



Selection: Semi-hermetic Screw Compressors HS

Input Values

Compressor model	HSK5363-40	Operating mode	Standard
Refrigerant	R404A	Power supply	400V-3-50Hz
Reference temperature	Dew point temp.	Useful superheat	100%
Liq. subc. (in condenser)	0 K	Additional cooling	Automatic
Suct. gas superheat	10,00 K	Max. discharge gas temp.	80,0 °C

Result

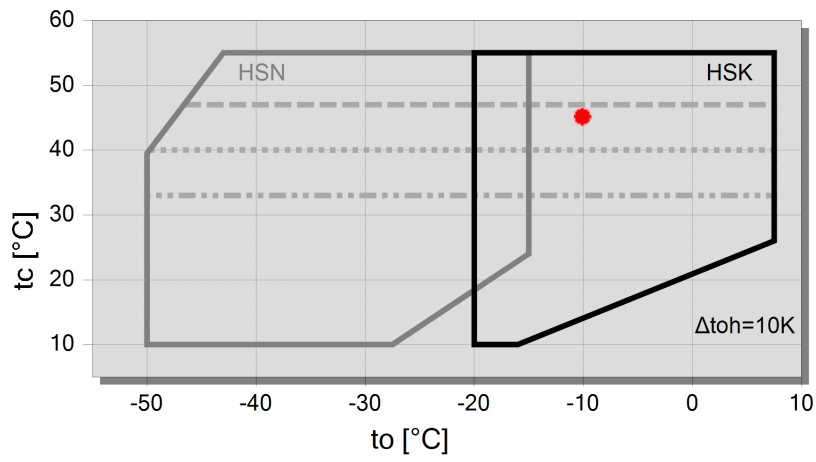
Q [W]	Cooling capacity	mHP [kg/h]	Mass flow HP
P [kW]	Power input	Qac [kW]	Additional cooling
I [A]	Current	tcu [°C]	Liquid temp.
COP [-]	COP/EER	pm [bar(a)]	ECO pressure
mLP [kg/h]	Mass flow LP	Qsc [kW]	sub cooler capacity (ECO)

tc	to	10°C	5°C	0°C	-5°C	-10°C	-15°C	-20°C	-25°C
30°C	Q [W]	--	134357	112161	92968	76437	62259	50162	--
	P [kW]	--	26,6	25,8	25,0	24,3	23,6	23,0	--
	I [A]	--	42,1	40,9	39,7	38,7	37,7	36,8	--
	COP [-]	--	5,05	4,35	3,71	3,15	2,63	2,18	--
	mLP [kg/h]	--	3593	3062	2593	2181	1819	1502	--
	mHP [kg/h]	--	3593	3062	2593	2181	1819	1502	--
	Qac [kW]	--	--	--	--	--	--	--	--
	tcu [°C]	--	29,6	29,6	29,6	29,6	29,6	29,6	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--
40°C	Q [W]	--	116354	96687	79718	65135	52661	42045	--
	P [kW]	--	31,8	31,0	30,3	29,6	28,9	28,3	--
	I [A]	--	49,8	48,6	47,5	46,5	45,5	44,6	--
	COP [-]	--	3,66	3,11	2,63	2,20	1,82	1,49	--
	mLP [kg/h]	--	3535	3007	2541	2131	1770	1454	--
	mHP [kg/h]	--	3535	3007	2541	2131	1770	1454	--
	Qac [kW]	--	--	--	--	--	--	1,35	--
	tcu [°C]	--	39,6	39,6	39,6	39,6	39,6	39,6	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--
50°C	Q [W]	--	96627	79698	65136	52667	42041	33036	--
	P [kW]	--	38,7	38,0	37,2	36,5	35,8	35,2	--
	I [A]	--	59,9	58,8	57,7	56,7	55,7	54,7	--
	COP [-]	--	2,50	2,10	1,75	1,44	1,17	0,94	--
	mLP [kg/h]	--	3441	2918	2455	2047	1688	1372	--
	mHP [kg/h]	--	3441	2918	2455	2047	1688	1372	--
	Qac [kW]	--	--	--	2,22	5,69	9,03	12,23	--
	tcu [°C]	--	49,7	49,7	49,7	49,7	49,7	49,7	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--

