

27.05.2024 / All data subject to change.

1/4

Selection: Compact Screw Compressors CS // CSV

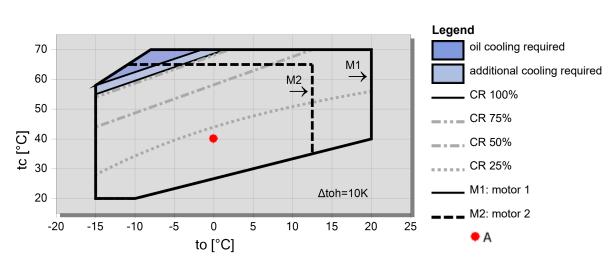
Input Values

Compressor model	(CSH7591-90Y)		
Refrigerant	R134a		
Reference temperature	Dew point temp.		
Evaporating SST	0°C	40,0°C	
Condensing SDT	40,0 °C		6 5,9°C
Liq. subc. (in condenser)	0 K	~~~~	
Suct. gas superheat	10,00 K	40.0°C	$\mathbf{\Psi}$
Useful superheat	100%	40,0 C	10.0°C
Operating mode	Standard		
Power supply	400V-3-50Hz	Ó	
Capacity control	100%		10,0°C
Additional cooling	Automatic	CSH7591-90Y (100%)	0,0°C
Max. discharge gas temp.	110,0 °C		

Result

Compressor	CSH7591-90Y-40P
Capacity steps	100%
Cooling capacity	173,8 kW
Cooling capacity *	173,8 kW
Evaporator capacity	173,8 kW
Power input	47,4 kW
Current (400V)	80,3 A
Voltage range	380-415V
Condenser capacity	221 kW
COP/EER	3,67
COP/EER *	3,67
Mass flow LP	4160 kg/h
Mass flow HP	4160 kg/h
Operating mode	Standard
Liquid temp.	40,0 °C
Oil volume flow	0,63 m³/h
Cooling method	
Discharge gas temp. w/o cooling	65,9 °C

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



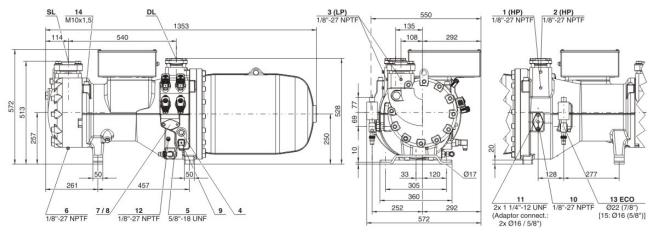
Application Limits Standard CSH7591-90



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Technical Data: (CSH7591-90Y)

Dimensions and Connections





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Technical Data

Displacement (2900 RPM 50 Hz) 336 m³/h Displacement (3500 RPM 60 Hz) 406 m³/h Weight 530 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) Motor version 2 Motor voltage (more on request) 380-415V PW-3-50Hz Max operating current 162.0 A Winding ratio 50/50 Starting current (Rotor locked) 423.0 A D / 686.0 A DD Max. Power input 96.0 kW Extent of delivery (Standard) 11954 Oil separator Standard Oil filter Standard Oil filter Standard Oil filter 100-75-50-25% (Standard) Start unloading Standard Capacity Control - 4-step 100-75-50-25% (Standard) Built-in check valve Standard Motor protection SE-E1 (Standard), INT69VSY-II(Standard for 660-690V) Oil level switch Option Optio	Technical Data		
Weight530 kgMax. pressure (LP/HP)19 / 28 barConnection suction line76 mm - 3 1/8"Connection discharge line54 mm - 2 1/8"Oil type R134a/R407C/R404A/R507A/R407A/R407FBSE170 (Option)Motor data2Motor voltage (more on request)380-415V PW-3-50HzMax operating current162.0 AWinding ratio50/50Starting current (Rotor locked)423.0 A D / 686.0 A DDMax. Power input96.0 kWExtent of delivery (Standard)Oil separatorStandardOil charge100-25% (Standard)Capacity Control - infinite100-25% (Standard)Oil charge15.0 dm³Available OptionsDicharge shut-off valveOil lovel switchOptionDischarge shut-off valveOptionSuction shut-off valveOptionSuction shut-off valveOptionSuction shut-off valveOptionSuction shut-off valveOptionSuction shut-off valve on zeroO		336 m³/h	
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Starting current (Rotor locked)423.0 A D / 686.0 A DDMax. Power input96,0 kWExtent of delivery (Standard)Enclosure classIP54Oil heater200 W (Standard)Oil separatorStandardOil filterStandardDischarge gas temperature sensorStandardStart unloadingStandardCapacity Control - 4-step100-75-50-25% (Standard)Capacity Control - 4-step100-75-50-25% (Standard)Built-in check valveStandardMotor protectionSE-E1 (Standard), INT69VSY-II(Standard for 660-690V)Oil level switchOptionDischarge shut-off valveOptionSuction shut-off valveOptionSuction shut-off valveOptionShut-off valve for ECO with mufflerOptionLiquid injection with integrated nozzleOptionBridges for DOL startOption	Max operating current	162.0 A	
Max. Power input96,0 kWExtent of delivery (Standard)Enclosure classIP54Oil heater200 W (Standard)Oil separatorStandardOil filterStandardDischarge gas temperature sensorStandardStart unloadingStandardCapacity Control - 4-step100-75-50-25% (Standard)Capacity Control - infinite100-25% (Standard)Built-in check valveStandardMotor protectionSE-E1 (Standard), INT69VSY-II(Standard for 660-690V)Oil level switchOptionDischarge shut-off valveOptionSuction shut-off valveOptionShut-off valve for ECO with mufflerOptionLiquid injection with integrated nozzleOptionBridges for DOL startOption	Winding ratio	50/50	
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Available OptionsOil level switchOptionDischarge shut-off valveOptionSuction shut-off valveOptionShut-off valve for ECO with mufflerOptionLiquid injection with integrated nozzleOptionBridges for DOL startOption	Motor protection	SE-E1 (Standard), INT69VSY-II(Standard for 660-690V)	
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Liquid injection with integrated nozzle Option Bridges for DOL start Option		Option	
Bridges for DOL start Option	Shut-off valve for ECO with muffler	Option	
Bridges for DOL start Option	Liquid injection with integrated nozzle	Option	
Vibration dampers Option		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 com-ponent 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.