



HallScrew

PRODUCT RANGE



AN INTRODUCTION TO...

HallScrew

Compressors

J & E Hall manufacture screw compressors using state of the art production equipment for industrial refrigeration, air conditioning and heat pump systems. Customers have confidence in our compressor technology for applications ranging from deep freezing through to standard refrigeration in retail, brewing, process plant, petrochemical and more.



Unlike other manufacturers, J & E Hall use a low friction composite material "HallPlas" in the compression process to ensure high efficiency and reliability.

HallPlas was developed using aerospace technology and can withstand the toughest conditions with all types of refrigerant. Long trouble free service has been the key to the HallPlas star wheel's international success.

Benefits

- ▶ Long established world wide reputation
- ▶ Innovative screw compressor technology
- ▶ Award winning design flexibility
- ▶ Engineered for quiet operation
- ▶ Outstanding reliability and superior efficiency
- ▶ Ease of installation and maintenance
- ▶ Wide ranging cooling capacities
- ▶ Designed and tested to international standards

HSS Semi hermetic range

Designed for medium/high temperature packaged unit applications...

HSS
3100



4 sizes: 3118, 3120, 3121 and 3122
Displacement at 50Hz: 175/213/250/292 m3/h

HSS
3200



4 sizes: 3216, 3218, 3220 and 3221
Displacement at 50Hz: 286/343/415/471 m3/h

HSS
4200



4 sizes: 4221, 4222, 4223 and 4224*
Displacement at 50Hz: 504/611/716/828 m3/h

- Semi hermetic single screw design
- Optimised for R134a, R407C & R22
- Suction strainer
- Capacity control system (2 built in solenoid valves)
- Discharge stop valve
- Internal relief valve
- Integral oil separator (HSS 3100 & 3200)
- Flanged oil separator (HSS 4200)
- Discharge check valve
- Suction flange with tail and joint
- Liquid injection adaptor
- Sight glass (x2)
- Oil charge
- 2 pole electric motor with high temperature protection
- Electronic protection (INT 69TM)

HSM/L Semi hermetic range

Designed for medium/low temperature applications...

HSM/L
3100



4 sizes: 3118, 3120, 3121 and 3122
Displacement at 50Hz: 175/213/250/292 m3/h

HSM/L
3200



4 sizes: 3216, 3218, 3220 and 3221
Displacement at 50Hz: 286/343/415/471 m3/h

HSM/L
4200



4 sizes: 4221, 4222, 4223 and 4224*
Displacement at 50Hz: 504/611/716/828 m3/h

- Semi hermetic single screw design
- Optimised for R404A, R507, R22 & R134a
- Suction strainer
- Stepless capacity control system (2 built in solenoid valves)
- Discharge stop valve (except 4200)
- Internal relief valve
- Suction flange with tail & joint
- Liquid injection adaptor
- Oil drain connection
- Oil injection connection
- Oil line fittings (external oil filter, solenoid valve and check valve)
- 2 pole electric motor with temperature probes
- Electronic protection (INT 69TM)

HSO Open drive range

Designed for refrigeration, air conditioning and heat pump applications...

HSO
3200



4 sizes: 3216, 3218, 3220 and 3221
Displacement at 50Hz: 286/343/415/471 m3/h

HSO
4200



4 sizes: 4221, 4222, 4223 and 4224*

HSO
2000



4 sizes: 2024, 2028, 2031, 2035
Displacement at 50Hz: 853/1273/1728/2486 m3/h

- Open drive single screw design
- Suitable for all refrigerants including ammonia
- Stepless capacity control (2 built in solenoid valves)
- Oil drain connection
- Oil injection connection
- Universal shaft seal (suitable for all refrigerants)

* Limited operating conditions

HallScrew Compressor Packs

J & E Hall supply the HallScrew compressor as a complete package with oil management system and controller for installing into a refrigeration, air conditioning or heat pump system. HallScrew open type compressor packs are used in the most varied applications. Customers have the confidence in compressor pack technology for applications ranging from deep-freezing through to standard refrigeration in retail, brewing, process plant, petrochemical, pharmaceutical and more.



