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HITACHI SCREW COMPRESSOR

HITACHI
Inspire the Next

Energy-Saving and Easy Maintenance

HISCREW ***NEXT**series*

55–160kW Oil-flooded Rotary Screw Compressors

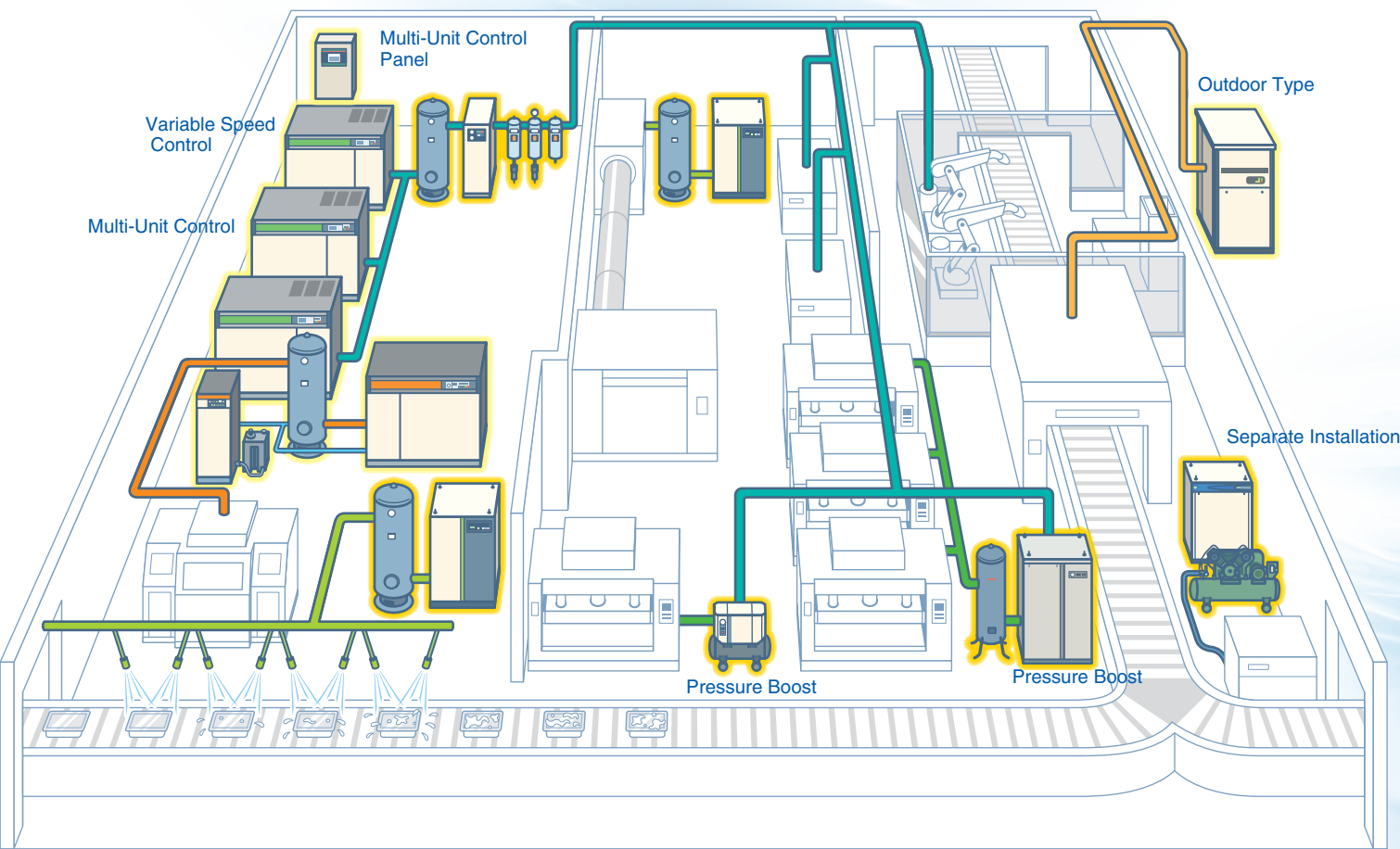


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Product appearances and specifications in this catalog are subject to change with or without notice, as Hitachi continues to develop the latest technologies and products for its customers.

Hitachi Industrial Equipment Systems Co., Ltd.

For further information, please contact your nearest sales representative.





Hitachi - Your Trusted Air Solution Provider

Over 100 years of compressed air experience, Hitachi has been and continues to be the technology leader via continuous innovation of air compressor technology oriented towards **Customer Value**.

As a pioneer, specializing in air compressors in Japan, we commit ourselves to unstoppable effort in **technology innovation** and **product development** to meet diverse needs of every customer.

Hitachi air compressor ranges from 0.1 – 1300kW in output, with reciprocating, scroll, screw and turbo in compression form, based on oil-flooded and oil-free technology.

We believe our air compressors with **ultimate reliability**, **supreme energy efficiency** and **various air solutions**, will contribute to the progress and develop of your business.

Ultimate Evolution of Air Compressor

We are proud to introduce **HISCREW NEXTseries**, a new milestone in Hitachi innovation of air compressor technology. With outstanding reliability, premium efficiency and industry leading performance, **HISCREW NEXTseries** will undoubtedly match your requirements for air compressors.



