

Hitachi High-efficiency Two-stage Micro Oil Screw Compressor

HITACHI
Inspire the Next

High-Efficiency and Energy-Saving **HISCREW** NX2 series 90-250kW



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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.



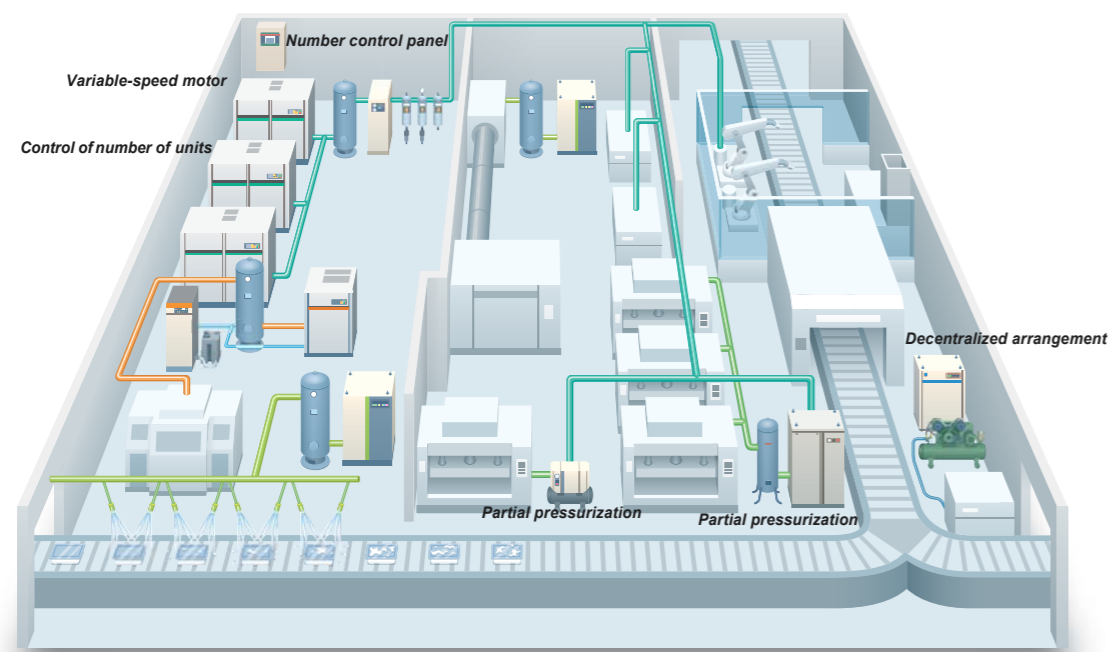
Hitachi - A Trusted Expert in Air Compressors

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 0.1kW to 1300kW and types of piston, scroll, screw, centrifugal, etc.

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

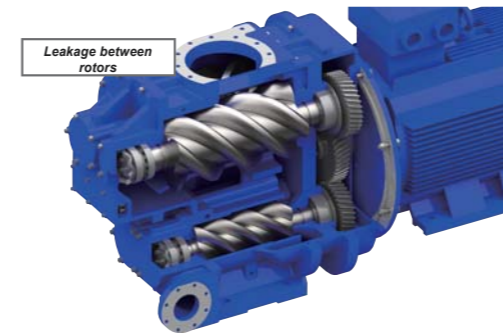
We believe, with our high-quality and efficient air compressor products, multiple compressed air solutions and perfect pre-sale and after-sales services, Hitachi will become your most trusted compressed air expert.



Latest Interpretation of Hitachi Compressor Energy-saving Technology

- HISCREW NX2 series Two-stage Compressor

Characteristics of Two-stage Compressor

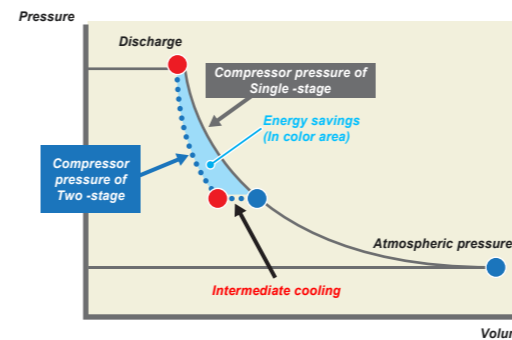


Example 0.8 MPa compressor

- Single-stage compressor compresses air from approximately 0 MPa (atmospheric pressure) to 0.8 MPa.
- When a two-stage compressor is used, air is compressed from approximately 0 MPa (atmospheric pressure) to 0.2 MPa in the first-stage host, then compressed from approximately 0.2 MPa in the second-stage host.

