

DC7W range

Water cooled liquid chillers for medium and high temperature applications



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Chillers for high temperature applications (or optionally for heat pump applications)

Chillers with mechanical capacity regulation (459...562 kW with 7/12 °C cooled water)

Model		DC7W-K5-H	DC7W-K6-H	DC7W-K7-H
Refrigerant		R717	R717	R717
System type		Flooded	Flooded	Flooded
Number of compressors		2	2	2
Compressor manufacturer		Bitzer	Bitzer	Bitzer
Capacity regulation method		Mechanical 25...100%	Mechanical 25...100%	Mechanical 25...100%
Compressor speed		2900 1/min	2900 1/min	2900 1/min
Total swept volume		384 m ³ /h	440 m ³ /h	500 m ³ /h
Rated motor power per compressor		55 kW	75 kW	75 kW
Motors efficiency class		IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz
Number of primary oil separators		1	1	1
Primary oil separator manufacturer		Bitzer	Bitzer	Bitzer
Number of coalescent oil separators		2	2	2
Coalescent oil separator manufacturer		Bitzer	Bitzer	Bitzer
Oil cooling method		Glycol or water ⁽³⁾	Glycol or water ⁽³⁾	Glycol or water ⁽³⁾
Oil cooler heat exchanger manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Oil charge ⁽¹⁾		120 L	120 L	125 L
Condenser manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Refrigerant charge ⁽¹⁾		80 kg	90 kg	95 kg
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		4870 x 2270 x 2800	4870 x 2270 x 2850	4870 x 2270 x 2850
Operating weight ⁽¹⁾		5600 kg	6050 kg	6250 kg
Performance with 7 / 12 °C cooled water, 30 / 35 °C cooling water ^{(1),(4)}	Total cooling capacity	459 kW	524 kW	562 kW
	Total shaft power	91 kW	102 kW	109 kW
	Compressor COP (cooling capacity / shaft power)	5,07	5,13	5,15
	SEER ⁽²⁾	5,20	5,24	5,26
	Condenser capacity	520 kW	593 kW	636 kW
Oil cooling capacity		30 kW	33 kW	36 kW

(1) - Tentative data

(2) - SEER is calculated according to EN 14825 as a benchmark value, and it is only valid for the standard criteria

(3) - Glycol / water oil cooling can be used as heat recovery

(4) - Cooled water outlet temperatures between 0,5...15 °C and cooling water inlet temperatures between 20...38 °C (or up to 45 °C with special options) are possible according to individual requests

Chillers for VSD operation (633...775 kW with 7/12 °C cooled water)

Model		DC7W-K5-HF	DC7W-K6-HF	DC7W-K7-HF
Refrigerant		R717	R717	R717
System type		Flooded	Flooded	Flooded
Number of compressors		2	2	2
Compressor manufacturer		Bitzer	Bitzer	Bitzer
Capacity regulation method		VSD	VSD	VSD
Compressor speed		1450...4000 1/min	1450...4000 1/min	1450...4000 1/min
Total swept volume at maximum speed		530 m ³ /h	607 m ³ /h	690 m ³ /h
Rated motor power per compressor		75 kW	90 kW	90 kW
Motors efficiency class		IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz
Number of primary oil separators		1	1	1
Primary oil separator manufacturer		Bitzer	Bitzer	Bitzer
Number of coalescent oil separators		3	3	3
Coalescent oil separator manufacturer		Bitzer	Bitzer	Bitzer
Oil cooling method		Glycol or water ⁽³⁾	Glycol or water ⁽³⁾	Glycol or water ⁽³⁾
Oil cooler heat exchanger manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Oil charge ⁽¹⁾		120 L	125 L	125 L
Condenser manufacturer		AlfaLaval	AlfaLaval / Thermowave	AlfaLaval / Thermowave
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Refrigerant charge ⁽¹⁾		85 kg	95 kg	100 kg
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		4870 x 2270 x 2850	5220 x 2270 x 2850	5220 x 2270 x 2850
Operating weight ⁽¹⁾		6300 kg	6550 kg	6700 kg
Performance with 7 / 12 °C cooled water, 30 / 35 °C cooling water ^{(1),(4)}	Total cooling capacity at maximum speed	633 kW	723 kW	775 kW
	Total shaft power at maximum speed	126 kW	141 kW	150 kW
	Compressor COP (cooling capacity / shaft power)	5,07	5,13	5,15
	SEER ⁽²⁾	5,46	5,51	5,54
	Condenser capacity	717 kW	818 kW	877 kW
Oil cooling capacity		41 kW	46 kW	50 kW