Model List

Motor Output (kW)			55	75	110	132	160
Model							
VSD	VPLUS (Vtype)	Air-Cooled	○	○	○		○
		Water-Cooled			○		○
Fixed Speed Type	Mtype	Air-Cooled	○	○	○	○	○
		Water-Cooled			○	○	○
	S type	Air-Cooled	○	○	○	○	○
		Water-Cooled			○	○	○

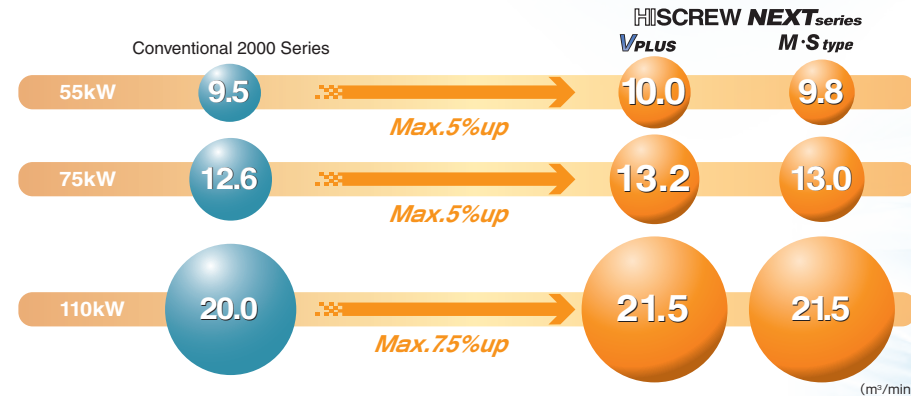
 **NEXTseries**

HISCREW NEXTseries (55/75/110/132/160kW)

New Air End

Evolution of Air End

- Air end with new ECOPROFILE rotor developed independently by HITACHI
- Compared to the conventional 2000series, the air capacity is increased by up to 7.5% at rated pressure.
- Low Noise Level



Oil Separator

Reduction in Oil Consumption

- Compared to the conventional 2000series, oil contained in the discharge air is significantly reduced. (55/75 kW)



Easy Maintenance (Spin-on Type)

Stainless Housing

Suction Filter

Easy Maintenance

- Easy to change (Cartridge Type)
- Extension of filter cleaning interval thanks to the high-efficiency of filtration



Oil Change Every 2 years

New HISCREW OIL 2000

- Designed for air compressor use, top level of durability.
- Oil change cycle is every 2 years or 12,000hr which comes first.



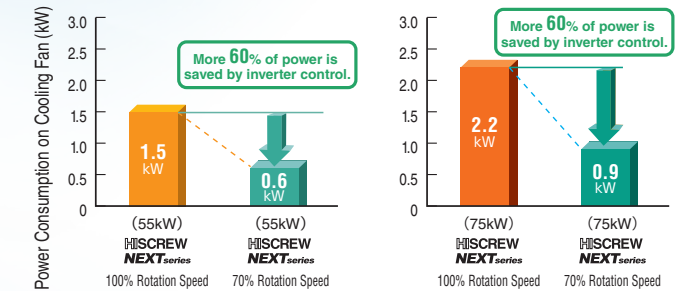
Reduction in Oil Consumption

Cooling Fan (Air-cooled Type)

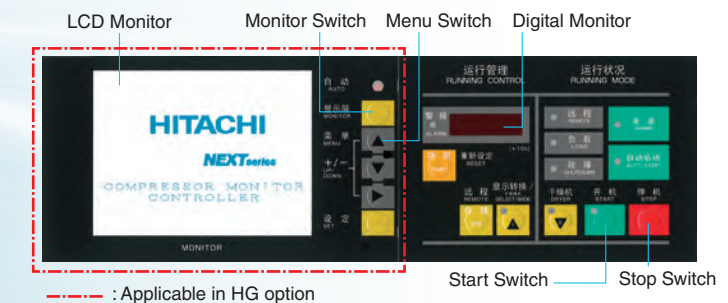


High Efficiency Turbo Fan with Inverter Control

- Energy saving and low noise level is possible when load ratio is low.



Instrumental Panel



- Newly developed simple and easy-to-read instrumental panel

Main Features

Operation Mode Change

- Easy to switch between operation modes*1 (ECOMODE, PQ WIDE MODE or remote control) by operation on the instrumental panel to achieve Energy-Saving

TROUBLESHOOTING

- Quick TROUBLESHOOTING by tracking the information on the instrumental panel

Instantaneous Power Interruption (IPI) Restart Function as Standard Function (Standard for Vplus, Mtype)

DCBL Drive System*2

- HITACHI original technology, Cascade Vector Control Logic
- Significant Energy-Saving and high reliability

*1 ECOMODE is available on S/M type, PQ WIDE MODE is available on Vplus ONLY.
*2 DCBL Drive System is equipped on 55/75kW Vplus Models.