Compared with single-stage compressors, two-stage compressors come air to two stages with less leakage between rotors caused by pressure difference in each host and more energy saving.

※ The pressure indicates gauge pressure.



Two-stage compressor cools compressed air at the outlet of the first-stage host to reduce its volume and send it to the side of the second-stage host for secondary compression.

Due to volume reduction, the load on the side of second-stage host is smaller than that when compressed air is not cooled.

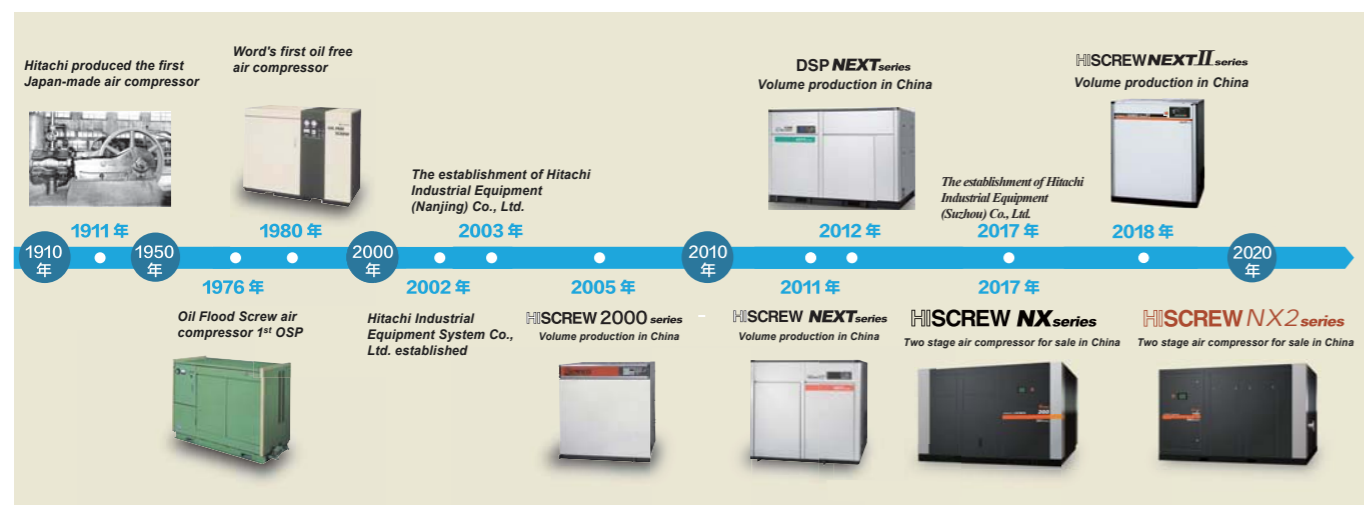
Single-stage compressor cools compressed air once while two-stage compressor cools compressed air in intermediate section to reduce its volume and load on the second-stage host with higher efficiency and more energy saving.

Model List

Model		Nominal Output								
		90	110	132	160	185	200	220	250	
VSD	VPLUS (Vtype)	Air Cooler	○	○	○	○	○	○	○	○
		Water Cooler	○	○	○	○	○	○	○	○
Fixed	Mtype	Air Cooler	○	○	○	○	○	○	○	○
		Water Cooler	○	○	○	○	○	○	○	○

