



Selection: Compact Screw Compressors CS

Input Values

Compressor model	(CSH7561-80Y)	Operating mode	Standard
Refrigerant	R407C	Power supply	400V-3-50Hz
Reference temperature	Dew point temp.	Capacity control	100%
Liq. subc. (in condenser)	0 K	Additional cooling	Automatic
Suct. gas superheat	10,00 K	Max. discharge gas temp.	110,0 °C
Useful superheat	100%		

Result

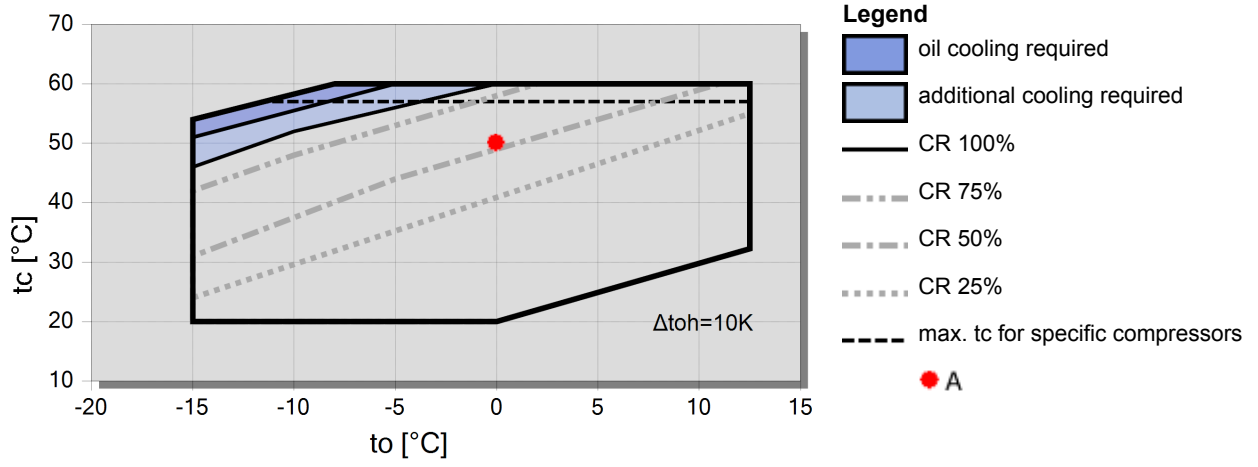
Q [W]	Cooling capacity	mHP [kg/h]	Mass flow HP
P [kW]	Power input	Qac [kW]	Additional cooling
I [A]	Current	tcu [°C]	Liquid temp.
COP [-]	COP/EER	pm [bar(a)]	ECO pressure
mLP [kg/h]	Mass flow LP	Qsc [kW]	sub cooler capacity (ECO)

tc	to	10°C	5°C	0°C	-5°C	-10°C	-15°C	-20°C	-25°C
30°C	Q [W]	282695	236509	196392	161645	131620	105719	--	--
	P [kW]	44,3	41,7	39,7	38,1	36,8	35,7	--	--
	I [A]	77,4	73,8	70,9	68,7	66,9	65,4	--	--
	COP [-]	6,39	5,67	4,95	4,24	3,58	2,96	--	--
	mLP [kg/h]	5433	4608	3881	3243	2682	2189	--	--
	mHP [kg/h]	5433	4608	3881	3243	2682	2189	--	--
	Qac [kW]	--	--	--	--	--	--	--	--
	tcu [°C]	24,6	24,6	24,6	24,6	24,6	24,6	--	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--
40°C	Q [W]	253487	210692	173529	141335	113497	89443	--	--
	P [kW]	53,0	50,2	48,1	46,5	45,0	43,5	--	--
	I [A]	89,9	85,9	82,9	80,5	78,4	76,3	--	--
	COP [-]	4,78	4,20	3,61	3,04	2,52	2,06	--	--
	mLP [kg/h]	5330	4497	3762	3114	2544	2041	--	--
	mHP [kg/h]	5330	4497	3762	3114	2544	2041	--	--
	Qac [kW]	--	--	--	--	--	--	--	--
	tcu [°C]	34,9	34,9	34,9	34,9	34,9	34,9	--	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--
50°C	Q [W]	218190	179767	146240	116976	91377	68864	--	--
	P [kW]	63,2	61,1	59,0	57,0	55,0	53,0	--	--
	I [A]	104,8	101,6	98,7	95,8	92,9	90,0	--	--
	COP [-]	3,45	2,94	2,48	2,05	1,66	1,30	--	--
	mLP [kg/h]	5093	4266	3532	2877	2291	1761	--	--
	mHP [kg/h]	5093	4266	3532	2877	2291	1832	--	--
	Qac [kW]	--	--	--	--	--	4,74	--	--
	tcu [°C]	45,4	45,4	45,4	45,4	45,4	45,4	--	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--

