HITACHI screw compressors

HITACHI
Inspire the Next

High efficiency and easy maintenance

HISCREW

7.5～240kW oil-flooded rotary screw compressors

Hitachi supports your production innovation with its advanced technologies focusing on energy saving.

Since started with 75kW (100HP) piston-type compressors launched in 1911, Hitachi has been acting as a leader of air compressor industry and providing excellent qualities to the customers.

Our big challenge in recent years is "effective use of energy" to promoting both environmental conservation and cost saving. In 1993, Hitachi released the world's first variable rotating speed compressors by inverter control, and subsequently introduced certain flagship products.

Now, we are launching the HISCREW 2000 Series (7.5kW～75kW) as the brand-new models to satisfy customers' relentless demands.

We believe the HISCREW 2000 Series compressor will be a reliable partner for achieving your advanced production innovation.

HISCREW model list

series		Dryer	Motor output (kW)											Page
			HISCREW 2000 series										HISCREWseries	
			7.5	11	15	22	37	55	75	100	110	150	125～240	
Vplus	air-cooled	built-in	●	●	●	●	●	●	●					P3～6
		—	●	●	●	●	●	●	●	●		▲		
	water-cooled	built-in				▲	▲	●	●					
		—				▲	▲	●	●	●		▲		
M-type	air-cooled	built-in	●	●	●	●	●	●	●					P7～10
		—	●	●	●	●	●	●	●	●	●	●		
	water-cooled	built-in				●	●	●	●					
		—				●	●	●	●	●	●	●		
S-type	air-cooled	built-in			●	●	●	●	●					
		—			●	●	●	●	●	●	●			
	water-cooled	built-in						●	●					
		—						●	●	●	●		●	

△ : conventional V-type　▭ : HISCREW 2000 Series

HISCREW capacity control

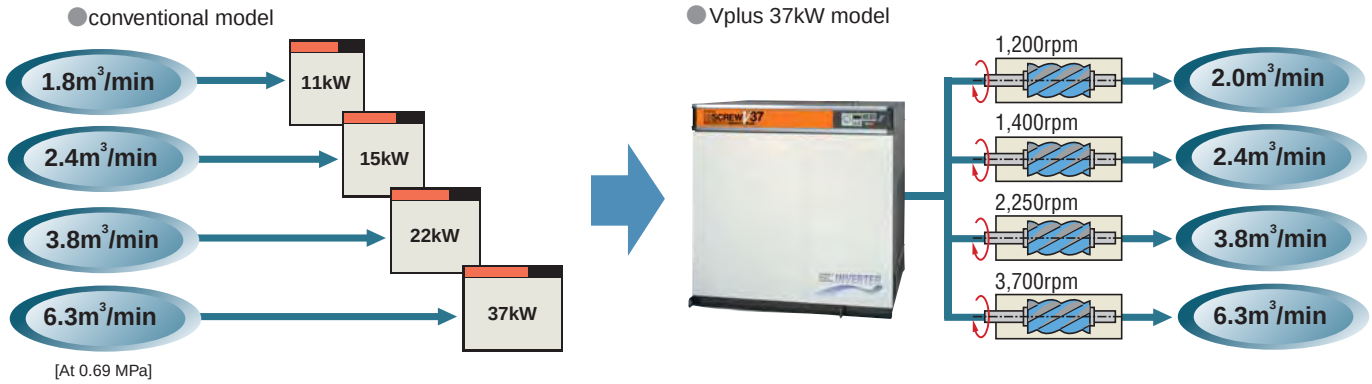
Control method	S-type	M-type	Vplus
U-mode (suction throttle valve control)	○	○	—
I-mode (on-off line control, U-mode is automatically selected as load fluctuation)	◎	○	○
P-mode (motor stop-restart control)	—	◎	○
V-mode (constant discharge pressure control by inverter)	—	—	◎

◎ : Factory preset mode
Vplus is added PQ wide mode to V-type

New line-up with "PQ wide mode" — Vplus.

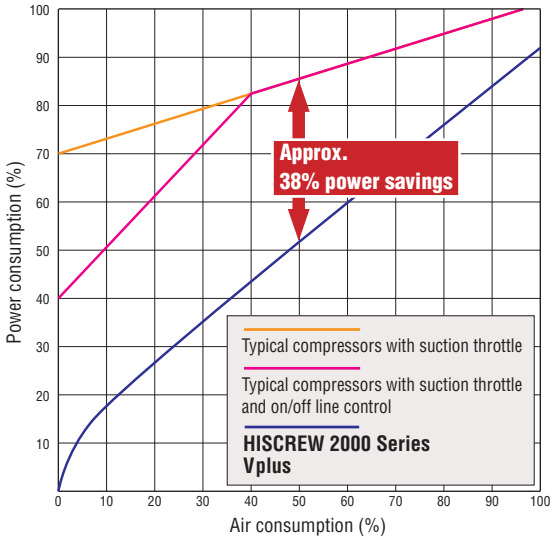
Vplus provides variable air capacity upon your requirement by inverter control.

Vplus achieves cost saving by ideal air capacity control.



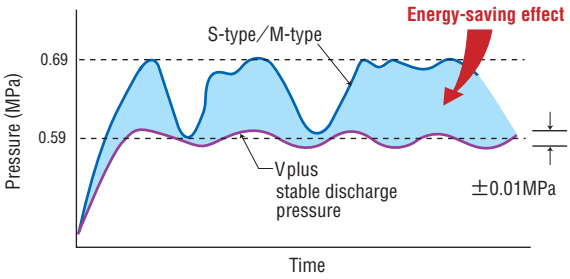
Reduction of power consumption.

By the best combination with Hitachi inverters, Vplus achieves considerable energy saving with easier maintenance.



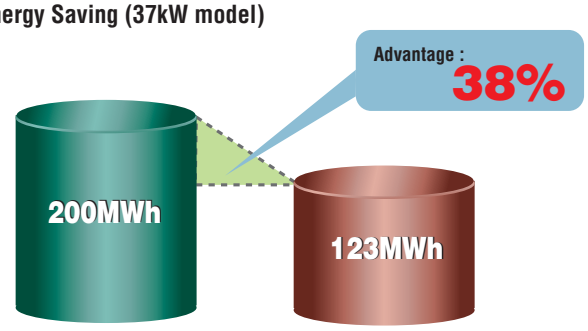
Stable discharge pressure.

With highly accurate discharge pressure control system, Vplus realises ±0.01MPa as the maximum fluctuation of pressure. It can supply air with optimum pressure efficiently.



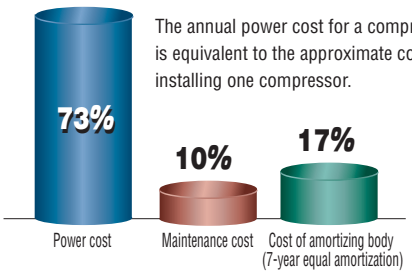
Ideal system

Energy Saving (37kW model)



(Average air consumption 50% Operating time : 6000h/year)

Example of 37 kW annual power cost



The annual power cost for a compressor is equivalent to the approximate cost of installing one compressor.

(Power cost for 37-kW class, 6,000-hour annual operation)

PQ wide mode – A unique control mode to widen operable range.

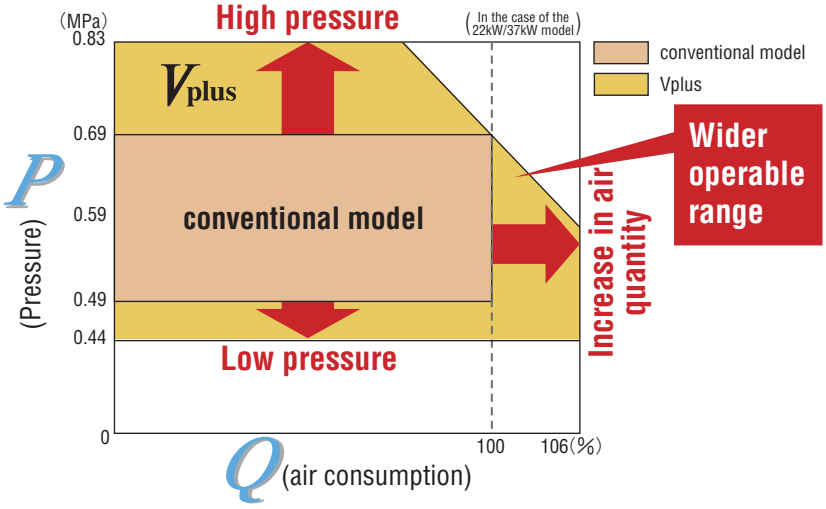
Hitachi's inverter controlling system brings about larger capacity under lower pressure or higher pressure under smaller capacity. The operable pressure range is from 0.44 to 0.83MPa*, and air capacity is increasing maximum 6–14% compared with conventional models. (*In case of 22/37kW model)

Capacity table (with PQ wide mode)

(m³/min)

Model \ Pressure MPa	0.44 (0.45)	0.49 (0.5)	0.59 (0.6)	0.69 (0.7)	0.83 (0.85)	0.88 (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	—	2.4	2.4	**2.4**	**2.1**	**2.0**
22kW	4.1	4.1	**4.1**	**3.8**	**3.3**	—
37kW	6.7	6.7	**6.7**	**6.3**	**5.5**	—
55kW	—	10.0	**10.0**	**9.5**	**8.5**	—
75kW	—	13.4	**13.4**	**12.6**	**10.8**	—
100kW	—	19.0	**19.0**	**18.1**	**16.7**	—

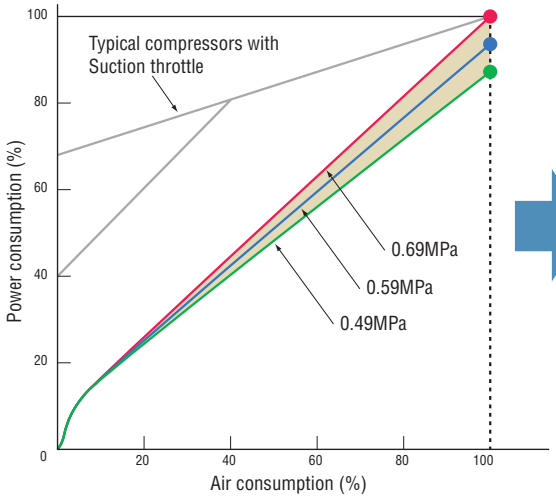
*Pressure for 100kW is indicated in ( ). PQ wide mode area



PQ wide mode enables outstanding cost-saving.