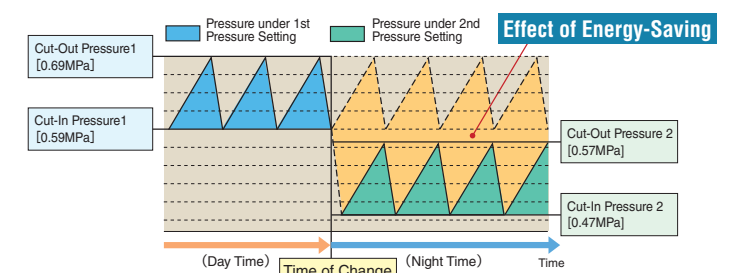
Option

High Grade (HG) Option*

- Large LCD Monitor, Multi-Language (Japanese, English, Chinese)
- More Energy-Saving options such as Schedule Operation, Lead-Lag, and Dual Operation
- Communication (applicable for COSMOS II)

* available on Mtype or Vplus

Schedule Operation with 2 Pressure Settings (Day & Night)

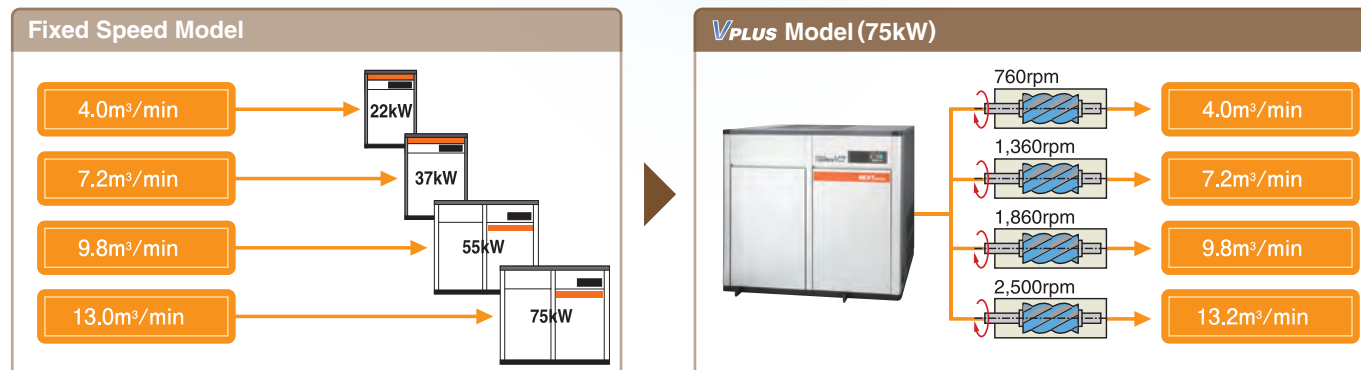


Note: 1. 2nd Pressure Setting is available as standard.
2. Switch between 2 pressure settings is possible by installing an external switch (option).

HISCREW *VPLUS*

Variable Speed Control

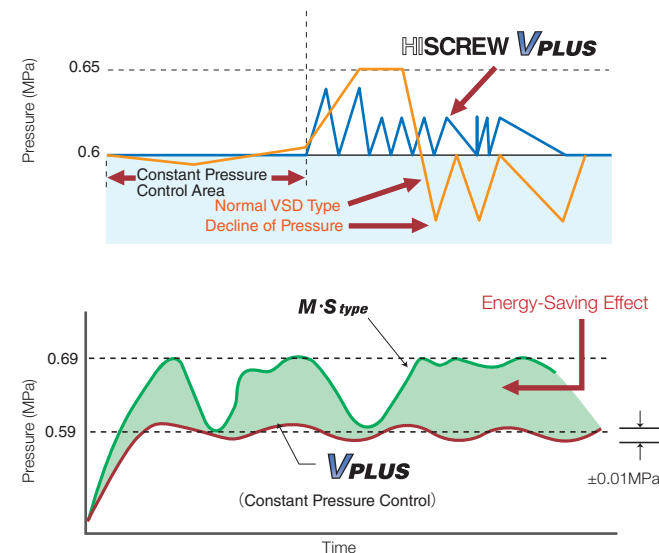
Optimal capacity control responding to the air consumption is possible by Variable Speed Control on *VPLUS*. Significant Energy-Saving can be achieved by cutting the unnecessary compression.



Constant Pressure Control

Pressure Holding

- HITACHI original control logic
- Possible to hold the discharge pressure at setting level during operation at low load.
- No higher pressure setting in advance is needed.



Constant Pressure

- Possible of precise control of discharge pressure within ±0.01 MPa.
- Energy-Saving

PQ WIDE MODE

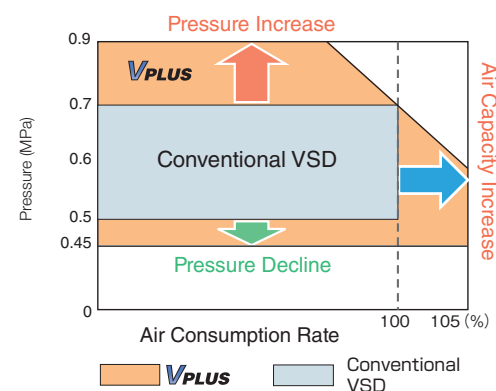
Compared to conventional VSD, *Vplus* air compressor can operate at a wider range of Pressure (P) and Air Capacity (Q).

