



New variable  
volume ratio  
models from  
898-2100 m<sup>3</sup>/h

NEW GENERATION

# HallScrew Compressors

\*Can be supplied with ATEX certified  
coils for A3 refrigerants



# HallScrew compressors



J & E Hall has added seven new models to the existing HallScrew range, which provide more intermediate capacities with a focus on compact design and efficiency.

The new HSO 4225/6/7, 5200 and 6200 series are the next generation of open drive single screw compressors. Reflecting the very latest innovations in screw compressor technology, the current range up to 2486m<sup>3</sup>/h now includes models 898 – 2100 m<sup>3</sup>/h with fixed or variable volume ratio. As with all HallScrew open drive compressors, the new models can operate on all refrigerants including natural refrigerant options.

Key to the HallScrew's success is its outstanding reliability, utilising only three basic moving parts. A main rotor which meshes with two diametrically opposed star wheels produces balanced compression resulting in extremely long main bearing life of over 100,000 hours and reduced lifecycle costs.



▶ **HSO 4225/6/7**

(pictured with optional suction stop/check/strainer assembly)

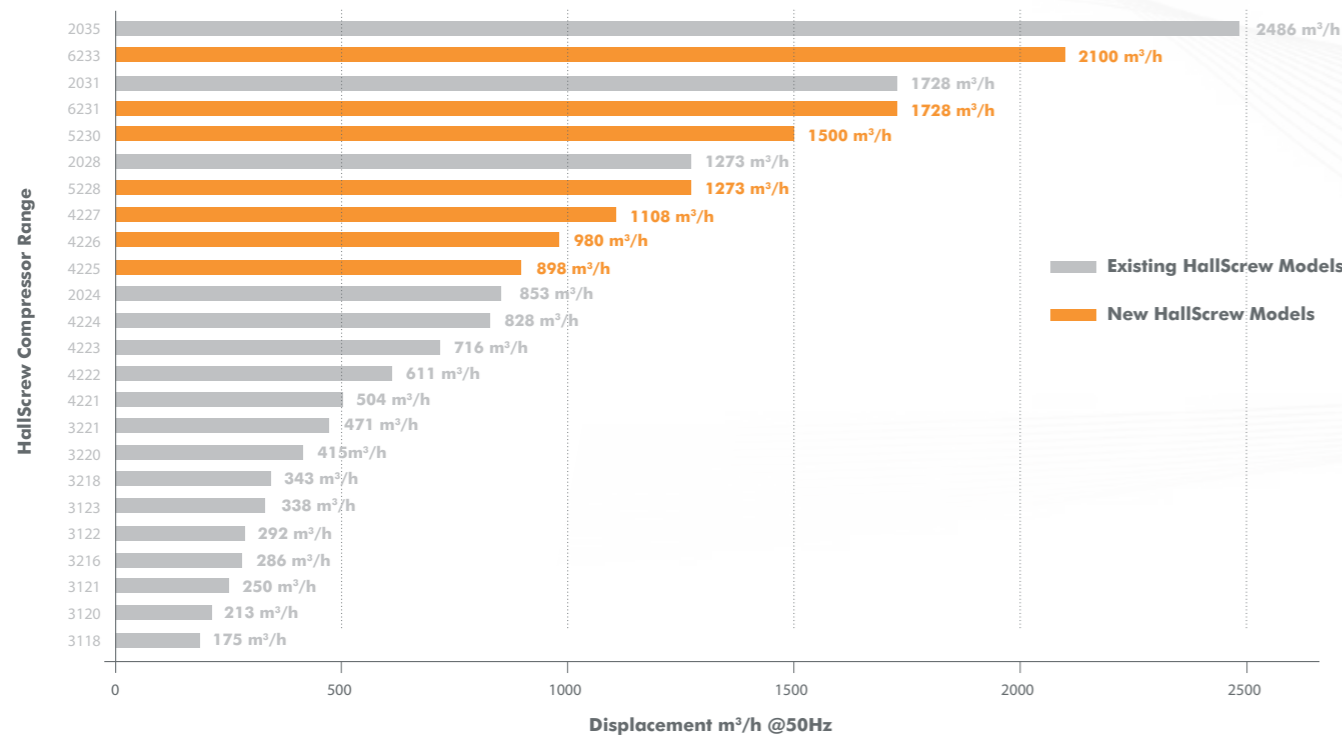


▶ **HSO 5200**



▶ **HSO 6200**

## Additional HallScrew Models in Range



HallScrew Compressors  
PRODUCT RANGE

“The new compressors are designed to operate at a pressure of 40 bar allowing them to condense gases at a much higher temperature”