Outstanding power-saving in wide pressure range.

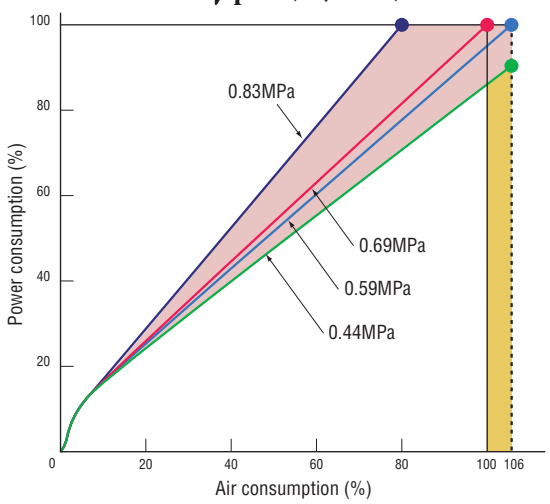
conventional model (22/37kW)



Operating pressure : max. 0.69MPa, min. 0.49MPa

In a range from 0.69 to 0.49MPa, power-saving efficiency greater than any other control system.

HISCREW Vplus (22/37kW)



Operating pressure : Extended to max. 0.83MPa, min. 0.44MPa

In a range from 0.69 to 0.44MPa, power-saving efficiency greater than any other control system.

Comparison of electric energy

Unit : MWh

Motor output	Load factor	100	70	50	20	0
7.5kW	U-type	51	47	43	39	35
	M-type	51	41	33	21	0
	Vplus	47	35	26	13	0
11kW	U-type	73	67	62	55	51
	M-type	73	59	48	30	0
	Vplus	68	49	37	19	0
15kW	U-type	95	86	81	72	67
	M-type	95	76	61	35	0
	Vplus	89	63	48	25	0
22kW	U-type	143	129	119	103	93
	M-type	143	115	94	62	0
	Vplus	131	97	73	39	0

Unit : MWh

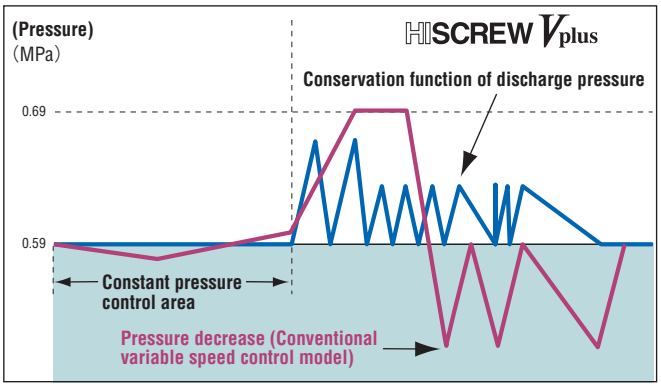
Motor output	Load factor	100	70	50	20	0
37kW	U-type	241	216	200	164	157
	M-type	241	195	158	104	0
	Vplus	221	162	123	65	0
55kW	U-type	366	328	300	260	235
	M-type	366	294	247	168	0
	V-type	335	245	185	94	0
75kW	U-type	476	424	390	339	304
	M-type	476	380	310	193	0
	Vplus	436	313	234	124	0
100kW	U-type	660	591	545	475	429
	M-type	660	534	443	295	0
	Vplus	615	472	353	182	0

Conditions : Operating time : 6,000hr/year
The figures of Vplus from 7.5 to 15kW were calculated under the setting pressure of 0.73MPa.
Those of Vplus from 22 to 100kW were calculated under the setting pressure of 0.59MPa.

Vplus abundant functions to achieve safety, stability and easy operation

Conservation of discharge pressure

Vplus maintains the necessary discharge pressure at all times with the unique patented intelligent control system, even in motor stop-restart control.

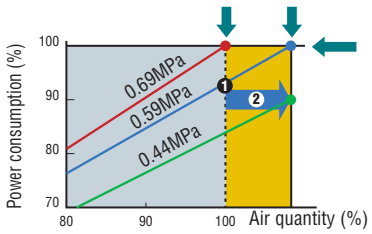


You can decide whether or not to apply PQ wide mode by using the panel switch.

●Capacity priority
(PQ wide mode on)

PQ wide mode ON

Priority on air quantity



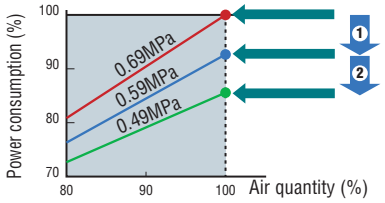
(1) Power consumption becomes approx. 92% when the discharge pressure decreases from 0.69MPa to 0.59MPa.

(2) Using the power remaining after pressure decrease, capacity can be increased up to 106%. In that case, the power consumption becomes 100%.

●Energy-saving priority
(PQ wide mode off)

PQ wide mode OFF

Priority on reducing power consumption

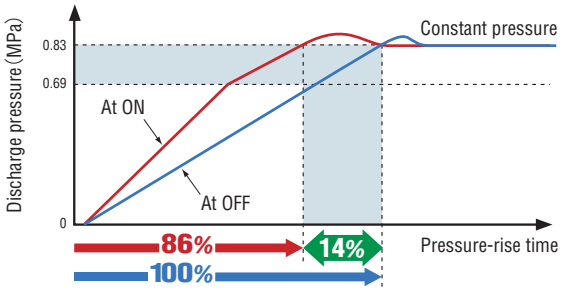


(1) Power consumption automatically becomes approx. 92% when the discharge pressure decreases from 0.69MPa to 0.59MPa.

(2) If the discharge pressure decreases to 0.49 MPa, power consumption automatically becomes approx. 86%.

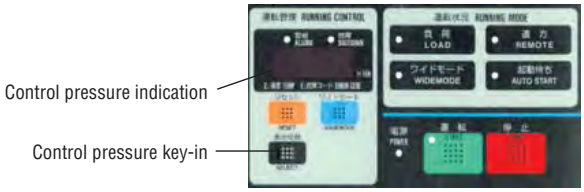
Vplus can reduce the charging time.

With the PQ wide mode, the charging time can be shorter, maximum 14% (15kW model).



Pressure setting is easy to change.

Even with a compressor load, it is possible to change the Pressure setting.



Higher response and stability with Hitachi's original sensorless vector and PID control.

We have developed our own system that can control discharge pressure within ± 0.01MPa.

Automatic restart function

In the case of blackouts within 5 seconds, HISCREW is capable of restarting. (Except the S-type)

Retry function

When an inverter-trip occurs, HISCREW runs the restart program up to 3 times.

Built-in DC reactor

Built-in DC reactor inhibits the harmonic component by the inverter.

Built-in contactor

Electromagnetic contactor protects the inverter.

STANDARD SPECIFICATIONS

Air-cooled Vplus [Without dryer and Dryer built-in model]

( ) Dryer equipped.

Item		Model / Unit	OSP-7.5VA(R)Ⅲ		OSP-11VA(R)Ⅲ		OSP-15VA(R)Ⅲ		OSP-22V5A(R)Ⅱ OSP-22V6A(R)Ⅱ		OSP-37V5A(R)Ⅱ OSP-37V6A(R)Ⅱ		OSP-55V5A(R)Ⅰ OSP-55V6A(R)Ⅰ		OSP-75V5AL(R)Ⅰ OSP-75V6AL(R)Ⅰ		OSP-100V5ALⅠ OSP-100V6ALⅠ	
Motor output		kW	7.5		11		15		22		37		55		75		100	
Rated specs	Discharge pressure	MPa	0.83						0.69								0.7	
	Capacity	m^3/min	1.03		1.6		2.1		3.8		6.3		9.5		12.6		18.1	
In PQ wide mode	Discharge pressure	MPa	0.69	0.88	0.69	0.88	0.69	0.88	0.59	0.83	0.59	0.83	0.59	0.83	0.59	0.83	0.6	0.85
	Capacity	m^3/min	1.15	0.96	1.75	1.5	2.4	2.0	4.1	3.3	6.7	5.5	10	8.5	13.4	10.8	19.0	16.7
Setting range of pressure		MPa	0.49～0.88						0.44～0.83				0.49～0.83				0.5～0.85	
Operating range of PQ wide mode		MPa	0.69～0.88						0.59～0.83								0.6～0.85	
Intake air press./temp.		—	Ambient pressure / 0～40℃ (5～40℃)															
Discharge temperature		℃	Suction temperature + 15 or lower															
Driving method		—	4-pole TEFC motor V-belt drive. Inverter control												2-pole TEFC motor gear drive			
Starting method		—	Inverter															
Lubricating oil capacity		L	NEW HISCREW OIL 2000 5		NEW HISCREW OIL 2000 6		NEW HISCREW OIL 2000 7		NEW HISCREW OIL 2000 8		NEW HISCREW OIL 2000 13		NEW HISCREW OIL 2000 25 [not filled]		NEW HISCREW OIL 2000 33 [not filled]		NEW HISCREW OIL 2000 48 [not filled]	
Dryer	Dew point of outlet air	℃	10 Under pressure														—	
	Rated motor output	kW	0.3		0.5				1.1				2.2		3.0		—	
	Refrigerant/control system	—	HFC-R407C/Capillary tube														—	
Dischage pipe diameter		B	Rc3/4		Rc1				1		1 1/2		1 1/2		2 [Flange]		2 1/2[Flange]	
Dimensions (W×D×H)		mm	840×710×1,075		930×770×1,200				1,200×890×1,260		1,400×970×1,400		1,850×1,100×1,450		1,850×1,150×1,470		2,050×1,365×1,875	
Weight		kg	285 (310)		335 (365)		350 (380)		570 (620)		820 (890)		1,070 (1,190)		1,500 (1,670)		2,400	
Noise level (at 1.5m in front)		dB [A]	53		55		56		57		60		66		69		72	

Water-cooled Vplus/ V-type [Without dryer and Dryer built-in model]

( ) Dryer equipped.