Air Capacity at PQ WIDE MODE

Unit: m³/min

55—75kW		Discharge Pressure MPa				
Model		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

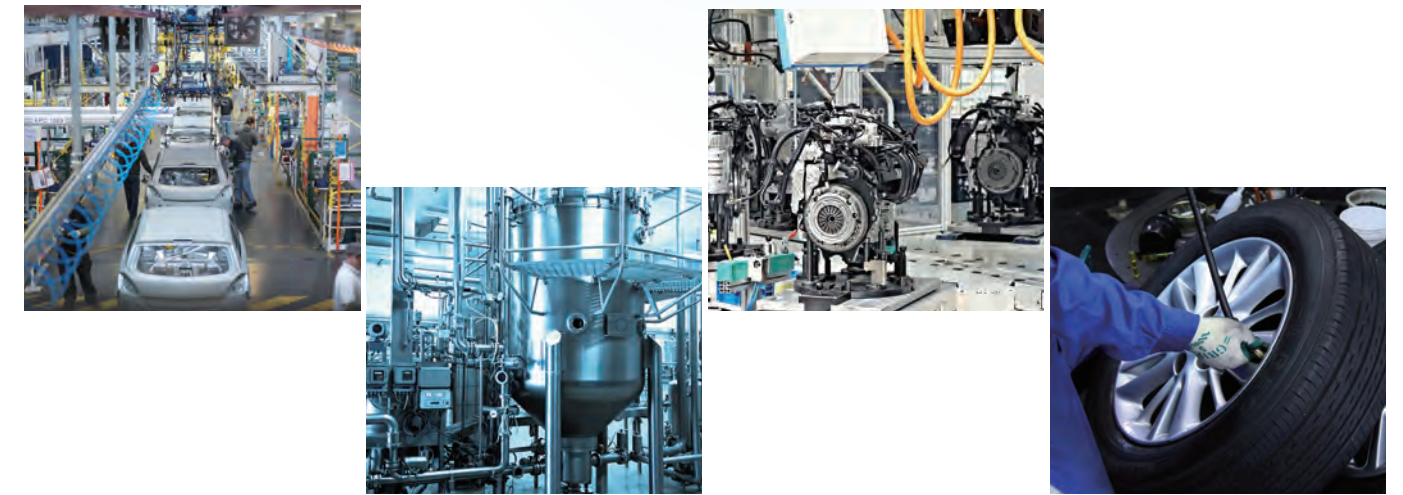
110kW		Discharge Pressure MPa			
Model		0.60	0.70	0.85	0.95
110kW		22.5	21.5	19.3	—
160kW		29.5	29.5	27.2	25.2



HISCREW *Mtype, S type* (Fixed Speed Type)

High reliability, energy-saving, easy maintenance

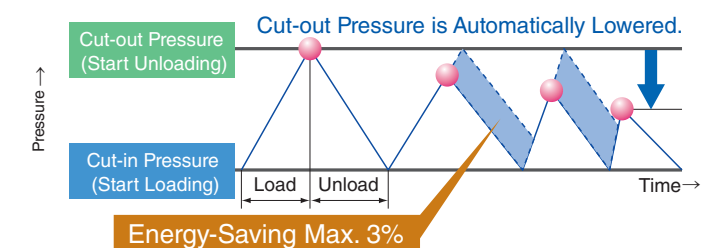
High reliability and excellent performance of conventional 2000series has been proven in diversified industrial fields. Now, with the introduction of *HISCREW NEXT*series fixed speed models, improved Energy-Saving performance and high reputation in premium quality, we have faith that your productivity will be increased further.



ECOMODE

Energy-Saving

- Responding to the load ratio of compressor, cut-out pressure is automatically lowered.
- Max. 3% Energy-Saving
- Standard Equipment in *Mtype, S type*



Genuine Parts

By using HITACHI genuine parts for maintenance of air compressor, you can acquire:

Peace of Mind

Periodic maintenance by using Hitachi genuine parts will keep your air compressor from trouble or breakdown.

