

AIR ZEUS INVERTER SDS-UV SERIES

OIL-FREE SCREW COMPRESSORS

HITACHI
Inspire the Next



Much Higher Energy-Saving Performance

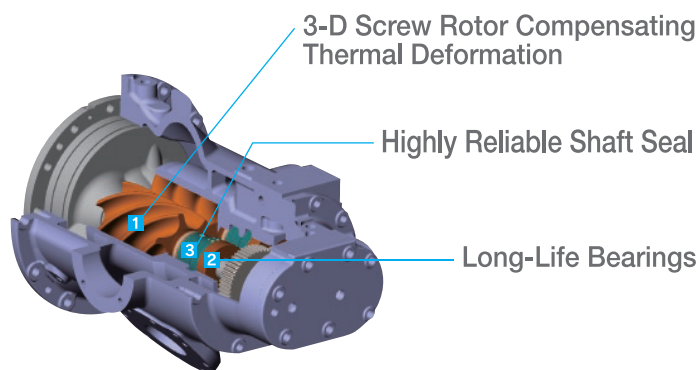
A high-performance inverter control function is now incorporated in the SDS-U Series.

Made in Japan

New-Type Air Block

Improving efficiency and saving energy

Higher efficiency enabled by flow path optimization based on three-dimensional fluid analysis utilizing Computational Fluid Dynamics (CFD)



3-D Screw Rotor Compensating Thermal Deformation

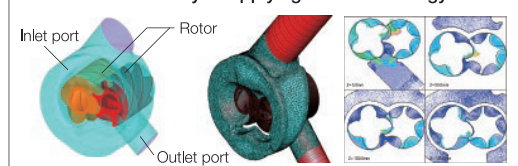
Highly Reliable Shaft Seal

Long-Life Bearings



- Improving Performance by 2.5% compared with Hitachi's conventional model
- Reduces power consumption about 56,000 kWh each year *1
- Cuts CO₂ emissions by approx. 31 tons *2

Air Block Fluid Analysis applying CFD Technology



*1: A unit power cost of ¥12/kWh for the 280 kW model (compared with the conventional Hitachi model)

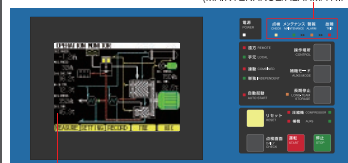
*2: A CO₂ emission coefficient of 0.555kg CO₂/kWh for the 280 kW model (compared with the conventional Hitachi model)

Main Motor

with improved reliability
The unit applies a totally enclosed, fan-cooled, flange mounted motor that is highly resistant to dust.

New and Highly-Functional Control Panel

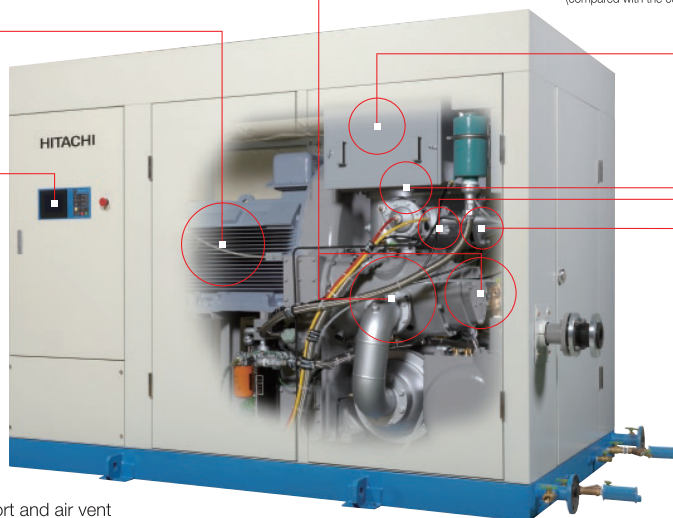
featuring quick and simple operation
A display of CHECK and 3-Step self-diagnostic functions (MAINTENANCE/ALARM/TRIP)



Color LCD touch panel

A robust soundproof cover featuring a new structure

Preventing the leakage of noise from the inlet port and air vent
The unit comes complete with features for preventing noise of every kind.



Multilayer configuration Air Filter

The unit uses a non-woven fabric filter that can be washed and reused.

Environment-friendly Oil Capturing System

The unit comes with the Oil Mist Capturing System (OMCS) as standard equipment.

