

OIL-FLOODED SCREW NEXT II series 11-160kW



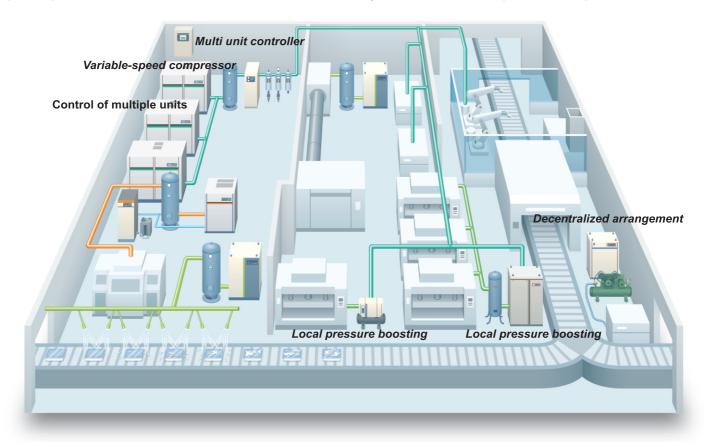
Hitachi - A Trusted Expert in Air Compressors

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

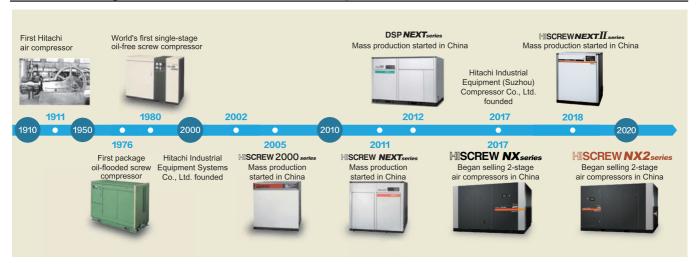
As the leading compressor manufacturer in Japan, we are committed to continuous technological innovation and development of air compressors to meet each customer's requirements. Our products are available in power from 0.2kW to 770kW and types of piston, scroll, screw, etc.

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

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



History of Hitachi Air Compressor



Ultimate evolution of air compressor - OSP NEXT II series

We are proud to introduce **OSP NEXTII**_{series}, a new milestone in Hitachi innovation of air compressor technology.

With outstanding reliability, premium efficiency and industry leading performance,



Model	Nominal	Output (kW)	11	15	22	37	55	75	110	132	160
Variable	V PLUS (Vtype)	Air-cooled	0	0	0	0	0	0	0		0
speed type		Water-cooled					\circ	0	0		0
Fixed	8.4	Air-cooled	0	0	0	0	0	0	0	0	0
speed type	M type	Water-cooled									



Hitachi Airend

■ High-performance

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



■ All-in-one structure

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



22/37kW Vplus Airend



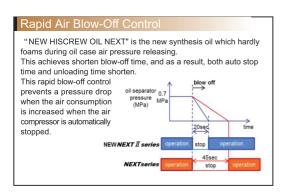
55/75kW Vplus Airend

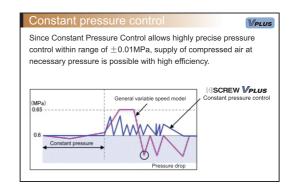


■ Directly-coupled design

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

Intelligent control





Long term maintenance cycle & easy maintenance

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





Hitachi DCBL Motor

Energy-saving

DCBL Controller

• Retry function as standard

Retry function is available for the occasion of minor failures of controller.

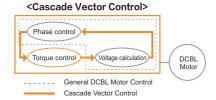
The compressor can retry up to three times with its own function in case of controller trip.

So, it is possible to eliminate the influence to the operation of the compressor from outside disturbance.

