OIL-FREE SCREW COMPRESSORS

HITACHI Inspire the Next





Safety 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. (Except products with outdoor specifications)

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 place 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.

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 Hanbell (Shanghai) Precise Machinery Co., Ltd.									
For further information, please contact your nearest sales representative.									

CE32-03 2015.07(T)

Pursuing High Quality in Every Detail



SDS-U280(280kW)

Multilayer configuration

Air Filter

Two types of unwoven chemical fiber, combined with a three-dimensional construction, are used for air filter. Dust can be captured three-dimensionally with the multilayer construction.



New-design

Discharge Silencer

providing lower noise level This silencer reduces irritating high-frequency noises by reducing the pressure pulsations of the compressor air.

Check Valve supporting longer product life

This time-proven lift-type check valve is used to prevent the backflow of air. The valve construction with a reduced number of moving and sliding parts assures longer life and higher reliability.



Highly durable 🐠



Capacity Regulator

A simple construction that drives the intake valve by the hydraulic piston is adopted. Its excellent durability contributes to energy-saving as pressure setting range can be reduced during a load state.

Main Motor with NEW improved reliability



A totally enclosed flange-type motor is used for the main motor to improve reliability.

Environment-friendly

Oil Capturing System

OMCS (Oil Mist Capturing System) is commonly equipped in this series. It collects smoke from

ISO 8573-1 2010 Class Zero Certification

HITACHI

These oil-free screw compressors have been certified by TÜV Rheinland, an independent third-party test house, which is known as having the most strict criteria worldwide.

as "Class 0 (zero)", meaning that it has the lowest level of exhaust emissions.

Noise Control Cover in Robust **Construction** preventing noise leakage

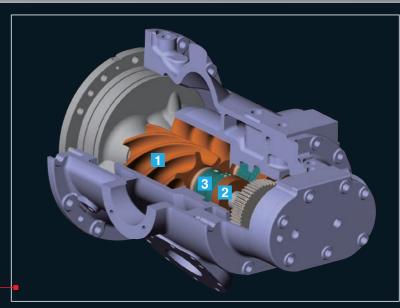
Advanced measures are incorporated to prevent various kinds of noise such as the panel-transmitting noise and the noise leaking from the (suction) inlet and the air vent.

Improving Performance by 2.5% compared with Hitachi's conventional model





New-Type Air Block Improving efficiency and saving energy

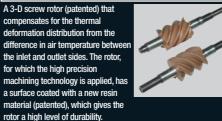


Air Block Fluid Analysis applying CFD Technology

The essence of our original technologies behind abundant track record, is concentrated into profiling Air Block. The 3-D fluid analysis that makes full use of an advanced CFD (Computational Fluid Dynamics) technology simulates to assist in optimizing shapes of air flow path, inlet, outlet and rotor.

1 3-D Screw Rotor Compensating Thermal Deformation

2 Long-Life Bearings



In addition to high quality materials and high precision technology used for the bearing advanced analysis technologies and lubricating theory are appl to select the type of lubricant, cleanliness, spray nozzle shape and other items affecting the bearings. Every effort is made to give the bearings a longer life.

3 Highly Reliable Shaft Seal

Through the use of a wear-resistant floating seal, air leakage can be sealed fo a long time. High quality thread seals are also employed for bearings. providing double prevent against oil mist entering the



*1: CO₂ emission coefficient of 0.555 kg CO₂/kWh (compared with Hitachi's conventional model

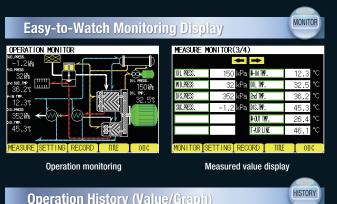
Energy-Efficient Control Functions Empowered by Multi-Control System

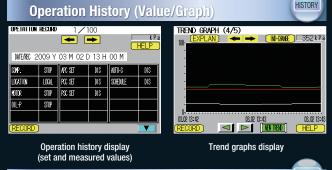


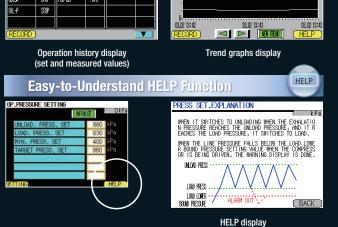
New and Highly-Functional Control Panel featuring quick and simple operation

An easy-to-watch, highly maneuverable and color LCD touch panel is adopted. Quick navigation function works to instantly reach your desired screen and facilitates your operation. It is capable of setting various parameters and displaying various histories as well as trend graphs. HELP function also has been upgraded. Multi-control, data communication and remote monitoring can be selected as optional functions.











