407C・Capillary Tube							
Discharge Air Pipe Diameter		–	Rc 1・1/2							
External Dimension (W×D×H)		mm	1,000×1,000×1,500		1,200×1,100×1,650		1,000×1,000×1,500		1,200×1,100×1,650	
Weight		kg	460 (520)		630 (700)		430 (490)		580 (650)	
Noise Level (1.5m from the front)		dB[A]	56		60		56		60	
Recommended Cooling Water (Based on Standard Regulation of Japan Refrigeration and Air Conditioning Industry Association, JRA-GL-02-1994)		℃	–				32 or below			
		L/min	–				45		65	
Cooling Water Pipe Diameter		–	–				Rc 1-1/4			

M type, S type (Fixed Speed Type)

Item・Unit		Model	M type	OSP-22M5A (R) N OSP-22M6A (R) N	OSP-37M5A (R) N OSP-37M6A (R) N	OSP-22M5W (R) N OSP-22M6W (R) N	OSP-37M5W (R) N OSP-37M6W (R) N
			S type	OSP-22S5A (R) N OSP-22S6A (R) N	OSP-37S5A (R) N OSP-37S6A (R) N	–	–
Cooling Method		–	Air Cooled			Water Cooled	
Motor Nominal Output		kW	22		37	22	37
Discharge Pressure		MPa	0.7〈0.85〉[1.0]			0.7〈0.85〉	
Discharge Capacity		m³/min	3.9〈3.4〉[3.1]		6.5〈5.8〉[5.2]	3.9〈3.4〉	6.5〈5.8〉
Suction Pressure/Temperature		–	Atmospheric Pressure/0–40℃(5–40℃)				
Temperature of Discharge Air		℃	Ambient Temperature+15(10) or below			Temperature of Cooling Water Inlet + 13 or below	
Driving System		–	4-Pole TEFC Motor with V-Belt Drive				
Capacity Control Type		M type	I type, I + P type(U type as Option)				
		S type	I type(U type as Option)				
Starter Type		–	Star-Delta				
Output of Cooling Fan		kW	0.75		0.75	0.05	0.1(0.05×2)
Lubricating Oil		–	New HISCREW OIL 2000				
Lubricating Oil Filling Amount		L	10		15	6.5	9.5
Air Dryer	Outlet Dew Point	℃	10 Under Pressure				
	Refrigerator Nominal Output	kW	1.1				
	Coolant Used/Control Method	–	R407C/Capillary Tube				
Discharge Air Pipe Diameter		–	Rc 1・1/2				
External Dimension (W×D×H)		mm	1,000×1,000×1,500		1,200×1,100×1,650	1,000×1,000×1,500	1,200×1,100×1,650
Weight		kg	590〈650〉		830〈900〉	550〈610〉	770〈840〉
Noise Level (1.5m from the front)		dB[A]	57		60	57	60
Recommended Cooling Water (Based on Standard Regulation of Japan Refrigeration and Air Conditioning Industry Association, JRA-GL-02-1994)		℃	–			32 or below	
		L/min	–			45	65
Cooling Water Pipe Diameter		–	–			Rc 1-1/4	

Notes:

1. Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments. For V plus type, 3 dB[A] is increased when PQ WIDEMODE is ON.
3. Make sure to install an air receiver tank of enough volume.
4. U type control is available as option for M/S type model.
5. Earth leakage circuit breaker is NOT attached. Prepare it in advance.
6. Pressure is indicated as the gauge pressure.
7. ( ) indicates the values of Built-in Dryer type.
8. Dew point of outlet air of built-in dryer models is under 30℃ of ambient temperature, 45℃ of inlet air temperature and rated pressure.
   Dew point of Built-in Dryer gets much worse if operation pressure is under 0.4MPa.
   When operation pressure is below the rated pressure under PQ WIDEMODE, the dew point of built-in dryer increases. The dew point increase by 3℃, when the discharge pressure is 0.6MPa.
9. It is necessary to install an air dryer or filter of larger size when operated pressure is below the pressure range of PQ WIDEMODE for V plus. Contact your nearest dealer or HITACHI local representative offices.
10. Air capacity of Built-in Dryer may decrease by Max. 3% when drain condensates.
11. <> [ ] shows values of capacity under different discharge pressures.
12. Temperature of discharge air may vary in different environments.

●Model Introduction

OSP-22S5ARN

- OSP: Oil-Flooded Screw Packaged
- 22: Output (kW)
- S: S:I Type Control, M:P Type Control, V:VSD
- 5: Frequency (5:50Hz 6:60Hz)
- A: A:Air-Cooled W:Water-Cooled
- R: Built-in Dryer (No R indication for without dryer type)
- N: N: NEXT series

VPLUS, Mtype, Stype

Pursuit of Energy-Saving and Environmental Performance, Well-Qualified, Middle Class

PQ WIDE MODE

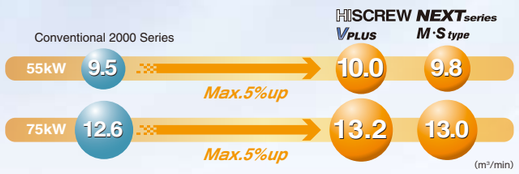
VSD
Fixed Speed Type
Air-Cooled
Water-Cooled
Built-in Dryer
Without Dryer

VPLUS Outside View

VPLUS Outside View

New Air End

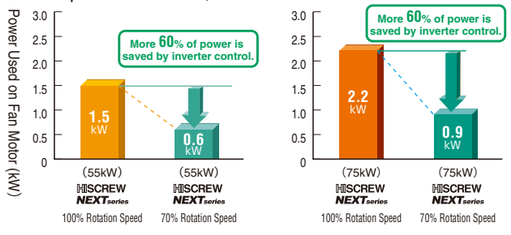
New air end loaded with new developed rotor profile
Compared to the conventional 2000 Series, the air capacity is increased by 5% during operation at rated pressure.



Cooling Fan*

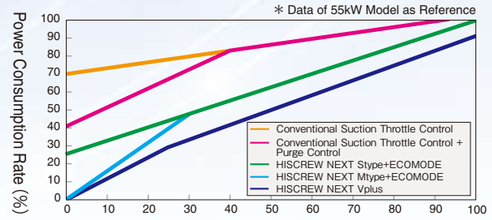
*Loaded on Air-Cooled Type

New developed high-efficiency and energy-saving turbo fan controlled by Inverter.
In case that the need of compressed air is low, the rotation of cooling fan is slowed down automatically to reduce the power consumption. Meanwhile, the noise of blow is also reduced.

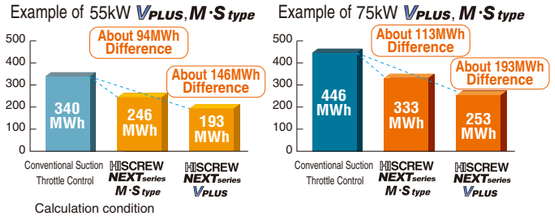


Energy-Saving

HITACHI will always provide highly-advanced air compressor.
With overwhelming sales record, HISCREW V plus has been improved to a higher level.
Since I type control system (Load/Unload Capacity Control) is loaded as standard on M type or S type, top-class of energy-saving is achieved.
Further energy-saving is possible by the combination of ECOMODE.



Example of Annual Power Consumption (Air Consumption Rate 50%)



Calculation condition
(1) 6,000h/year operation
(2) Operation pressure: VPLUS 0.6MPa, M·S type 0.7MPa, conventional suction throttle control 0.7MPa
(3) NOT include the power consumption of auxiliary equipment (cooling fan, or dryer etc.)

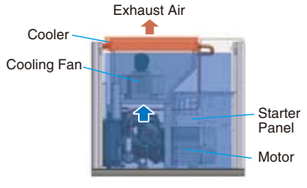
High-Efficiency DCBL Driving System*

Direct connection of new developed high-efficiency DCBL motor and air end.
For the control of DCBL motor, cascade vector control (in-line form) is loaded.
Therefore, high-efficiency and high-reliability are achieved.

*Equipped on V plus Model

Standard Response to Ambient Temperature Up To 45℃ (Air-Cooled Standard Type)

Continuous running and long maintenance cycle are possible by adoption of new high-performance cooling structure and mandatory ventilation of the inside of the unit by the cooling air flow of the cooler.



Long Maintenance Cycle

Continuous Running under Ambient Temperature of 45℃ +

- Overhaul Cycle: 8 years or 48,000hr which comes first
- Oil Change: 2 years or 12,000hr which comes first
- Capacitor Change: 8 years or 48,000hr which comes first

Long Cycle, Easy Maintenance

It is easy to carry out the inspection and maintenance, since the parts such as filters are all reachable after removing the front door.

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.

Oil Separator
Adoption of Easy-Maintenance, Spin-On Type Oil Separator.

Possible of Oil Change Every 2 years
[NEW HISCREW OIL2000], oriented to Air Compressor, with top level of reliability.
Oil change cycle is every 2 years*. The oil change cycle has been extended by reduction of oil consumption.

Large Suction Filter
Adoption of Large Cartridge Type Suction Filter
High-Efficiency of Filtration and Extension of Filter Cleaning Interval.