Item		Model / Unit	OSP-22VW(R)Ⅰ		OSP-37VW(R)Ⅰ		OSP-55VW(R)Ⅰ		OSP-75VWL(R)Ⅰ		OSP-100VWLⅠ	
Motor output		kW	22		37		55		75		100	
Rated specs	Discharge pressure	MPa	0.69 [0.83]				0.69				0.7	
	Capacity	m^3/min	3.8 [3.3]		6.3 [5.5]		9.5		12.6		18.1	
In PQ wide mode	Discharge pressure	MPa	—				0.59	0.83	0.59	0.83	0.6	0.85
	Capacity	m^3/min	—				10	8.5	13.4	10.8	19.0	16.7
Setting range of pressure		MPa	0.49～0.69 [0.49～0.69]				0.49～0.83				0.5～0.85	
Operating range of PQ wide mode		MPa	—				0.59～0.83				0.6～0.85	
Intake air press./temp.		—	Ambient pressure / 0～40℃ (5～40℃)									
Discharge temperature		℃	Cooling water temperature + 13℃ or lower									
Driving method		—	4-pole TEFC motor V-belt drive. Inverter control						2-pole TEFC motor gear drive			
Starting method		—	Inverter									
Lubricating oil capacity		L	NEW HISCREW OIL 2000 8		NEW HISCREW OIL 2000 13		NEW HISCREW OIL 2000 25 [not filled]		NEW HISCREW OIL 2000 33 [not filled]		NEW HISCREW OIL 2000 48 [not filled]	
Cooling water	Temperature	℃	32 or lower									
	Quantity	L/min	45		65		100		100		125	
Dryer	Dew point of outlet air	℃	10 Under pressure								—	
	Rated motor output	kW	1.1				2.2		3.0		—	
	Refrigerant/control system	—	HFC-R407C/Capillary tube								—	
Dischage pipe diameter		B	1		1 1/2		1 1/2		2 [Flange]		2 1/2[Flange]	
Dimensions (W×D×H)		mm	1,200×890×1,260		1,400×970×1,400		1,850×1,100×1,450		1,850×1,150×1,470		2,050×1,365×1,875	
Weight		kg	570 (620)		940 (1,010)		1,100 (1,220)		1,540 (1,710)		2,300	
Noise level (at 1.5m in front)		dB [A]	57		60		65		66		69	

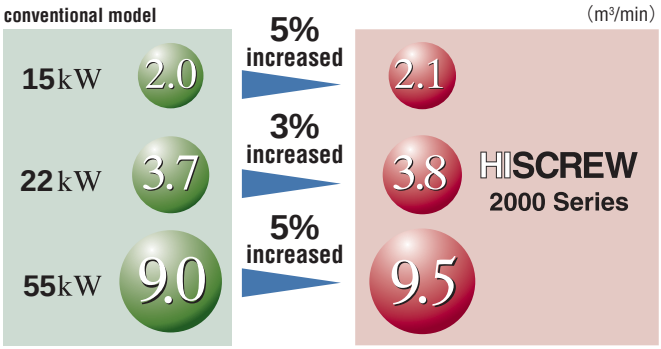
Notes :
1. Capacity is the converted value at its inlet condition.
2. Noise level is the value at 1.5m in front and 1m height in an anechoic room.
3. Dew point measured at ambient temperature 30˚C and rated discharge pressure.
4. Using PQ wide mode, dew point change by discharge pressure.
5. A unit is shipped without a selected earth leakage breaker.
6. A unit is shipped without oil (55kW and above).
7. A properly sized receiver is necessary for energy saving.
8. Specifications may be changed without notice.

High efficiency by ECOPROFILE

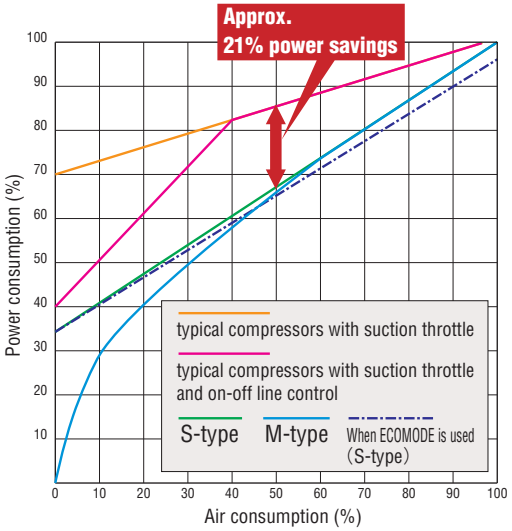
We have developed a new optimal rotor profile, ECOPROFILE, for the HISCREW 2000 series through simulations of more than 2000 kinds of rotor profile patterns. Using ECOPROFILE, efficiency is increased from approximately 3 to 5%.*

*compared with conventional model.

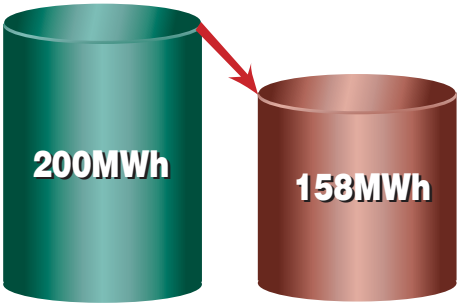
High performance realized by newly developed rotor



High efficiency by unique capacity control



■ Example of 37 kW annual electric energy (Average air consumption 50%)



Typical compressors with suction throttle and on-off line control

HISCREW 2000 Series

Compared with typical ones with a suction throttle and one-off line control, the HISCREW compressor reduces power consumption by approximately 21%. For example, in the case of a 50% decrease in air quantity used, the difference in annual power consumption is:

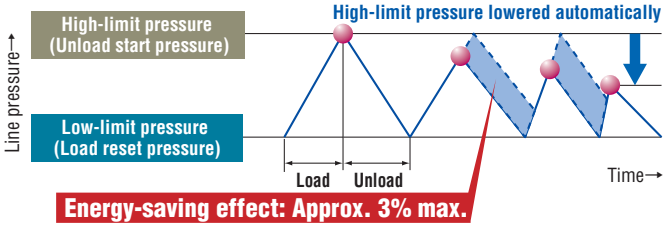
37kW : 42MWh

(Install an air tank for energy-saving.)

ECOMODE function as standard equipment

●Using ECOMODE, maximum pressure is automatically reduced with load fluctuations, so approx. 3% power saving can be achieved.

ECOMODE setting is easy; you need only push the switch on the control panel.



Easy operation

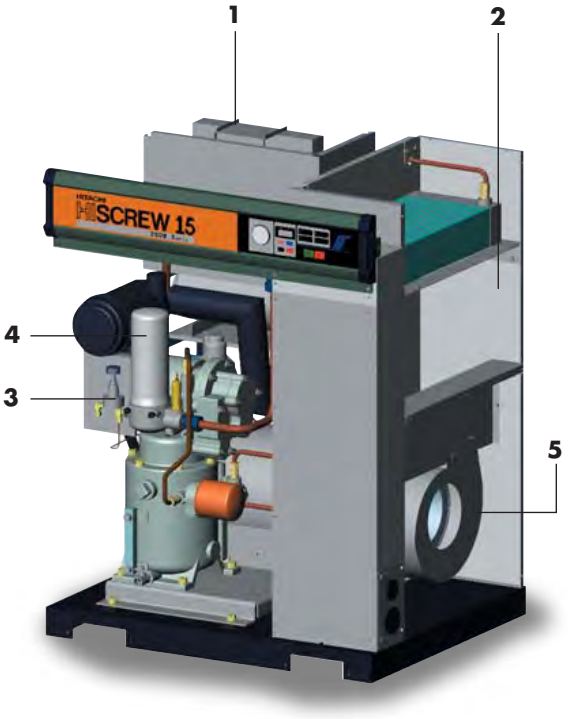
●Varied settings, pressure, ECOMODE function, remote operation and all, can be changed easily on the control panel.

More reliable lubricating oil

After testing 2000 blends of oil, we developed a new type of synthetic oil for the HISCREW 2000 series.

The new oil has long life, so the oil change cycle is two years. Initial ration is 20% less than conventional model.

Easy maintenance



1. Dryer
Dryer uses an environment-friendly refrigerant, HFC-R407C.

2. Maintenance cooler
If only the right side panel is removed, the air-cooled cooler can be cleaned.

3. V-ribbed belt
Equipped with a new, more durable belt.

4. Spin on type oil separator
Easy maintenance.

5. Cooling fan operates with the main motor (7.5~15kW Vplus)

●New structure
Compact and easy to maintain

●8-year overhaul interval
The combination of high load type bearing and high-precision lubricating oil filtration system allows an 8-year overhaul interval.
(75kW, 100kW model is not included)

●General hermetic motor
High reliability and easy maintenance

●Daily check
All items in the daily checks can be performed by removing the front panel.