Mulltiple unit control function can be installed in a control panel to

An office PC can remotely access and obtain operating data, when

On a LAN basis, multiple PCs can remotely monitor operating status.

Multiple Unit Control Function

Remote Monitoring Function

communication ports are mounted on control panels.

operate up to nine compressor units.

Communication Function

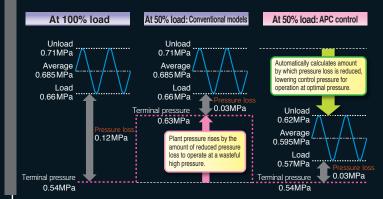
Power Saving Control (Standard)

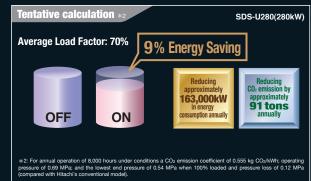
Capable of saving energy and reducing CO₂ emission by controlling energy consumption multi-functionally

End Pressure Control with APC (Active Power Control)



Air pressure discharged from a compressor loses as air decreases through various equipment. It automatically calculates and controls its pressure setting value to maintain constant end pressure to a user, reducing redundant high pressure operation and contributing to energy saving.

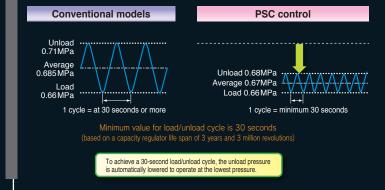


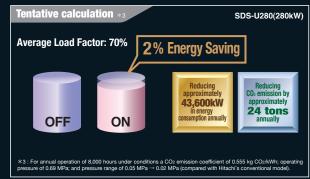


Precision Pressure Control with PSC (Power Save Control)



It can automatically control pressure range while ensuring a specified load-unload cycle time, which leads to reducing abundant air pressure and contributing to energy saving.



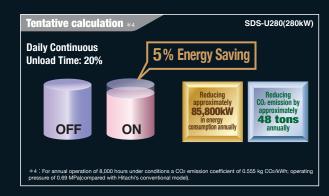


Automatic Start/Stop with ASS (Auto Start & Stop)



A compressor automatically stops as line pressure rises up to a certain preset pressure and also unload state continues over a specified time period. It automatically starts up when the line pressure drops to the preset pressure level.





