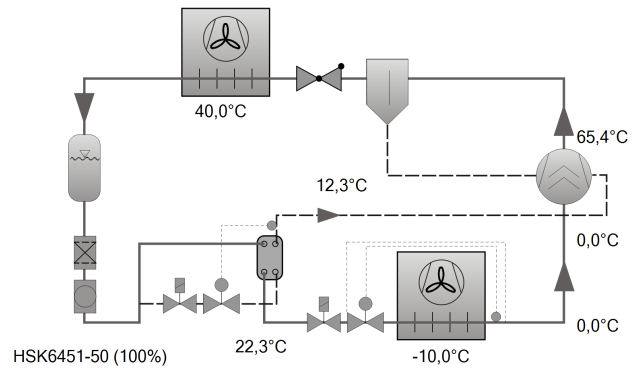




### Selection: Semi-hermetic Screw Compressors HS

#### Input Values

Compressor model	HSK6451-50
Refrigerant	R404A
Reference temperature	Dew point temp.
Evaporating SST	-10,00 °C
Condensing SDT	40,0 °C
Liq. subc. (in condenser)	0 K
Auto. subcooling	Auto
Suct. gas superheat	10,00 K
Operating mode	Economiser
Power supply	400V-3-50Hz
Useful superheat	100%
Additional cooling	Automatic
Max. discharge gas temp.	80,0 °C

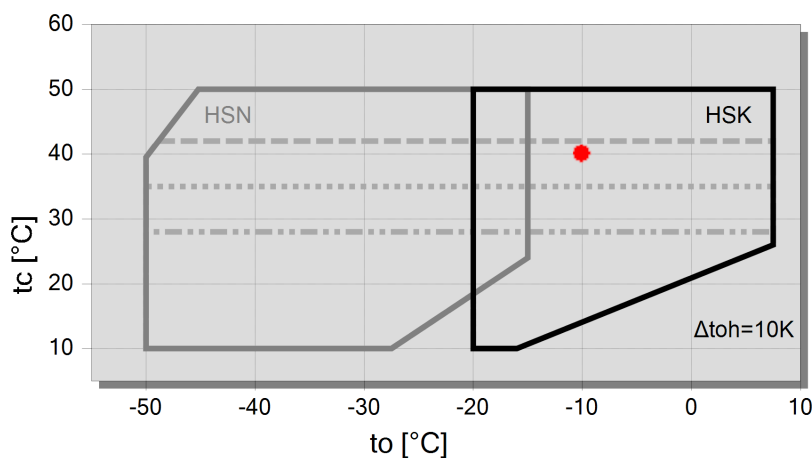


#### Result

Compressor	HSK6451-50-40P
Capacity steps	100%
Cooling capacity	99,3 kW
Cooling capacity *	102,9 kW
Evaporator capacity	99,3 kW
Power input	36,6 kW
Current (400V)	59,1 A
Voltage range	380-415V
Condenser capacity	136,0 kW
COP/EER	2,71
COP/EER *	2,79
Mass flow LP	2602 kg/h
Mass flow HP	3184 kg/h
Operating mode	Economiser
Liquid temp. (sc)	22,3 °C
Mass flow ECO	582 kg/h
sub cooler load	19,77 kW
sat. ECO Temp.	12,27 °C
ECO pressure	8,76 bar(a)
Oil volume flow	1,23 m³/h
Cooling method	--
Discharge gas temp. w/o cooling	65,4 °C

\*According to EN12900 (10K suction gas superheat, liquid subcooling in Economiser with 5K temperature difference)

#### Application Limits ECO HSK6451-50



#### Legend

- max. tc for frequencies = 20Hz
- ..... max. tc for frequencies = 25Hz
- max. tc for frequencies = 35Hz
- A





## Technical Data

### Technical Data

Displacement (2900rpm 50 Hz)	140 m <sup>3</sup> /h
Displacement (3500rpm 60 Hz)	168 m <sup>3</sup> /h
Weight	238 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/R407A/R407F	BSE170
Oil type R448A/R449A/R454C	BSE170

### Motor data

Motor version	1
Motor voltage (more on request)	380-415V PW-3-50Hz
Max. operating current	79.0 A
Starting current (Rotor locked)	206.0 A D / 355.0 A DD
Max. power input	50,0 kW

### Extent of delivery (standard)

Discharge gas temperature sensor	Standard
Start unloading	Standard
Oil flow control	SE-B3 (Standard)
Motor protection	SE-E1 (Standard), SE-E3 (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-i1 (200-690V)

### Sound measurement

Sound power level (-10°C / 45°C)	86,0 dB(A)
Sound pressure level @ 1m (-10°C / 45°C)	78,0 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.

### Data for sound emission

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