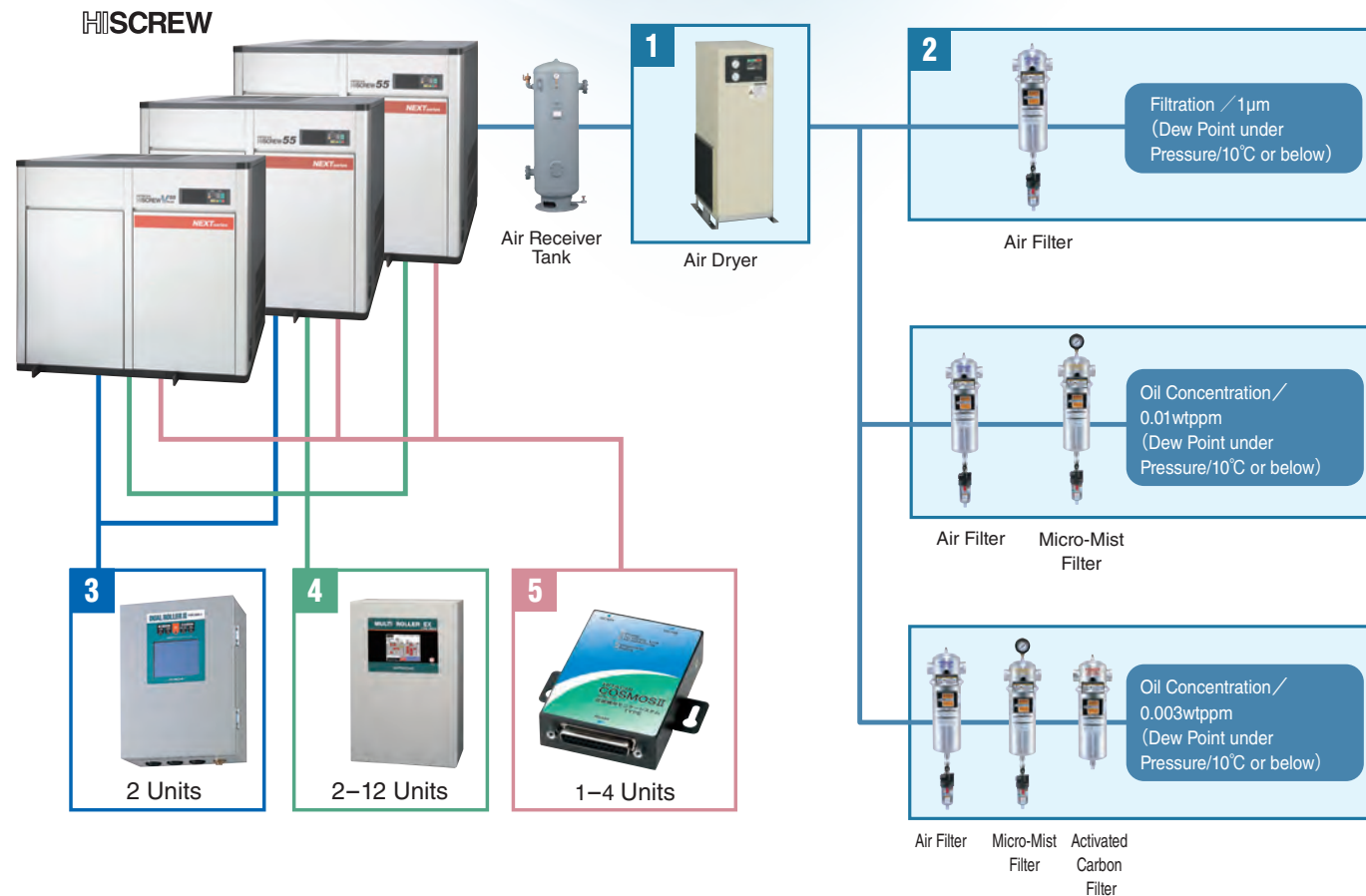
Energy-Saving

Hitachi genuine parts will keep your air compressor system from degradation in performance, which can bring you unexpected effect of Energy-Saving.



System

Example of Compressed Air System



1 Air Dryer

- Dry air of higher quality
- A rich line-up for your choice (7.5 – 380kW)

2 Line Filter

- 3 types of filter (air filter, micro-mist filter, activated carbon filter)

3 Dual Roller III* (Alternate Operation Panel)

- Control 2 HISCREW units to operate alternately
- *Dual Roller III will be released soon.

4 Multi Roller EX® (Multi-unit Control Panel)

- Energy-Saving
- Easy-to-read LCD touch panel equipped

5 COSMOS II (Remote Monitoring System)

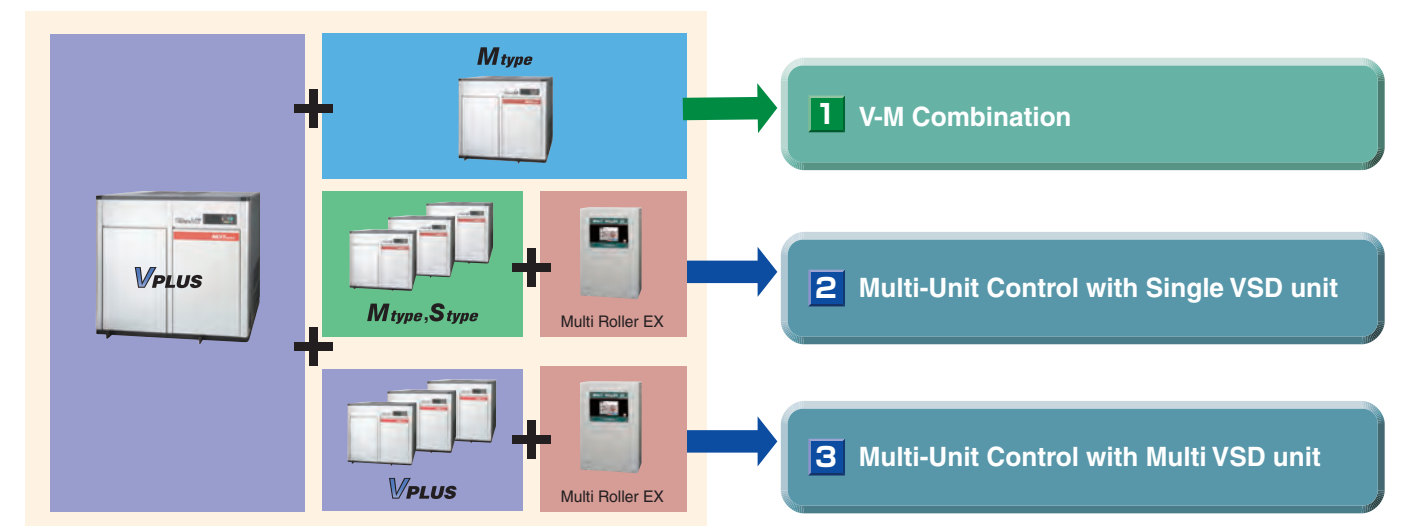
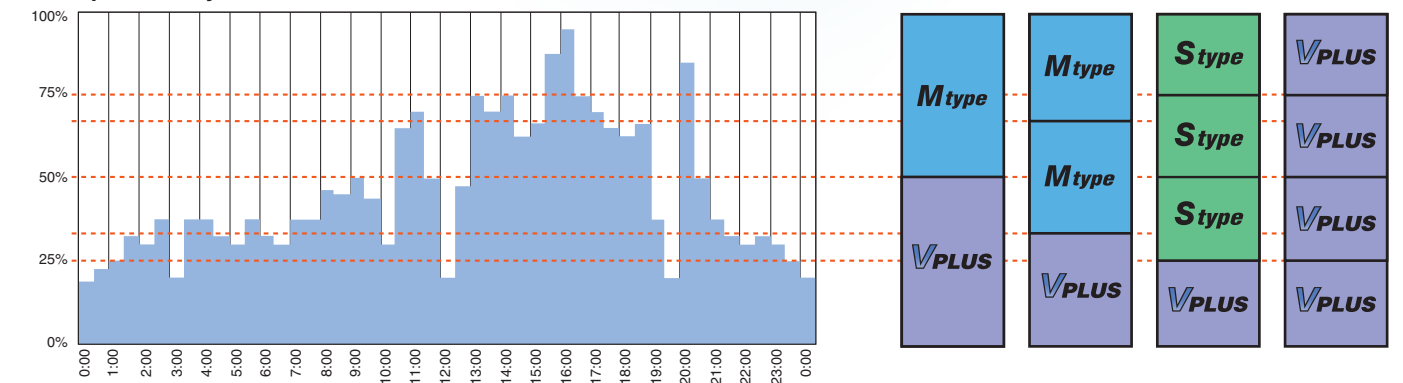
- Possible to real-time monitor the operation condition of air compressor
- Easy for facility management