Energy Conservation Enabled by Inverter Control

Standard specification for double-stage model

Standard specification for double-stage model															
	Frequency			50Hz											
Discharge	Inlet air condi		20°C, RH0%, atmospheric pressure(0.1MPa(A))												
pressure[MPaG]	Frame N	0.	UH20E	UH20D			UH20A	UH31D		UH31B	UH31A	UH42D	UH42C		UH42A
0.7 (Max 0.71)	Model		SDS-U90-C	SDS-U115-C	SDS-U145-C	SDS-U160-C	SDS-U185-C	SDS-U200-C	SDS-U220-C	SDS-U250-C	SDS-U280-C	SDS-U315-C	SDS-U350-C	SDS-U390-C	SDS-U440-C
	Capacity	m³/h	1,000	1,295	1,550	1,780	1,985	2,245	2,480	2,770	3,110	3,630	3,970	4,380	4,910
		m³/min	16.7	21.6	25.8	29.7	33.1	37.4	41.3	46.2	51.8	60.5	66.2	73.0	81.8
	Output	kW	90	115	145	160	185	200	220	250	280	315	350	390	440
	Cooling water flow	m³/h	12	14	16	18	19	23	25	27	30	34	37	42	46
	Model		SDS-U90-CH	SDS-U110-CH	SDS-U132-CH	SDS-U150-CH	SDS-U180-CH	SDS-U185-CH	SDS-U200-CH	SDS-U235-CH	SDS-U270-CH	SDS-U300-CH	SDS-U340-CH	SDS-U380-CH	SDS-U430-CH
0.8	Capacity	m³/h	900	1,070	1,360	1,520	1,770	1,825	2,100	2,360	2,670	3,090	3,490	3,930	4,360
(Max 0.93)	Oupdony	m³/min	15.0	17.8	22.7	25.3	29.5	30.4	35.0	39.3	44.5	51.5	58.2	65.5	72.7
	Output	kW	90	110	132	150	180	180	200	235	270	300	340	380	430
	Cooling water flow	m³/h	12	14	16	18	21	23	25	27	30	35	39	43	48
	Model		SDS-U90-CU	SDS-U110-CU	SDS-U140-CU	SDS-U155-CU	SDS-U180-CU	SDS-U185-CU	SDS-U210-CU	SDS-U240-CU	SDS-U275-CU	SDS-U300-CU	SDS-U340-CU	SDS-U390-CU	SDS-U430-CU
1.0	Capacity	m³/h	820	990	1,225	1,420	1,680	1,680	1,900	2,160	2,470	2,800	3,155	3,595	4,000
(Max 1.03)	Capacity	m³/min	13.7	16.5	20.4	23.7	28.0	28.0	31.7	36.0	41.2	46.7	52.6	59.9	66.7
, ,	Output	kW	90	110	140	155	185	185	210	240	275	300	340	390	430
	Cooling water flow	m³/h	12	14	16	18	21	23	25	28	31	37	41	44	50
	Frequency						60Hz								
Discharge	Inlet air condi	itions	20°C, RH0%, atmospheric pressure(0.1MPa(A))												
pressure[MPaG]	Frame N		UH20E	UH20D	UH20C	UH20B	UH20A	UH31D	UH31C	UH31B	UH31A	UH42D	UH42C	UH42B	UH42A
	Model		SDS-U90-C	SDS-U115-C	SDS-U145-C	SDS-U160-C	SDS-U185-C		SDS-U220-C	SDS-U250-C	SDS-U280-C	SDS-U315-C	SDS-U350-C	SDS-U390-C	SDS-U440-C
0.7	Capacity -	m³/h	1,010	1,290	1,560	1,775	2,010	2,220	2,500	2,810	3,115	3,630	3,935	4,435	4,865
(Max 0.71)		m³/min	16.8	21.5	26.0	29.6	33.5	37.0	41.7	46.8	51.9	60.5	65.6	73.9	81.1
, ,	Output	kW	90	115	145	160	185	200	220	250	280	315	350	390	440
	Cooling water flow	m³/h	12	14	16	18	19	23	25	27	30	34	37	42	46
	Model		SDS-U90-CH	SDS-U110-CH	SDS-U132-CH	SDS-U150-CH	SDS-U180-CH	SDS-U185-CH	SDS-U200-CH	SDS-U235-CH	SDS-U270-CH	SDS-U300-CH	SDS-U340-CH	SDS-U380-CH	SDS-U430-CH
0.8	Capacity	m³/h	900	1,055	1,350	1,530	1,810	1,830	2,070	2,360	2,690	3,090	3,505	3,890	4,390
(Max 0.93)		m³/min	15.0	17.6	22.5	25.5	30.2	30.5	34.5	39.3	44.8	51.5	58.4	64.8	73.2
` ´	Output	kW	90	110	132	150	180	180	200	235	270	300	340	380	430
	Cooling water flow	m³/h	12	14	16	18	21	23	25	27	30	35	39	43	48
	Model		SDS-U90-CU	SDS-U110-CU	SDS-U140-CU	SDS-U155-CU	SDS-U180-CU	SDS-U185-CU		SDS-U240-CU	SDS-U275-CU	SDS-U300-CU		SDS-U390-CU	
1.0	Capacity	m³/h	815	970	1,210	1,390	1,680	1,685	1,895	2,100	2,460	2,820	3,185	3,610	4,045
(Max 1.03)		m³/min	13.6	16.2	20.2	23.2	28.0	28.1	31.6	35.0	41.0	47.0	53.1	60.2	67.4
` ′	Output	kW	90	110	140	155	185	185	210	240	275	300	340	390	430
	Cooling water flow	m³/h	12	14	16	18	21	23	25	28	31	37	41	44	50
	Motor Type							Totally end	closed fan c	cooled type					
Oil tank capacity L			70					70			100				
Port size	Air outlet		2 1/2" (65A)					3" (80A)			4" (100A)				
T OIT SIZE	Water inlet & outlet		2" (50A)					21/2" (65A)				3" (80A)			
	Length	mm			3,000			3,200				3,8	300		
Dimensions	Width	mm			1,700			1,700						950	
	Height mm				2,050				2,2	200			2,3	300	
				n values in terms of the suction state of compressor 2. Discharge pressure shows gauge pressure. 3. Output indicates nominal output of compressor											

Notes: 1. Capacity shows the corresponding values in terms of the suction state of compressor. 2. Discharge pressure shows gauge pressure. 3. Output indicates nominal output of compressor