* In case of running hours under 6,000 hr/year

STANDARD SPECIFICATIONS

VPLUS (Variable Speed Control Type)

Item・Unit		Model	OSP-55VA (R) N		OSP-75VA (R) N		OSP-55VW (R) N		OSP-75VW (R) N	
Cooling Method		–	Air Cooled				Water Cooled			
Motor Nominal Output		kW	55		75		55		75	
Rated	Discharge Pressure	MPa	0.7							
	Discharge Capacity	m³/min	10.0		13.2		10.0		13.2	
PQ WIDE MODE	Discharge Pressure	MPa	0.6	0.85	0.6	0.85	0.6	0.85	0.6	0.85
	Discharge Capacity	m³/min	10.5	9.0	13.9	11.9	10.5	9.0	13.9	11.9
Working Range of PQ WIDE MODE		MPa	0.6–0.85							
Suction Pressure/Temperature		–	Atmospheric Pressure/0–45℃(5–45℃)				Atmospheric Pressure/0–40℃(5–40℃)			
Temperature of Discharge Air		℃	Ambient Temperature+15 or below				Temperature of Cooling Water Inlet + 13 or below			
Driving System		–	Direct Connection of Coupling							
Capacity Control Type		–	V+I type,V+I+P type							
Starter Type		–	Soft Start							
Output of Cooling Fan		kW	1.5		2.2		0.1(0.05×2)		0.1(0.05×2)	
Lubricating Oil		–	NEW HISCREW OIL 2000							
Lubricating Oil Filling Amount		L	28 (Not Filled)		39 (Not Filled)		17 (Not Filled)		22 (Not Filled)	
Air Dryer	Outlet Dew Point	℃	10 Under Pressure							
	Refrigerator Nominal Output	kW	2.2		3.0		2.2		3.0	
	Coolant Used	–	R407C							
Discharge Air Pipe Diameter		–	Rc 2							
External Dimension (W×D×H)		mm	2,000×1,200×1,800							
Weight		kg	1,220 (1,340)		1,390 (1,540)		1,070 (1,190)		1,240 (1,390)	
Noise Level (1.5m from the front)		dB[A]	64		66		63		65	
Recommended Cooling Water (Based on Standard Regulation of Japan Refrigeration and Air Conditioning Industry Association, JRA-GL-02-1994)		℃	–				32 or below			
		L/min	–				100		125	
Cooling Water Pipe Diameter		B	–				Rc 2			

Mtype, Stype (Fixed Speed Type)

Item・Unit		Model / M type	OSP-55M5A (R) N OSP-55M6A (R) N	OSP-75M5A (R) N OSP-75M6A (R) N	OSP-55M5W (R) N OSP-55M6W (R) N	OSP-75M5W (R) N OSP-75M6W (R) N
		S type	OSP-55S5A (R) N OSP-55S6A (R) N	OSP-75S5A (R) N OSP-75S6A (R) N	OSP-55S5W (R) N OSP-55S6W (R) N	OSP-75S5W (R) N OSP-75S6W (R) N
Cooling Method		–	Air Cooled		Water Cooled	
Motor Nominal Output		kW	55	75	55	75
Rated	Discharge Pressure	MPa	0.7 〈0.85〉			
	Discharge Capacity	m³/min	9.8 〈8.8〉	13.0 〈11.7〉	9.8 〈8.8〉	13.0 〈11.7〉
Suction Pressure/Temperature		–	Atmospheric Pressure/0–45℃(5–45℃)		Atmospheric Pressure/0–40℃(5–40℃)	
Temperature of Discharge Air		℃	Ambient Temperature+15 or below		Temperature of Cooling Water Inlet + 13 or below	
Driving System		–	Gear Driving			
Capacity Control Type		M type	I type, I+P type (U type as Option)			
		S type	I type (U type as Option)			
Starter Type		–	Star-Delta			
Output of Cooling Fan		kW	1.5	2.2	0.1(0.05×2)	0.1(0.05×2)
Lubricating Oil		–	NEW HISCREW OIL 2000			
Lubricating Oil Filling Amount		L	29 (Not Filled)	40 (Not Filled)	17 (Not Filled)	22 (Not Filled)
Air Dryer	Outlet Dew Point	℃	10 Under Pressure			
	Refrigerator Nominal Output	kW	2.2	3.0	2.2	3.0
	Coolant Used	–	R407C			
Discharge Air Pipe Diameter		–	Rc 2			
External Dimension (W×D×H)		mm	2,000×1,200×1,800			
Weight		kg	1,390 (1,510)	1,680 (1,830)	1,240 (1,360)	1,530 (1,680)
Noise Level (1.5m from the front)		dB[A]	65	67	64	66
Recommended Cooling Water (Based on Standard Regulation of Japan Refrigeration and Air Conditioning Industry Association, JRA-GL-02-1994)		℃	–	–	32 or below	
		L/min	–	–	100	125
Cooling Water Pipe Diameter		B	–	–	Rc 2	

Notes:
1. Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Pressure is indicated as the gauge pressure.
3. Motor output values are indicated as motor nominal outputs.
4. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments. For V plus type, 3 dB[A] is increased when PQ WIDEMODE is ON.
5. Temperature of discharge air may vary in different environments.
6. Dew point of outlet air of built-in dryer models is under 30℃ of ambient temperature, 45℃ of inlet air temperature and rated pressure. Dew point of Built-in Dryer gets much worse if operation pressure is under 0.4MPa
When operation pressure is below the rated pressure under PQ WIDEMODE, the dew point of built-in dryer increases. The dew point increase by 3℃, when the discharge pressure is 0.6MPa.
7. It is necessary to install an air dryer or filter of larger size when operated pressure is below the pressure range of PQ WIDEMODE for V plus. Contact your nearest dealer or HITACHI local representative offices.
8. Air capacity of Built-in Dryer may decrease by Max. 3% when drain condensates.
9. U type control is available as option on M type and S type. Fixed U type control is not possible on M type model.
10. Earth leakage circuit breaker is NOT attached. Prepare it in advance.
11. It is necessary to install an air receiver tank of enough volume.

Model Introduction

OSP-75S5-A-R-N

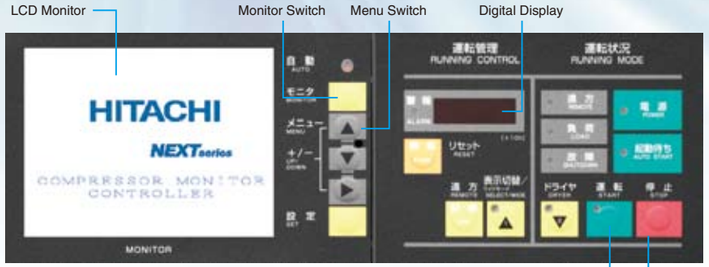
- OSP: Oil-Flooded Screw Packaged
- 75: Output (kW)
- S: S:I Type Control, M:P Type Control, V:VSD
- 5: Frequency (5:50Hz 6:60Hz)
- A: A:Air-Cooled W:Water-Cooled
- R: Built-in Dryer (No R indication for without dryer type)
- N: N: NEXT series

Energy-Saving and High-Efficiency are further OPTIMIZED.
High Quality of Environmental Performance and Easy-To-Use is available in the form of Optional Specification

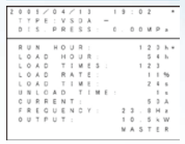
1. High-Grade Option (Available on 22/37/55/75kW•Vplus, M Type)

Upgrade of Easy-To-Use

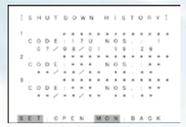
●**Digital Display of Pressure, Temperature and Current, Various Settings by Display of Characters**
Information for Maintenance has been enlarged.



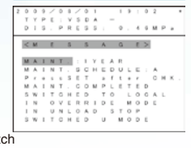
Monitor (Temperature and Current)



List of Shutdown History



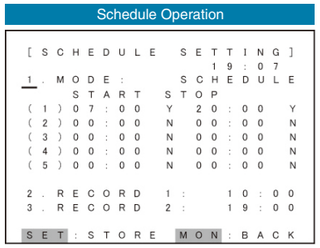
Notification of Maintenance



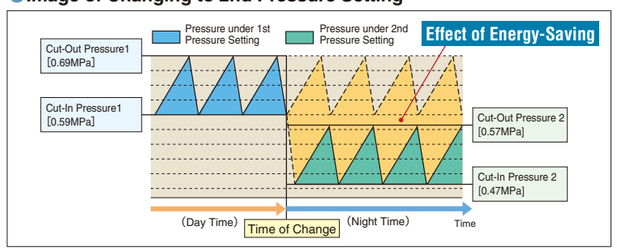
Energy-Saving and Labor-Saving

●**Further Evolution by Loading Automatic Function**
Schedule Operation as Standard Equipment. Further, it is possible to achieve optimal operation by changing to 2nd pressure setting to meet the demand of air.

Schedule Operation



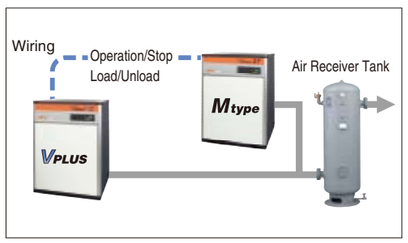
●**Image of Changing to 2nd Pressure Setting**



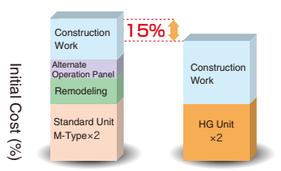
Dual Operation

●**Alternating or Follow-Up Operation can be set by ONLY Changing Wiring**

It is possible for 2 units of HG version (V-M combination, 2 M-type, or 2 Vplus) to switch between alternating operation and follow-up operation by ONLY changing wiring, without an external control panel. If the amount of used air becomes 0, the operation of both 2 units automatically stops. In addition, it is possible to further improve Easy-To-Use by combining with other functions.