### Capacities

#### Medium temperature

Non-economised applications at 50Hz

Model	Displacement m <sup>3</sup> /hr	Capacity kW	Shaft power kW
HSO4225	898	643	157
HSO4226	980	701	168
HSO4227	1108	793	191
HSO5228	1273	876	218
HSO5230	1500	1086	262
HSO6231	1728	1202	298
HSO6233	2100	1477	370

R717, SST -10°C, SDT 35°C, 0K superheat, 5K subcooling

#### Low temperature

Economised applications at 50Hz

Model	Displacement m <sup>3</sup> /hr	Capacity kW	Shaft power kW
HSO4225	898	297	128
HSO4226	980	325	137
HSO4227	1108	367	157
HSO5228	1273	399	179
HSO5230	1500	512	220
HSO6231	1728	552	244
HSO6233	2100	676	303

R717, SST -30°C, SDT 35°C, 0K superheat, flash economiser

### Features & Benefits

#### ▶ Higher efficiency levels

New models are more efficient than current 2000 series

#### ▶ Additional models

Better capacity match, more cost competitive

#### ▶ Cost effective and simple solution for pack build

- Built-in capacity control solenoid valves
- No start-up oil pump required for high stage operation

#### ▶ 40 bar design

Higher design pressure rating for high temperature ammonia heat pump application

#### ▶ Ease of maintenance

Can be serviced in-situ

#### ▶ Only one main oil injection connection

No external oil feeds to bearings or shaft seal required

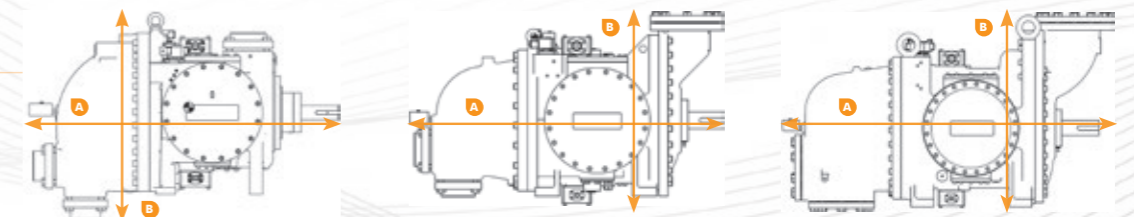
#### ▶ Spring return to minimum load

Allows for simplified control

#### ▶ Nodular iron casing as standard

Favoured by oil & gas industry

### Specifications



	4225/6/7	5200	6200
Length mm (A)	1,187	1,314	1,554
Height mm (B)	792	754	892
Width mm	778	920	902
Weight kg	800	1,270	1,500

## APPLICATIONS

<b>COLD ROOMS</b>	<b>PROCESS PLANTS</b>	<b>ICE RINKS</b>	<b>DISTRICT COOLING</b>
<b>BLAST FREEZERS</b>	<b>PETROCHEMICAL</b>	<b>BREWERIES</b>	<b>HEAT PUMPS</b>

### Case Studies

#### District heating application for energy producer – Switzerland

The new HSO5228V compressor is a key part of an inverter driven ammonia-based heat pump system producing water at 70°C. The new compressor can condense vapour to water at much higher temperatures than before and has been installed to help supply low-cost hot water to homes and businesses.

- ▶ 2.4MW of heat output
- ▶ COPs of 4.2
- ▶ Highly efficient and low lifecycle costs
- ▶ Future proof natural refrigerants

#### Water chilling for dairy – Scotland

The new HSO4226V compressors are at the heart of three inverter driven air cooled ammonia Aquachills chilling water to +1.5°C.

This project required highly efficient compressors to satisfy the customers brief, which was to minimise running costs. A benefit of using this technology arrives from the variable volume ratio system. This contributes substantially to reduced power consumption in low ambient temperatures and part load conditions.

- ▶ 3 x 1000kW of chilled water
- ▶ Overall chiller COPs of 2.9
- ▶ Factory performance tested to guarantee performance
- ▶ Highly efficient and low lifecycle costs
- ▶ Future proof natural refrigerants



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