SDS-U Series Standard Specifications

Frequency			50Hz											
Discharge pressure MPa [kg/cm²]	Model		SDS-U105	SDS-U115	SDS-U145	SDS-U160	SDS-U185	SDS-U200	SDS-U225	SDS-U250	SDS-U280	SDS-U325	SDS-U360	SDS-U400	SDS-U450
	Frame number		UH20E	UH20D	UH20C	UH20B	UH20A	UH31D	UH31C	UH31B	UH31A	UH42D	UH42C	UH42B	UH42A
	Inlet air conditions		30°C 75%RH, atmospheric pressure												
0.69 [7.0]	Capacity	m³/h	1,090	1,295	1,600	1,780	1,985	2,275	2,520	2,770	3,110	3,630	3,970	4,380	4,910
		m³/min	18.2	21.6	26.7	29.7	33.1	37.9	42.0	46.2	51.8	60.5	66.2	73.0	81.8
	Motor output	kW	105	115	145	160	180	200	225	250	280	320	350	390	440
	Cooling water flow	m³/h	12.0	14.0	16.0	18.0	19.0	22.0	24.0	26.0	29.0	33.0	36.0	40.0	44.0
0.93 [9.5]	Capacity	m³/h	980	1,145	1,360	1,520	1,770	1,945	2,165	2,380	2,725	3,170	3,580	3,930	4,360
		m³/min	16.3	19.1	22.7	25.3	29.5	32.4	36.1	39.7	45.4	52.8	59.7	65.5	72.7
	Motor output	kW	105	120	145	160	190	200	225	250	290	325	370	410	455
	Cooling water flow	m³/h	12.0	14.0	16.0	18.0	21.0	22.0	24.0	26.0	29.0	34.0	38.0	41.0	46.0
Frequency			60Hz												
Discharge pressure MPa [kg/cm²]	Model		SDS-U105	SDS-U115	SDS-U145	SDS-U160	SDS-U185	SDS-U200	SDS-U225	SDS-U250	SDS-U280	SDS-U325	SDS-U360	SDS-U400	SDS-U450
	Frame number		UH20E	UH20D	UH20C	UH20B	UH20A	UH31D	UH31C	UH31B	UH31A	UH42D	UH42C	UH42B	UH42A
	Inlet air conditions		30°C 75%RH, atmospheric pressure												
0.69 [7.0]	Capacity	m³/h	1,080	1,290	1,610	1,775	2,010	2,220	2,500	2,810	3,115	3,630	3,935	4,435	4,865
		m³/min	18.0	21.5	26.8	29.6	33.5	37.0	41.7	46.8	51.9	60.5	65.6	73.9	81.1
	Motor output	kW	105	115	145	160	185	195	220	250	280	320	350	395	440
	Cooling water flow	m³/h	12.0	14.0	16.0	18.0	19.0	22.0	24.0	26.0	29.0	33.0	36.0	40.0	44.0
0.93 [9.5]	Capacity	m³/h	980	1,130	1,350	1,530	1,810	1,940	2,185	2,435	2,690	3,205	3,580	3,890	4,390
		m³/min	16.3	18.8	22.5	25.5	30.2	32.3	36.4	40.6	44.8	53.4	59.7	64.8	73.2
	Motor output	kW	105	120	145	165	195	200	225	260	290	325	370	405	460
	Cooling water flow	m³/h	12.0	14.0	16.0	18.0	21.0	22.0	24.0	26.0	29.0	34.0	38.0	41.0	46.0
Motor Type			Totally enclosed fan cooled type												
Oil tank capacity		L	70					70				100			
Port size	Air outlet	(A)	65					80				100			
	Water inlet & outlet	(A)	50					65				80			
Dimensions	Length	mm	2,600					2,800				3,400			
	Width	mm	1,700					1,700				1,950			
	Height	mm	2,000					2,150				2,300			

Notes: 1. Capacity shows the corresponding values in terms of the suction state of compressor.
2. Discharge pressure shows gauge pressure.
3. Motor output indicates nominal output.
4. Hitachi is prepared to offer high-discharge pressure specifications (1.03 MPa). Contact us for details.

⚠ 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. 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 Plant Technologies, Ltd.

For further information, please contact your nearest sales representative.

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Debut !

