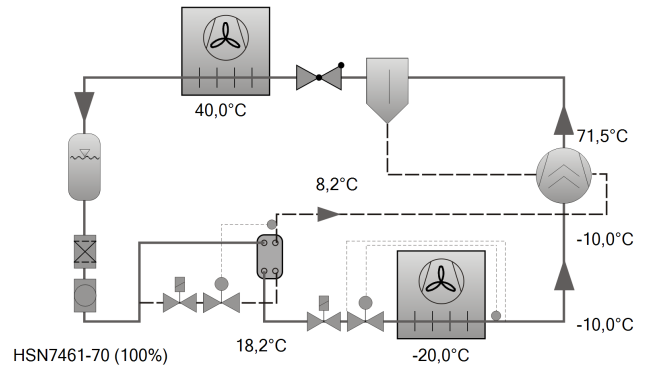




Selection: Semi-hermetic Screw Compressors HS

Input Values

| | |
|---------------------------|-----------------|
| Compressor model | HSN7461-70 |
| Refrigerant | R404A |
| Reference temperature | Dew point temp. |
| Evaporating SST | -20,00 °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 |

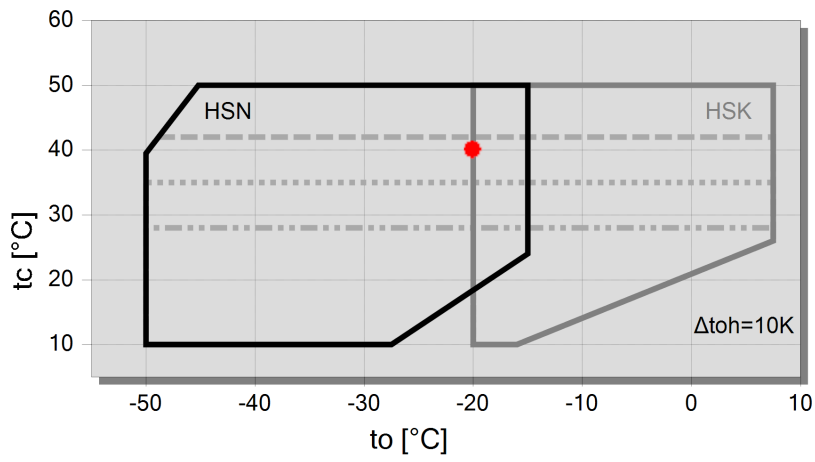


Result

| Compressor | HSN7461-70-40P |
|---------------------------------|----------------|
| Capacity steps | 100% |
| Cooling capacity | 114,8 kW |
| Cooling capacity * | 118,2 kW |
| Evaporator capacity | 114,8 kW |
| Power input | 57,0 kW |
| Current (400V) | 91,0 A |
| Voltage range | 380-415V |
| Condenser capacity | 171,8 kW |
| COP/EER | 2,02 |
| COP/EER * | 2,06 |
| Mass flow LP | 3006 kg/h |
| Mass flow HP | 3842 kg/h |
| Operating mode | Economiser |
| Liquid temp. (sc) | 18,18 °C |
| Mass flow ECO | 837 kg/h |
| sub cooler load | 27,9 kW |
| sat. ECO Temp. | 8,18 °C |
| ECO pressure | 7,77 bar(a) |
| Oil volume flow | 1,87 m³/h |
| Cooling method | -- |
| Discharge gas temp. w/o cooling | 71,5 °C |

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

Application Limits ECO HSN7461-70



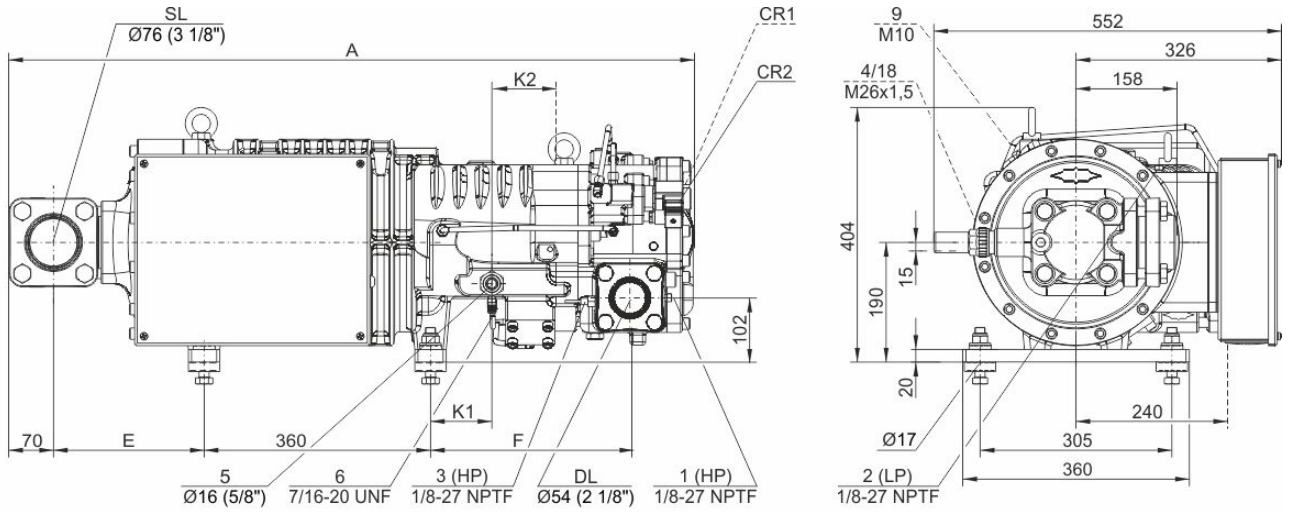
Legend

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



Technical Data: HSN7461-70

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 (2900rpm 50 Hz) | 220 m ³ /h |
| Displacement (3500rpm 60 Hz) | 266 m ³ /h |
| Weight | 310 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) |
| 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 | 124.0 A |
| Starting current (Rotor locked) | 290.0 A D / 485.0 A DD |
| Max. power input | 75,0 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 (-35°C / 40°C) | 88,5 dB(A) |
| Sound pressure level @ 1m (-35°C / 40°C) | 80,5 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 10K 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 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".