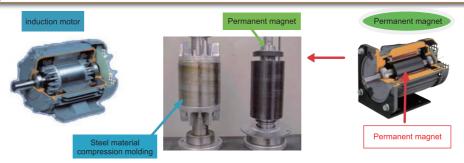
Cascade Vector Control

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

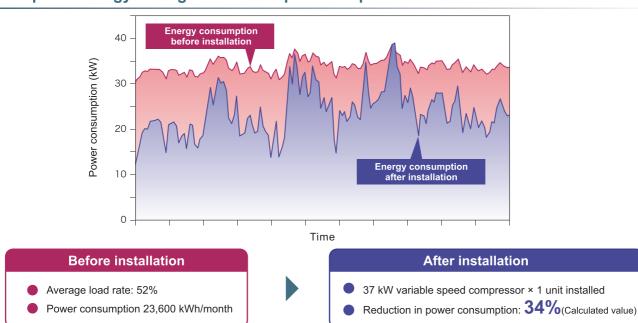




The difference between permanent magnet motor and induction motor



Example of energy saving in variable speed compressor



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



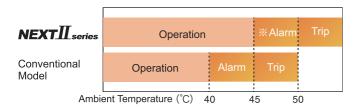
More Efficiency
Fit to Improve Productivity
Higher Level of User-friendly



High Reliability

Up to 50°C

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



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

NEW HISCREW OIL NEXT

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



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

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



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

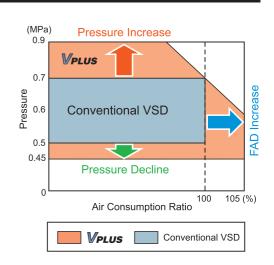
Versatility in Hitachi original Technology

PQ WIDE MODE

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

FAD at PQ WIDE MODE

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



IPC Control (Intelligent Pressure Control)

By estimating use point pressure in accordance with air consumption, IPC control decreases discharge pressure during low load operation, which enables Energy-Saving. Patent JP4425768 and others

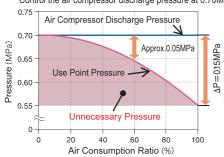
Example of effect by IPC

Air compressor: OSP-37VAN2 • Control pressure setting: 0.70MPa • Use point pressure during full load: 0.55MPa Piping pressure loss during full load: 0.15MPa

Graph of pressure change (Theoretical values)

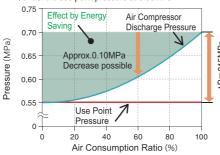
1 IPC-OFF (Conventional inverter control model)

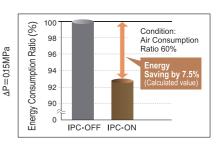
Control the air compressor discharge pressure at 0.70MPa



IPC-ON (NEXT II series)

· Control the use point pressure at 0.55MPa





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

Multi-Function Touch Screen*

Significant Improvement of User-friendly

Various Functions Available

Operation Data Logging



78

150, 0 Hz

Monitor Indication

RUN HOUR

DIS TEMP

AMB TEMP









Main Functions

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

IT Communication Functions*

USB Flash Memory Possible for Data Logging

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

Web Server Function via Bluetooth⁶

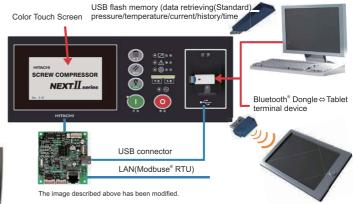
*Necessary to prepare a Bluetooth® USB dongle on your side *For setting changes, part of the items are applicable.

■ Modbus[®] Communication

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

*Modbus®/TCP support is optional



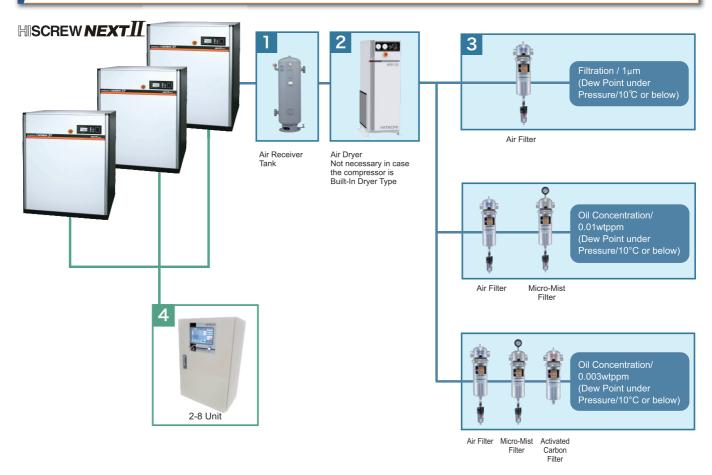


^{*}IT communication function is only for 22kW or bigger models with touch screen. Touch screen less option is available for OSP-22/37MAN2