Systematic upgrade

Hitachi HISCREW 2000 series (Vplus, M-type and S-type) share a common design and parts. Our original way of systematic upgrade, in which Vplus plays a central role, have a lead as a whole.

V-M combination system

- Hitachi's V-M combination system would be the most appropriate as a system of 2 to 3 compressors because of our original common design.
- V-M combination system brings certain advantages described below.

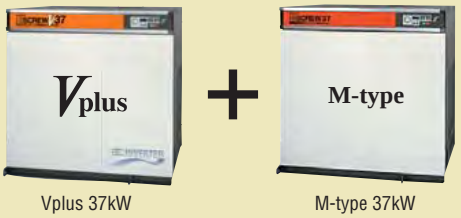
Conventional model of 75kW

Single-V, Multi-V system

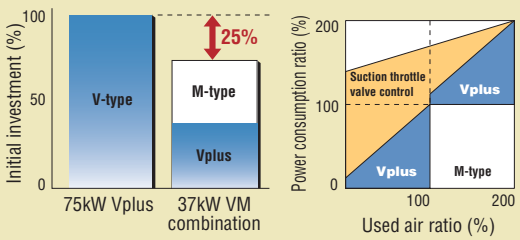
- Can save energy by varied combination

Advantages

❶ The combination system demonstrates almost the same characteristics in power consumption as a Vplus of 75kW.
❷ Approx. 25% reduction in initial investment.
❸ Approx. 44% reduction in electric power cost at the used air ratio of 60% when the pressure if 0.59MPa.



Vplus 37kW　　M-type 37kW



※Compared amount without dryer models.

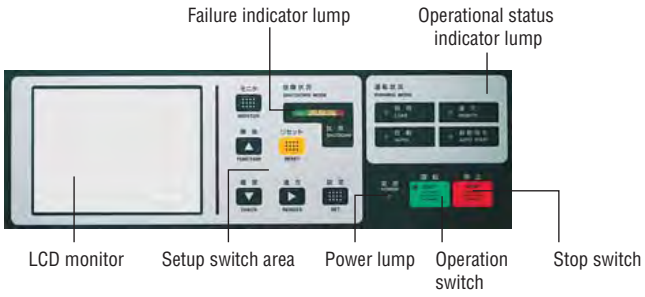
Optional Specifications

Improved operationality

HG Version

■Digitalized pressure, temperature, electric current and other setup are displayed in characters.

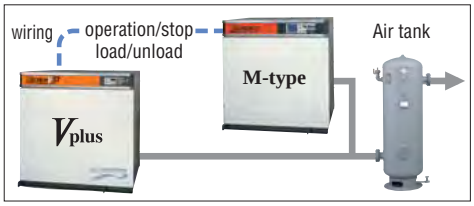
Detailed setup of remote operation and momentary power failure are also possible in accordance with usage condition.



Dual operation

■Mere wiring enables alternating or follow-up operation.

Wiring between 2 units of HG version enables alternate and lead log operation such as V-M combination operation, 2 M-type and Dual V operations with no external control panel. In V-M combination operation, if the amount of used air becomes 0, the V-type will stop automatically.
In addition, you can improve the operationality further by combining with other equipment.



Primary functions

Energy saving operation, scheduled operation, alternating or follow-up operation (in parallel or interval change-over), communication function, maintenance time notification, storing operational and load data, timely switching of pressure setup, switching of external pressure setup, etc.

Contents displayed on the monitor

Total operation time, discharge pressure, load factor, the number of loading, electric current, total loading time, detailed failure history, etc.
Only Vplus displays motor output and frequency, and inverter failure history.

Note :

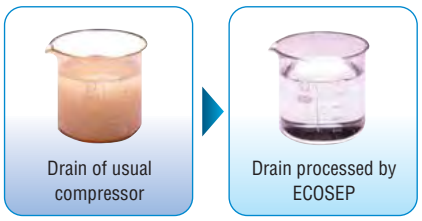
1. HG Version is applicable only to 22 - 75kW, for both Vplus and M-type of HISCREW2000 series. 2. Both of two compressors must be HG Version to use the alternating or follow-up function.
3. In order to use the alternating or follow-up function, separate wiring works are necessary. (Prepare the connecting cable at the expense of customer since it does not come with this equipment.)
4. In order to use the communication function, separate remote supervisory system (COSMOS) and wiring works are necessary. (Prepare the communication cable at the expense of customer since it does not come with this equipment.)

ECOSEP

Care for environment protection

■Neither additional piping work nor space is necessary.

ECOSEP maintains the oil concentration level in the drain at 5 mg/L or less.



■Specifications

Target equipment	Dedicated to 11 to 75kW dryer built-in type HISCREW2000 series
Processing method / oil content level after the processing	Oil absorbent filtration / 5 mg/L or less (extractive substance in normal-hexane)
Discharge method of purified water	Solenoid valve with timer
Suitable compressors specified pressure	MAX. 0.92MPa
Working temperature	5～40℃
Power source	AC200/200･220V (50/60Hz) [self-support]
Drainage diameter	Rc 3/8
The number of element tanks	1（11～37kW） 2（55～75kW）
Operating life of the element tank	3,000h (22/75kW) 6,000h (15kW) 9,000h (11kW)

Notes :

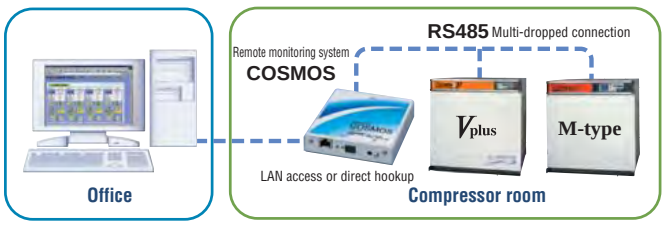
1. Since ECOSEP is for exclusive use of dryer built-in type HISCREW2000 series, drain water discharged from other machines cannot be processed.
2. The expected concentration level of oil content is not a guaranteed value.
3. "Extractive substance in normal-hexane" means the mass of residue after having hexane emitted at 80℃ where the hexane is used to extract from slightly acidified specimen.
4. The replacement interval of the element tank should be referred to as a rough standard, since their installed environment could shorten the operating life of each element tank.
5. Since water-pollution standards differ according to regions and areas of water, ask administrative agencies in charge about the details.

COSMOS (can be connected to HG version)

Remote monitoring system of Hitachi air compressors (LAN: Local Area Network)

■Integrating IT with the compressor ensures easy monitoring. Central administration by an existing PC on your LAN is possible.

- ●Real-time monitoring of functions, setup and operational status of the compressor from your office contributes to labor and energy saving.
- ●Monitoring through Web on your existing PC does not require any additional installation of particular software.
- ●Such upgrading as to widened monitoring through the Internet and/or maintenance system is possible.
- ●Perfect fit for monitoring the plural units control or compressors which were put into distributed places.



STANDARD SPECIFICATIONS

Air-cooled M-type/ S-type [Without dryer and Dryer built-in model]

( ) Dryer equipped.

Item \ Model		S-type	—	—	OSP-15S5A(R) Ⅱ OSP-15S6A(R) Ⅱ	OSP-22S5A(R) Ⅰ OSP-22S6A(R) Ⅰ	OSP-37S5A(R) Ⅰ OSP-37S6A(R) Ⅰ	OSP-55S5A(R) Ⅰ OSP-55S6A(R) Ⅰ	OSP-75S5AL(R) Ⅰ OSP-75S6AL(R) Ⅰ	OSP-100S5AL Ⅰ OSP-100S6AL Ⅰ	OSP-110S5AL Ⅰ OSP-110S6AL Ⅰ
		M-type	OSP-7.5M5A(R) Ⅱ OSP-7.5M6A(R) Ⅱ	OSP-11M5A(R) Ⅱ OSP-11M6A(R) Ⅱ	OSP-15M5A(R) Ⅱ OSP-15M6A(R) Ⅱ	OSP-22M5A(R) Ⅰ OSP-22M6A(R) Ⅰ	OSP-37M5A(R) Ⅰ OSP-37M6A(R) Ⅰ	OSP-55M5A(R) Ⅰ OSP-55M6A(R) Ⅰ	OSP-75M5AL(R) Ⅰ OSP-75M6AL(R) Ⅰ	OSP-100M5AL Ⅰ OSP-100M6AL Ⅰ	OSP-110M5AL Ⅰ OSP-110M6AL Ⅰ
Motor output		kW	7.5	11	15	22	37	55	75	100	110
Capacity		m^3/min	1.03 [1.15]	1.6 [1.75]	2.1 [2.4]	3.8 [3.3]	6.3 [5.5]	9.5 [8.5]	12.6 [10.8]	18.1[16.7]	20[18]
Intake air press./temp.		—	Ambient pressure / 0～40℃ (5～40℃)								
Discharge pressure		MPa	0.83 [0.69]			0.69 [0.83]				0.75 [0.85]	
Discharge temperature		℃	Suction temperature + 15 or lower								
Driving method		—	4-pole TEFC motor V-belt drive						2-pole TEFC motor gear drive		
Starting method		—	Full voltage start			Star-delta [3 contactors]					
Lubricating oil capacity		L	NEW HISCREW OIL 2000 5	NEW HISCREW OIL 2000 6	NEW HISCREW OIL 2000 7	NEW HISCREW OIL 2000 8	NEW HISCREW OIL 2000 13	NEW HISCREW OIL 2000 25 [not filled]	NEW HISCREW OIL 2000 33 [not filled]	NEW HISCREW OIL 2000 48 [not filled]	NEW HISCREW OIL 2000 53 [not filled]
Dryer	Dew point of outlet air	℃	10 Under pressure							—	
Dryer	Rated motor output	kW	0.3	0.5		1.1		2.2	3.0	—	
Dryer	Refrigerant/control system	—	HFC-R407C/Capillary tube							—	
Dischage pipe diameter		B	Rc 3/4	Rc1		1	1 1/2		2 [Flange]	2 1/2 [Flange]	
Dimensions (W×D×H)		mm	840×710×1,075	930×770×1,200		1,200×890×1,260	1,400×970×1,400	1,850×1,100×1,450	1,850×1,150×1,470	2,050×1,365×1,875	
Weight		kg	275 (300)	320 (350)	330 (360)	540 (590)	760 (830)	1,020 (1,140)	1,420 (1,590)	2,300	2,360
Noise level (at 1.5m in front)		dB [A]	53	55	56	57	60	66	69	72	75

Water-cooled M-type/ S-type [Without dryer and Dryer built-in model]

( ) Dryer equipped.