Note: For detailed information of above auxiliary equipment, contact your nearest dealer or Hitachi local representative offices.

Energy-Saving by System Structure

In almost every compressed air system, air demand fluctuates with time. To respond to the change in air demand, Hitachi provide various patterns of system structure to help you acquire Energy-Saving.

Example of Daily Air Demand



1 V-M Combination (2-3 units)

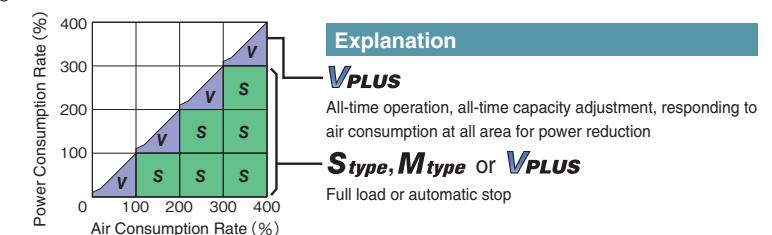
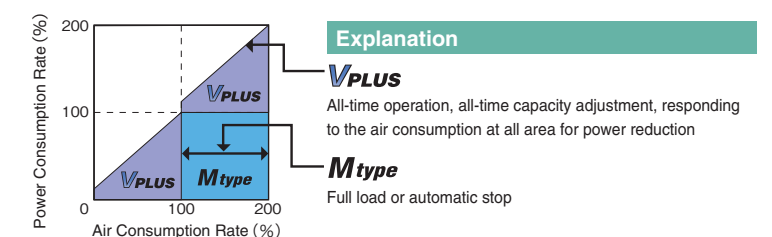
- Simple Energy-Saving with Vplus and Mtype
- Mtype with auto Start/Stop (full load operation or stop)