HISCREW NX2 series

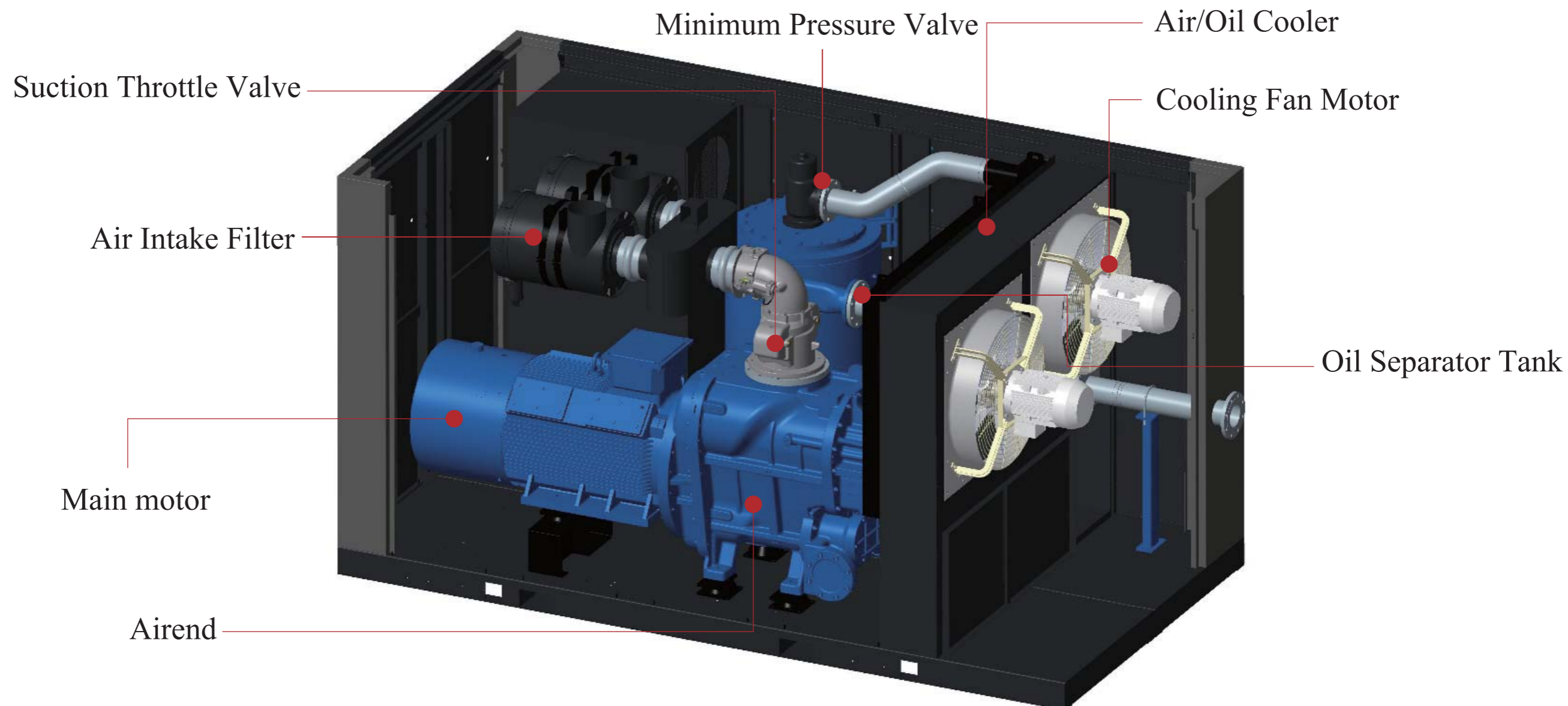
Hitachi Air Compressor History



HISCREW NX2 series (90–250kW)

Reliability and Durability

Thanks to the design with excellent cooling efficiency, it not only ensures continuous operation in high ambient temperature, but also long term maintenance period.

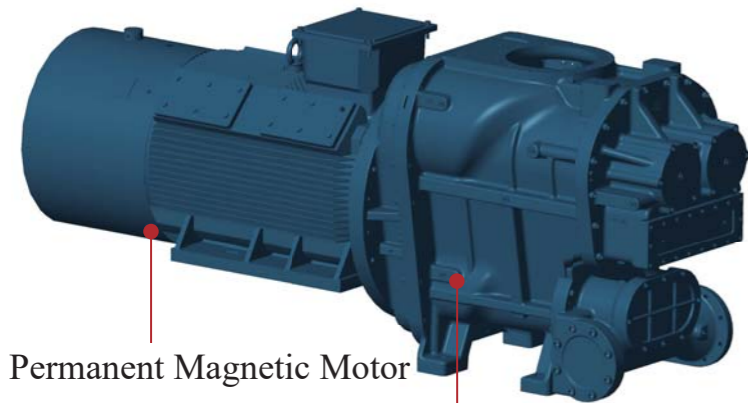


Continuous
operation under
45°C

Maintenance period

- Overhaul of Airend: Every 6 years (or 36,000Hrs, which comes first)
- Lubricant replacement: Every 2 years (or 12,000Hrs, which comes first)

High-efficiency Main Motor and Air-end



Permanent Magnetic Motor

Latest innovation Air-end

Air-end

- Latest innovation Air-end technology
- Energy efficiency with GB1~2 standard

Main Motor

- Adopted PM motor for V type as standard
- Efficiency Class : IE4
- Protection Class : IP55

New LCD (Colored Touch Panel)

Adopted new colored touch pane with good visibility and operability as standard. Getting compressor operation information, easily: - Discharge Press, Discharge Temp. and Current - Remaining time for periodic maintenance - Failure History and others. Parameter setting for operation is also available, using this touch panel. Touch display for Vtype and Mtype is difference.