HSP 3200

4 sizes:
3216, 3218, 3220 and 3221
Displacement at 50Hz: 286/343/415/471 m³/h



HSP 4200

4 sizes:
4221, 4222, 4223 and 4224*
Displacement at 50Hz: 504/611/716/828 m³/h



HSP 2000

4 sizes:
2024, 2028, 2031, 2035
Displacement at 50Hz: 853/1273/1728/2486 m³/h

A standard open drive HallScrew compressor pack comprises of the following:

HSP 3200	HSP 4200	HSP 2000
HallScrew single screw compressor		
IP23 2 pole electric drive motor		
Control voltage 110V		
Spacer coupling with guard		
Electronic controller		
Suction strainer and non-return valve		
Horizontal oil separator. Includes: mesh pads, coalescing elements, sight glasses, heaters, low oil level switch, dual relief valve with three way changeover valve		
Oil management system including: Steel pipe work, oil filter, oil drain with non return valve		
High pressure safety cut out (electro-mechanical)		
PED certification		
No oil pump required	No oil pump required	Start up oil pump (high stage) or continuously running pump (booster)
Capacity control solenoid valves included on compressor	Capacity control solenoid valves included on compressor	4 way solenoid valve and needle control valves for capacity control

Options and optional extras include:

Inverter drive (or standard Y/D motor starter)		
Gauge board		
Alternative motor IP rating, voltage or frequency, specified manufacturer or ATEX certified motor		
240V control voltage		
No electronic controller		
ATEX approved design		
Electro mechanical cut outs		
Suction and/or discharge stop valve(s) and head pressure control valve		
Dual oil filters		
Economiser subcooler and controls		
Anti vibration mounts		
Oil fill pump	Oil fill pump	Demand oil pump (high stage) or no oil pump (if booster pack supplied by high stage oil)

General specifications

HallScrew Pack	Displacement m ³ /h @ 2980rpm	Maximum overall dimensions (mm)			Noise level dB(A)*	Approx. dry weight (kg) without motor
		Length	Width	Height		
HSP 3216	286	2489	1109	1680	84	1515
HSP 3218	343	2489	1109	1680	84	1515
HSP 3220	415	2489	1109	1680	84	1515
HSP 3221	471	2489	1109	1680	84	1515
HSP 4221	504	3030	1150	1785	85	2000
HSP 4222	611	3030	1150	1785	86	2000
HSP 4223	716	3030	1150	1785	87	2000
HSP 2024	853	3190	1210	2160	87	2075
HSP 2028	1273	3210	1250	2310	88	2460
HSP 2031	1728	3670	1380	2680	89	3420
HSP 2035	2486	3980	1510	2870	92	4600

J & E Hall Inverter with Auxiliary Panel

The J & E Hall inverter with auxiliary panel has been designed to substantially reduce power consumption when used in conjunction with refrigeration compressor packs.

Inverter technology allows the compressor motor speed to vary and optimise power to create a precisely controlled temperature. This has proved to be significantly more efficient than operating the compressor at fixed speed with slide control.

By reducing rotor losses, the innovative radial technology rotor greatly improves the drive's efficiency and specific output power.

Benefits

Reduces energy consumption in many ways;

- ▶ increases compressor efficiency at part load
- ▶ allows full economiser effect over the entire load range
- ▶ increases motor efficiency - especially at low loads
- ▶ soft start reduces starting peaks
- ▶ increases bearing life

HallScrew compressor pack

J & E Hall inverter with auxiliary panel



inverter
TECHNOLOGY

energy
EFFICIENCY

Standard Features

- All components required to drive the compressor and oil pump in a single unit.

Includes:

- ▶ DOL oil pump starter with thermal protection
- ▶ Power supply for the Fridgewatch controller, solenoids and oil heaters
- ▶ Lamps showing compressor and oil pump running/tripped and control voltage on
- ▶ Push buttons for lamp test and reset
- ▶ Emergency stop with security relay to EN954-1 cat2/3
- ▶ Door interlocked fusion isolation switch

- Inverter section includes:
 - ▶ Power drive inverter
 - ▶ EMC filter
 - ▶ Touch Screen HMI

- Available in either IP23 or IP55 format

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International