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

*According to EN12900 (10K suction gas superheat, 0K liquid subcooling, see tech. data/ notes)

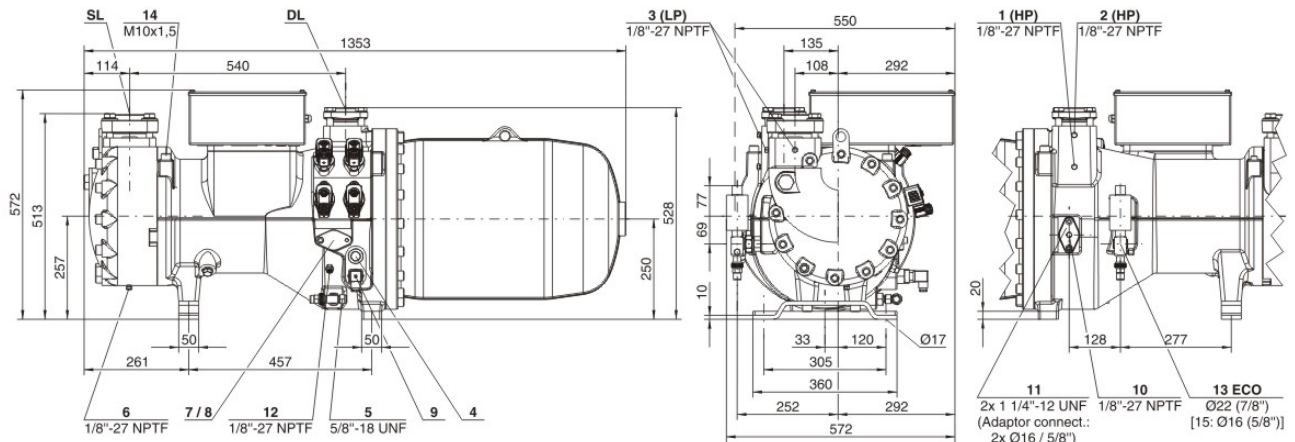
Application Limits Standard CSH7561-80





Technical Data: (CSH7561-80Y)

Dimensions and Connections



Technical Data

Technical Data

Displacement (2900 RPM 50 Hz)	227 m ³ /h
Displacement (3500 RPM 60 Hz)	274 m ³ /h
Weight	520 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	76 mm - 3 1/8"
Connection discharge line	54 mm - 2 1/8"
Oil type R134a/R407C/R404A/R507A/R407A/R407F	BSE170 (Option)
Oil type R22	B320SH (Standard)

Motor data

Motor voltage (more on request)	380-415V PW-3-50Hz
Max operating current	144.0 A
Winding ratio	50/50
Starting current (Rotor locked)	350.0 A D / 585.0 A DD
Max. Power input	88.0 kW

Extent of delivery (Standard)

Enclosure class	IP54
Oil heater	200 W (Standard)
Oil separator	Standard
Oil filter	Standard
Discharge gas temperature sensor	Standard
Start unloading	Standard
Capacity Control - 4-step	100-75-50-25% (Standard)
Capacity Control - infinite	100-25% (Standard)
Built-in check valve	Standard
Motor protection	SE-E1 (Standard), INT69VSY-II(Standard for 660-690V)
Oil charge	15,0 dm ³

Available Options

Oil level switch	Option
Discharge shut-off valve	Option
Suction shut-off valve	Option
Shut-off valve for ECO with muffler	Option
Liquid injection with integrated nozzle	Option
Bridges for DOL start	Option
Vibration dampers	Option



Compact Screw Compressors CS

Reference points for evaporating and condensing pressures

Connection positions 1 (HP) and 3 (LP) on the compressor (see dimensions). The pressure drop for shut-off valves and check valves has not been taken into consideration. This is the worldwide state of the art for compact screws, as in factory-produced chillers shut-off valves are often omitted and the check valve can also be arranged as an external component in the discharge line. For the sake of the international comparability of performance data, this standard has been adopted for the screw compressors of the CSH/CSW/CSVH series.