M type

- «Indication at Turn ON»
- «Operation display» (Press., Temp., and Current)
- «Maintenance»

V type

- «Main Indication»
- «Parameter setting»
- «Failure History»

Hitachi Multi-Unit Control System (MR-EX)

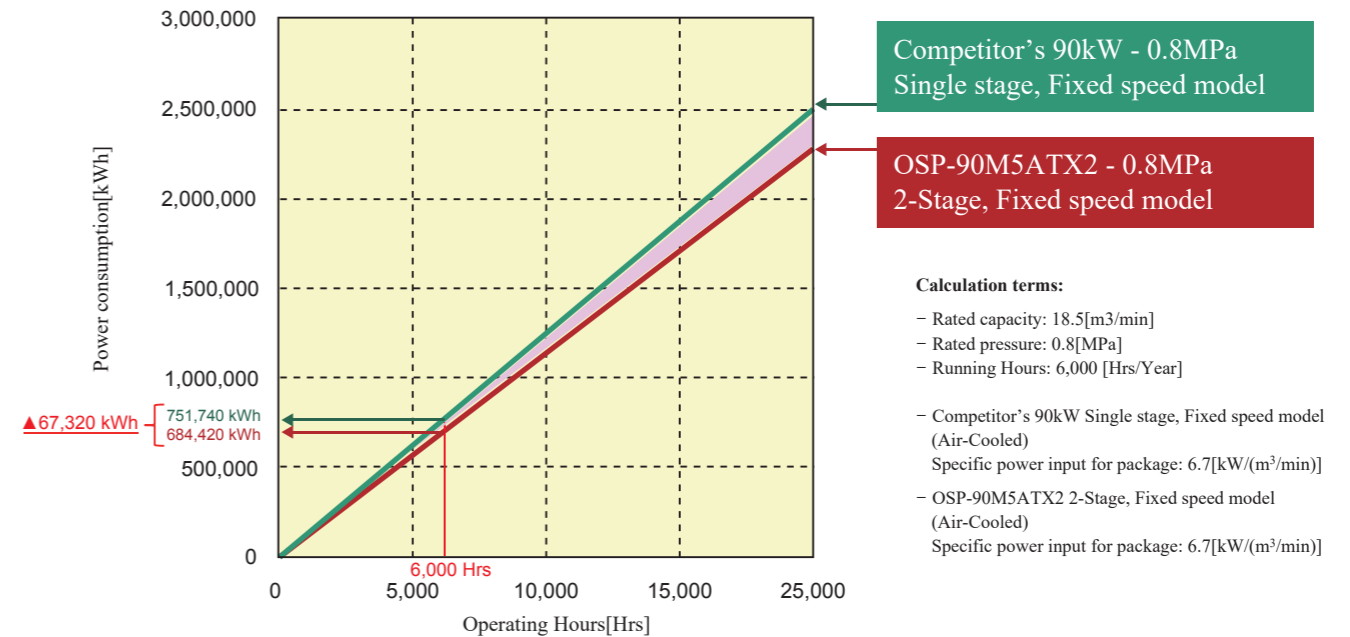


- Connecting Hitachi original multi-unit control system, Multi-Roller EX, energy saving operation such as multi-unit control which divides with base load unit and unload unit, leveling operating hours of comp. and weekly scheduled operation are available
- (Noted):
 - Multi-Roller EX is only control for Fixed speed models of NX2 series (**)
 - Modification of comp.'s starter panel is required to connect Multi-Roller EX;
 - Type of Multi-Roller EX: MR26-4C, MR26-8C, MR26-12C

Energy Saving

Two-Stage Comp. vs. Single Stage Comp.

Available power consumption reduction due to compressor replacement from single-stage to two-stage. Example: In case of 90kW under following condition, energy saving effect of 2-stage model installation is **approximately 67,320kWh per year**



Variable speed vs. Fixed speed

Example: 132kW Hitachi 2-stage, variable speed model to replace other brands of 132kW 2-stage, fixed speed model. The Energy saving effect is the maximum **111,714kWh per year**.