HITACHI
Inspire the Next

OIL-FREE SCREW COMPRESSORS

AIR ZEUS

SDS-U SERIES

Hitachi Plant Technologies

AIR ZEUS

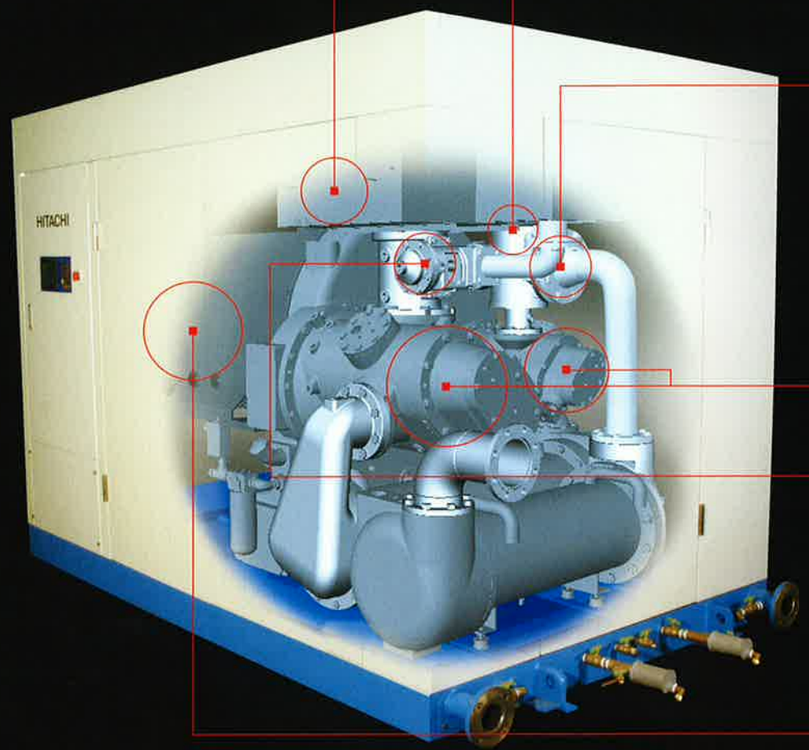
OIL-FREE SCREW COMPRESSORS
SDS-U SERIES

Toward a New Era of Compressors

Genesis of Premium Air

The ultimate features created through the pursuit of higher efficiency,
sophisticated operation and reduced irritating high-frequency noise …
The innovation of performance offered by the new SDS-U Series embodies the New Era.

Pursuing High Quality in Every Detail



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. The filter is reusable when cleaned.

New-design NEW

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 NEW

Capacity Regulator Valve

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 improved reliability NEW

A totally enclosed flange-type motor is used for the main motor to improve reliability. Maintenance operation is not necessary for the main shaft, which is directly connected to gears without using a coupling or a step-up gear bearing.

Noise Control Cover in Robust Construction preventing noise leakage NEW

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.

Environment-friendly

Oil Capturing System

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

NEW

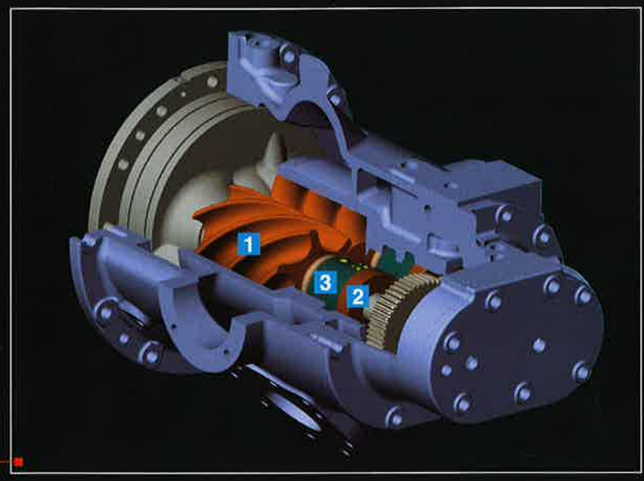
Improving Performance by 2.5% compared with Hitachi's conventional model

SDS-U280(280kW)

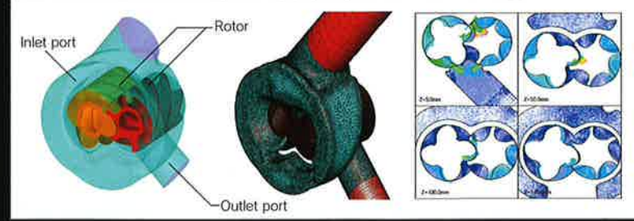
Reducing approximately ¥670 thousand in energy consumption annually *1

Reducing CO_2 emission by approximately 31 tons annually *2

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 optimisng shapes of air flow path, inlet, outlet and rotor.

1 3-D Screw Rotor Compensating Thermal Deformation

A 3-D screw rotor (patented) that compensates for the thermal deformation distribution from the difference in air temperature between the inlet and outlet sides. The rotor, for which the high precision machining technology is applied, has a surface coated with a new resin material (patented), which gives the rotor a high level of durability.

2 Long-Life Bearings

In addition to high quality materials and high precision technology used for the bearings, advanced analysis technologies and lubricating theory are applied 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 for a long time. High quality thread seals are also employed for bearings, providing double prevention against oil mist entering the compression chamber.

*1: Unit power cost of ¥12/kWh (compared with Hitachi's conventional model)

*2: CO_2 emission coefficient of 0.555 kg CO_2/kWh (compared with Hitachi's conventional model)

Energy-Efficient Control Functions Empowered by Multi-Control System

AIR ZEUS OIL-FREE SCREW COMPRESSORS SDS-U SERIES

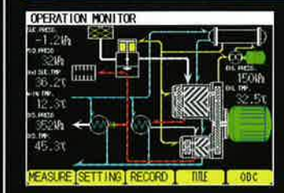
New and Highly-Functional Control Panel featuring quick and simple operation

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.

