TECHNICAL DATASHEET

HST™ 2500 turbocompressor

A highly efficient and reliable single-stage centrifugal compressor for the provision of oil-free, low-pressure compressed air.

Construction

High-speed electric motor
A vertically mounted high-frequency electric motor for variable speed operation. The motor is air-cooled by an integrated shaft mounted fan and the windings are protected by Pt100-sensors monitored by the local control system.

Air end
The impeller has been designed to optimize performance and is machined from a solid piece of high-strength aluminium alloy. The volute and other main components are made from cast aluminium. A non-contact seal between air-end and motor minimizes losses to maintain high efficiency.

Variable frequency drive
Flow control is provided by a built-in variable frequency drive which also accommodates variations in outlet pressure and ambient inlet conditions. The variable frequency drive's soft-start facility eliminates peak starting currents.

Active magnetic bearings
Two radial bearings and two axial bearings support the rotor. The magnetic bearing controller uses data provided by multiple sensors to continuously manage the position of the rotor.

Blow-off valve
The blow-off valve is mounted on the compressor assembly with attenuation provided by an external silencer.

Acoustic enclosure
The enclosure provides protection for the electrical and mechanical components and provides efficient noise attenuation for the machine. The enclosure is constructed from zinc-plated steel. It is suitable for indoor use (IP33D / NEMA 2).

Compressor control

Local control
The built-in local Human-Machine-Interface (HMI) provides control and monitoring for the safe and efficient operation of the machine. Flow may be controlled directly by the operator, or alternatively, the turbocompressor can follow a given reference value. The local HMI uses a keypad and text display to provide access to the operator.

Connections
Analog and digital control and monitoring connections are built in. Fieldbus connections such as Profibus, Profinet, Modbus RTU, Modbus TCP, and EtherNet/IP are available as options.

Remote connections
A secure connection facilitating service and monitoring can be orderd as an option.

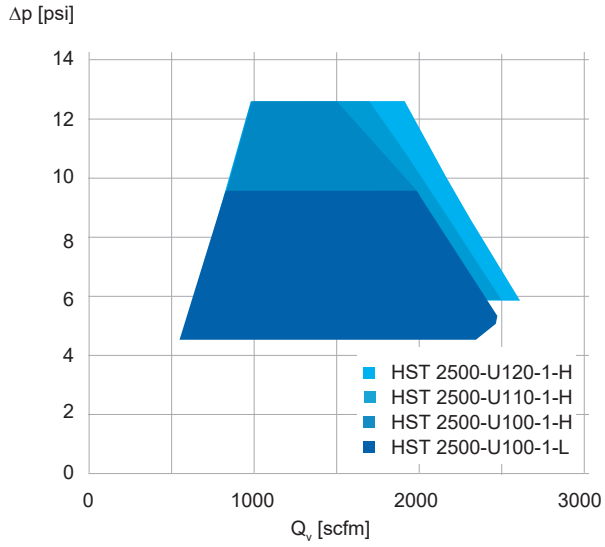
Options

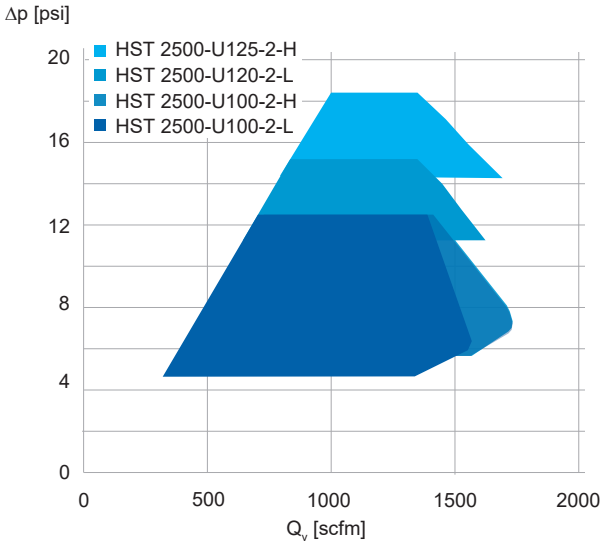
Various options for handling special requirements regarding e.g. temperature, dusty environments and locations with high moisture can be selected.

Accessories

Pipework accessories for installation such as flexible joints, valves, silencers, and air filters are available from Sulzer.

Performance





Performance testing

Compressor performance tests are performed on every machine manufactured and certificates issued to confirm compliance. The tests are carried out at the Sulzer factory test facility. Performance is guaranteed with a manufacturing tolerance of ±2% and a measurement tolerance according to ISO 5389. Optionally tests can be performed in full accordance with ISO 5389 or ASME PTC 10. The test can be witnessed by the customer or a third party inspector.