Standard specification for single-stage model

3															
Frequency			50Hz												
Discharge	Inlet air cond	litions	20°C, RH0%, atmospheric pressure (0.1MPa(A))												
pressure[MPaG]	Frame num	nber	UH2E	UH2D	UH2C	UH2B	UH2A	UH3D	UH3C	UH3B	UH3A	UH4D	UH4C	UH4B	UH4A
0.25 (Max 0.25)	Model		SDS-U55L-C	SDS-U75L-C	SDS-U90L-C	SDS-U110L-C	-	SDS-U132L-C	SDS-U160L-C	SDS-U180L-C	-	SDS-U200L-C	SDS-U240L-C	SDS-U270L-C	SDS-U280L-C
	Capacity	m³/h	955	1,250	1,565	1,860	_	2,290	2,710	3,010	_	3,475	4,120	4,700	4,840
		m³/min	15.9	20.8	26.1	31.0	-	38.2	45.2	50.2	-	57.9	68.7	78.3	80.7
` ′	Output	kW	55	75	90	110	_	132	160	180	_	200	240	270	280
	Cooling water flow	m³/h	7	8	10	13	-	16	17	20	-	25	28	30	32
	Model		-	SDS-U75L-CH	SDS-U95L-CH	SDS-U110L-CH	SDS-U132L-CH		SDS-U145L-CH	SDS-U185L-CH	SDS-U210L-CH		SDS-U240L-CH	SDS-U275L-CH	SDS-U315L-CH
0.34	Capacity	m³/h	_	1,005	1,295	1,505	1,745	_	2,070	2,550	2,825	-	3,385	3,840	4,360
(Max 0.35)		m³/min	-	16.8	21.6	25.1	29.1	-	34.5	42.5	47.1	-	56.4	64.0	72.7
[`	Output	kW	_	75	95	110	132	-	145	185	210	-	240	275	315
	Cooling water flow	m³/h	-	8	10	13	15	-	18	21	25	-	28	33	37
	Frequency			60Hz											
Discharge	ischarge Inlet air conditions			20°C, RH0%, atmospheric pressure (0.1MPa(A))											
pressure[MPaG]			UH2E	UH2D	UH2C	UH2B	UH2A	UH3D	UH3C	UH3B	UH3A	UH4D	UH4C	UH4B	UH4A
	Model SI				SDS-U90L-C		-		SDS-U160L-C		-				SDS-U280L-C
0.25		m³/h	960	1,255	1,535	1,865	_	2,290	2,730	3,015	_	3,495	4,170	4,680	4,810
(Max 0.25)		m³/min	16.0	20.9	25.6	31.1	-	38.2	45.5	50.3	-	58.3	69.5	78.0	80.2
	Output	kW	55	75	90	110	_	132	160	180	_	200	240	270	280
	Cooling water flow	m³/h	7	8	10	13	-	16	17	20	-	25	28	30	32
	Model -		-	SDS-U75L-CH	SDS-U95L-CH	SDS-U110L-CH	SDS-U132L-CH	-	SDS-U145L-CH	SDS-U185L-CH		-	SDS-U240L-CH	SDS-U275L-CH	SDS-U315L-CH
0.34	Capacity	m³/h	_	975	1,290	1,510	1,770	-	2,085	2,580	2,830	-	3,385	3,895	4,375
(Max 0.35)	_ ' '	m³/min	-	16.3	21.5	25.2	29.5	-	34.8	43.0	47.2	-	56.4	64.9	72.9
	Output	kW	-	75	95	110	132	_	145	185	210		240	275	315
	Cooling water flow	m³/h	-	8	10	13	15	-	18	21	25	-	28	33	37
	Motor Type			Totally enclosed fan cooled type											
Oil tanl	k capacity	L		70									10	00	
Port size	Air outle				3" (80A)			4" (100A)			6" (150A)				
1 011 0120	Water inlet &	outlet			1 1/2" (40A)			2" (50A)			2 1/2" (65A)				
	Length	mm			3,000			3,200				3,8	00		
Dimensions	Width	mm		1,700				1,700			1,950				
	Height			2,050				2,200			2,300				

Notes: 1. Capacity shows the corresponding values in terms of the suction state of compressor. 2.Discharge pressure shows gauge pressure. 3. Output indicates nominal output of compressor.



Conserves energy with rotation speed control by the inverter

The inverter suppresses fluctuations in discharge pressure to about 0.01 MPa, thereby reducing discharge pressure and power consumption. This permits energy sayings of about 14% compared to two-step devices when the load ratio is 60% *1





otion *1:Compared with the 18

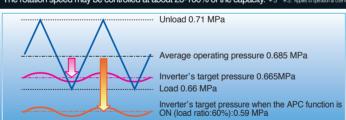
Hitachi's unique APC control has been added, for saving energy further

Addition of Hitachi's unique Active Power Control (APC) function permits control of the end pressure, which enables greater energy savings -- about 25% compared to two-step devices when the load ratio is 60%. *2

*2 Compared with Hitachi 185 kW class. In case of single-stage operation at 0.69 MPa specification and 0.12 MPa pressure loss at 100% load factor.