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Auxiliary Equipment

Example of Oil-Flooded Screw Compressed Air System



Air Receiver Tank

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

Air Receiver Tank volume list

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

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

2 Air Dryer

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

3 Line Filter

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

Multi Unit Control Panel

MULTI ROLLER G series

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

VPLUS's energy-saving solutions

Energy-saving solution

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

No need control panel to realize energy saving

Need control panel to realize energy saving

Need control panel Vplus to realize energy saving

Need control panel and multiple Vplus to realize energy saving

Need control panel and multiple Vplus to realize energy saving

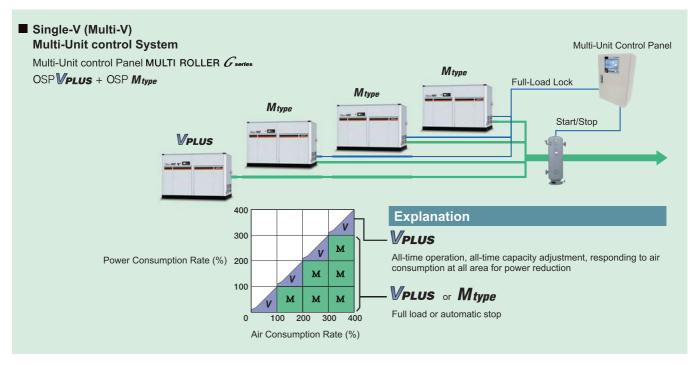
Need control panel Average Vplus to realize energy saving

Need 1 Vplus and less than 2 Mtype

Connect 1 Vplus and multiple Mtype by using Multi-Unit control panel

Averege Vplus's running time to achieve energy-saving effect

V-M combination Type Mtype Power Consumption Rate (%) OSP-160VAN2+160M5AN2 Air Receiver Tank Air Consumption Rate (%)



Standard Specification Sheet (Vtype)

11-37kW Vtype

Item ·U	nit	Model	OSP-1	IVAN2-L	OSP-15	OSP-15VAN2-L		22VAN2	OSP-37VAN2		
Cooling I	Method	-	Air-Cooled								
Nominal	Output	kW		11	,	15	22		37		
Detect	Discharge Pressure	MPa		0.	85			0).7		
Rated	Discharge Air Capacity	m³/min	1.	63	2.15		4.1		6	6.8	
PQ WIDE	Discharge Pressure	MPa	0.7	0.9	0.7	0.9	0.6	0.85	0.6	0.85	
MODE	Discharge Air Capacity	m³/min	1.79	1.53	2.4	2.04	4.3	3.6	7.1	6.2	
ntake Ai	r Pressure/Temperature	-	Atmospheric Pressure / 0 to 45°C								
Discharg	e Air Temperature	°C	Atmospheric Temperature + 15°C or below								
Driving N	Method	°C		4-pole TEFC mot	or with V-Belt Drive)	DCBL Direct Drive				
Starting I	Method	-	Soft Start								
Lubricatii	ng Oil	-				NEW HISCRE	W OIL NEXT				
ubricati	ng Oil Quantity	L		6		7	10		15		
Nominal	Output of Cooling Fan	kW		1.5 (with In	verter Control)		1.5 (with Inverter Control)				
Discharg	e Pipe Diameter	-		R	c1		Rc1-1/2				
Dimension (WxDxH) mm		mm		950x7	80x1,250		1,000x1,050x1,550 1,200x1,150x1		150x1,650		
Weight		kg	3	50	372		450 67		670		
Recomm	ended Air Receiver Volume	m³	0.15	or bigger	0.28	0.28 or bigger		0.43		or bigger	
Noise Le	vel (1.5m from front side)	dB(A)		58	(61		56		60	