Item \ Model		S-type	—	—	OSP-55S5W(R) Ⅰ OSP-55S6W(R) Ⅰ	OSP-75S5WL(R) Ⅰ OSP-75S6WL(R) Ⅰ	OSP-100S5WL Ⅰ OSP-100S6WL Ⅰ	OSP-110S5WL Ⅰ OSP-110S6WL Ⅰ
		M-type	OSP-22M5W(R) Ⅰ OSP-22M6W(R) Ⅰ	OSP-37M5W(R) Ⅰ OSP-37M6W(R) Ⅰ	OSP-55M5W(R) Ⅰ OSP-55M6W(R) Ⅰ	OSP-75M5WL(R) Ⅰ OSP-75M6WL(R) Ⅰ	OSP-100M5WL Ⅰ OSP-100M6WL Ⅰ	OSP-110M5WL Ⅰ OSP-110M6WL Ⅰ
Motor output		kW	22	37	55	75	100	110
Capacity		m^3/min	3.8 [3.3]	6.3 [5.5]	9.5 [8.5]	12.6 [10.8]	18.1 [16.7]	20 [18]
Intake air press./temp.		—	Ambient pressure / 0～40℃ (5～40℃)					
Discharge pressure		MPa	0.69 [0.83]				0.75 [0.85]	
Discharge temperature		℃	Cooling water temperature + 13 or lower					
Driving method		—	4-pole TEFC motor V-belt drive			2-pole TEFC motor gear drive		
Starting method		—	Star-delta [3 contactors]					
Lubricating oil capacity		L	NEW HISCREW OIL 2000 8	NEW HISCREW OIL 2000 13	NEW HISCREW OIL 2000 24 [not filled]	NEW HISCREW OIL 2000 33 [not filled]	NEW HISCREW OIL 2000 48 [not filled]	NEW HISCREW OIL 2000 53 [not filled]
Cooling water	Temperature	℃	32 or lower					
Cooling water	Quantity	L/min	45	65	100	100	125	170
Dryer	Dew point of outlet air	℃	10 Under pressure				—	
Dryer	Rated motor output	kW	1.1		2.2	3.0	—	
Dryer	Refrigerant/control system	—	HFC-R407C/Capillary tube				—	
Dischage pipe diameter		B	1	1 1/2		2 [Flange]	2 1/2 [Flange]	
Dimensions (W×D×H)		mm	1,200×890×1,260	1,400×970×1,400	1,850×1,100×1,450	1,850×1,150×1,470	2,050×1,365×1,875	
Weight		kg	540 (590)	880 (950)	1,050 (1,170)	1,460 (1,630)	2,200	2,260
Noise level (at 1.5m in front)		dB [A]	57	60	65	66	69	72

Air-cooled Intermediate Series 22/37kW

Item \ Model		OSP-22M5AK OSP-22M6AK	OSP-37M5AK OSP-37M6AK
Motor output	kW	22	37
Capacity	m^3/min	2.2	3.7
Discharge pressure	MPa	1.57	
Dischage pipe diameter	B	1	1 1/2
Dimensions (W×D×H)	mm	1,250×910×1,480	1,400×910×1,480

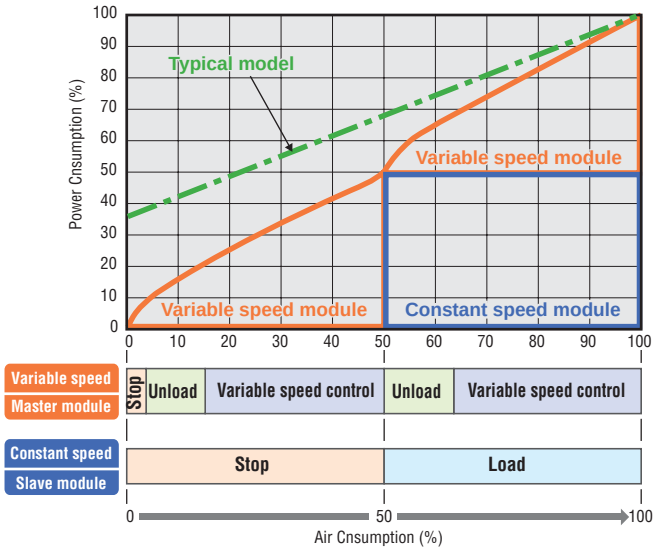
Notes :
1. Capacity is the converted value at its inlet condition.
2. Noise level is the value at 1.5m in front and 1m height in an anechoic room.
3. Dew point measured at ambient temperature 30℃ and rated discharge pressure.
4. A unit is shipped without a selected earth leakage breaker.
5. A unit is shipped without oil (55kW and above).
6. A properly sized receiver is necessary for energy saving.
7. Specifications may be changed without notice.
8. Capacity is measured at following pressure (100/110kW). 0.75MPa model: 0.70MPa, 0.85MPa model: 0.80MPa.

150kW Dual Vtype/Mtype

Energy saving by dual control

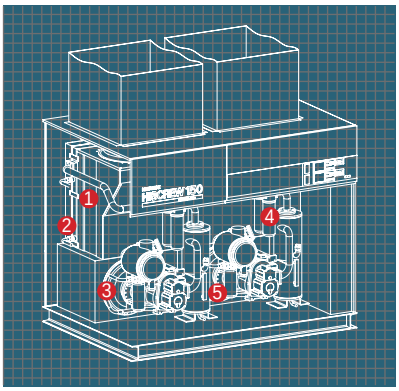
Dual control Vtype

Energy saving is achieved by Built-in V-M Combi system.



Easy maintenance

The construction allows easy daily inspection.Replacement of suction filter, oil filter and oil separator element and refilling of lubricant can be performed by removing the front panel.



6 years Overhaul Interval
Using Hitachi special design bearing.

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

❷ **Refilling Grease**

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

❹ **Spin-on type oil separator element**

❺ **Direct gear driven**
Coupling adjustment is unnecessary.

Large-size LCD monitor

Display together with pressure, current, load factor, and operation hours.

Enlarged view of monitor

Examples of monitoring display

M1 Monitoring Display

M1	10:10*
TYPE : INTE-SNGL-MANU-S	
DIS. PRESS :	0.69MPa
RUN HR :	580h
LOAD HR :	410h
LOAD NOS :	61

M2 Monitoring Display

M2	10:10*
TYPE : INTE-SNGL-MANU-S	
DIS. PRESS :	0.69MPa
DIS. TEMP. 1 :	90°C
DIS. TEMP. 2 :	50°C
CURRENT :	200A

M3 Monitoring Display

M3	10:10*
TYPE : INTE-SNGL-MANU-S	
DIS. PRESS :	0.69MPa
DATE :	2004/06/22
HR. TO MAINT :	3420h
NEXT MAINT :	0.5Year
LOAD RATE :	50%
LOAD TIME :	40s
UNLOAD TIME :	40s

*As for display language, besides English, Chinese and Japanese are available. (optional)

Low starting current

With dual control, two modules start up sequentially. Surge current can be reduced.

Single module operating fanction

Even in the case of one module failed, the other module can be operated independently.

STANDARD SPECIFICATIONS

Air-cooled V-type/ M-type [Without dryer model]

Item \ Model		Air cooled V type	Water cooled V type	Air cooled M type	Water cooled M type
		OSP-150V5AD/V6AD	OSP-150V5WD/V6WD	OSP-150M5AD/M6AD	OSP-150M5WD/M6WD
Motor Output	kW	150 (75×2)		150 (75×2)	
Intake air press./temp.	—	Ambient pressure / 0～40°C		Ambient pressure / 0～40°C	
Discharge Pressure	MPa	0.75〔0.85〕		0.75〔0.85〕	
Capacity	m³/min	26.0〔24.1〕		26.0〔24.1〕	
Capacity Control	—	Built in V-M Combi		Built in Dual System	
Oil Type	—	NEW HISCREW OIL 2000		NEW HISCREW OIL 2000	
Lubricating Oil Capacity	liter	66 (Not filled)		66 (Not filled)	
Fan Motor Output	kW	2.2 (1.1×2)	0.1 (0.05×2)	2.2 (1.1×2)	0.1 (0.05×2)
Discharge Pipe Diameter	B	3B JIS Flange		3B JIS Flange	
Dimensions	mm	2,450×1,700×1,900		2,450×1,700×1,900	
Weight (W×D×H)	kg	3,200	3,250	3,100	3,150
Noise Level	dB	75	73	75	73
Minimum Air Receiver	m³	4.0		4.0	

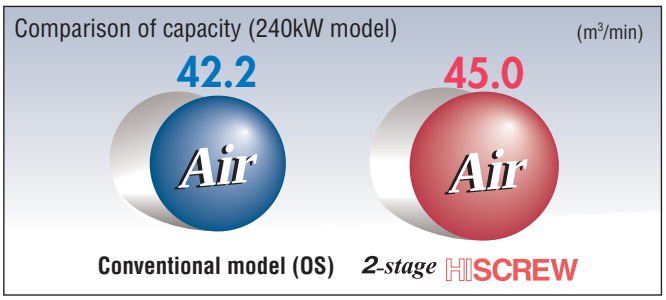
Notes :
1. Capacity is the converted value at its inlet condition. Capacity is measured at the following pressures. 0.75MPa model at 0.7MPa 0.85MPa model at 0.8MPa
2. Noise level is the value at 1.5m in front and 1m height in an anechoic room. 3. A unit is shipped without oil. 4. Install air receiver with minimum capacity.