ASERCOM certified performance data

The Association of European Refrigeration Component Manufacturers has implemented a procedure of certifying performance data. The high standard of these certifications is assured by:

- * plausibility tests of the data performed by experts.
- * regular measurements at independent institutes.

These high efforts result in the fact that only a limited number of compressors can be submitted. Due to this not all BITZER compressors are certified up to now. Performance data of compressors which fulfil the strict requirements may carry the label "ASERCOM certified". In this software you will find the label at the respective compressors on the right side below the field "result" or in the print out of the performance data. All certified compressors and further information are listed on the homepage of ASERCOM.

Legend of connection positions according to "Dimensions":

- 1 High pressure connection (HP)
 - 2 Additional high pressure connection
 - 3 Low pressure connection (LP)
 - 4 Oil sight glass
 - 5 Oil valve for maintenance (standard) / connection for oil equalisation (parallel operation)
 - 6 Oil drain plug (motor housing)
 - 7 CSH only, except CSH6583, CSH6593, CSH95103 and CSH95113: Connection for electro-mechanical oil level switch in case of replacing a CSH.1 by a CSH.3
 - 8 Connection for opto-electronical oil level switch (OLC-D1-S) CSVH: integrated into FI control
CS.105: connected to monitoring module
 - 9 Oil heater with sleeve (standard) CSVH: integrated into FI control
CS.105: connected to monitoring module
 - 10 Oil pressure connection
 - 11 External oil cooler connections (adaptor optional)
 - 11a outlet to oil cooler
 - 11b inlet / return from oil cooler
 - 12 Oil temperature sensor (PTC) CSVH: integrated into FI control
CS.105: connected to monitoring module
 - 13 Economiser connection (ECO) (shut-off valve optional CSH: with pulsation muffler)
 - 14 Threaded bore for pipe support
CS.L line for ECO or LI
CSVH:
14a line for ECO
14b line for FI cooling
 - 15 Liquid injection connection (LI) (CSH: shut-off valve optional)
 - 16 Earth screw for housing
 - 17 Connection for oil and gas return (for systems with flooded evaporator adaptor optional)
 - 18 Oil filter (maintenance connection)
 - 19 FI cooling (liquid refrigerant)
 - 20 Frequency inverter (FI)
 - 21 Oil injection valve (internal)
 - 24 Gas permeable plug
 - SL Suction gas line
 - DL Discharge gas line
- Dimensions can show tolerances according to EN ISO 13920-B.



Selection: Compact Screw Compressors CS

Input Values

Compressor model	CSH7563-80Y	Operating mode	Standard
Refrigerant	R407C	Power supply	400V-3-50Hz
Reference temperature	Dew point temp.	Capacity Control	100%
Liq. subc. (in condenser)	0 K	Additional cooling	Automatic
Suct. gas superheat	10,00 K	Max. discharge gas temp.	110,0 °C
Useful superheat	100%		