55-75kW Vtype

		Model									
Item ·Un	nit	Woder	OSP-55	OSP-55VAN2 OSP-75VAN2		OSP-55VWN2		OSP-75VWN2			
Cooling N	Method	-		Air-C	ooled			Water	Water cooled		
Nominal (kW	5	5	7	5	55		75		
Rated	Discharge Pressure	MPa		0.	7			0	.7		
Rateu	Discharge Air Capacity	m³/min	10	.1	10	3.3	10	0.1	13.3		
PQ WIDE	Discharge Pressure	MPa	0.6	0.85	0.6	0.85	0.6	0.85	0.6	0.85	
MODE	Discharge Air Capacity	m³/min	10.6	9.1	14.0	12.0	10.6	9.1	14.0	12.0	
Intake Air	Pressure/Temperature	-				Atmospheric Pre	ssure / 0 to 45°C	re / 0 to 45°C			
Discharge	e Air Temperature	°C	A	tmospheric Tempera	ature + 15°C or belo	w	Atmospheric Temperature + 13°C or below				
Driving M	ethod	°C				DCBL Motor v	with Coupling				
Starting N	Method	-				Soft	Start				
Lubricatin	ng Oil	1				NEW HISCRE	W OIL NEXT				
Lubricatin	ng Oil Quantity	L	26		36		17		24		
Nominal (Output of Cooling Fan	kW	1.5 (with Inv	erter Control)	2.2 (with Inv	erter Control)	0.05 X 2				
Discharge	e Pipe Diameter	-				Ro	2				
Dimensio	n (WxDxH)	mm				2,000 x 1,2	00 x 1,800				
Weight		kg	1,2	30	1,4	105	1,0	70	1,2	240	
Recomme	ended Air Receiver Volume	m³	0.7 or	bigger	1.24 or	bigger	0.7 or	bigger	1.24 or	bigger	
Coolingu	O Province							35 or I	pelow		
Cooling w	Cooling water						100 125			25	
Cooling w	vater pipe diameter	-						Ro	2		
Noise Lev	vel (1.5m from front side)	dB(A)	(64	66		63		65		

110-160kW Vtype

Item ·Ur	Item ·Unit		OSP-110VAN2		SP-110VAN2 OSP-160VAN2		0VWN2	OSP-160VWN2		
Cooling N	Method	-		Air-C	Cooled		Water	cooled		
Nominal	Output	kW	11	10	160	110		160		
Detect	Discharge Pressure	MPa		0.	7		C).7		
Rated	Discharge Air Capacity	m³/min	21	.5	29.5	21	.5	29.5		
PQ WIDE	Discharge Pressure	MPa	0.6	0.85	0.95	0.6	0.85	0.95		
MODE	Discharge Air Capacity	m³/min	22.5	19.3	25.2	22.5	19.3	25.2		
Intake Air	Pressure/Temperature	-			Atmospheric Pre	ssure / 0 to 45°C				
Discharge	Discharge Air Temperature		А	tmospheric Tempera	ature + 15°C or below	Atmospheric Temperature + 13°C or below				
Driving M	Oriving Method ℃		4-Pole TEFC Motor with Gear Driving							
Starting N	Method	-	Soft Start							
Lubricatir	ng Oil	-			NEW HISCRE	W OIL NEXT				
Lubricatir	ng Oil Quantity	L	50		115	37		70		
Nominal	Output of Cooling Fan	kW	1.5 x 2 (with Inverter Control)		4.0 x 2 (with Inverter Control)	0.05 x 3		0.2		
Discharge	e Pipe Diameter	ı	2-1/2 in	(Flange)	3 in(Flange)	2-1/2 in(Flange)	3 in(Flange)		
Dimensio	n (WxDxH)	mm	2,550 x 1,	500 x 1,800	2,700 x 2,000 x 1,890	2,550 x 1,5	00 x 1,800	2,700 x 2,000 x 1,890		
Weight		kg	2,	900	3,900	2,8	00	3,750		
Recomme	ended Air Receiver Volume	m³		4.0 or	bigger	4.0 or bigger				
0							35 or	below		
Cooling water		L/min				180				
Cooling v	vater pipe diameter	-				Rc2				
Noise Le	vel (1.5m from front side)	dB(A)		75	79	72				