Implementation Merit



∗Calculation Condition: 22kW M-Type with Built-in Dryer, the initial cost of standard spec. as 100%

Primary Function

Energy-Saving Operation, Schedule Operation, Alternate or Follow-Up Operation (Parallel or Interval Change-Over), Communication Function, Maintenance Time Notification, Data Memory of Operation and Load, Timely Changing of Pressure Setting etc.

Note:
1. HG option is applicable for both HISCREW NEXT series V plus and M Type (22 – 75 kW).
2. In case of alternate or follow-up operation, both of the units must be HG option.
3. It is necessary to carry out extra wiring work for alternate or follow-up operation. (Prepare the necessary wiring cables in advance, since they are not attached with the unit.)
4. For communication function, purchasing remote monitoring system COSMOS Ⅱ for NEXT series separately and extra wiring are necessary. (Wiring cables for communication are not attached, prepare them in advance.)
5. The appearance and specifications are subject to change without notification.

■Specification

	Item	Condition/Remark
Function/ Operation	Alternate/Follow-Up Operation	
	V-M Combination Operation	
	Schedule Operation	Start/Stop up to 5 set
Maintenance Related	Maintenance Time Notification	
	History Memory of Shutdown(Up to 6 Shutdown)	
	History Memory of Alarm(Up to 6 Alarm)	
	Data Memory of Operation(Up to 12 Data)	2 Kinds of Time Setting
	Data of Load (6 days)	
	Communication Function	Applicable for Remote Monitoring System (COSMOS Ⅱ)∗
LCD Display	Information Display of Characters	
	Digital Display of Current	
	Multi-Language Available	Japanese, English, Chinese

∗Refer to P. 26 for details of remote monitoring system COSMOS Ⅱ (option).

2.Option for High Ambient Temperature Up to 45℃ (Available on 22/37kW Air-cooled Type)

Operation under Ambient Temperature of 45℃, Long Maintenance Cycle

●New Developed Structure of Unit with Excellent Cooling Performance
●Mandatory Ventilation of the Inside of the Unit by Cooling Fan

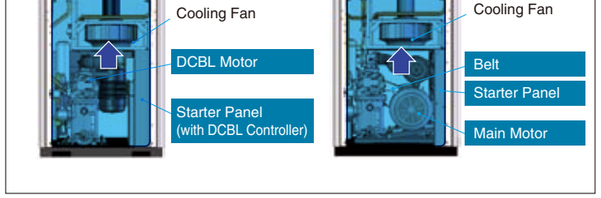
Continuous Operation under Ambient Temperature of 45℃

＋

Long Maintenance Cycle

●Overhaul Cycle: 8 years or 48,000hr which comes first
●Oil Change: 2 years or 12,000hr which comes first
●Capacitor Change: 8 years or 48,000hr which comes first

Same Maintenance Cycles are achieved with the Standard Model.



∗Noise level is 5 dB[A] higher than the Standard Model.

STANDARD SPECIFICATIONS

Item・Unit		Model	OSP-22VAN		OSP-37VAN		OSP-22M5AN OSP-22M6AN	OSP-22S5AN OSP-22S6AN	OSP-37M5AN OSP-37M6AN	OSP-37S5AN OSP-37S6AN
Cooling Method		—	Air Cooled							
Motor Nominal Output		kW	22		37		22		37	
Rated	Discharge Pressure	MPa	0.7				0.7(0.85)			
	Discharge Capacity	m³/min	4.0		6.6		3.9(3.4)		6.5(5.8)	
PQ WIDE MODE	Discharge Pressure	MPa	0.6	0.85	0.6	0.85	–	–	–	–
	Discharge Capacity	m³/min	4.2	3.5	6.9	6.0	–	–	–	–
Working Range of PQ WIDE MODE		MPa	0.6–0.85				–	–	–	–
Suction Pressure/Temperature		—	Atmospheric Pressure/0–45℃							
Temperature of Discharge Air		℃	Ambient Temperature+15 or below							
Driving System		—	Direct Driving				V-Belt Drive			
Capacity Control Type		—	V+I type,V+I+P type				I type, I+P type	I type	I type, I+P type	I type
Starter Type		—	Soft Start				Star-Delta			
Output of Cooling Fan		kW	0.75		1.5		0.75		0.75	
Lubricating Oil		—	NEW HISCREW OIL 2000							
Lubricating Oil Filling Amount		L	10		15		10		15	
Discharge Air Pipe Diameter		—	Rc1・1/2							
External Dimension (W×D×H)		mm	1,000×1,000×1,500		1,200×1,100×1,650		1,000×1,000×1,500		1,200×1,100×1,650	
Weight		kg	460		630		590		830	
Noise Level (1.5m from the front)		dB[A]	61		65		62		65	

Notes:
1. Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments. For V plus type, 3 dB[A] is increased when PQ WIDEMODE is ON.
3. Make sure to install an air receiver tank of enough volume.
4. U type control is available as option for M/S type model.
5. Earth leakage circuit breaker is NOT attached. Prepare it in advance.
6. Pressure is indicated as the gauge pressure.
7. ( ) indicates the values under different discharge pressure.
8. Temperature of discharge air may vary in different environments.
9. Model with built-in dryer is NOT available.

2000 Series *V*PLUS, *M*type, *S*type

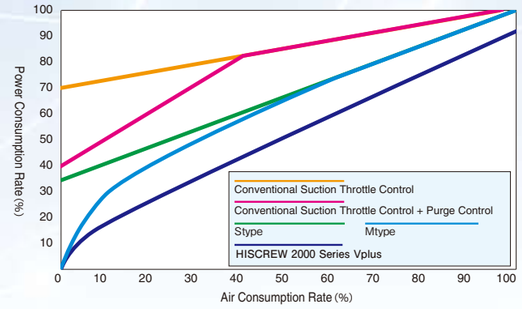
High Performance, Compact Package

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

Fixed Speed Type
Air-Cooled
Water-Cooled
Without Dryer

Energy-Saving

Responding to the amount of used air, linear decline of power consumption feature is refined. Further, motor of special specification is NOT needed since higher efficiency has been achieved.
Energy-Saving of 35–50% is possible compared with conventional modulation control. (In case of 40–60% Air Consumption Rate)



STANDARD SPECIFICATIONS

Item・Unit		Model	*V*PLUS (Variable Speed Control Type) OSP-100V5ALI OSP-100V6ALI	*V*PLUS (Variable Speed Control Type) OSP-100VWLI	*M*type, *S*type (Fixed Speed Type) S OSP-100S5ALI, OSP-100S6ALI M OSP-100M5ALI, OSP-100M6ALI	*M*type, *S*type (Fixed Speed Type) S OSP-100S5WLI, OSP-100S6WLI M OSP-100M5WLI, OSP-100M6WLI	*M*type, *S*type (Fixed Speed Type) S OSP-110S5ALI, OSP-110S6ALI M OSP-110M5ALI, OSP-110M6ALI	*M*type, *S*type (Fixed Speed Type) S OSP-110S5WLI, OSP-110S6WLI M OSP-110M5WLI, OSP-110M6WLI
Cooling Method		—	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled
Motor Nominal Output		kW	100				110	
Rated	Discharge Pressure	MPa	0.7		0.75[0.85]			
	Discharge Capacity	m³/min	18.1		18.1[16.7]		20[18]	
PQ WIDE MODE	Discharge Pressure	MPa	0.6	0.85	—			
	Discharge Capacity	m³/min	19.0	16.7	—			
Setting Range of Pressure		MPa	0.5–0.85		—			
Working Range of PQ WIDE MODE		MPa	0.6–0.85		—			
Suction Pressure/Temperature		—	Atmospheric Pressure・0–40℃					
Temperature of Discharge Air		℃	Ambient Temperature+15 or below	Water Temperature+13 or below	Ambient Temperature+15 or below	Water Temperature+13 or below	Ambient Temperature+15 or below	Water Temperature+13 or below
Starter Type		—	Soft Start		Star-Delta(3 Contactor)			
Capacity Control Type		—	V+I+P type		Mtype:U+I+P type Stype:U+I type			
Lubricating Oil Filling Amount		L	48 [Not Filled]				53 [Not Filled]	
Output of Cooling Fan		kW	1.5(0.75×2)	0.1(0.05×2)	1.5(0.75×2)	0.1(0.05×2)	2.2(1.1×2)	0.1(0.05×2)
Cooling Water		—	—	Water Temperature 32℃ or below/Quantity 150L/min	—	Water Temperature 32℃ or below/Quantity 150L/min	—	Water Temperature 32℃ or below/Quantity 180L/min
Discharge Air Pipe Diameter		—	2-1/2B (JIS 10K Flange)					
External Dimension (WxDxH)		mm	2,050×1,365×1,875					
Weight		kg	2,400	2,300	2,300	2,200	2,360	2,260
Noise Level (1.5m from the front)		dB[A]	72	69	72	69	75	72

Notes:
1. Capacity is the converted value at its inlet condition. Capacity is measured at following pressure.
   V plus 0.70MPa model : 0.70MPa
   S/M type 0.75MPa model : 0.70MPa. 0.85MPa model : 0.8MPa
   For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Pressure is indicated as the gauge pressure.
3. Motor output values are indicated as motor nominal outputs.
4. Lubricating oil is NOT filled when shipment, therefore prepare NEW HISCREW OIL 2000 in advance.
5. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments.
6. It is necessary to install an air receiver tank of enough volume. If the volume of the air receiver tank is not enough, normal capacity control may malfunction.
7. Models of 200V or 3000V voltage spec. are NOT available.
8. Earth leakage circuit breaker is NOT attached. Prepare it in advance.