Color LCD Touch Panel

Display of CHECK and 3-Step Self-Diagnostic Functions (MAINTENANCE/ALARM/TRIP)

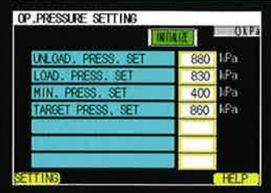
Easy-to-Watch Monitoring Display



Operation monitoring

Measured value display

Simple Setting Display

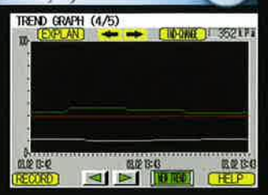


Input

10-key input

Operation History (Value/Graph)

Operation history display (set and measured values)



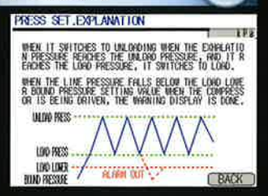
Trend graphs display

Trip History (Detail/List)

Trip history list display

Trip history detail display

Easy-to-Understand HELP Function



HELP display

A Variety of Optional Functions

Multiple Unit Control Function
Mulltiple unit control function can be installed in a control panel to operate up to nine compressor units.

Communication Function
An office PC can remotely access and obtain operating data, when communication ports are mounted on control panels.

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

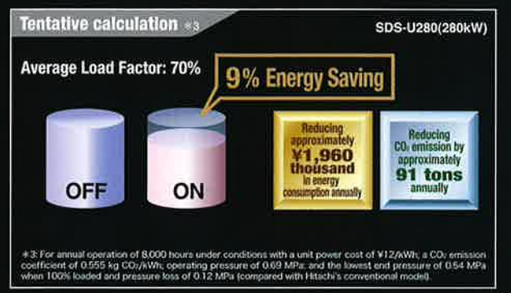
eco Power Saving Control (Standard)

Capable of saving energy and reducing CO_2 emission by controlling energy consumption multi-functionally

End Pressure Control with APC (Active Power Control) [Patented]

SETTING

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.

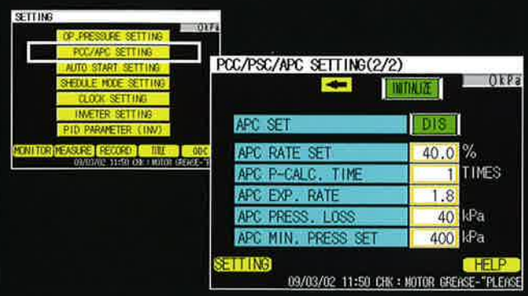


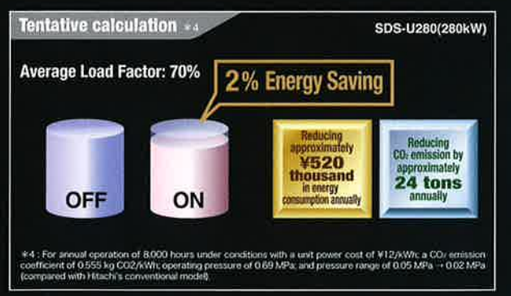
*3: For annual operation of 8,000 hours under conditions with a unit power cost of ¥12/kWh; a CO_2 emission coefficient of 0.555 kg CO_2/kWh; operating pressure of 0.69 MPa; and the lowest end pressure of 0.54 MPa when 100% loaded and pressure loss of 0.12 MPa (compared with Hitachi's conventional model).

Precision Pressure Control with PSC (Power Save Control) [Patented]

SETTING

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.



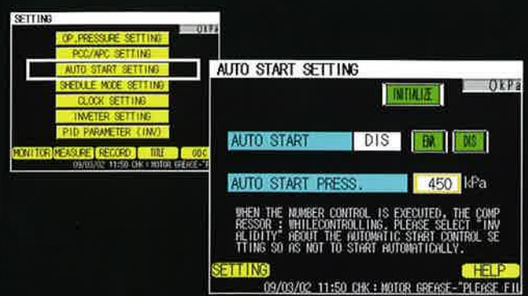


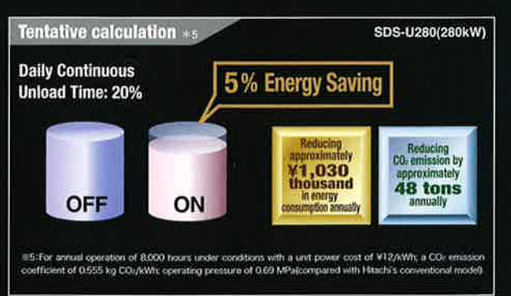
*4 : For annual operation of 8,000 hours under conditions with a unit power cost of ¥12/kWh; a CO_2 emission coefficient of 0.555 kg CO2/kWh; operating pressure of 0.69 MPa; and pressure range of 0.05 MPa → 0.02 MPa (compared with Hitachi's conventional model).

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

SETTING

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.





*5:For annual operation of 8,000 hours under conditions with a unit power cost of ¥12/kWh; a CO_2 emission coefficient of 0.555 kg CO_2/kWh; operating pressure of 0.69 MPa(compared with Hitachi's conventional model)