



Project survey

Selected compressors

Semi-hermetic Screw Compressors HS

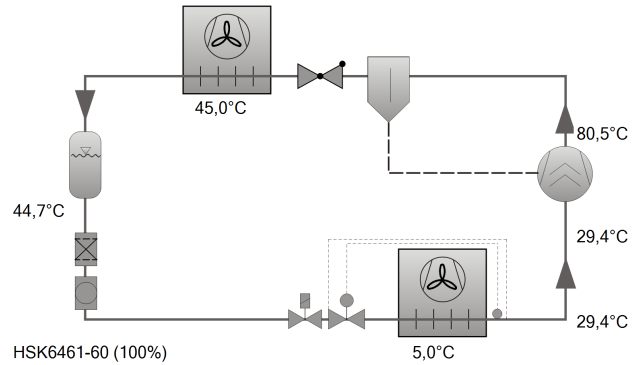
1x HSK6461-60



Compressor Selection: Semi-hermetic Screw Compressors HS

Input Values

Compressor model	HSK6461-60
Refrigerant	R404A
Reference temperature	Dew point temp.
Evaporating SST	5,00 °C
Condensing SDT	45,0 °C
Liq. subc. (in condenser)	0 K
Suct. gas superheat	24,4 K
Operating mode	Standard
Power supply	400V-3-50Hz
Useful superheat	100%
Additional cooling	Automatic
Max. discharge gas temp.	80,0 °C

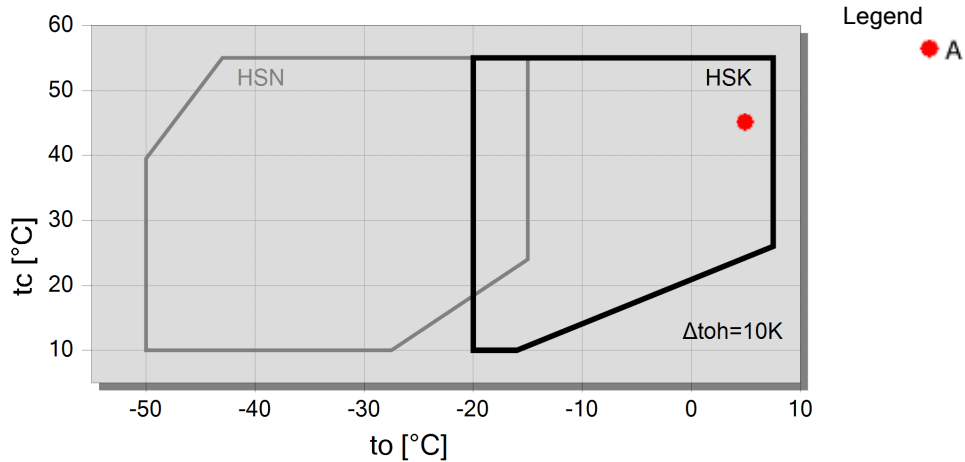


Result

Compressor	HSK6461-60-40P
Capacity steps	100%
Cooling capacity	165,1 kW
Cooling capacity *	156,1 kW
Evaporator capacity	165,1 kW
Power input	50,2 kW
Current (400V)	80,6 A
Voltage range	380-415V
Condenser Capacity	212 kW
COP/EER	3,29
COP/EER *	3,11
Mass flow LP	4778 kg/h
Mass flow HP	4778 kg/h
Operating mode	Standard
Liquid temp.	44,7 °C
Oil volume flow	1,21 m³/h
Cooling method	--
Discharge gas temp. w/o cooling	80,5 °C

*According to EN12900 (10K suction gas superheat, 0K liquid subcooling)