2-stage HISCREW 125~240kW

High perfomance in a compact package

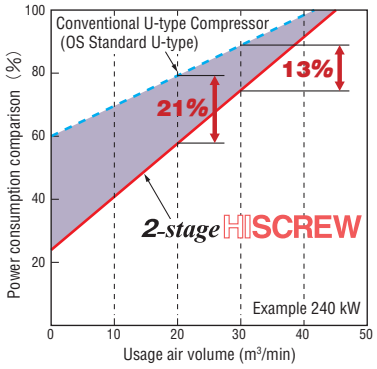
5 to 7% more efficient than conventional models.

2-stage HISCREW has been equipped with the new rotor profile and has also adopted original 2-stage air ends (compressor main units), resulting in 5 to 7% increase of capacity compared with conventional models with the same output. This performance remains the top level compared with either oil-cooled or oil-free type models.



Integral Unload Mode as a Standard Equipment

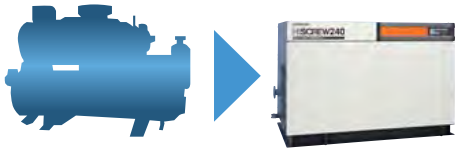
In addition to U-mode control (stepless suction throttle), I-mode control (intake throttle and purge)*1 is provided as a standard feature. This provides excellent energy efficiency*2 during capacity control as well as during normal operation.



*1: A function is provided for locking the compressor in U-type operation when the compressor is used as a base load unit or for applications prohibits pressure fluctuations.

*2: An air tank of sufficient capacity is required to obtain the power saving. Please refer to page 4.

Example of 2-stage HISCREW's advantage in power saving



Example of 240kW	
Discharge pressure	0.69MPa
Compressor	Conventional model : OS-240U6 New model : OSP-240S6WT
Operating time	6,000 hours

Air consumption : 30m³/min
Power-saving ratio = 13%
Power savings = 203MWh

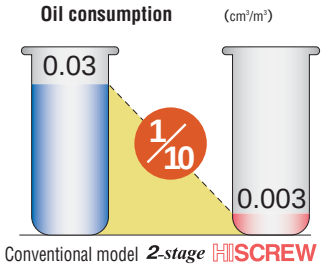
Maintenance saving

Daily routine work of drain evacuation is unnecessary.

Includes an automatic temperature control valve as standard equipment, which automatically controls the temperature in the oil separator in order not to produce drain. Bothersome daily routine work of drain evacuation from the oil separator is not necessary.

Greatly Reduced Lubricant Consumption

The newly developed oil separator reduces the amount of oil contained in the discharged air to 0.003 cm³/m³ (1/10 th that of conventional compressors), which gives a new image to large oil-cooled screw compressors. This makes it possible to provide clean compressed air and reduces the time spent adding lubricant.



STANDARD SPECIFICATIONS

Item		Model	OSP-125S5WT	OSP-150S6WT	OSP-160S5WT	OSP-190S6WT	OSP-200S5WT	OSP-240S6WT
Discharge pressure		MPa	0.69 (0.83)					
Motor output		kW	125	150	160	190	200	240
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)
Intake air press./temp.		—	Ambient pressure / 0~40°C					
Discharge temperature		°C	Cooling water temperature + 13 or lower					
Lubricating oil capacity		L	Mineral oil 100 [not filled]			Mineral oil 120 [not filled]		Mineral oil 150 [not filled]
Cooling water	Temperature	°C	32 or lower					
	Quantity	L/min	170	205	215	255	270	325
Dischage pipe diameter		—	3B JIS10k Flange			4B JIS10k Flange		
Dimensions (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 (at 1.5m in front)		dB [A]	73	74	75	75	75	75

Notes :
1. Capacity is the converted value at its inlet condition. 2. Noise level is the value at 1.5m in front and 1m height in an anechoic room. 3. Dew point measured at ambient temperature 30°C and rated discharge pressure.
4. A unit is shipped without a selected earth leakage breaker. 5. A unit is shipped without oil. 6. A unit is shipped without the starter. 7. The dimension of starter is 600mm in width, 1000mm in depth, 1400mm in height.
8. A properly sized receiver is necessary for energy saving. 9. Specifications may be changed without notice.

Auxiliary equipment to enhance air quality

We recommend using the following auxiliary equipment with your compressors for effective and systematic use of your facilities.

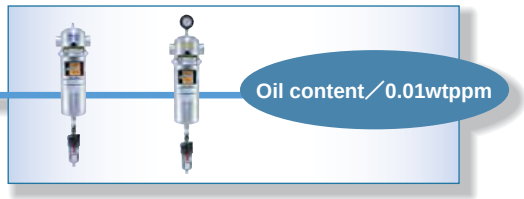
Examples of air compressed air system

HISCREW

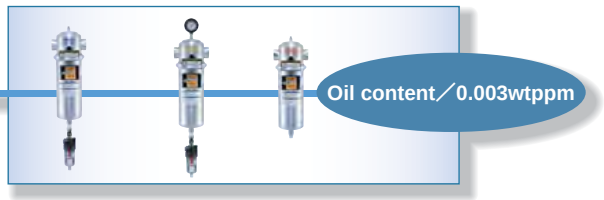
Air receiver

Air dryer

Line filter



Line filter Micro mist filter



Line filter Micro mist filter Deodorant filter

Line filter Micro mist filter Deodorant filter PUROFRIO

Remote monitoring system COSMOS

compatible with HG Version of 2000 series.

Multi unit controller

R407C

HDR series of medium size

HDR series of large size

HITACHI AIR DRYER

Supply air with less moisture.

Hitachi air dryers are compact in construction and designed to be suitable for combination with HISCREWs.
HDR series, which is of high performance and carries inlet air of high temperature, is available in a variety of models.

HDR medium-sized series

Item \ Model		HDR-7.5AE	HDR-15AE	HDR-22AE	HDR-37AE	HDR-55AE	HDR-75AE	HDR-100AE
Applicable compressor	kW	7.5	15	22	37	55	75	100
Capacity (Note 1)	m^3/min	1.1/1.34	2.4/2.8	3.9/4.2	6.5/7.0	9.2/9.5	12.8/13.4	16.8/17.6
Max. inlet pressure of compressed air	MPa	0.93	0.97					
Max. inlet temperature of compressed air	˚C	65	80			60		
Ambient temperature	˚C	5～40						
Dew point of outlet air	˚C	10 under pressure						
Rated output of refrigerator	kW	0.25	0.5	1.1	1.1	1.85	3.0	3.75
Cooling method of condenser	—	Air cooling						
Refrigerant control device	—	Capillary tube						
Capacity control device	—	Hot gas bypass valve						
Refrigerant used	—	HFC-R407C						
Finish color	—	Ivory (Munsell No. 5Y8.5/1)						
Pipe conection	B	3/4	1	1	1 1/2	1 1/2	2 Flange	2 Flange
Dimensions (W×D×H)	mm	255×656×680	303×678×681	303×753×681	303×1,033×751	303×1,083×981	431×1,183×1,124	491×1,323×1,164
Weight	kg	33	54	58	94	127	205	245
Accessories	—	Auto drain trap / Drain valve						

Notes:
1. The capacity refer to the following operating condition : 32℃ ambient temperature, 40℃ inlet temperature, 0.69MPa inlet pressure, 10℃ dew point of under pressure.
2. Initial pressure losses of the dryers are less than or equal to 0.03MPa
3. Contact our service outlet if you would like to use in corrosive gas environment.
4. The dimensions show surface of panels (not include piping, bolt)

HDR large-sized series

Item \ Model		HDR-120WE	HDR-150WE	HDR-190WE	HDR-240WE	HDR-300WE	HDR-380WE	HDR-120AE	HDR-150AE	HDR-190AE	HDR-240AE	HDR-300AE	HDR-380AE
Applicable compressor	kW	—	150	190	240	—	—	—	150	190	240	—	—
Capacity (Note 1)	m^3/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	˚C	60											
Ambient temperature	˚C	2～40											
Dew point of outlet air	˚C	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	3.75	2.2×2	3.0×2
Cooling method of condenser	—	Water cooling						Air cooling					
Refrigerant control device	—	Capillary tube											
Capacity control device	—	Hot gas bypass valve				Hot gas bypass valve		Hot gas bypass valve				Hot gas bypass valve	
Refrigerant used	—	HFC-R407C											
Finish color	—	Ivory (Munsell No. 5Y8.5/1)											
Pipe conection	B	2½ Flange	3 Flange		4 Flange	5 Flange		2½ Flange	3 Flange		4 Flange	5 Flange	
Dimensions (W×D×H)	mm	672×1,260×1,276	950×1,290×1,332		905×1,969×1,583	2,020×1,100×1,650		672×1,260×1,276	950×1,290×1,332		905×1,969×1,583	2,020×1,100×1,650	
Weight	kg	250	348	352	540	720	840	255	358	362	540	740	860
Accessories	—	Auto drain trap / Drain valve											

Notes:
1. The capacity refer to the following operating condition : 32℃ ambient temperature, 40℃ inlet temperature, 0.69MPa inlet pressure, 10℃ dew point of under pressure.
2. Initial pressure losses of the dryers are less than or equal to 0.03MPa
3. Contact our service outlet if you would like to use in corrosive gas environment.
4. The dimensions show surface of panels (not include piping, bolt)

HITACHI FILTER

Provides clean air by removing dirt particles in compressed air.