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

Standard Specification Sheet (Mtype)

11-37kW Mtype

1-37 K	м инуре									
Item ·Uı	nit	Model	OSP-11MA5AN2-L	OSP-15M5AN2-L	OSP-22M5AN2(-L)	OSP-37M5AN2(-L)				
Cooling N	Method	-	Air-Cooled							
Nominal	Output	kW	11	15	22	37				
	Discharge Pressure	MPa	0.85 <0.7>	0.85 <0.7>	0.7 <0.85>[1.0]	0.7 <0.85>[1.0]				
Rated	Discharge Air Capacity	m³/min	1.63 <1.79>	2.15 <2.4>	4.0<3.7>(3.3)	7.2 <6.6>(5.8)				
ntake Air	Pressure/Temperature	-		Atmospheric Pre	ssure / 0 to 45°C					
Discharge	e Air Temperature	°C	Atmospheric Temperature + 15°C or below							
Oriving M	lethod	°C	4.pole TEFC motor with V-Belt Drive							
Starting N	Method	-	Direct Connec	tion/Star-Delta	Star-Delta					
_ubricatir	ng Oil	-	NEW HISCREW OIL NEXT							
_ubricatir	ng Oil Quantity	L	6	7	10	15				
Nominal	Output of Cooling Fan	kW	-	_	1.5 (with Inverter Control)					
Discharge	e Pipe Diameter	-	R	c1	Rc1-1/2					
Dimension (WxDxH) mm		mm	950x78	0x1,250	1,000x1,050x1,550	1,200x1,150x1,650				
Weight		kg	345	357	670	970				
Recommended Air Receiver Volume		m³	0.15 or bigger	0.28 or bigger	0.43 or bigger	0.7 or bigger				
Noise Level (1.5m from front side)		dB(A)	58	61	57	60				

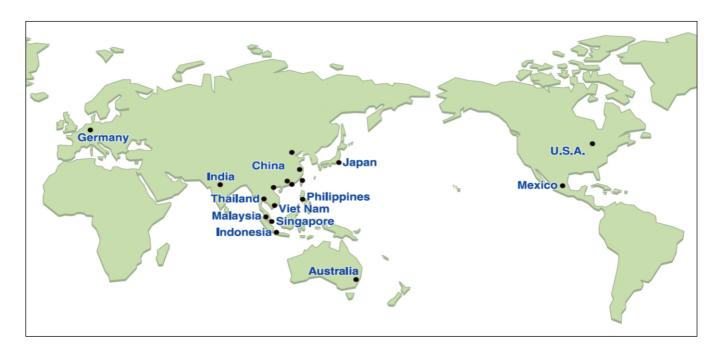
55-75kW Mtype

Item ·U	nit	Model	OSP-55MAN2	OSP-75MAN2	OSP-55MWN2	OSP-75MWN2			
Cooling I	Method	-	Air-C	ooled	Water cooled				
Nominal	Output	kW	55	75	55	75			
D-4-4	Discharge Pressure	MPa		0.7 < 0.8	35>[1.0]				
Rated	Discharge Air Capacity	m³/min	10.0-9.0>[8.3]	13.2<11.9>(10.9)	10.0-9.0>[8.3]	13.2<11.9>(10.9)			
Intake Ai	r Pressure/Temperature	-		Atmospheric Pre	ssure / 0 to 45°C				
Discharg	e Air Temperature	°C	Atmospheric Tempera	ature + 15°C or below	Atmospheric Tempera	ature + 13°C or below			
Driving N	1ethod	°C	2.pole TEFC motor with Gear Driving						
Starting I	Method	-	Star-Delta						
Lubricatii	ng Oil	-	NEW HISCREW OIL NEXT						
Lubricatii	ng Oil Quantity	L	27	38	17	24			
	Output of Cooling Fan	kW	1.5 (with Inverter Control) 2.2 (with Inverter Control)		0.05 X 2				
	e Pipe Diameter	-		Ro					
	on (WxDxH)	mm		2,000 x 1,2	200 x 1,800				
Weight		kg	1,520	1,800	1,360	1,640			
Recomm	ended Air Receiver Volume	m³		1.24 or	bigger				
Cooling water		°C			35 or	below			
Cooling water		L/min			100	125			
Cooling water pipe diameter –					Rc2				
Noise Le	vel (1.5m from front side)	dB(A)	65	67	64	66			