2000 Series *150kW Dual type*

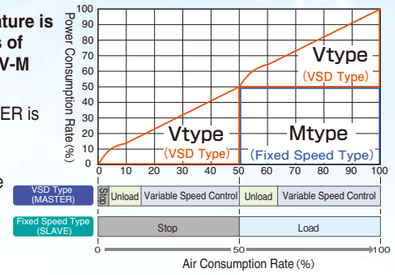
Evolved Energy-Saving Feature with V-M Combination

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.

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.



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.

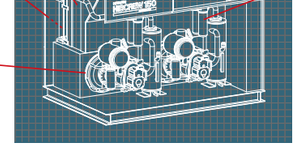
Easy-Maintenance

Easy daily inspection such as cleaning/ replacement of suction filter, refill of oil, replacement of oil filter and oil separator is possible by ONLY removing the front panel.

Cleaning of Cooler
Easy to clean by removing the side cover.

Refilling Grease
Possible to refill grease of motor from back side

Totally Enclosed Fan-cooled Motor
Totally enclosed motor is built in, high for both reliability and efficiency.



Overhaul Cycle - 6 years
The overhaul cycle is every 6 years, since the combination of high-performance bearing used on the air end and high-precision oil filtration system is adopted.

Spin-on type oil separator element
Adoption of Easy-Maintenance, spin-on type oil separator element

Direct gear driven
No coupling and adjustment are necessary

STANDARD SPECIFICATIONS

Item・Unit	Model	OSP-150V5AD OSP-150V6AD	OSP-150V5WD OSP-150V6WD	OSP-150M5AD OSP-150M6AD	OSP-150M5WD OSP-150M6WD
Cooling Method	—	Air Cooled	Water Cooled	Air Cooled	Water Cooled
Motor Nominal Output	kW	150(75×2)			
Rated Discharge Pressure	MPa	0.75[0.85]			
Rated Discharge Capacity	m³/min	26.0[24.1]			
Suction Pressure/Temperature	—	Atmospheric Pressure・0–40℃			
Temperature of Discharge Air	℃	Ambient Temperature+15 or below	Water Temperature+13 or below	Ambient Temperature+15 or below	Water Temperature+13 or below
Starter Type	—	Star-Delta + Inverter		Star-Delta(3 Contactor)	
Capacity Control Type	—	V-M Combination Control(VSD and Fixed Speed Combination Control)		Mtype:U+I+P type	
Lubricating Oil Filling Amount	L	66 [Not Filled]			
Output of Cooling Fan	kW	2.2(1.1×2)	0.1(0.05×2)	2.2(1.1×2)	0.1(0.05×2)
Cooling Water	—	—	Water Temperature 32℃ or below/Quantity 200L/min	—	Water Temperature 32℃ or below/Quantity 200L/min
Discharge Air Pipe Diameter	—	3B (JIS 10K Flange)			
External Dimension (WxDxH)	mm	2,450×1,700×1,900			
Weight	kg	3,200	3,250	3,100	3,150
Noise Level (1.5m from the front)	dB[A]	75	73	75	73
Minimum Air Receiver Volume	m³	4.0		4.0	

Notes:
1. Capacity is the converted value at its inlet condition. Capacity is measured at following pressure.
   0.75MPa model : 0.70MPa. 0.85MPa model : 0.8MPa
   For guaranteed values, contact your nearest dealer or HITACHI local representative offices
2. Pressure is indicated as the gauge pressure.
3. Motor output values are indicated as motor nominal outputs.
4. Lubricating oil is NOT filled when shipment, therefore prepare NEW HISCREW OIL 2000 in advance.
5. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments.
6. It is necessary to install an air receiver tank of enough volume. If the volume of the air receiver tank is not enough, normal capacity control may malfunction.
7. External dimension does NOT include the duct on the back side (180mm in depth) and protruding objects such as piping.
8. Models of 200V or 3000V voltage spec. are NOT available.
9. Earth leakage circuit breaker is NOT attached. Prepare it in advance.

2-stage S type

High Efficiency, Energy-Saving HITACHI Unique 2-stage Air End Type Large Class

Fixed Speed Type

Water-Cooled

Without Dryer

Higher Efficiency, More Energy-Saving and Labor-Saving compared to Conventional Models

●Improvement of 5 to 7% in efficiency compared to conventional models

For 2-stage HISCREW, unique 2-stage air end is adopted. Compared to conventional OS series, the amount of discharge air is upped by 5 to 7% as for the same motor output.

Comparison of Discharge Air (240kW Model)

42.2 (Air) ▶ 45.0 (m³/min) (Air)

Conventional Model (OS series) — 2-stage HISCREW

Energy-Saving Effect of Operation

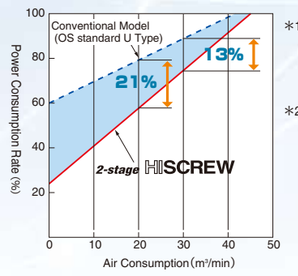
●Example (Comparison with Conventional Model)

Example of 240kW Model	
Discharge Pressure	0.69MPa
Model	Conventional Type: OS-240U6 New Type: OSP-240S6WT
Operation Time	6,000h/year

Annual Power Consumption at Full-Load Operation (240kW): About 1,567MWh

Case 1 (Air Consumption is 30m³/min)
Power reduction rate is 13%.
Power saved is about
200MWh/year.

Case 2 (Air Consumption is 20 m³/min)
Power reduction rate is 21%.
Power saved is about
327MWh/year.



●Integral Unload Mode as Standard Equipment

In addition to U-Mode Control (non-step control of open ratio of suction filter), I-Mode Control (intake throttle and purge)*1 is provided as standard control. Excellent Energy-Saving effect is achieved during capacity control operation as well as normal operation.

*1. A function of locking the compressor in U Type operation in case of being used as a base load unit or balancing the influence of change in pressure is provided.

*2. To maximize the effect of Energy-Saving, it is necessary to install an air receiver tank with sufficient volume. For details, contact your nearest dealer or HITACHI local representative offices.

Labor-Saving due to Easy-Maintenance

●NOT Necessary for Daily Draining

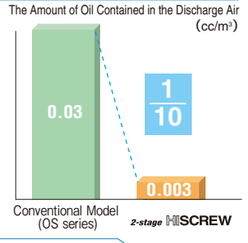
Auto temperature adjust valve which the temperature inside the oil separator is automatically controlled so that no drain is condensed, is provided as standard equipment. It is NOT necessary to do the troublesome daily draining of the oil separator.

●NOT Necessary to Change Bearing of Motor

There is NO bearing in the motor as adoption of unique over-hang structure. Therefore, change of bearing and refilling of grease are NOT necessary.

●Significant Reduction of Oil Consumption

The amount of oil contained in the discharge air is reduced to 0.003cc/m³ (1/10 of the conventional type) as the adoption of new developed oil separator, which gives a new image to large oil-flooded screw compressor. Besides providing cleaner compressed air, the work of refilling oil is also significantly reduced.



STANDARD SPECIFICATIONS

Item・Unit	Model	OSP-125S5WT	OSP-150S6WT	OSP-160S5WT	OSP-190S6WT	OSP-200S5WT	OSP-240S6WT
Cooling Method	—	Water Cooled					
Discharge Pressure	MPa	0.69 (0.83)					
Frequency	Hz	50	60	50	60	50	60
Motor Nominal Output	kW	125	150	160	190	200	240
Discharge Capacity	m³/min	23.3(20.5)	28.5(25.0)	30.0(26.5)	36.5(32.1)	37.7(33.2)	45.0(39.6)
Suction Pressure/Temperature	—	Atmospheric Pressure/0–40℃					
Temperature of Discharge Air	℃	Water Temperature+13 or below					
Lubricating Oil Filling Amount	L	Mineral Oil 100 [Not Filled]			Mineral Oil 120 [Not Filled]		Mineral Oil 150 [Not Filled]
Cooling Water Temperature	℃	32 or below					
Cooling Water Quantity	L/min	170	205	215	255	270	325
Discharge Air Pipe Diameter	—	3B (JIS 10K Flange)			4B (JIS 10K Flange)		
External Dimension (W×D×H)	mm	2,303×1,400×1,555			2,503×1,650×1,555		
Weight	kg	3,550	3,550	3,600	4,700	4,800	4,850
Noise Level (1.5m from the front)	dB[A]	73	74	75	75	75	75

Notes:
1. Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Pressure is indicated as the gauge pressure.
3. Noise level is measured value at 1.5m in front and 1m height in an anechoic room, under full load operation. It may vary in different operation conditions or environments.
4. To maximize the effect of energy-saving under I type control, it is necessary to install an air receiver tank of enough volume.
5. Specifications described above do NOT include reactor starter (separately placed).
6. Dimension of the exclusive reactor starter (separately placed) for 3000V voltage spec. is 600×1,000×1,400(W×D×H).