Result

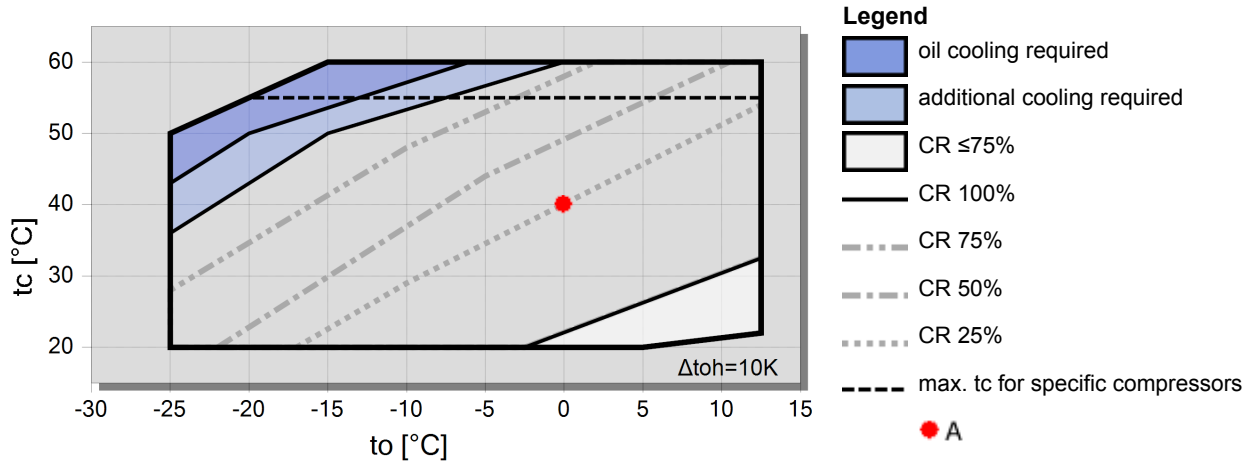
Q [W]	Cooling capacity	mHP [kg/h]	Mass flow HP
P [kW]	Power input	Qac [kW]	Additional cooling
I [A]	Current	tcu [°C]	Liquid temp.
COP [-]	COP/EER	pm [bar(a)]	ECO pressure
mLP [kg/h]	Mass flow LP	Qsc [kW]	sub cooler capacity (ECO)

tc	to	10°C	5°C	0°C	-5°C	-10°C	-15°C	-20°C	-25°C
30°C	Q [W]	--	243471	200640	163888	132532	105954	83594	64939
	P [kW]	--	43,4	40,1	37,5	35,5	34,0	32,9	32,0
	I [A]	--	76,2	71,5	67,9	65,1	63,1	61,6	60,4
	COP [-]	--	5,61	5,00	4,37	3,73	3,12	2,54	2,03
	mLP [kg/h]	--	4744	3965	3288	2700	2194	1760	1391
	mHP [kg/h]	--	4744	3965	3288	2700	2194	1760	1391
	Qac [kW]	--	--	--	--	--	--	--	--
	tcu [°C]	--	24,6	24,6	24,6	24,6	24,6	24,6	24,6
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--
40°C	Q [W]	255498	210976	172736	140074	112351	88991	69469	53306
	P [kW]	54,1	50,4	47,4	45,1	43,4	42,0	41,0	40,1
	I [A]	91,5	86,2	81,9	78,6	76,1	74,2	72,7	71,4
	COP [-]	4,72	4,19	3,64	3,10	2,59	2,12	1,70	1,33
	mLP [kg/h]	5372	4503	3745	3087	2518	2031	1615	1263
	mHP [kg/h]	5372	4503	3745	3087	2518	2031	1615	1345
	Qac [kW]	--	--	--	--	--	--	--	5,71
	tcu [°C]	34,9	34,9	34,9	34,9	34,9	34,9	34,9	34,9
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--
50°C	Q [W]	213942	175426	142517	114572	91009	71298	54961	--
	P [kW]	62,4	59,3	56,8	54,9	53,5	52,4	51,5	--
	I [A]	103,6	99,0	95,5	92,7	90,6	89,0	87,8	--
	COP [-]	3,43	2,96	2,51	2,09	1,70	1,36	1,07	--
	mLP [kg/h]	4994	4163	3442	2818	2281	1823	1435	--
	mHP [kg/h]	4994	4163	3442	2818	2281	1949	1678	--
	Qac [kW]	--	--	--	--	--	8,01	15,42	--
	tcu [°C]	45,4	45,4	45,4	45,4	45,4	45,4	45,4	--
	pm [bar(a)]	--	--	--	--	--	--	--	--
	Qsc [kW]	--	--	--	--	--	--	--	--

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

*According to EN12900 (10K suction gas superheat, 0K liquid subcooling, see tech. data/ notes)