2 Multi-Unit Control with Single VSD unit

- Further Energy-Saving under Multi Roller EX®

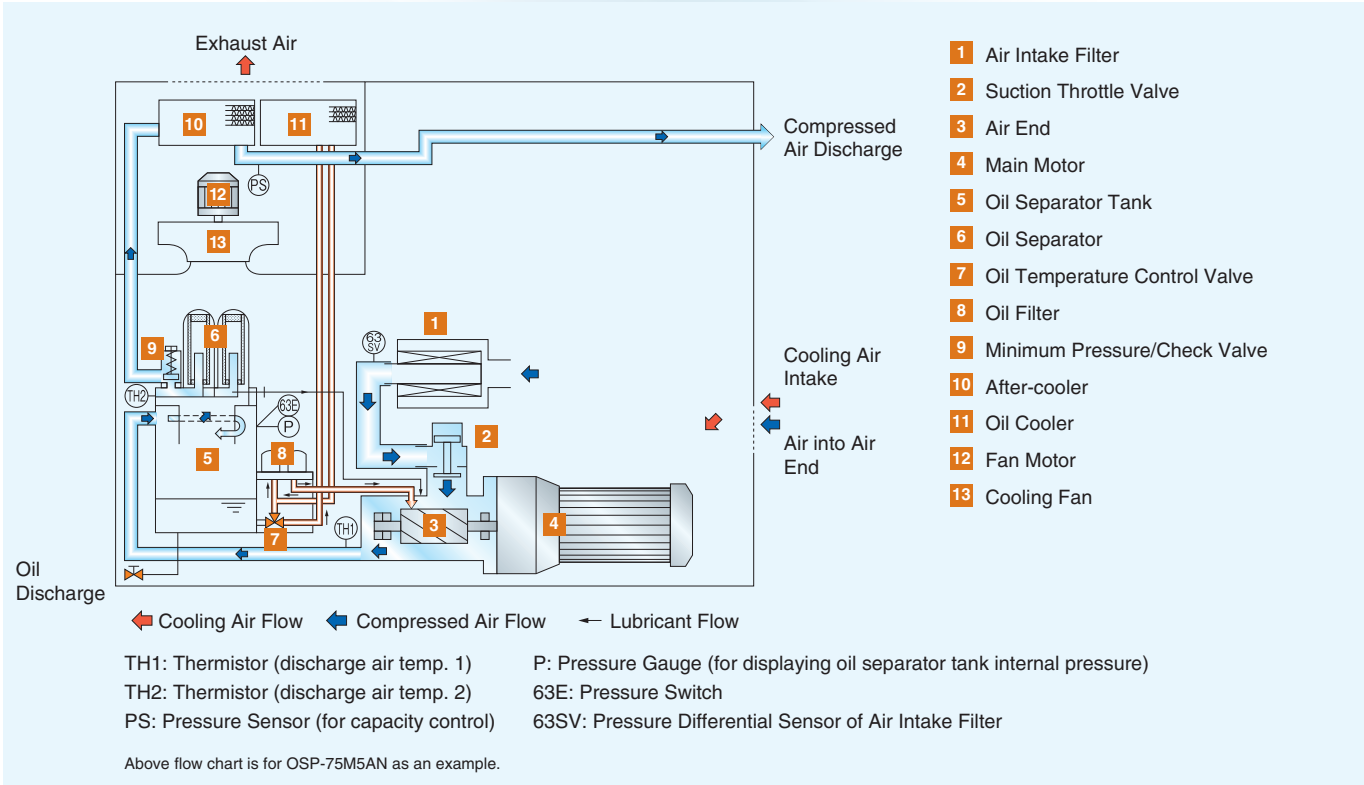
3 Multi-Unit Control with Multi VSD unit

- Ideal Energy-Saving under Multi Roller EX®
- Equalized Operation Hour for each unit



Flow Charts

VSD: **HISCREW *VPLUS*** Fixed Speed : **HISCREW *Mtype, Stype***



Specifications

HISCREW *VPLUS* 55–160kW

Item・Unit		Model	OSP-55VAN		OSP-75VAN		OSP-110VAN		OSP-160VAN		OSP-110VWN		OSP-160VWN		
Cooling Method		－	Air Cooled									Water Cooled			
Motor Nominal Output		kW	55		75		110		160		110		160		
Rated	Discharge Pressure	MPa	0.7												
	Discharge Capacity	m³/min	10.0		13.2		21.5		29.5		21.5		29.5		
PQ WIDE	Discharge Pressure	MPa	0.6	0.85	0.6	0.85	0.6	0.85	0.95		0.6	0.85	0.95		
MODE	Discharge Capacity	m³/min	10.5	9.0	13.9	11.9	22.5	19.3	25.2		22.5	19.3	25.2		
Working Range of PQ WIDE MODE		MPa	0.6-0.85						0.7-0.95		0.6-0.85		0.7-0.95		
Suction Pressure		－	Atmospheric Pressure												
Temperature of Discharge Air		℃	Ambient Temperature + 15 or below									Cooling Water Temperature + 13 or below			
Starter Type		－	Soft Start					Inverter				Inverter			
Driving System		－	DCBL Direct Driving					2-Pole TEFC Motor Gear Drive				2-Pole TEFC Motor Gear Drive			
Lubricating Oil		－	NEW HISCREW OIL 2000												
Lubricating Oil Filling Amount		L	26		36		50		115		37		70		
Output of Cooling Fan		kW	1.5 (Inverter Control)		2.2 (Inverter Control)		3.0 (1.5x2) Inverter Control		7.4 (3.7x2) Inverter Control		0.15 (0.05x3)		0.2		
Cooling Water	Temperature	℃	－									32 or below			
	Quantity	L/min										180			
Discharge Air Pipe Diameter		－	Rc 2				Rc 2・1/2 [Flange]		3B (JIS 10K Flange)		Rc 2・1/2 [Flange]		3B (JIS 10K Flange)		
External Dimension (WxDxH)		mm	2,000×1,200×1,800				2,550×1,500×1,800		2,700×2,000×1,890		2,550×1,500×1,800		2,700×2,000×1,890		
Weight		kg	1,220		1,390		2,900		3,900		2,800		3,750		
Noise Level		dB [A]	64		66		72		79		69		72		

- Note:
- Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
 - Pressure is indicated as the gauge pressure.
 - Motor output values are indicated as motor nominal outputs.
 - 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 Vplus, 3 dB[A] is increased when PQ WIDEMODE is ON.
 - Use the air compressor at a place where ambient temperature is between 0 and 40 deg C.
 - Compressor will be running at the ambient temperature of 45 deg. C. If the ambient temperature is high, the maintenance period should be shortened. (ONLY applicable for 55/75kW)
 - Temperature of discharge air may vary from different environments.
 - It is necessary to install a properly sized air receiver tank.
 - Earth leakage circuit breaker is NOT attached. Prepare it in advance.
 - Specifications and outside view are subject to change without notice.