M type (1.57MPa)

Intermediate Series 22/37kW Provide Medium Pressure of 1.57MPa

Fixed Speed Type

Air-Cooled

Without Dryer

STANDARD SPECIFICATIONS

Item・Unit	Model	OSP-22M5AK OSP-22M6AK	OSP-37M5AK OSP-37M6AK
Cooling Method	—	Air Cooled	
Motor Nominal Output	kW	22	37
Discharge Capacity	m³/min	2.2	3.7
Suction Pressure/Temperature	—	Atmospheric Pressure/0–40℃	
Discharge Pressure	MPa	1.57	
Temperature of Discharge Air	℃	Ambient Temperature+15 or below	
Driving System	—	4-Pole Totally-Enclosed Fan-Cooled Motor with V-Belt Drive	
Starter Type	—	Star-Delta (3 Contactor)	
Lubricating Oil Filling Amount	L	16 (NEW HISCREW OIL 2000)	27 (NEW HISCREW OIL 2000)
Discharge Air Pipe Diameter	—	R 1	R 1・1/2
External Dimension (W×D×H)	mm	1,250×910×1,480	1,400×910×1,480
Weight	kg	650	850
Noise Level (1.5m from the front)	dB[A]	57	60

Notes:
1. Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
2. Pressure is indicated as the gauge pressure.
3. Motor output values are indicated as motor nominal outputs.
4. Noise level is measured value at 1.5m in front and 1m height, under full load operation and converted to the value in an anechoic room. It may vary in different operation conditions or environments.
5. Make sure to install an air receiver of enough volume.
6. It is necessary to install oil cleaner which can discharge drain during operation as a set.
7. Earth leakage circuit breaker is NOT attached. Prepare it in advance.
8. Specifications and outside view are subject to change without notice.

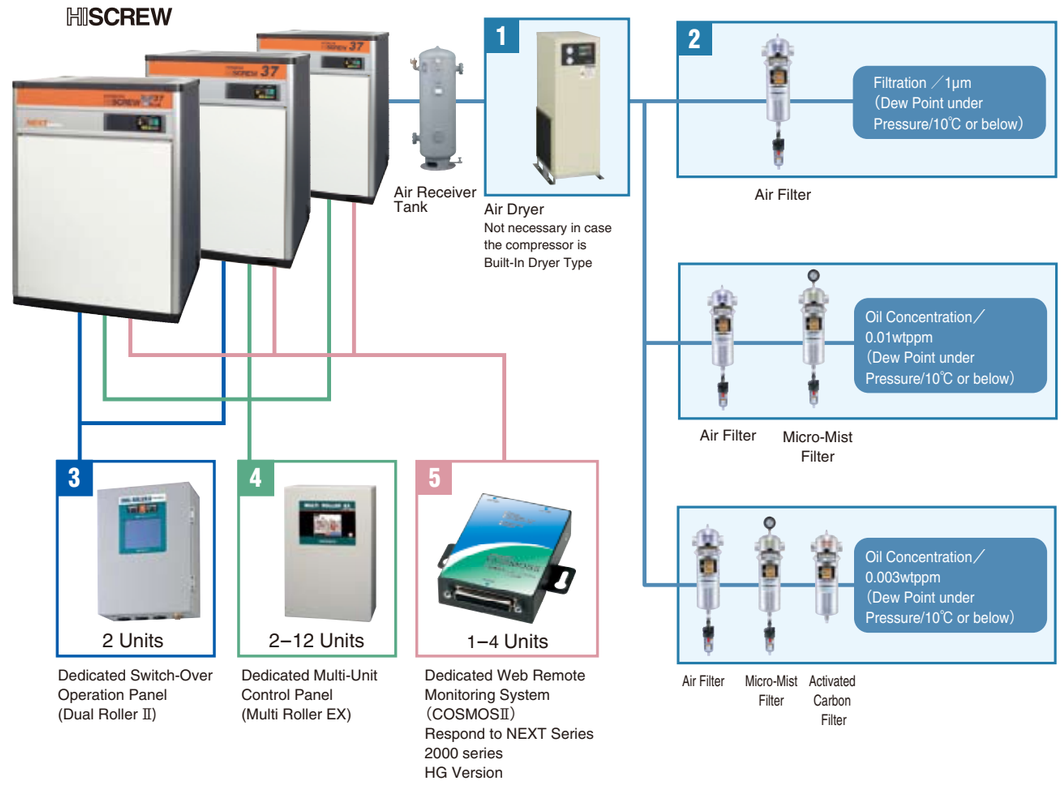
Auxiliary Equipment

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 Compressed Air System

For HITACHI Oil-Flooded Screw Compressor, V plus of Variable Speed Control, M type (possible to response to significant pressure change) and S type (possible to response to continuous load) are provided as various HISCREW series.
As solutions for higher demand of diversity, optional specifications and a wide variety of auxiliary equipment are provided.



High-Performance, Excellent Function Provision of High-Quality Dry Air

1 Air Dryer - supply air of lower degree of humidity

Although there is little water contained in the discharge air of HISCREW, dry air of higher quality can be achieved by using air dryer.
Compact structure designed for combination of HISCREW. HDR series with high-performance and high temperature allowance compose a rich line-up of models.

HFC refrigerant R407C Adoption

HDR series〈Medium Size〉

HDR (Medium Size) series

Item/Unit \ Model		HDR-7.5AX	HDR-15AX	HDR-22AX	HDR-37AX	HDR-55AX	HDR-75AX	HDR-100AX
Cooling Method of Condenser	—	Air-Cooled						
Frequency of Power Supply	Hz	50/60						
Applicable Compressor	kW	7.5	15	22	37	55	75	100
Capacity (Note 1)	m³/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
Max. Inlet Pressure of Compressed Air	MPa	0.3～0.97				0.4～0.97		
Max. Inlet Temperature of Compressed Air	℃	80						
Ambient Temperature	℃	5～40						
Dew Point of Outlet Air	℃	10 under pressure						
Rated Output of Refrigerator	kW	0.3	0.5	1.1		2.2	3.0	3.75
Refrigerant Control Device	—	Capillary Tube		Ejector				
Capacity Control Device	—	Hot Gas Bypass Valve						
Refrigerant Used	—	R407C						
Finish Color	—	Ivory (Munsell No. 5Y8.5/1)						
Pipe Diameter	—	Rc 1	Rc 1	Rc 1・1/2	Rc 1・1/2	Rc 1・1/2	Rc 2	Rc 2・1/2
Dimensions (W×D×H)	mm	303×603×720	303×603×720	356×513×1,067	356×513×1,274	356×903×1,274	356×903×1,489	406×1,400×1,385
Weight	kg	44	46	74	87	135	170	280
Accessories	—	Auto Drain Trap, Drain Valve						

Note
1. The capacity refers to the following operating condition : 30℃ ambient temperature, 45℃ inlet temperature, 0.7MPa inlet pressure, 10℃ dew point of under pressure.
2. Initial pressure loss of the dryer is 0.01MPa or below.
3. In case of used in corrosive environment, contact your nearest dealer or HITACHI local representative offices.
4. The dimension above does NOT include protruding objects.
5. Dew point gets much worse if operated at pressure below the range of operation pressure.
6. If it is not acceptable to have solid objects such as rust in the inlet air flow, install a pre-filter on the inlet of dryer.

HFC refrigerant R407C Adoption

HDR series〈Large Size〉

HDR (Large Size) series

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
Cooling Method of Condenser	—	Water-Cooled						Air-Cooled					
Frequency of Power Supply	Hz	50/60											
Applicable Compressor	kW	—	125/150	160/190	200/240	—	—	—	125/150	160/190	200/240	—	—
Capacity (Note 1)	m³/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
Max. Inlet Pressure of Compressed Air	MPa	0.97				0.93		0.97				0.93	
Max. Inlet Temperature of Compressed Air	℃	60											
Ambient Temperature	℃	2～40											
Dew Point of Outlet Air	℃	10 under pressure											
Rated Output of Refrigerator	kW	2.2	3.0	3.75	3.75	2.2×2	3.0×2	2.2	3.0	3.75		2.2×2	3.0×2
Refrigerant Control Device	—	Capillary Tube											
Capacity Control Device	—	Hot Gas Bypass Valve				Hot Gas Bypass Valve(＊4)		Hot Gas Bypass Valve				Hot Gas Bypass Valve(＊4)	
Refrigerant Used	—	R407C											
Finish Color	—	Ivory (Munsell No. 5Y8.5/1)											
Cooling Water Quantity	m³/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	—	2・1/2B(＊)	3B(＊)		4B(＊)	5B(＊)		2・1/2B(＊)	3B(＊)		4B(＊)	5B(＊)	
Dimensions (W×D×H)	mm	672×1,260 ×1,276	950×1,290×1,332		1,969×905 ×1,583	2,020×1,100 ×1,650		672×1,260 ×1,276	950×1,290 ×1,332		1,969×905 ×1,583	2,020×1,100 ×1,650	
Weight	kg	238	346	344	534	792	872	258	372	370	557	792	872
Accessories	—	Auto Drain Trap, Drain Valve											

＊ JIS 10K Flange

Note
1. The capacity refers to the following operating condition : 32℃ ambient temperature, 40℃ inlet temperature, 0.69MPa inlet pressure, 10℃ dew point of under pressure.
2. Refer to local regulations on pressure equipment or other that may be involved before use.
3. The dimension above does NOT include protruding objects.
4. For HDR-300-380AX/WX, significant energy-saving is possible when the load rate is below 50%, due to the 2-stage capacity control of refrigerator circuit.