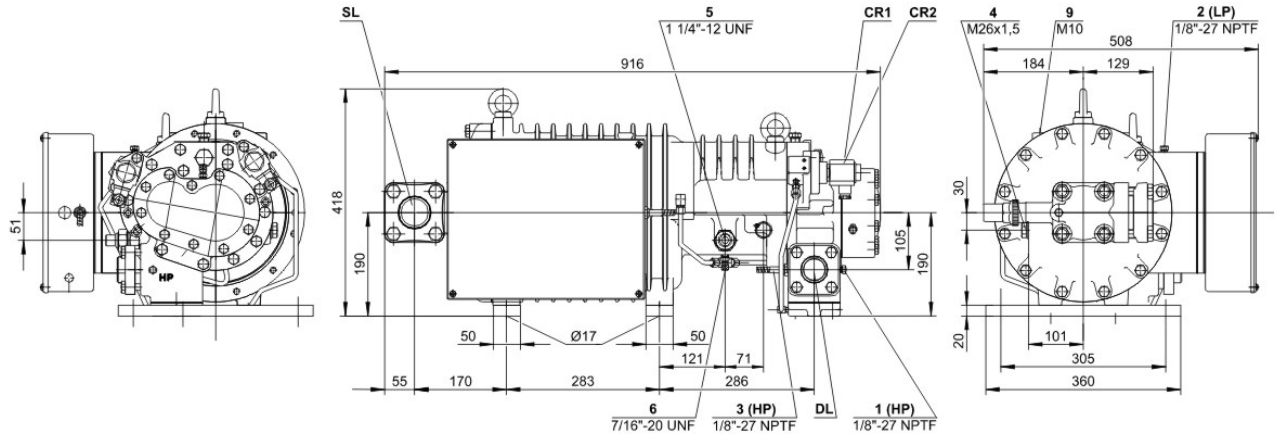
Application Limits Standard





Technical Data: HSK6461-60

Dimensions and Connections



Technical Data

Technical Data

Displacement (2900 RPM 50 Hz)	165 m ³ /h
Displacement (3500 RPM 60 Hz)	198 m ³ /h
Weight	246 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	54 mm - 2 1/8"
Connection discharge line	42 mm - 1 5/8"
Adapter/shut-off valve for ECO	22 mm - 7/8" (Option)
Adapter for liquid injection	16 mm - 5/8" (Option)
Oil type R22	B150SH, B100 (Option)
Oil type R134a/R404A/R507A	BSE170 (Option)

Motor data

Motor voltage (more on request)	380-415V PW-3-50Hz
Max operating current	98.0 A
Starting current (Rotor locked)	267.0 A D / 449.0 A DD
Max. Power input	65,0 kW

Extent of delivery (Standard)

Discharge gas temperature sensor	Standard
Start unloading	Standard
Oil flow control	SE-B2 (Standard)
Motor protection	SE-E1 (Standard), INT69VSY-II(Standard for 660-690V)
Suction shut-off valve	Standard
Capacity control	100-75-50% (Standard)
Enclosure class	IP54

Available Options

Discharge shut-off valve	Option
ECO connection with shut-off valve	Option
Motor protection	SE-C1 (Option)

Sound measurement

Sound power level (-10°C / 45°C)	87,0 dB(A)
Sound pressure level @ 1m (-10°C / 45°C)	79,0 dB(A)



Semi-hermetic Screw Compressors HS

HSK = Application for air-conditioning and medium temperature cooling

HSN = Application for low temperature cooling

Notes regarding application limits (see Limits):

- Ranges are valid for standard operation and at full-load conditions.
- With high pressure conditions, part-load operation is partly limited (see application limits in applications manual SH-100)
- With Economizer operation the maximum admissible evaporation temperature is shifted by 10 K downward (otherwise there is a danger of excessive compression and overload of the motor because of a higher mass flow). At pull-down conditions from higher evaporation temperatures, the ECO injection must remain closed until the evaporation temperature is below the maximum admissible value and a stable operation is achieved (e.g. control of the ECO solenoid valve by means of a low pressure cut-out). The use of the ECO-system with higher evaporation temperatures requires individual consultation with Bitzer.

HS 64/74:

- Capacity control with ECO operation at the same time is limited to one single regulating step (CR 75 %). At CR 50 % the ECO injection should be closed.
- Combined operation (ECO + CR 50 %) is possible under certain conditions, control and system design, however, require individual consultation with Bitzer.

Data for sound emission:

Data are based on 50Hz application (IP-units 60Hz) and R404A.

Sound pressure level: values are based on open air test sites with semi-spherical sound emissions at 1 meter distance.

For further information see Technical Information "Sound Data".

Legend of connection positions according to "Dimensions":

- 1 High pressure connection (HP)
- 2 Low pressure connection (LP)
- 3 Discharge gas temperature sensor
- 4 Economiser / liquid injection
- 5 Oil injection
- 6 Oil pressure connection
- 7 Oil drain plug (motor housing)
- 8 Threaded hole for foot fixation
- 9 Threaded hole for pipe support (ECO and LI line)