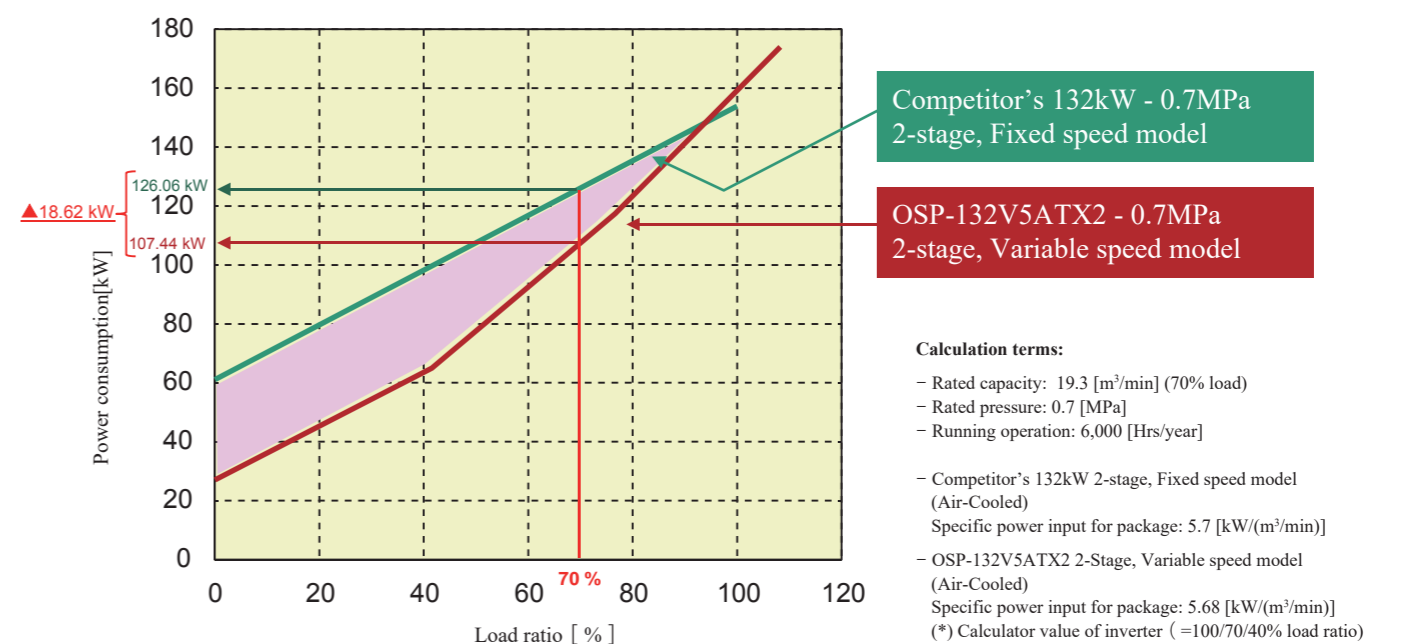


Table of Standard specification (Fixed speed model)

■ 90-132 kW M type

		M type																		
Model		OSP-90M5ATX2			OSP-90M5WTX2			OSP-110M5ATX2			OSP-110M5WTX2			OSP-132M5ATX2			OSP-132M5WTX2			
Item-Unit		Air			Water			Air			Water			Air			Water			
Eqqirpi 'o gj qf	-	Air			Water			Air			Water			Air			Water			
Xqnci g' THgs wpe{	-	5'tj cug 380V/50Hz						5'tj cug 380V/50Hz						5'tj cug 380V/50Hz						
P qo lpcrfmqqt'owr w	kW	90						110						132						
Tcvgf "	Rtguwtg	MPa	0.7	0.8	-	0.7	0.8	-	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0
	Fkuej cti g	Ecr cels{	m³/min	20.0	18.7	-	20.0	18.7	-	23.4	22.1	18.9	23.4	22.1	18.9	29.0	26.8	22.0	29.0	26.8
Ɔvncg'ck'rtguwtg'go r0	-	Cvo qsr j gtle'rtguwtg''2'q'67'E						Cvo qsr j gtle'rtguwtg''2'q'67'E						Cvo qsr j gtle'rtguwtg''2'q'67'E						
Discharge temperature	°C	Ɔvncg'ck'go r0-15 or less			Ɔvncg'ck'go r0-13 or less			Ɔvncg'ck'go r0-15 or less			Ɔvncg'ck'go r0-13 or less			Ɔvncg'ck'go r0-15 or less			Ɔvncg'ck'go r0-13 or less			
Starting method	-	Star - Delta						Star - Delta						Star - Delta						
Capacity control method	-	I mode + P mode						I mode + P mode						I mode + P mode						
Driving method	-	Gear drive						Gear drive						Gear drive						
Lubricant oil type	-	NEW HISCREW OIL NEXT						NEW HISCREW OIL NEXT						NEW HISCREW OIL NEXT						
Lubricant oil filling amount	L	105						105						105						
Cooling water temp.	°C	-			32 or less			-			32 or less			-			32 or less			
Cooling water amount	L/min	-			167			-			200			-			234			
Discharge pipe diameter	-	DN80						DN80						DN80						
Dimensions (Width x Depth x Height)	mm	3,050 x 1,850 x			2,850 x 1,850 x			3,050 x 1,850 x			2,850 x 1,850 x			3,050 x 1,850 x			2,850 x 1,850 x			
		2,120			2,120			2,120			2,120			2,120			2,120			
Weight	kg	3,700			3,500			4,100			3,900			4,200			4,000			
Recommended Air Tank	m³	3.0 or bigger						3.0 or bigger						4.0 or bigger						