3 types of filter are provided to remove dirt particles of micron size and smell

2 Line Filter

Remove dirt particles of micron size and smell

Air Filter

Able to eliminate solid material of 1-3 micron or larger in size＊1

Micron Mist Filter

Able to eliminate oil and solid material of 0.01 micron or larger in size
Density of oil in the discharge air is 0.01wtppm＊2

Activated Carbon Filter

Able to absorb and eliminate oil vapor with smell
Density of oil in the discharge air is 0.003wtppm＊3

	Item \ Model		7.5BX	11BX	15BX	22B	37B	55B	75B	100B	125B	160B	200B	240B
Common	Air Condition	Capacity (converted to the ambient pressure)	m³/min	1.2	1.8	2.4	3.9	6.6	10.6	13.8	20	27.6	32	40	50
		Inlet Air Temperature	℃	30											
		Inlet Air Pressure	MPa	0.69											
	Use Condition	Applicable Fluid	—	Compressed Air											
		Max. Pressure	MPa	1.57			0.97								
	Connecting Pipe Diameter		—	Rc3/4	Rc1 (＊4)		Rc1	Rc1・1/2	Rc1・1/2	Rc2	Rc2	2・1/2B(＊)	3B (＊)	3B (＊)	4B (＊)
Air Filter	Item \ Model			HAF-7.5BX	HAF-11BX	HAF-15BX	HAF-22B	HAF-37B	HAF-55B	HAF-75B	HAF-100B	HAF-125B	HAF-160B	HAF-200B	HAF-240B
	Use Condition	Inlet Air Temperature Range	℃	5～60											
		Ambient Temperature Range	℃	2～60											
	Filtration Rating		μm	1 (＊1)											
	Filtration Efficiency		%	99.999											
	Pressure Drop (Loss)	Initial	MPa	0.005 or below											
		Element Exchange	MPa	0.07											
	Dimension (Max. Diameter×Length)		mm	92×237	130×290.5 (＊4)		160×509	170×591	170×699	173×792	173×949	590×1,512	590×1,512	590×1,512	640×1,735
	Drain Outlet Diameter		—	Rc1/4											
	Weight		kg	1	2	2.1	3	3.3	3.7	4.3	6	57	61	61	73
Micron Mist Filter	Item \ Model			HMF-7.5BX	HMF-11BX	HMF-15BX	HMF-22B	HMF-37B	HMF-55B	HMF-75B	HMF-100B	HMF-125B	HMF-160B	HMF-200B	HMF-240B
	Use Condition	Inlet Air Temperature Range	℃	5～60											
		Ambient Temperature Range	℃	2～60											
	Density of Oil in the Discharge Air		wtppm	0.01 (＊2)											
	Pressure Drop (Loss)	Initial	MPa	0.01											
		Element Exchange	MPa	0.07											
	Dimension (Max. Diameter×Length)		mm	92×237	130×364 (＊4)		160×582	170×664	170×772	173×865	173×1,022	590×1,512	590×1,512	590×1,512	640×1,735
	Drain Outlet Diameter		—	Rc1/4											
	Weight		kg	1	2	2.1	3	3.3	3.7	4.3	6	57	61	61	73
Activated Carbon Filter	Item \ Model			HKF-7.5BX	HKF-11BX	HKF-15BX	HKF-22B	HKF-37B	HKF-55B	HKF-75B	HKF-100B	HKF-125B	HKF-160B	HKF-200B	HKF-240B
	Use Condition	Inlet Air Temperature Range	℃	5～60											
		Ambient Temperature Range	℃	2～60											
	Density of Oil in the Discharge Air		wtppm	0.003 (＊3)											
	Pressure Drop(Loss)		MPa	0.007											
	Dimension (Max. Diameter×Length)		mm	92×232	130×281.5 (＊4)		160×308	170×390	170×498	173×591	173×748	590×1,512	590×1,512	590×1,512	640×1,735
	Weight		kg	1	2		3	3.3	3.7	4.3	6	57	61	61	73

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

＊ JIS 10K Flange

Note: 1. corresponds to the 2nd grade of "compressed air grades" in ISO8573-1. The density of oil in the inlet air is 3wtppm.
2. corresponds to the 1st grade of "compressed air grades" in ISO8573-1. The density of oil in the inlet air is 3wtppm.
3. converted value by "the test method of oil content" in ISO8573-2. The density of oil in the inlet air is 0.01wtppm.
4. Change in dimension and shape of the container.

Long-Time Continuous Operation is Possible by HITACHI Unique Technology

HITACHI Oil Cleaner (Necessary for long-time continuous operation)

HITACHI oil cleaner is a HITACHI unique product to remove and discharge drain even during the operation. It is particularly necessary for long-time continuous operation. Also,it is necessary as a set when operating intermediate series OSP(1.57MPa).

Item (Unit) \ Model		OWS-1	OWS-1A*	OWS-2	OWS-2A*	OWSK-1	OWSK-1A*
Applicable Model	—	22kW or above		7.5～15kW		(22/37kW 1.57MPa)	
Pressure Range of Normal Operation	MPa	0.39～0.97		0.39～0.97		0.39～1.67	
Shell Capacity	L	15		9		15	
Ambient Temperature	℃	0～40		0～40		0～40	
Applicable Fluid	—	Oil or Drain		Oil or Drain		Oil or Drain	
Condensate Level Sensing Method	—	Visual Check with Drain Gauge	Capacitance-type Level Switch	Visual Check with Drain Gauge	Capacitance-type Level Switch	Visual Check with Drain Gauge	Capacitance-type Level Switch
Drain Discharge Method	—	Manual	Auto Discharge by Solenoid Valve	Manual	Auto Discharge by Solenoid Valve	Manual	Auto Discharge by Solenoid Valve
Volume of Discharged Drain when Solenoid Valve Functions	cm³	—	640-800/time (20s)	—	100/time (5s)	—	700～1,300/1 activation (20sec.)
Weight	kg	42	54	35	47	50	62
Dimension(W×D×H)	mm	394×350×1,086	625×356×1,086	442×360×800	841×360×800	685×350×1,193	908×379×1,193

＊ Mark shows auto discharge drain equipment. Power supply of single-phase, 200V is necessary.

Auxiliary Equipment

Highly Advanced Control of 2 HISCREW Units

3 Exclusive Alternate Operation Panel (Dual Roller Ⅱ)

Alternate operation panel of high performance.
Control 2 HISCREW units to operate alternately.
Useful to balance the operation time of master/slave unit and their back-up ones.

- **Various alternate and/or Follow-Up operation are also applicable for S-type models (AUTO function is not necessary)**
- **The adoption of large LCD and touch panel has improved its user-friendliness and achieved compact in size**

The built-in pressure sensor has digitalized pressure setting, which facilitates piping work and adjustments.

- **IPI Restart Function, Schedule Operation, History Memory of Trouble, Long-Term Suspense of Operation as Standard Equipment**
- **I/O terminal for Start/Stop and remote control as standard equipment**

Item \ Model		SDR-2
Power Supply		AC100V (−10%+10%) [Possible for AC200V by switching connector]
Frequency		50 ／ 60Hz
Controllable Number of Units		2
Input	Discharge Pressure	0-1MPa
	Control	Remote,Operation Answer, Shutdown
	External	Operation, Stop, Shutdown, Remote Operation
Output	Control	Operation, Stop, Load Instruction
	External	Operation, Shutdown, Automatic
Controllable Pressure Range of Discharge		Min. ±0.02MPa*
Dimension(W×D×H)		300×160×400 (mm)
Weight		8.5kg

＊ When setting the minimum range of pressure, contact your nearest dealer or HITACHI local representative offices.

Dedicated Control Panel for Multiple HISCREW with High-Efficiency Possible of Remote Monitoring

4 Control Panel of Multiple HISCREW (Multi Roller EX®)

- **Easy-To-Use and Easy-To-Watch LCD Touch Panel Loaded**
  It is easy to do the operation and other setting through the dialog type interface.
- **Weekly Operation Function and 2nd Pressure Setting Function as Standard Equipment**
  - It is possible to set the weekly schedule operations of multiple HISCREW.
  - In case of changing to 2nd pressure setting, the operation pressure is automatically changed depending on the day of the week or the time. Therefore, further Energy-Saving is possible.
- **Energy-Saving**
  - Compared with the conventional parallel operation (suction throttle control), significant Energy-Saving is achieved by the multi-unit control system of Multi Roller EX.
  - Even higher Energy-Saving can be achieved by combination of HISCREW V_{PLUS}. For details, refer to P.27.
- **Control Function by Pressure Prediction (JP No.3404492)**
  - In case that the point of pressure drop is predicated, restart will be triggered earlier so as to setback the pressure drop.
- **Control of Auxiliary Equipment**
  - Control of Auxiliary Equipment as Standard
    Control of up to 12 separate placed air dryers and up to 2 cooling water pumps is possible.
- **Possible for 3 patterns of control**

(1) Rotary Control
Sequential Start/Stop of Fixed Speed Type HISCREW

(2) 2 Loop Control
Multiple VSD or Fixed Speed Type with separate rotary control

(3) Turn-Back Control
Control of Fixed Speed Type with different air capacities (Turn-Back Control is Available ONLY on Fixed Speed Type)