HISCREW *Mtype, Stype* 55–110kW

Item・Unit		Model	OSP-55M5AN	OSP-75M5AN	OSP-110M5AN	OSP-110M5WN
		<i>Mtype</i>				
		<i>Stype</i>	OSP-55S5AN	OSP-75S5AN	OSP-110S5AN	OSP-110S5WN
Cooling Method		–	Air Cooled			Water Cooled
Motor Nominal Output		kW	55	75	110	
Rated	Discharge Pressure	MPa	0.7 [0.85] <1.0>			0.75 [0.85] <1.0>
	Discharge Capacity	m³/min	9.8 [8.8] <8.1>	13.0 [11.7] <10.7>	21.5 [19.3] <17.0>	
Suction Pressure		–	Atmospheric Pressure			Cooling Water Temperature + 13 or below
Temperature of Discharge Air		℃	Ambient Temperature + 15 or below			Cooling Water Temperature + 13 or below
Starter Type		–	Star — Delta (3 Contactor)			
Driving System		–	2-Pole TEFC Motor Gear Drive			
Lubricating Oil		–	NEW HISCREW OIL 2000			
Lubricating Oil Filling Amount		L	27	38	50	37
Output of Cooling Fan		kW	1.5 (Inverter Control)	2.2 (Inverter Control)	3.0 (1.5x2) Inverter Control	0.15 (0.05x3)
Cooling	Temperature	℃	–			32 or below
	Quantity	L/min	–			180
Discharge Air Pipe Diameter		–	Rc 2		Rc 2・1/2 [Flange]	
External Dimension (WxDxH)		mm	2,000×1,200×1,800		2,550×1,500×1,800	
Weight		kg	1,420	1,720	2,800	2,700
Noise Level		dB [A]	65	67	72	69

- Note:
- Capacity is the converted value at its inlet condition. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
 - Pressure is indicated as the gauge pressure.
 - Motor output values are indicated as motor nominal outputs.
 - 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.
 - Use the air compressor at a place where ambient temperature is between 0 and 40 deg C.
 - Compressor will be running at the ambient temperature of 45 deg. C. If the ambient temperature is high, the maintenance period should be shortened. (ONLY applicable for 55/75kW)
 - Temperature of discharge air may vary from different environments.
 - Modulation control is available as option on both M type and S type (0.7/0.85MPa). Fixed modulation control operation is not possible on M type model. Make sure to install a properly sized air receiver tank. However, modulation control is NOT available on either M type or S type (1.0MPa) model.
 - Earth leakage circuit breaker is NOT attached. Prepare it in advance.
 - Specifications and outside view are subject to change without notice.

HISCREW *Mtype, Stype* 132/160kW

Model Item・Unit		M type	OSP-132M5AN	OSP-160M5AN	OSP-132M5WN	OSP-160M5WN
		S type	OSP-132S5AN	OSP-160S5AN	OSP-132S5WN	OSP-160S5WN
Cooling Method		－	Air Cooled		Water Cooled	
Motor Nominal Output		kW	132	160	132	160
Rated	Discharge Pressure	MPa	0.75 [0.85] <1.0>			
	Discharge Capacity	m³/min	25.5 [23.3] <21.0>	29.5 [27.2] <24.5>	25.5 [23.3] <21.0>	29.5 [27.2] <24.5>
Suction Pressure		－	Atmospheric Pressure			
Temperature of Discharge Air		℃	Ambient Temperature + 15 or below		Temperature of Cooling Water + 13 or below	
Starter Type		－	Star — Delta (3 Contactor)			
Lubricating Oil		－	NEW HISCREW OIL 2000			
Lubricating Oil Filling Amount		L	105	115	65	70
Output of Cooling Fan		kW	7.4 (3.7x2) with Inverter Control		0.2	
Cooling Water		－	—		Water Temperature 32℃ or below / Volume of 180L/min	
Discharge Air Pipe Diameter		－	3B (JIS 10K Flange)			
External Dimension (WxDxH)		mm	2,700×1,800×1,890			
Weight		kg	3,450	3,600	3,300	3,420
Noise Level		dB [A]	77	79	72	

- Note:
- Capacity is the converted value at its inlet condition. Capacity is measured at following pressures. 0.75MPa models : 0.7MPa, 0.85MPa models: 0.8MPa, 1.0MPa models: 0.95MPa For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
 - Pressure is indicated as the gauge pressure.
 - Motor output values are indicated as motor nominal outputs.
 - Use the air compressor at a place where ambient temperature is between 0 and 40 deg C.
 - Temperature of discharge air may vary from different environments.
 - 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.
 - Modulation control is available as option on both M type and S type (0.7/0.85MPa). Fixed modulation control operation is not possible on M type model. Make sure to install a properly sized air receiver tank. However, modulation control is NOT available on either M type or S type (1.0MPa) model.
 - Earth leakage circuit breaker is NOT attached. Prepare it in advance.
 - Specifications and outside view are subject to change without notice.