Highly durable Capacity Control Valve

The valve uses a highly durable hydraulic piston (which endures up to three million movements).

New-design Discharge Silencer

It significantly reduces irritating high-frequency noise by lowering pressure pulsation.

Check Valve supporting longer product life

The unit uses a lift-type check valve for reciprocal compressors, ensuring high durability and reliability.



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Energy Conservation Enabled by Inverter Control

1 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 savings of about 14% compared to two-step devices when the load ratio is 60%. *1

*1: Compared with the 185 kW class model from Hitachi

Reduced average operation pressure

Reduced power consumption

2 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 185 kW-class model from Hitachi (Applies to single operation at 0.69 MPa with a pressure loss of 0.12 MPa at full load.)

3 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 MPa

4 Largely improved motor maintainability

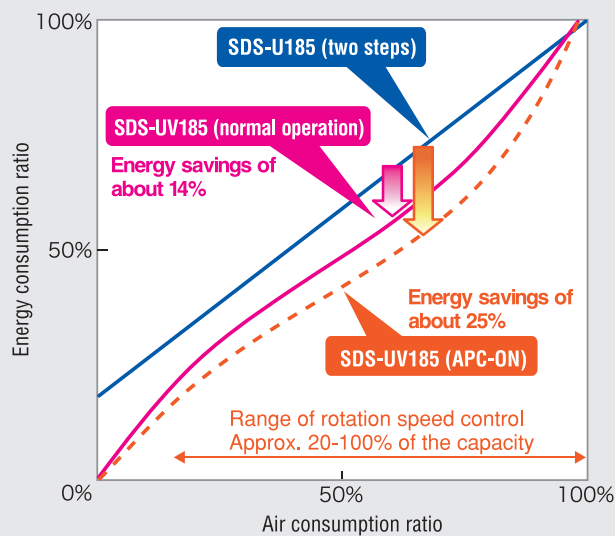
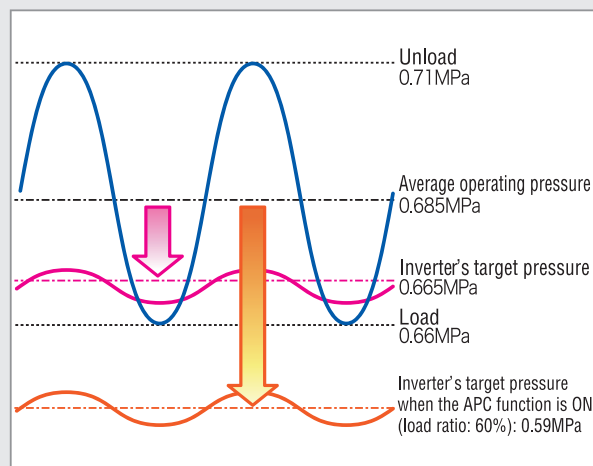
The earth brush, indispensable for inverter-driven motors, was a consumable product. The new device adopts new structural parts that eliminate the need for maintenance work, significantly improving maintainability.

Standard Specifications

Frequency			50Hz/60Hz	
Discharge pressure MPa [kgf/cm ²]	Model		SDS-UV185	SDS-UV280
	Frame number		UH20A	UH31A
	Inlet air conditions		30°C, RH75% Atmospheric pressure	
0.69 [7.0]	Capacity	m ³ /h	2,010	3,115
		m ³ /min	33.5	51.9
	Motor output	kW	185	280
	Cooling water flow	m ³ /h	19.0	29.0
0.93 [9.5]	Capacity	m ³ /h	1,810	2,690
		m ³ /min	30.2	44.8
	Motor output	kW	195	290
	Cooling water flow	m ³ /h	21.0	29.0
Motor Type			Totally enclosed fan cooled type	
Oil tank capacity		L	70	70
Port size	Air outlet	(A)	65	80
	Cooling water inlet & outlet	(A)	50	65
Dimensions	Length	mm	3,600	4,000
	Width	mm	1,700	1,700
	Height	mm	2,150	2,150
Weight		kg	5,550	6,700

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) The power-supply voltage is 400 V class only. (5) The approximate dimensions assume the inverter panel is mounted. (6) The approximate mass is a dry mass which applies to a state in which the inverter panel is mounted. (7) Hitachi is prepared to offer high-discharge pressure specifications (1.03 MPa). Contact us for details.



* "AIRZEUS" is a registered trademark of Hitachi Plant Technologies.

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