	Item			7.5B	11B	15B	22B	37B	55B	75B	100B	240A	400A	480A
Common item	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	24.4	40	48.8
		Inlet air temperature	℃	30										
		Inlet air pressure	MPa	0.69										
	Use conditions	Usable fluid	—	Compressed air										
		Max. pressure	MPa	0.97										
	Connecting pipe diameter		B (A)	Rc1/2	Rc3/4	Rc3/4	Rc1	Rc11/2	Rc11/2	Rc2	Rc2	21/2Flange	3Flange	4Flange

Line filter

This filter eliminates solid materials ranging in size from 1 to 3 micron and larger.

	Item			7.5B	11B	15B	22B	37B	55B	75B	100B	240A	400A	480A
Line filter	Item / Model			HAF-7.5B	HAF-11B	HAF-15B	HAF-22B	HAF-37B	HAF-55B	HAF-75B	HAF-100B	HAF-240A	HAF-400A	HAF-480A
	Use conditions	Inlet air temperature range	℃	5～60										
		Ambient temperature range	℃	2～60										
	Filtration rating		μm	1 (Note 1)								approx. 3		
	Filtration efficiency		%	99.999										
	Pressure drop	Initial	MPa	0.005 or lower										
		Terminal(to replace element)	MPa	0.07										
	Dimensions (diameter×length)		mm	90×231	115×287	115×455	160×509	170×591	170×699	173×792	173×949	420×1,690	500×1,521	500×1,752
	Weight		kg	1	1.5	2	3	3.3	3.7	4.3	6	80	120	135

Micro mist filter

This filter eliminates oil and solid materials whose sizes are 0.01 micron and larger. The outlet oil content will be 0.01wtppm.

	Item			7.5B	11B	15B	22B	37B	55B	75B	100B	240A	400A	480A
Micro mist filter	Item / Model			HMF-7.5B	HMF-11B	HMF-15B	HMF-22B	HMF-37B	HMF-55B	HMF-75B	HMF-100B	HMF-240A	HMF-400A	HMF-480A
	Use conditions	Inlet air temperature range	℃	5～60										
		Ambient temperature range	℃	2～60										
	Outlet oil content		wtppm	0.01 (Note 2)								approx. 0.5		
	Pressure loss	Initial	MPa	0.01										
		Terminal(to replace element)	MPa	0.07										
	Dimensions(diameter×length)		mm	90×231	115×368	115×536	160×582	170×664	170×772	173×865	173×1,022	420×1,690	500×1,521	500×1,752
	Weight		kg	1	1.5	2	3	3.3	3.7	4.3	6	80	120	135

Deodorant filter

This filter absorbs and eliminates oil vapors that have unpleasant odor. The outlet oil content will be 0.003wtppm.

	Item			7.5B	11B	15B	22B	37B	55B	75B	100B	240A	400A	480A
Deodorant filter	Item / Model			HKF-7.5B	HKF-11B	HKF-15B	HKF-22B	HKF-37B	HKF-55B	HKF-75B	HKF-100B	HKF-240A	HKF-400A	HKF-480A
	Use conditions	Inlet air temperature range	℃	5～60										
		Ambient temperature range	℃	2～60										
	Outlet oil content		wtppm	0.003 (Note 3)								approx. 0.1		
	Pressure loss		MPa	0.007								0.005(0.05)		
	Dimensions (diameter×length)		mm	90×211	115×231	115×231	160×308	170×390	170×498	173×591	173×748	420×1,690	500×1,521	500×1,752
	Weight		kg	1	1.5	2	3	3.3	3.7	4.3	6	80	120	135

※ Install an air dryer in the pre-stage of these filters.

Notes :

1. corresponds to the 2nd grade of "compressed air grades" in ISO8573-1. The inlet oil content is 3wtppm.
2. corresponds to the 1st grade of "compressed air grades" in ISO8573-1. The inlet oil content is 3wtppm.
3. converted value by "the test method of oil content" in ISO8573-2. The inlet oil content is 0.01wtppm.

UNIT CONTROLLER

Note: The specification of the control board could differ according to the air compressor model to be connected.

Multi Unit Controller (MULTI ROLLER EX)

This equipment enables to operate plural HISCREW efficiently. It excludes unload operations of no use and levels operation hours of each unit.

■Standard specs

Item \ Model		MR26-4E	MR26-8E	MR26-12E
Power Supply		Single-phase AC100V／200V (Common)		
Frequency		50／60Hz (Common)		
Controlled Units		4	8	12
Input	Discharge Pressure	0 to 1 MPa (Digital Display)		
	Control	Operation Answer, Shutdown		
	External	Start, Stop, External Forced Start-up, Flow Volume		
Output	Control	Start, Stop, Load, PID Command		
	External	Start, Shutdown, Auto		
Dimensions (W×D×H)		400×200×600 (mm)	500×200×900 (mm)	500×200×1,200 (mm)
Weight		19 (kg)	32 (kg)	37 (kg)

Alternate operation panel (Dual roller II)

This is a highly functional new model of alternate operation panel, which can control 2 units of HISCREW interchangeably. If the 2 units are operated as a main and a standby units, they will constitute a standby system. It is also useful for leveling off the operation hours of the 2 units.

- Various alternate and/lead-lag operation are applicable to S-type models, where AUTO function is not necessary.
- The large LCD and the touch panel have improved its user-friendliness.
  It has been downsized too. The built-in sensor has digitalized pressure setting, which facilitates piping work and adjustments.
- It comes equipped with functions of automatic restart just after momentary power failure, calendar operation, detailed memory of failures and long-term suspension.
- Central control to stop operation is possible. It comes equipped with input/output terminals for external control.

■Standard specs

Item \ Model		SDR-2
Power source		AC100V (−10%+10%) [AC200V is usable by connector switching.]
Frequency		50／60Hz
Controllable number of units		2
Input	Discharge pressure	0～1MPa
	Control	Remote setting, Remote operation
	External	Operation, stop, failure, Remote operation
Output	Control	Operation, stop, load instruction
	External	Operation, failure, automatic
Controllable width of discharge		Min.±0.02MPa (Note1)
Dimensions (W×D×H)		300×160×400 (mm)
Weight		8.5 (kg)

Notes:
1. When setting the minimum width of the pressure, contact our agent separately.
2. Compressors except those driven by inverters are controllable by this equipment.

HITACHI OIL CLEANER

Useful for long time and continuous operations.

In oil flooded type screw compressors, removal of oil condensate is crucial. This oil cleaner is ingeniously designed so that the condensate is separated and purged during operation. Hitachi Oil Cleaner is ideal for applications where continuous operation is required, and where the usage capacity varies greatly.

Item \ Model		OWS-1	※OWS-1A	OWS-2	※OWS-2A	OWSK-1	※OWSK-1A
Applicable model		Over 22kW		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	
Fluids handled	—	Oil and drain		Oil and drain		Oil and drain	
Condensate level sensing method	—	Visual check with the drain gauge	Level switch of electrostatic capacitance type	Visual check with the drain gauge	Level switch of electrostatic capacitance type	Visual check with the drain gauge	Level switch of electrostatic capacitance type
Drain exhausting method	—	Manual	Automatic exhaustion by solenoid valve.	Manual	Automatic exhaustion by solenoid valve.	Manual	Automatic exhaustion by solenoid valve.
Condensate exhaustion amount when solenoid	cm^3	—	640～800/1 activation (20 sec.)	—	100/1 activation (5 sec)	—	700～1,300/1 activation (20 sec.)
Weight	kg	42	54	35	47	50	62
Dimensions (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

※ For these models, electric power source of single phase, 200V is necessary.

PUROFRIO

Equipment to produce extremely cold air.

(1) The generator of extremely cold air with a built-in heatless dryer, which is to be installed separately.

Item		Model	HSC-09D	HSC-18D
Fluid		—	Compressed air (Note 1)	
Usable range	Ambient temperature	℃	5～35	
	Inlet fluid temperature	℃	5～35	
	Inlet fluid pressure	MPa	0.49～0.92	
Processing flow volume (Note 2)	Inlet flow volume	m^3/min	0.85 (0.4)	1.8 (0.9)
	Discharge flow volume	m^3/min	0.74 (0.29)	1.5 (0.63)
	Discharge fluid temperature	℃	−10 (−20)	
Power source		V(50/60Hz)	3φ 200/200・220	
Rated output of refrigerator		W	800	1,100
Cooling method of condenser		—	Air cooling	
Capacity control device		—	Hot gas bypass valve	
Refrigerant		—	HFC-R404A	
Piping diameter		B	1/2	3/4
Weight		kg	90	160
Dimensions (W×D×H)		mm	420×670×915	485×925×1,350
Accessories		—	Inlet valve, discharge valve	

(2) The cooling unit with a built-in heatless dryer, which is to be installed as a distributed component of existing air usage system.