Wide range of rotation speed control

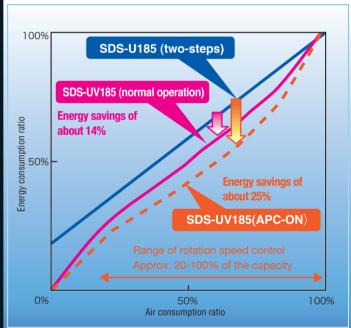
The rotation speed may be controlled at about 20-100% of the capacity. *3 *3: Applies to operation at 0.69 MPs



Standard specification for double-stage model (Inverter

	Frequency		50Hz/60Hz					
Discharge	Inlet air con	ditions	20°C, RH0%, atmospheric pressure (0.1MPa(A))					
pressure[MPaG]	Frame nu	mber	UH20A	UH42A				
	Mode		SDS-UV185-C	SDS-UV280-C	SDS-UV440-C			
0.7	Capacity	m³/h	2,010	3,115	4,865			
U.7 (Max 0.71)	Capacity	m³/min	33.5	51.9	81.1			
(IVILIX 0.7 1)	Output	kW	185	280	440			
	Cooling water flow	m³/h	19	30	46			
	Mode	I	SDS-UV180-CH	SDS-UV270-CH	SDS-UV430-CH			
0.8	Capacity	m³/h	1,810	2,690	4,390			
(Max 0.93)	Capacity	m³/min	30.2	44.8	73.2			
(IVIAX U.SS)	Output	kW 180		270	430			
	Cooling water flow	m³/h	21	30	48			
	Mode	l	SDS-UV180-CU	SDS-UV275-CU	SDS-UV430-CU			
1.0	Capacity	m³/h	1,680	2,460	4,045			
(Max 1.03)	Jupusity	m³/min	28.0	41.0	67.4			
(11107 1100)	Output	kW	185	275	430			
	Cooling water flow	m³/h	21	31	50			
	Motor Type		Totally enclosed fan cooled type					
Oil ta	nk capacity	L	70	100				
Dort size	Air outl	et	2 1/2" (65A)	3" (80A)	4" (100A)			
Port size	Water inlet 8	outlet	2" (50A)	2 1/2" (65A)	3" (80A)			
	Length	mm	3,000	3,200	3,800			
Dimensions	Width	mm	1,700	1,700	1,950			
	Height	mm	2,050	2,200	2,300			

Notes: 1. Capacity shows the corresponding values in terms of the suction state of compressor.
 2. Discharge pressure shows gauge pressure.
 3. Output indicates nominal output of compresso



Standard specification for single-stage model (Inverter)

	Frequency		50Hz/60Hz					
Discharge	Inlet air con	ditions	20°C, RH0%, atmospheric pressure (0.1MPa(A))					
pressure[MPaG]	Frame nui	mber	UH2B					
	Mode		SDS-UV110L-C	SDS-UV180L-C	SDS-UV270L-C			
0.25	Capacity	m³/h	1,865	3,015	4,680			
(Max 0.25)	Capacity	m³/min	31.1	50.3	78.0			
(Output	kW	110	180	270			
	Cooling water flow	m³/h	13	20	30			
	Mode		SDS-UV110L-CH	SDS-UV185L-CH	SDS-UV275L-CH			
0.34	Capacity	m³/h	1,510	2,580	3,895			
(Max 0.35)	σαρασιιή	m³/min	25.2	43.0	64.9			
, ,	Output	kW	110	185	275			
	Cooling water flow	m³/h	13	21	33			
	Motor Type		Totally enclosed fan cooled type					
Oil	tank capacity	L	7	100				
Port size	Air out	et	3" (80A)	4" (100A)	6" (150A)			
1 011 3126	Water inlet 8	outlet	1 1/2" (40A)	2" (50A)	2 1/2" (65A)			
	Length	mm	3,000	3,200	3,800			
Dimensions	Width	mm	1,700	1,700	1,950			
	Height	mm	2,050	2,200	2,300			

tes: 1. Capacity shows the corresponding values in terms of the suction state of compressor

Discharge pressure shows gauge pressure.
 Output indicates period output of compress.

5