-- No calculation possible (see message in single point selection)

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

Application Limits Standard



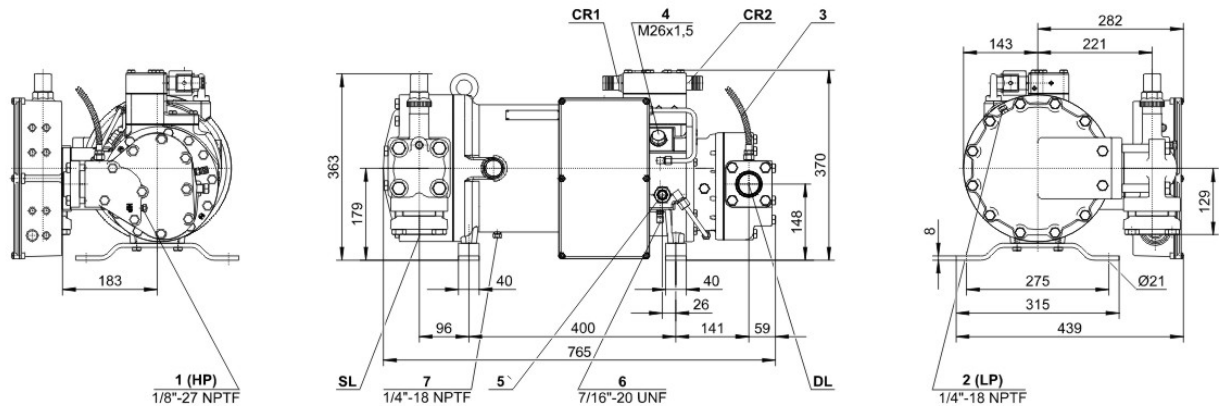
Legend

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



Technical Data: HSK5363-40

Dimensions and Connections



Technical Data

Technical Data

Displacement (2900 RPM 50 Hz)	118 m ³ /h
Displacement (3500 RPM 60 Hz)	142 m ³ /h
Weight	183 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 voltage (more on request)	380-415V PW-3-50Hz
Max operating current	66.0 A
Starting current (Rotor locked)	182.0 A D / 311.0 A DD
Max. Power input	42,1 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

Oil flow control	OFC (Option)
Discharge shut-off valve	Option
ECO connection with shut-off valve	Option

Sound measurement

Sound power level (-10°C / 45°C)	82,5 dB(A)
Sound pressure level @ 1m (-10°C / 45°C)	74,5 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.

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- * 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".

Legend of connection positions according to "Dimensions":

- 1 High pressure connection (HP)
- 1a Additional high pressure connection
- 1b Connection for high pressure transmitter (HP)
- 2 Low pressure connection (LP)
- 2a Additional low pressure transmitter (LP)
- 2b Connection for low pressure transmitter (LP)
- 3 Discharge gas temperature sensor connection (HP)
- 4 Connection for economizer (ECO)
- HS.85: ECO valve with connection pipe (option)
- HS.95, OS.85, OS.95: ECO valve (option)
- 5 Oil injection connection
- 6 Oil pressure connection for HS.85 and OS.85:
 - Oil drain (compressor housing)
 - 7 Oil drain (motor housing)
 - 7a Oil drain (suction gas filter)
 - 7b Oil drain out of shaft seal (maintenance connection)
 - 7c Oil drain tube (shaft seal)
- 8 Threaded bore for foot fastening
- 9 Threaded bore for pipe support (ECO and LI line)
- 10 Maintenance connection (oil filter)
- 11 Oil drain (oil filter)
- 12 Monitoring of oil stop valve
- 13 Oil filter monitoring
- 14 Oil flow switch
- 15 Earth screw for housing
- 16 Pressure relief (oil filter chamber)
- 17 Maintenance connection for shaft seal
- 18 Liquid injection (LI)
- 19 Compressor module
- 20 Slider position indicator
- 21 Oil level switch
- 22 Connection for oil pressure transmitter
- 23 Connection for oil and gas return (for systems with flooded evaporator adapter optional)
- 24 Access to oil circulation restrictor
- SL Suction gas line



DL Discharge gas line

Dimensions can show tolerances according to EN ISO 13920-B.