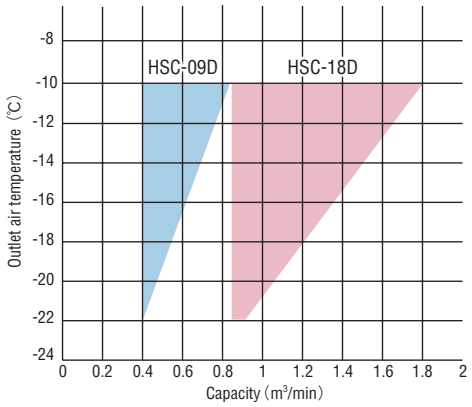
Item		Model	HSC-09	HSC-18
Fluid		—	Compressed air, Nitrogen gas (Note 3)	
Usable range	Ambient temperature	℃	5～35	
	Inlet fluid temperature	℃	5～35	
	Inlet fluid pressure	MPa	0.49～0.92	
Processing flow volume (Note 2)	Inlet flow volume	m^3/min	0.74 (0.29)	1.5 (0.63)
	Discharge flow volume	m^3/min	0.74 (0.29)	1.5 (0.63)
	Discharge fluid temperature	℃	−10 (−20)	
Power source		V(50/60Hz)	3φ 200/200・220	
Rated output of refrigerator		W	800	1,100
Cooling method of condenser		—	Air cooling	
Capacity control device		—	Hot gas bypass valve	
Refrigerant		—	HFC-R404A	
Piping diameter		B	1/2	3/4
Weight		kg	70	120
Dimensions (W×D×H)		mm	300×705×790	300×955×955
Accessories		—	Inlet valve, discharge valve	

Notes:
1. The fluid must have been passed through the line, micro mist and deodorant filters and its dew point must be 10℃ and below under the pressure, which is equivalent to -17℃ and below under the atmospheric pressure.
2. The values in the category of processing flow volume were measured at 30℃ of inlet gas temperature, 30℃ of ambient temperature, and 0.69MPa of inlet pressure. Contact our service outlet and inquire about the discharge temperature separately, since it changes dependent on the processing flow volume and the inlet fluid temperature.
3. The fluid must have been passed through a heatless dryer, and its dew point must be -40℃ and below under the pressure.

Cooling applications for PROFRIO

- ●Rapid cooling after adhering
- ●Grinding
- ●Lower temperature for inspecting semiconductor devices
- ●Rapid cooling of molds for plastic
- ●Cooling of woodworking machinery
- ●Cooling of machine tools
- ●Improvement of process efficiency

Type selection



Necessary capacity of power transformer

Select an appropriate power transformer to secure necessary power source for a 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	300KVA

Note : The capacity of transformer changes dependent on the specs of power cable.

⚠ Safty Precautions

■ **Regarding compressor application**
- ● The compressor described in this catalog utilizes only air as a gas. Absolutely avoid using it for compression of a gas other than air — this could result in a fire hazard or damage to the equipment.
- ● Never use compressed air for human breathing.

■ **Regarding installation site**
- ● Install this compressor indoors. Avoid using it at a place susceptible to moisture such as precipitation or vapors — this could result in a fire hazard, electric shock, rusting or shortened life of parts.
- ● There should be no explosive or flammable gas (acetylene, propane, etc.), organic solvent, explosive powder or flame used near the compressor — otherwise there is a fire hazard.
- ● Avoid using the compressor at a palace where there is corrosive gas such as ammonia, acid, salt sulfurous acid gas, etc. — this could result in rusting, shortened life, or damage to the equipment.

■ **Regarding usage**
- ● Before use, be sure to read the instruction manual thoroughly for correct use of the compressor.
- ● Absolutely avoid modifying the compressor or its components—this could result in damage or malfunction.

Beware of ventilation in the compressor room

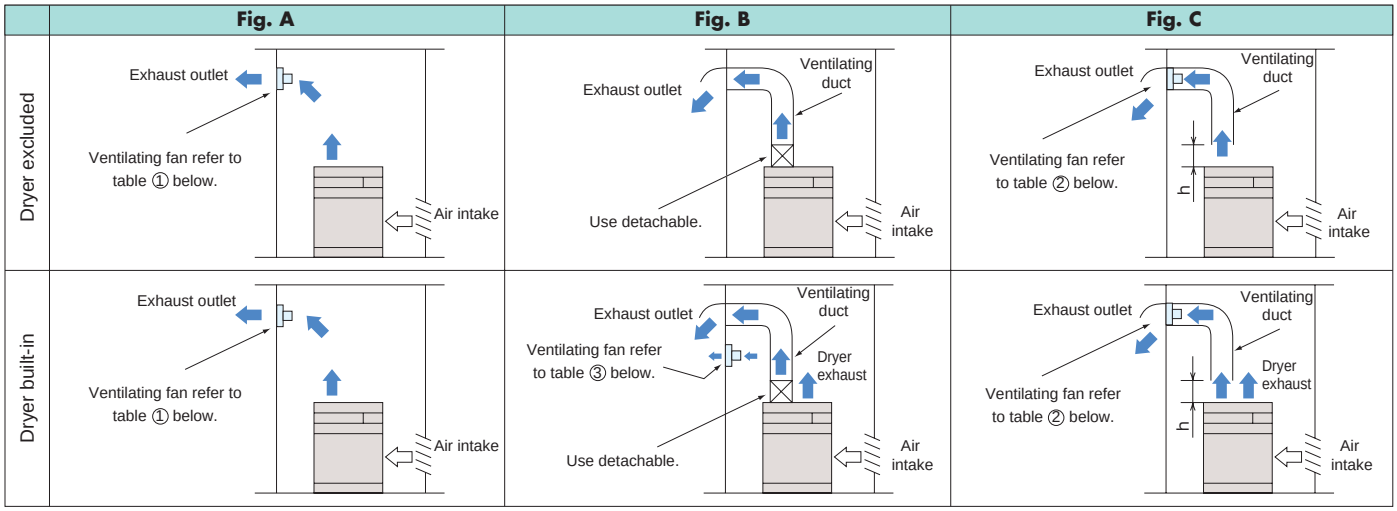
HISCREW is not unusable in a closed room. Install the HISCEREW in a proper installation location where the heat generated by the HISCREW can be ventilated.

(1) Ventilation without a Duct (Figure A)
For ventilation without an exhaust duct, install a ventilating fan with a capacity as specified by **Recommended Ventilating Fan** ① in the Ventilation Data. The capacity is based on the allowable room temperature rise of 5˚C. Position the ventilating fan as high as possible on the wall.

(2) Ventilation with a Duct and without a Ventilating Fan (Figure B)
For ventilation with an exhaust duct, calculate the duct's pressure loss based on the Air Exhaust (air compressor) in the Ventilation Data.
If the calculated pressure loss is lower than **20 Pa**, a ventilating fan is not required on the duct. Install the duct with its detachable end making direct contact with the grilled air exhaust (air compressor part only) of the HISCREW's top enclosure panel.

For ventilation of the air exhausted from an air dryer, install a ventilating fan with a capacity as specified by **Recommended Ventilating Fan** ③ in the Ventilation Data.

(3) Ventilation with a Duct and Ventilating Fan (Figure C)
If the pressure loss as calculated as above (2) is **20 Pa** or higher, a ventilating fan is required on the duct. Install the duct with keeping a gap of 200 to 300mm between the duct end and the grilled air exhaust (air compressor part only) of the HISCREW's top enclosure panel. On the other end of the duct, install a ventilating fan with a capacity as specified by **Recommended Ventilating Fan** ② in the Ventilation Data. When selecting a ventilating fan, consider not only this capacity but also the duct pressure loss and the exhausted air temperature rise.



■Ventilation data

Air-cooled HISCREW series

Item	(kW)	7.5	11	15	22	37	55	75	100	150
Heat generation	MJ/h	33.1	47.3	63.2	90.8	154	226	306	406	650
Air exhaust (air compressor)	m³/min	20	28	28	55	75	100	150	200	180×2
Approx. temp. Rise (exhaust air)	˚C	25	25	35	25	31	35	30	31	30
Allowable pressure loss (exhaust duct)	Pa	20								
Recommended fan capacity ①	m³/min	88	125	167	240	407	598	810	1,074	1,720
Recommended fan capacity ②	m³/min	23	32	32	63	86	115	173	230	207×2

Air-cooled HISCREW with built-in dryer series

Item	(kW)	7.5	11	15	22	37	55	75
Heat generation	MJ/h	36.4	52.3	69.9	104	175	251	352
Air exhaust (air compressor)	m³/min	20	28	28	55	75	100	150
Air exhaust (airf dryer)	m³/min	10	18	18	30	50	30	30
Approx. temp. Rise (exhaust air)	˚C	25	25	35	25	31	35	30
Externally allowable pressure loss	Pa	20						
Recommended fan capacity ①	m³/min	96	138	185	276	464	664	932
Recommended fan capacity ②	m³/min	33	47	52	102	149	181	295
Recommended fan capacity ③	m³/min	10	15	20	39	62	66	122

Water-cooled HISCREW series

Item	(kW)	22	37	55	75	100	125	150	160	190	200	240
Heat generation	MJ/h	16.7	29.3	41.5	57	82.9	122	146	156	185	195	233
Recommended fan capacity ①	m³/min	44	78	110	151	220	324	388	414	490	516	619

Water-cooled HISCREW with built-in dryer series

Item	(kW)	22	37	55	75
Heat generation	MJ/h	30.1	50.7	66.5	103
Recommended fan capacity ①	m³/min	80	134	176	273

Note: The recommended ventilator capacities hold true when the ambient temperature rise is repressed to 5℃ and the static pressure is 0 Pa . For more detail, refer to the installation figure and the instruction manual, and plan your ventilation facility.

●Derivation of necessary ventilation capacity

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

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

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