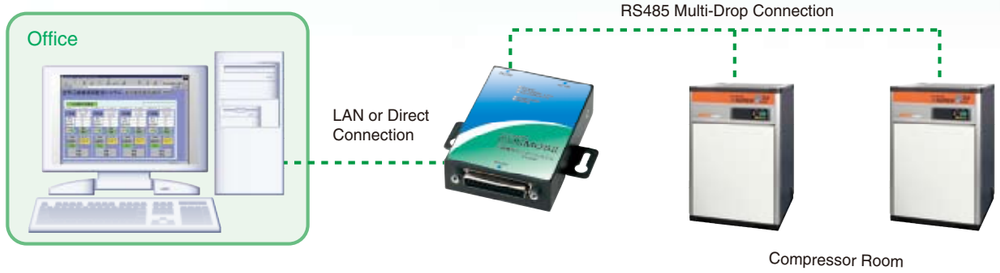
Item \ Model		MR 26-4	MR 26-8	MR 26-12
Power Supply		AC100V/200V ±10%Applicable		
Frequency		50 ／ 60Hz		
Controllable Number of Units		4	8	12
Touch Panel		5.7 inch Color LCD Display		
Control Function		Initial Air Filling・Selection of Starting Unit・Rotary Operation・Turn-Back Operation (Fixed Speed Type ONLY)・PID Control・Pressure Prediction Control・2nd Pressure Setting・Weekly Operation・IPI Restart (Instantaneous Power Interruption (IPI) up to about 350ms at AC200V)・Restart after Recovery from Power Failure・Interlock/Solo Switch・Shutdown History Display・Central Operation・Mandatory Start (Mandatory Rotation)・Control of Auxiliary Equipment (Air Dryer, Cooling Water Pump)・Capacity Display by loading a capacity sensor (Necessary to buy a common sold capacity sensor in advance)		
Input	Discharge Pressure	0-1MPa (Digital Display)		
	Control	Remote,Operation Answer (Shutdown)		
	External	Central Operation, Central Stop, Mandatory Start, Capacity (Option)		
Output	Control	Operation, Stop, Load Instruction(PID Instruction)		
	External	Operation, Central Selection, Decline of Pressure, List of Shutdown		
Controllable Pressure Range of Discharge		Min. ±0.01MPa*		
Dimension(W×D×H)		400×200×600 (mm)	500×200×900 (mm)	500×200×1,200 (mm)
Weight		19kg	32kg	37kg

＊ The specification of dedicated control panel may vary from combination of different compressor models. For selection, please contact us with the compressor model.
＊ When setting the minimum range of pressure, contact your nearest dealer or HITACHI local representative offices.

5 Remote Monitoring System Oriented for Air Compressor (COSMOSⅡ)

Without installing special software, it is possible to real-time monitor the operating condition of the air compressor via Web from the existing PC in the office. This will contribute to the labor-saving and energy-saving of facility management. Further, as COS-200N for NEXT series, it is possible to control the Start/Stop and pressure setting by installing the attached software.

Remote Monitoring System COSMOSⅡ



- **Content of Data Monitor**
  Possible to monitor the operation data such as pressure, temperature, and load rate, particular alarm/trouble, and notification of maintenance via communication.
  (1-4 units)

Item \ Applicable Compressor Model	HISCREW NEXT Series	HISCREW 2000HG Series
Model	COS-200N	COS-200H
Interface	RS485 (25Pin) − LAN (10baseT)	
Transmission Speed	9600bps	
Communication System	Semi-Duplex	Full Duplex
Synchronization System	Start-Stop Synchronous	
Isolation	None	
Number of Unit Monitored	4 Units (monitor timing : 10s)	
Transmission Format	Start Bit: 1, Data Bit: 7, Parity: Even, Stop Bit: 1	
Dimension/Weight	90×60×23mm ／ 200g	
Operating Environment	Temperature : 0-40℃, Humidity : 30-80%	
Power Supply	AC100V (AC Adapter 12V 0.9A)	
LAN Protocol	TCP/IP	
RS-485 Cable Length	250m	
Connector	D-sub25pin Female (RS485), RJ-45(10/100baseT)	

＊ It is necessary to modify the compressor for communication function. The applicable range of models is scheduled to be enlarged.
＊ This system indicates COSMOS Ⅱ unit ONLY. It is necessary to carry out wiring work separately.
＊ It is NOT applicable for models other than compressors of NEXT series and 2000 series.
＊ For PC used as monitor, OS of Windows® 2000 or XP or later version together with IE6.0 or later version are necessary.
＊ Since this unit collects real-time data in a short time, the function may get slower due to the condition of compressors monitored.
＊ By installing the dedicated software attached on the PC, it is possible to set the Start/Stop and pressure by remote control. (COS-200N)

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

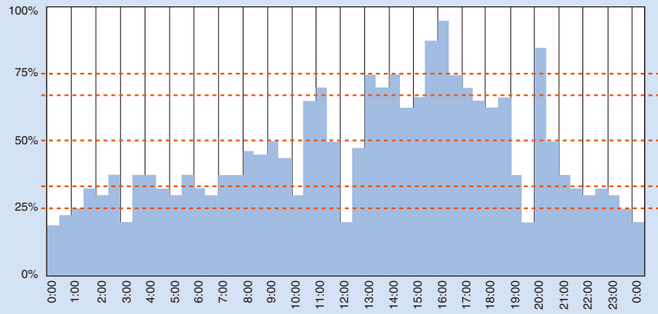
Method of Energy-Saving in case of multiple compressors setting

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

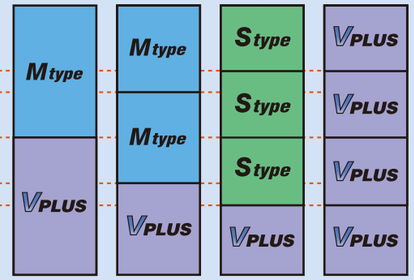
In case of setting multiple air compressors, install at least 1 unit of V plus type is the key-point to achieve Energy-Saving.

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

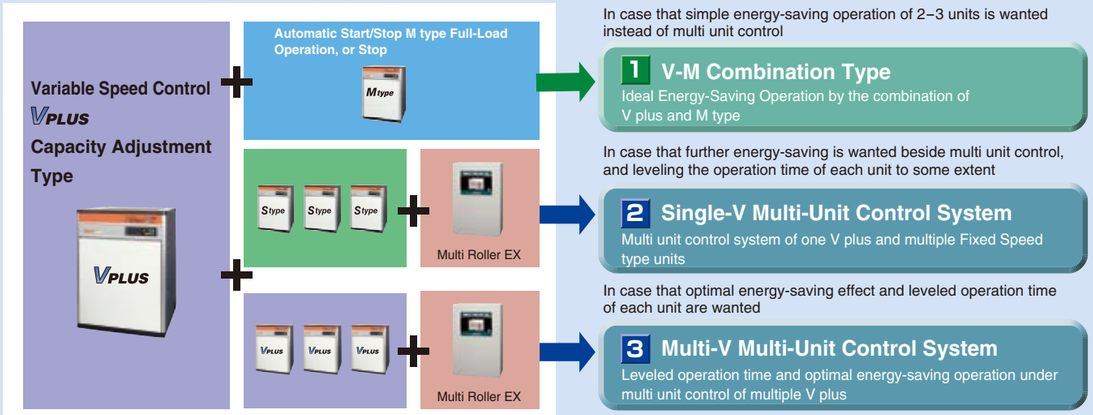
Daily Consumption of Compressed Air (Example)



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

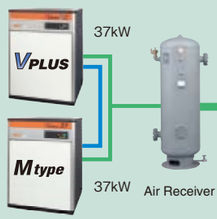
1 V-M Combination Type (JP 3547314) (2–3 units)

Conventional System

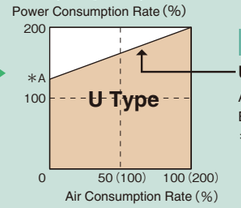
Conventional Compressor of Suction Throttle Type 1 unit

V-M Combination Type

HISCREW VPLUS + HISCREW Mtype

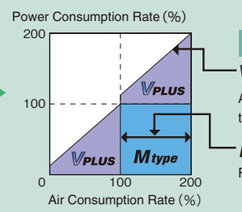


Air capacity and power consumption of 1 unit of 37kW is displayed as 100%.



Explanation

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



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

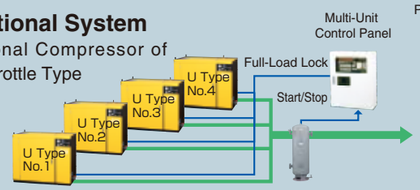
❶ Power consumption is same featured as 75kW V plus.
❷ Reduction of **25**% in initial investment is possible.
❸ Reduction of power consumption up to **39**%, or about **165**MWh/year when the air consumption rate is 60%.

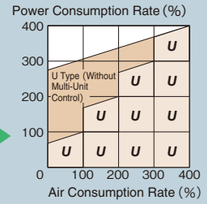
* Calculation condition: operation time is 6,000h/year, discharge pressure is 0.6MPa

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

Conventional System

Conventional Compressor of Suction Throttle Type (U Type)



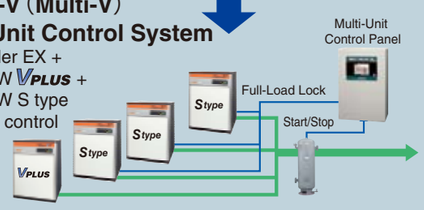


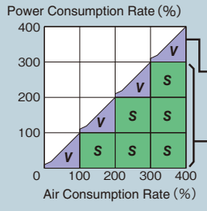
Explanation

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 S type multi unit control



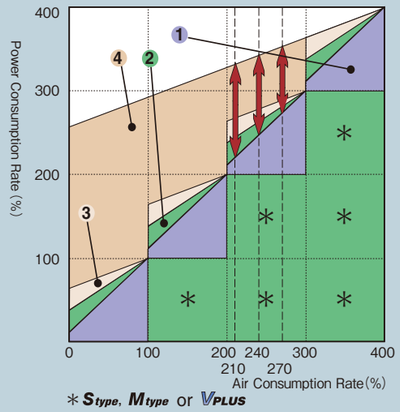


Explanation

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

Stype, Mtype or VPLUS
Full load or automatic stop

Example of Effect under Single-V Multi Unit Control



* Stype, Mtype or VPLUS

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

Unit : MWh

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 ×4 units
(Same in efficiency and performance)
Operation time is 6,000h/year

Precaution

Pay attention to the ventilation of air compressor.