Certification and standards

The product is certified according to the relevant UL and CSA standards:

- UL 1450
- CSA C22.2 No. 68 / No. 301

The product is designed and manufactured in accordance with the EN 61800-3 standard and intended for use in second environment locations, e.g. in industrial areas.

Installation requirements

Maximum altitude	8200 ft above sea level [1]
Air quality, permitted chemical vapors	IEC 60721-3-3 class 3C3
Ambient temperature	Min. 14 °F, max. +113 °F
Ambient relative humidity	< 95%, non-condensing, non-corrosive, no dripping water
Temperature for ducted process air	Min. -22 °F, max. +122 °F
Weight	1800 lb

[1] 6560 ft for 580 V compressors.

Sulzer may approve applications outside these criteria.

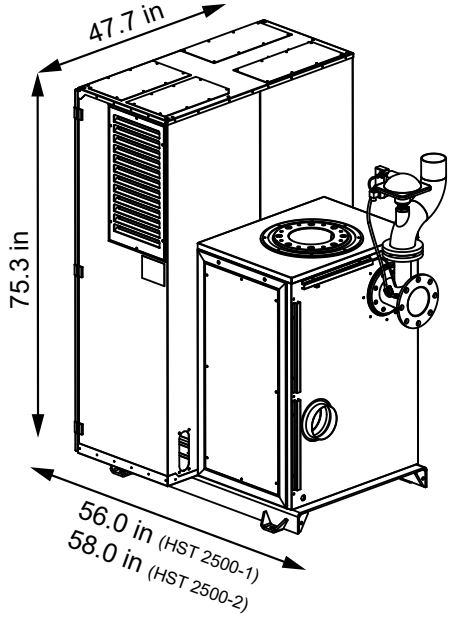
Compressor data

		HST 2500-U100-1-L	HST 2500-U100-1-H	HST 2500-U110-1-H	HST 2500-U120-1-H
Air flow range [scfm]		550-2500	650-2400	650-2500	650-2600
Pressure rise [psi]		4.4-9.4	5.8-12.3	5.8-12.3	5.8-12.3
Max. noise level [dB]		66 [2]	69 [2]	69 [2]	69 [2]
Input power [hp]		100	100	110	120
Main supply voltage [V]		460-600	460-600	460-500	460-500
Input power frequency [Hz]		50/60	50/60	50/60	50/60
480 V	Max. input current [A] [1]	97	97	107	117
	Cable size [AWG or MCM] [1]	3x1/0+3	3x1/0+3	3x1/0+3	3x1/0+3
	Fuse size [A] [1]	100	100	125	125
580 V	Max. input current [A] [1]	80	80	not available	not available
	Cable size [AWG or MCM] [1]	3x1/0+3	3x1/0+3		
	Fuse size [A] [1]	100	100		
Auxiliary current [A]		10	10	10	10
Auxiliary supply [V]		360-550	360-550	360-550	360-550

[1] The maximum input current is calculated using the nominal voltage. The cable and fuse sizes are recommendations and based on the supply current and cables rated to 158 °F.
[2] The noise values are presented with Outlet Cone Insulation (accessory OCI).

		HST 2500-U100-2-L	HST 2500-U100-2-H	HST 2500-U120-2-L	HST 2500-U125-2-H
Air flow range [scfm]		300-1600	400-1700	650-1600	800-1700
Pressure rise [psi]		4.4-12.3	5.8-12.3	11.6-15.2	14.5-18.1
Max. noise level [dB]		72 [2]	72 [2]	74 [2]	72 [2]
Input power [hp]		100	100	120	125
Main supply voltage [V]		460-600	460-600	460-500	460-500
Input power frequency [Hz]		50/60	50/60	50/60	50/60
480 V	Max. input current [A] [1]	97	97	117	122
	Cable size [AWG or MCM] [1]	3x1/0+3	3x1/0+3	3x1/0+3	3x1/0+3
	Fuse size [A] [1]	100	100	125	125
580 V	Max. input current [A] [1]	80	80	not available	not available
	Cable size [AWG or MCM] [1]	3x1/0+3	3x1/0+3		
	Fuse size [A] [1]	100	100		
Auxiliary current [A]		10	10	10	10
Auxiliary supply [V]		360-550	360-550	360-550	360-550

[1] The maximum input current is calculated using the nominal voltage. The cable and fuse sizes are recommendations and based on the supply current and cables rated to 158 °F.
[2] The noise values are presented without Outlet Cone Insulation (accessory OCI).



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