■ 160-185 kW M type

		M type															
Model		OSP-160M5ATX2				OSP-160M5WTX2				OSP-185M5ATX2				OSP-185M5WTX2			
Item-Unit		Air				Water				Air				Water			
Eqqirpi 'o gj qf	-	Air				Water				Air				Water			
Xqnci g' THgs wpe{	-	5'tj cug 380V/50Hz								5'tj cug 380V/50Hz							
P qo lpcrfmqqt'owr w	kW	160								185							
Tcvgf "	Rtguwtg	MPa	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0
	Fkuej cti g	Ecr cels{	m³/min	33.5	32.7	27.2	33.5	32.7	27.2	38.5	37.5	32.5	38.5	37.5	32.5		
Ɔvncg'ck'rtguwtg'go r0	-	Cvo qsr j gtle'rtguwtg''2'q'67'E								Cvo qsr j gtle'rtguwtg''2'q'67'E							
Discharge temperature	°C	Ɔvncg'ck'go r0-15 or less				Ɔvncg'ck'go r0-13 or less				Ɔvncg'ck'go r0-15 or less				Ɔvncg'ck'go r0-13 or less			
Starting method	-	Star - Delta								Star - Delta							
Capacity control method	-	I mode + P mode								I mode + P mode							
Driving method	-	Gear drive								Gear drive							
Lubricant oil type	-	NEW HISCREW OIL NEXT								NEW HISCREW OIL NEXT							
Lubricant oil filling amount	0.7/0.8MPa	130								130							
	1.0MPa	105								105							
Cooling water temp.	°C	-				32 or less				-				32 or less			
Cooling water amount	L/min	-				300				-				334			
Discharge pipe diameter	-	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80
Dimensions (Width x Depth x Height)	0.7/0.8MPa	3,600 x 1,850 x				3,050 x 1,850 x				3,600 x 1,850 x				3,050 x 1,850 x			
	1.0MPa	2,150				2,150				2,150				2,150			
Weight	0.7/0.8MPa	5,300				5,000				5,600				5,300			
	1.0MPa	4,400				4,200				4,400				4,200			
Recommended Air Tank volume	m³	4.0 or bigger								5.0 or bigger							

