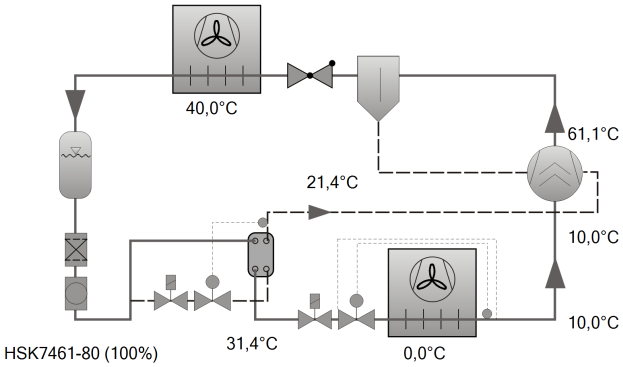
Selection: Semi-hermetic Screw Compressors HS

Input Values

Compressor model	HSK7461-80
Refrigerant	R404A
Reference temperature	Dew point temp.
Evaporating SST	0 °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

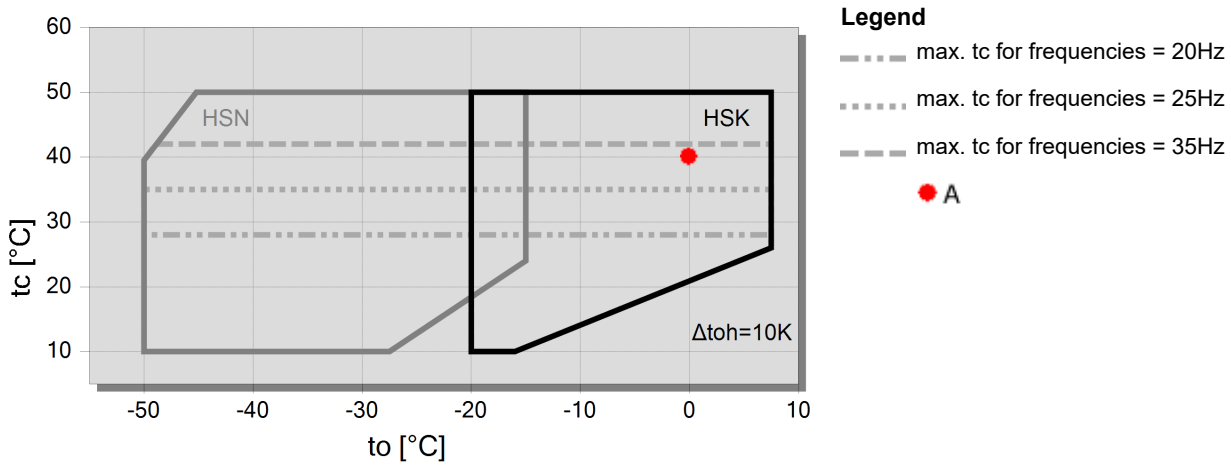


Result

Compressor	HSK7461-80-40P
Capacity steps	100%
Cooling capacity	219 kW
Cooling capacity *	226 kW
Evaporator capacity	219 kW
Power input	59,5 kW
Current (400V)	94,8 A
Voltage range	380-415V
Condenser capacity	279 kW
COP/EER	3,69
COP/EER *	3,79
Mass flow LP	6115 kg/h
Mass flow HP	6753 kg/h
Operating mode	Economiser
Liquid temp. (sc)	31,4 °C
Mass flow ECO	638 kg/h
sub cooler load	22,5 kW
sat. ECO Temp.	21,4 °C
ECO pressure	11,32 bar(a)
Oil volume flow	1,67 m³/h
Cooling method	--
Discharge gas temp. w/o cooling	61,1 °C

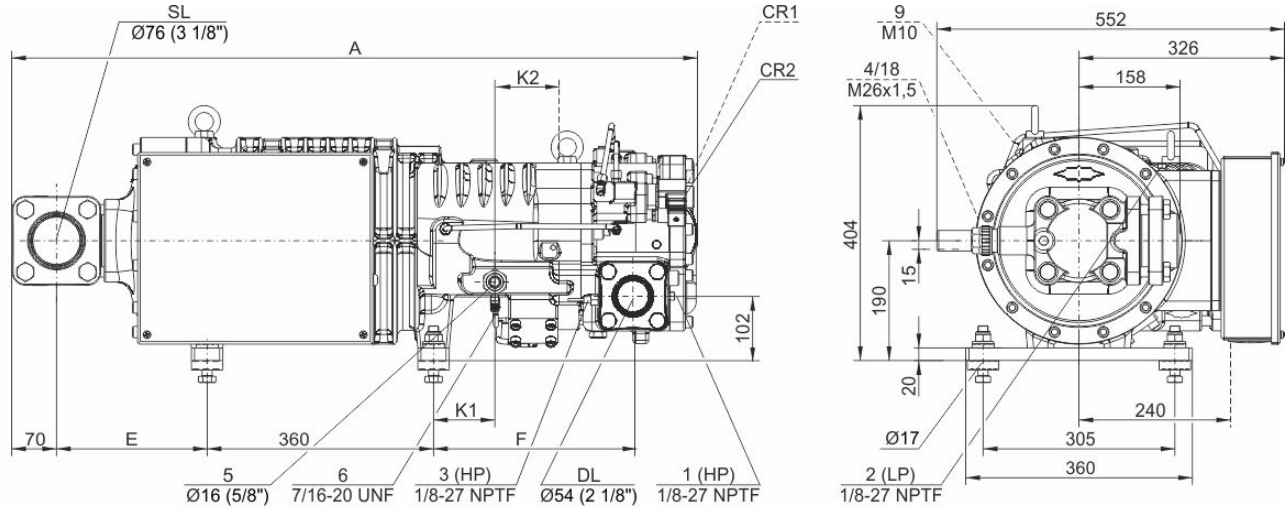
*According to EN12900 (10K suction gas superheat, liquid subcooling in Economiser with 5K temperature difference)

Application Limits ECO HSK7461-80



Technical Data: HSK7461-80

Dimensions and Connections



Model	A	E	F	K1	K2
	mm	mm	mm	mm	mm
HS.7451, HS.7461	1021	186	295	76	109
HSK7471-70, HSN7471-75	1034	186	318	98	97
HSK7471-90	1087	238	318	98	97

Technical Data

Technical Data	
Displacement (2900 RPM 50 Hz)	220 m³/h
Displacement (3500 RPM 60 Hz)	266 m³/h
Weight	314 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	76 mm - 3 1/8"
Connection discharge line	54 mm - 2 1/8"
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	144.0 A
Starting current (Rotor locked)	350.0 A D / 585.0 A DD
Max. Power input	85,0 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)	86,5 dB(A)
Sound pressure level @ 1m (-10°C / 45°C)	78,5 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".