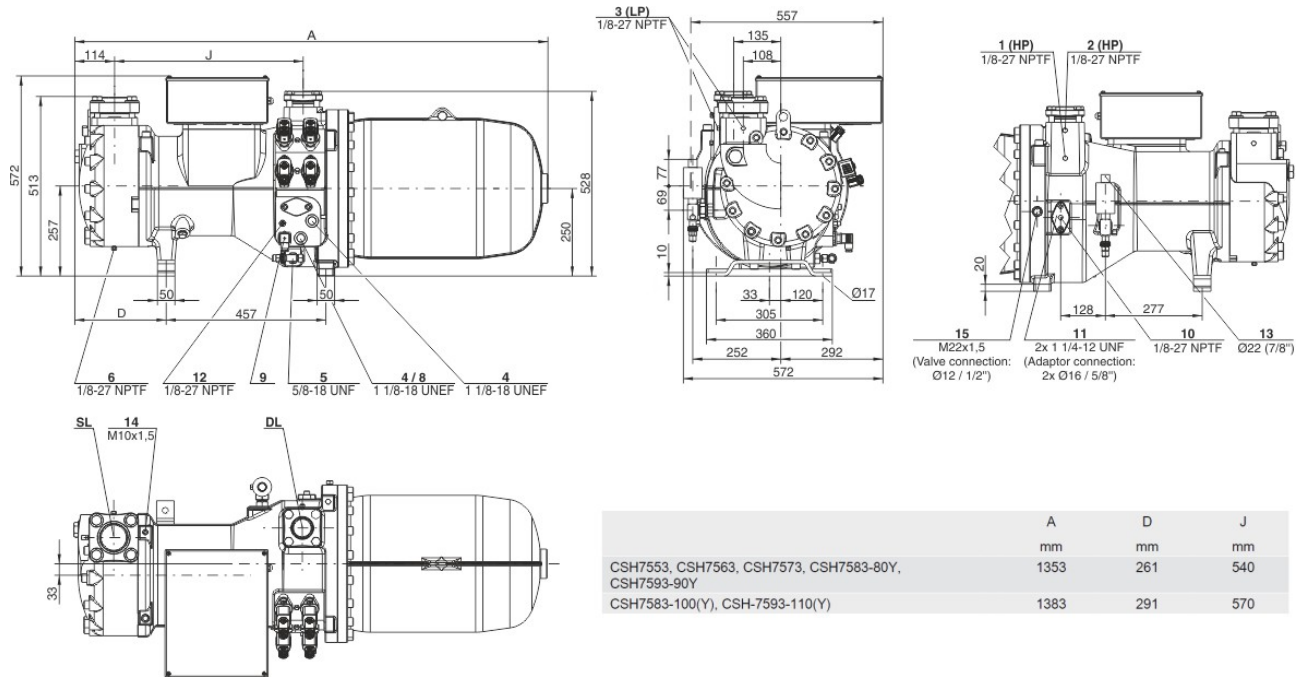
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Displacement (3500 RPM 60 Hz)	274 m ³ /h
Weight	525 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	76 mm - 3 1/8"
Connection discharge line	54 mm - 2 1/8"
Oil type R1234yf/R1234ze(E)/R450A/R513A	BSE170 (Option)
Oil type R134a/R407C/R404A/R507A/R407A/R407F	BSE170 (Option)
Oil type R22	B320SH (Standard)

Motor data

Motor voltage (more on request)	380-415V PW-3-50Hz
Max operating current	144.0 A
Winding ratio	50/50
Starting current (Rotor locked)	350.0 A D / 585.0 A DD
Max. Power input	88.0 kW

Extent of delivery (Standard)

Enclosure class	IP54
Oil heater	200 W (Standard)
Oil separator	Standard
Oil filter	Standard
Discharge gas temperature sensor	Standard
Start unloading	Standard
Capacity Control - 4-step	100-75-50-25% (Standard)
Capacity Control - infinite	100-25% (Standard)
Built-in check valve	Standard
Motor protection	SE-E1 (Standard), SE-E3(Standard for 660-690V)
Oil charge	15,0 dm ³

Available Options

Oil level switch	min / max OLC-D1-S (Option)
Discharge shut-off valve	Option
Suction shut-off valve	Option
Shut-off valve for ECO with muffler	Option
Liquid injection with integrated nozzle	Option
Bridges for DOL start	Option
with sound jacket	Option
Vibration dampers	Option
Motor protection	SE-i1 (200-690V)



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