110-160kW Mtype

	okw witype										
Item ·U	nit	Model	OSP-110MAN2	OSP-132MAN2	OSP-160MAN2	OSP-110MWN2	OSP-132MWN2	OSP-160MWN2			
Cooling N	Method	-		Air-Cooled			Water cooled				
Nominal	Output	kW	110	132	160	110	132	160			
Discharge Pressure		MPa			0.7 < 0.8	35>[1.0]					
Rated	Discharge Air Capacity	m³/min	21.5<20.4>[17.0]	25.5<23.3>[21.0]	29.5<27.2>[24.5]	21.5<20.4>[17.0]	25.5<23.3>[21.0]	29.5<27.2>[24.5]			
ntake Ai	r Pressure/Temperature	-			Atmospheric Pre	essure / 0 to 45°C					
Discharg	e Air Temperature	°C	Atmosph	eric Temperature + 15°C o	or below	Atmospheric Temperature + 13°C or below					
Driving N	Method	°C	4-Pole TEFC Motor with Gear Driving								
Starting I	Method	- Star-Delta									
ubricatii	ng Oil	-	NEW HISCREW OIL NEXT								
Lubricatii	ng Oil Quantity	L	50	105	115	37	65	70			
Nominal	Output of Cooling Fan	kW	1.5 x 2 (with Inverter Control)	4.0 x 2(with I	nverter Control)	0.05 x 3	0	.2			
Discharg	e Pipe Diameter	-	2-1/2 in(Flange)	3 in(F	lange)	2-1/2 in(Flange)	3 in(F	lange)			
Dimensio	on (WxDxH)	mm	2,550 x 1,500 x 1,800	2,700 x 2,0	000 x 1,890	2,550 x 1,500 x 1,800	2,700 x 2,	000 x 1,890			
Veight		kg	2,800	3,450	3,600	2,700	3,300	3,420			
Recomm	ended Air Receiver Volume	m³	2.0 or bigger	4.0 o	r bigger	2.0 or bigger	er 4.0 or bigger				
Cooling water		°C					35 or below				
		L/min				180					
Cooling water pipe diameter –						Rc 2					
Noise Le	vel (1.5m from front side)	dB(A)	75	77	79	72	72	72			

^{8.} Do NOT use any oil other than "NEW HISCREW OIL NEXT."
9. If the voltage imbalance ratio exceeds 1% during rated load operation, or if the power transformer capacity is more than 10 times the motor output and exceeds 500 kVA, an AC reactor needs to be installed between the power and the air compressor to regulate and improve the power.
10. Install the air compressor indoors and avoid flammable and corrosive environment, moisture and dust.
11. Appearance and specifications are subject to change without notice.
12. Noise level is the converted value under the condition of 1.5m in front, 1m height, at full load running in an anechoic room. It may vary depending on capacity control and installation environment. For Vtype/VPLUS, noise level may be increased by 3dB when PQ WIDEMODE is ON. It will be higher than indicated value in actual field installations with echo. It is not a guaranteed value.
13. <> [] show values of capacity under different discharge pressures.
14. 1.0 MPa model is ONLY available on 22/37/55/75kW Mtype. For details, contact your nearest Hitachi sales representative.
15. IT communication function is only for 22kW or bigger models with touch screen. Touch screen less option is available for OSP-22/37MAN2.



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

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