It is impossible to operate HISCREW in an airtight room.
Prepare equipment to exchange heat generated by the HISCREW.

(1) Ventilation without Exhaust Duct (Figure A)

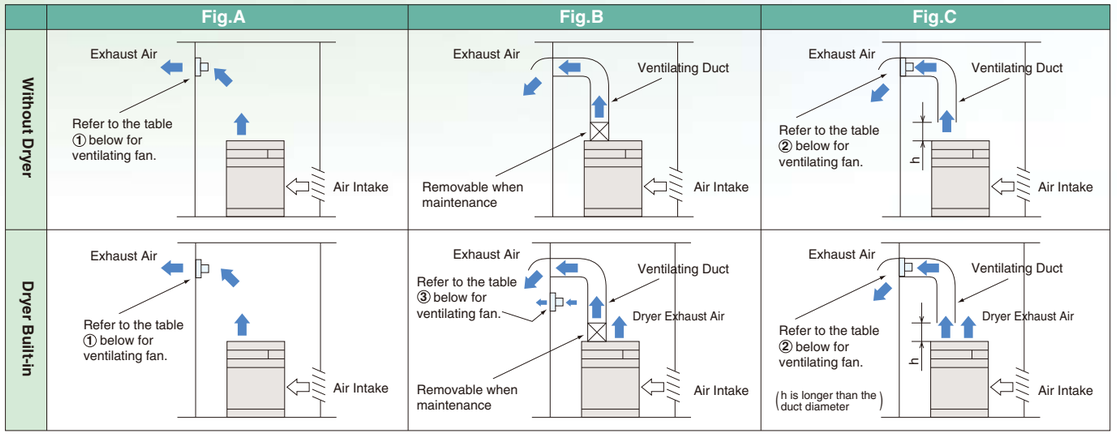
When the whole compressor room is ventilated, the ventilating fan capacity shall be larger than **recommended fan capacity** ① in the table below. (This value is calculated under the condition when the room temperature rise is 5℃ or below.) Install the ventilating fan as high as possible on the wall.

(2) Ventilation with Exhaust Duct (Figure B)

●If the pressure loss (resistance of the exhaust air through the duct)is **within 20Pa {2mmAq}**, ventilating fan in the duct is not required. In this case, install the ventilating duct directly to the exhaust port of the compressor as shown in **Figure B.** Also, make sure the ventilating duct is removable for the convenience during maintenance. Meanwhile, to ventilate the exhaust air from dryer, install a ventilating fan which has a capacity larger than **recommended fan capacity** ③ in the table below.

●If the pressure loss (resistance of the exhaust air through the duct)is **larger than 20Pa {2mmAq}**, ventilating fan whose capacity is larger than **recommended fan capacity** ②in the table below installed in the duct is necessary. Keep in mind the rise in temperature of exhaust air during selecting ventilating fan. In this case, set up a hood on the duct inlet port and make sure to take a distance **h**, which is longer than the duct diameter as shown in **Figure C**.

●Do not use the duct installed ventilating fan for dryer exhaust. It may cause freezing on the inside of the aftercooler of the dryer by enforced exhaust.



Ventilation Data

Air-Cooled HISCREW (Without a Built-in Air Dryer)

*: shows V plus of NEXT series, while < > shows S/M type.

Item/Unit	(kW)	7.5*	11*	15*	22*	37*	55*	75*	100	110	150 (Dual)
Heat Generation	MJ/h	35.2〈34〉	49.8〈48.1〉	64.5〈62.5〉	88<88>	150<150>	236<236>	330<330>	440	525	630
	{kcal/h}	{8,400〈8,100〉}	{11,900〈11,500〉}	{15,400〈14,900〉}	{21,100<21,100>}	{35,900<35,900>}	{56,400<56,400>}	{78,900<78,900>}	{105,600}	{125,394}	{150,200}
Air Exhaust (air compressor)	m³/min	20〈20〉	28〈28〉	28〈28〉	50<45>	90<80>	130<130>	140<140>	200	240	360
Model for Ambient Temperature of 45℃	m³/min	—	—	—	50<45>	90<90>	130<130>	140<140>	—	—	—
Approx. Temp. Rise (exhaust air)	℃	25〈25〉	28〈28〉	35〈32〉	30<30>	36<36>	27<27>	35<35>	30	30	30
Model for Ambient Temperature of 45℃	℃	—	—	—	30<28>	33<36>	27<27>	35<35>	—	—	—
Maximum Pressure Loss (exhaust air)	Pa{mmAq}	20 (2)									
Recommended Fan Capacity①	m³/min	93〈90〉	132〈127〉	171〈165〉	233<233>	395<395>	623<623>	873<873>	1,170	1,400	1,663
Recommended Fan Capacity②	m³/min	23〈23〉	32〈32〉	32〈32〉	58<52>	104<92>	150<150>	161<161>	230	280	207×2
Model for Ambient Temperature of 45℃	m³/min	—	—	—	64<52>	104<105>	150<150>	161<161>	—	—	—

Air-Cooled HISCREW (With Built-in Air Dryer)

*: shows V plus of NEXT series, while < > shows S/M type.

Item/Unit	(kW)	7.5*	11*	15*	22*	37*	55*	75*
Heat Generation	MJ/h	38.6〈37.4〉	54.9〈53.2〉	71.4〈69.4〉	102<102>	171<171>	261<261>	376<376>
	{kcal/h}	{9,200〈8,900〉}	{13,100〈12,700〉}	{17,100〈16,600〉}	{24,400<24,400>}	{40,900<40,900>}	{62,400<62,400>}	{89,900<89,900>}
Air Exhaust (air compressor)	m³/min	20〈20〉	28〈28〉	28〈28〉	50<45>	90<80>	130<130>	140<140>
Air Exhaust(air dryer)	m³/min	10〈10〉	18〈18〉	18〈18〉	30<30>	50<50>	60<60>	70<70>
Approx. Temp. Rise (exhaust air)	℃	25〈25〉	28〈28〉	35〈32〉	30<30>	36<36>	27<27>	35<35>
Maximum Pressure Loss (exhaust air)	Pa{mmAq}	20 (2)						
Recommended Fan Capacity①	m³/min	102〈99〉	145〈141〉	189〈184〉	272<272>	458<458>	689<689>	995<995>
Recommended Fan Capacity②	m³/min	33〈33〉	47〈47〉	52〈52〉	96<91>	166<154>	216<216>	283<283>
Recommended Fan Capacity③	m³/min	10〈10〉	15〈15〉	20〈20〉	39<39>	62<62>	66<66>	122<122>

Ventilation Data

Water-Cooled HISCREW (Without a Built-in Air Dryer)

Item/Unit	(kW)	22	37	55	75	100	110	150 (Dual)	125	150	160	190	200	240
Heat Generation	MJ/h	16.7	29.3	43	60	88.0	105	125	122	146	156	185	195	233
	{kcal/h}	{4,000}	{7,000}	{10,300}	{14,400}	{21,000}	{25,079}	{29,900}	{29,000}	{34,800}	{37,200}	{44,200}	{46,600}	{55,700}
Recommended Fan Capacity①	m³/min	45	78	115	159	220	280	333	325	390	415	490	516	619

Water-Cooled HISCREW (With Built-in Air Dryer)

Item/Unit	(kW)	22	37	55	75
Heat Generation	MJ/h	30.1	50.7	68	106
	{kcal/h}	{7,200}	{12,100}	{16,300}	{25,400}
Recommended Fan Capacity①	m³/min	90	140	181	282

Note: The recommended fan capacity is calculated under the condition which the rise in ambient temperature is within 5℃ and the static pressure is 0 Pa. For further details, refer to the installation figure and instruction manual and plan your ventilation facility.

●Calculation of necessary ventilation capacity

$$Q=\frac{n\times H}{0.00126\times\Delta T\times 60}$$

Q : Necessary ventilation capacity m³/min
H : Heat generation per unit MJ/h
n : Number of unit installed
ΔT : Tolerable temperature rise ℃
(The highest tolerable temperature of the compressor – annually highest ambient temperature)

Necessary Capacity of Power Transformer

Select an appropriate power transformer to secure necessary main power supply for the compressor.

Model	Min. Capacity of Transformer
OSP-7.5–15kW	30KVA
OSP-22	50KVA
OSP-37	75KVA
OSP-55	100KVA
OSP-75	150KVA
OSP-100/110	300KVA

Note: The capacity of transformer changes depending on the specs of power cables.

⚠ Safety Precautions

Regarding compressor application

●The compressors described in this catalog are designed for air ONLY. Do NOT use these compressors for compression of gas other than air.
– Failure to adhere to this precaution may result in a fire or damage to the equipment.

●Never use these compressors directly as equipment of breathing.

Regarding installation

●These compressors are designed for indoor use. Avoid installing the compressors at a place subject to rain, water and/or high humidity.
–Failure to adhere to this precaution may cause electric current leakage, rust and/or reduction in air compressor life.

●Avoid areas of close proximity to explosives and/or flammable gases, such as: acetylene, propane gas, organic solvents, explosive powdered dust and/or fire.
–Failure to adhere to this precaution may cause fire or accident.

●Avoid areas where corrosive gases are present, such as: ammonia, acid, iron powder and/or sulfurous acid.
–Failure to adhere to this precaution may cause rust to the compressor components, reduction in compressor life and/or damage.

Regarding usage

●Before use, read the instruction manual carefully for correct use of the compressor.

●Absolutely avoid modifying the compressor or its components.
–Failure to adhere to this precaution may cause damage and/or malfunction.