■ 200-250 kW M type

		M type																				
Model		OSP-200M5ATX2			OSP-200M5WTX2			OSP-220M5ATX2			OSP-220M5WTX2			OSP-250M5ATX2			OSP-250M5WTX2					
Item-Unit		Air			Water			Air			Water			Air			Water					
Eqqirpi 'o gj qf	-	Air			Water			Air			Water			Air			Water					
Xqnci g' THgs wpe{	-	5'tj cug 380V/50Hz						5'tj cug 380V/50Hz						5'tj cug 380V/50Hz								
P qo lpcrfmqqt'owr w	kW	200						220						250								
Tcvgf "	Rtguwtg	MPa	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0					
	Fkuej cti g	Ecr cels{	m³/min	44.0	41.5	35.5	44.0	41.5	35.5	50.5	46.0	40.7	50.5	46.0	40.7	54.5	50.0	46.0	54.5	50.0	46.0	
Ɔvncg'ck'rtguwtg'go r0	-	Atmospheric pressure - 0 ~ 45°C						Atmospheric pressure - 0 ~ 45°C						Atmospheric pressure - 0 ~ 45°C								
Discharge temperature	°C	Ɔvncg'ck'go r0-15 or less			Ɔvncg'ck'go r0-13 or less			Ɔvncg'ck'go r0-15 or less			Ɔvncg'ck'go r0-13 or less			Ɔvncg'ck'go r0-15 or less			Ɔvncg'ck'go r0-13 or less					
Starting method	-	Star - Delta						Star - Delta						Star - Delta								
Capacity control method	-	I mode + P mode						I mode + P mode						I mode + P mode								
Driving method	-	Gear drive						Gear drive						Gear drive								
Lubricant oil type	-	NEW HISCREW OIL NEXT						NEW HISCREW OIL NEXT						NEW HISCREW OIL NEXT								
Lubricant oil filling amount	0.7/0.8MPa	170						170						170								
	1.0MPa	130						130						130								
Cooling water temp.	°C	-			32 or less			-			32 or less			-			32 or less					
Cooling water amount	L/min	-			334			383			-			383			-			416		
Discharge pipe diameter	-	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100					
Dimensions (Width x Depth x Height)	0.7/0.8MPa	4,200 x 2,150 x			2,250			3,400 x 2,150 x			2,250			4,200 x 2,150 x			2,250					
	1.0MPa	3,600 x 1,850 x			2,150			3,050 x 1,850 x			2,150			3,400 x 2,150 x			2,250					
Weight	0.7/0.8MPa	7,600			7,250			7,850			7,450			8,000			7,600					
	1.0MPa	5,600			5,000			5,600			5,000			5,600			5,000					
Recommended Air Tank	m³	5.0 or bigger						6.0 or bigger						6.0 or bigger								

Note:

1. Capacity is the converted value at its inlet condition.
2. For guaranteed values, contact your nearest dealer or HITACHI local representative offices.
3. Pressure is indicated as the gauge pressure.
4. Motor output values are indicated as motor nominal outputs.
5. Temperature of discharge air may vary from different environments.
6. Use the air compressor at a place where low humidity, less dust, and no explosive gas or particles exists and hazardous.
7. It is necessary to install a properly sized air receiver tank.
8. Earth leakage circuit breaker is NOT attached. Prepare it in advance.
9. Specifications and outside view are subject to change without notice.

Table of Standard specification (Variable speed model)

90-132 kW V_{type}

Item-Unit		Model		V _{type}																
				OSP-90V5ATX2			OSP-90V5WTX2			OSP-110V5ATX2			OSP-110V5WTX2			OSP-132V5ATX2			OSP-132V5WTX2	
Cooling method	-	Air			Water			Air			Water			Air			Water			
Voltage / Frequency	-	3 phase 380V/50Hz																		
Nominal motor output	kW	90						110						132						
Rated Discharge	Pressure	MPa	0.7	0.8	-	0.7	0.8	-	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0
	Capacity	m ³ /min	20.0	18.7	-	20.0	18.7	-	23.4	22.1	18.9	23.4	22.1	18.9	29.0	26.8	22.0	29.0	26.8	22.0
Intake air pressure temp.	-	Atmospheric pressure - 0 ~ 45°C																		
Discharge temperature	°C	Intake air temp.+15 or less			Intake air temp.+13 or less			Intake air temp.+15 or less			Intake air temp.+13 or less			Intake air temp.+15 or less			Intake air temp.+13 or less			
Starting method	-	Inverter																		
Capacity control method	-	V mode																		
Driving method	-	Gear driver																		
Lubricant oil type	-	NEW HISCREW OIL NEXT																		
Lubricant oil filling amount	L	105						105						105						
Cooling water temp.	°C	-			32 or less			-			32 or less			-			32 or less			
Cooling water amount	L/min	-			167			-			200			-			234			
Discharge pipe diameter	-	DN80						DN80						DN80						
Dimensions (Width x Depth x Height)	mm	3,200 × 1,850 × 2,120			3,000 × 1,850 × 2,120			3,200 × 1,850 × 2,120			3,000 × 1,850 × 2,120			3,200 × 1,850 × 2,120			3,000 × 1,850 × 2,120			
		3,750			3,550			4,180			3,980			4,280			4,080			
Recommended Air Tank	m ³	3.0 or bigger						3.0 or bigger						4.0 or bigger						

160-185 kW V_{type}

Item-Unit		Model		V _{type}													
				OSP-160V5ATX2				OSP-160V5WTX2				OSP-185V5ATX2				OSP-185V5WTX2	
Cooling method	-	Air				Water				Air				Water			
Voltage / Frequency	-	3 phase 380V/50Hz															
Nominal motor output	kW	160								185							
Rated Discharge	Pressure	MPa	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0
	Capacity	m ³ /min	33.5	32.7	26.4	33.5	32.7	26.4	38.5	37.5	32.5	38.5	37.5	32.5			
Intake air pressure temp.	-	Atmospheric pressure - 0 ~ 45°C								Atmospheric pressure - 0 ~ 45°C							
Discharge temperature	°C	Intake air temp.+15 or less				Intake air temp.+13 or less				Intake air temp.+15 or less				Intake air temp.+13 or less			
Starting method	-	Inverter								Inverter							
Capacity control method	-	V mode								V mode							
Driving method	-	Gear drive								Gear drive							
Lubricant oil type	-	NEW HISCREW OIL NEXT								NEW HISCREW OIL NEXT							
Lubricant oil filling amount	0.7/0.8MPa	130								130							
	1.0MPa	105								105							
Cooling water temp.	°C	-				32 or less				-				32 or less			
Cooling water amount	L/min	-				300				-				334			
Discharge pipe diameter	-	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80	DN100	DN80
Dimensions (Width x Depth x Height)	0.7/0.8MPa	3,900 × 1,850 × 2,150				3,350 × 1,850 × 2,150				3,900 × 1,850 × 2,150				3,350 × 1,850 × 2,150			
	1.0MPa	3,200 × 1,850 × 2,120				3,000 × 1,850 × 2,120				3,200 × 1,850 × 2,120				3,000 × 1,850 × 2,120			
Weight	0.7/0.8MPa	5,560				5,260				5,600				5,260			
	1.0MPa	4,400				4,200				4,400				4,200			
Recommended Air Tank volume	m ³	4.0 or bigger								5.0 or bigger							

200-250 kW V_{type}

Item-Unit		Model		V _{type}																					
				OSP-200V5ATX2			OSP-200V5WTX2			OSP-220V5ATX2			OSP-220V5WTX2			OSP-250V5ATX2			OSP-250V5WTX2						
Cooling method	-	Air			Water			Air			Water			Air			Water								
Voltage / Frequency	-	5'j cug 380V/50Hz																							
Nominal motor output	kW	200						220						250											
Rated Discharge	Pressure	MPa	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0	0.7	0.8	1.0					
	Capacity	m ³ /min	44.0	41.5	35.5	44.0	41.5	35.5	50.5	46.0	40.7	50.5	46.0	40.7	54.5	50.0	46.0	54.5	50.0	46.0					
Intake air pressure temp.	-	Atmospheric pressure - 0 ~ 45°C																							
Discharge temperature	°C	Intake air temp.+15 or less			Intake air temp.+13 or less			Intake air temp.+15 or less			Intake air temp.+13 or less			Intake air temp.+15 or less			Intake air temp.+13 or less								
Starting method	-	Inverter																							
Capacity control method	-	V mode																							
Driving method	-	Gear drive																							
Lubricant oil type	-	NEW HISCREW OIL NEXT																							
Lubricant oil filling amount	0.7/0.8MPa	170						170						170											
	1.0MPa	130						130						130											
Cooling water temp.	°C	-			32 or less			-			32 or less			-			32 or less								
Cooling water amount	L/min	-			334			383			-			383			416								
Discharge pipe diameter	-	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100	DN125	DN100						
Dimensions (Width x Depth x Height)	0.7/0.8MPa	4,200 × 2,150 × 2,250				3,400 × 2,150 × 2,250				4,200 × 2,150 × 2,250				3,400 × 2,150 × 2,250				4,200 × 2,150 × 2,250				3,400 × 2,150 × 2,250			
	1.0MPa	3,900 × 1,850 × 2,150				3,350 × 1,850 × 2,150				3,900 × 1,850 × 2,150				3,350 × 1,850 × 2,150				3,900 × 1,850 × 2,150				3,350 × 1,850 × 2,150			
Weight	0.7/0.8MPa	8,000				7,600				8,100				7,700				8,200				7,800			
	1.0MPa	6,100				5,800				6,100				5,800				6,100				5,800			
Recommended Air Tank	m ³	5.0 or bigger						6.0 or bigger						6.0 or bigger											

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.
- Temperature of discharge air may vary from different environments.
- Use the air compressor at a place where low humidity, less dust, and no explosive gas or particles exists and hazardous.
- 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.

Model introduction