(1) - Tentative data

(2) - SEER is calculated according to EN 14825 as a benchmark value, and it is only valid for the standard criteria

(3) - Glycol / water oil cooling can be used as heat recovery

(4) - Cooled water outlet temperatures between 0,5...15 °C and cooling water inlet temperatures between 20...38 °C (or up to 45 °C with special options) are possible according to individual requests

Chillers for medium temperature applications

Chillers with mechanical capacity regulation (253...331 kW with -8/-2 °C brine)

Model		DC7W-K5-M	DC7W-K6-M	DC7W-K7-M
Refrigerant		R717	R717	R717
System type		Flooded	Flooded	Flooded
Number of compressors		2	2	2
Compressor manufacturer		Bitzer	Bitzer	Bitzer
Capacity regulation method		Mechanical 25...100%	Mechanical 25...100%	Mechanical 25...100%
Compressor speed		2900 1/min	2900 1/min	2900 1/min
Total swept volume		384 m³/h	440 m³/h	500 m³/h
Rated motor power per compressor		55 kW	55 kW	75 kW
Motors efficiency class		IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz
Number of primary oil separators		1	1	1
Primary oil separator manufacturer		Bitzer	Bitzer	Bitzer
Number of coalescent oil separators		1	1	2
Coalescent oil separator manufacturer		Bitzer	Bitzer	Bitzer
Oil cooling method		Glycol or water ⁽³⁾	Glycol or water ⁽³⁾	Glycol or water ⁽³⁾
Oil cooler heat exchanger manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Oil charge ⁽¹⁾		75 L	80 L	120 L
Condenser manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Refrigerant charge ⁽¹⁾		80 kg	90 kg	95 kg
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		4870 x 2270 x 2800	4870 x 2270 x 2850	4870 x 2270 x 2850
Operating weight ⁽¹⁾		5300 kg	5450 kg	6100 kg
Performance with -8 / -2 °C 35% ethylene glycol, 30 / 35 °C cooling water ^{(1),(4)}	Total cooling capacity	253 kW	301 kW	331 kW
	Total shaft power	82 kW	94 kW	101 kW
	Compressor COP (cooling capacity / shaft power)	3,08	3,21	3,29
	SEPR ⁽²⁾	4,21	4,33	4,41
	Condenser capacity	291 kW	346 kW	380 kW
Oil cooling capacity		45 kW	49 kW	52 kW

(1) - Tentative data

(2) - SEPR is calculated according to EN 14825 as a benchmark value, and it is only valid for the standard criteria

(3) - Glycol / water oil cooling can be used as heat recovery

(4) - Cooled brine outlet temperatures between -15...-2 °C and cooling water inlet temperatures between 15...38 °C (or up to 45 °C with special options) are possible according to individual requests

Chillers for VSD operation (349...457 kW with -8/-2 °C brine)

Model		DC7W-K5-MF	DC7W-K6-MF	DC7W-K7-MF
Refrigerant		R717	R717	R717
System type		Flooded	Flooded	Flooded
Number of compressors		2	2	2
Compressor manufacturer		Bitzer	Bitzer	Bitzer
Capacity regulation method		VSD	VSD	VSD
Compressor speed		1450...4000 1/min	1450...4000 1/min	1450...4000 1/min
Total swept volume at maximum speed		530 m ³ /h	607 m ³ /h	690 m ³ /h
Rated motor power per compressor		75 kW	75 kW	90 kW
Motors efficiency class		IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz
Number of primary oil separators		1	1	1
Primary oil separator manufacturer		Bitzer	Bitzer	Bitzer
Number of coalescent oil separators		2	2	2
Coalescent oil separator manufacturer		Bitzer	Bitzer	Bitzer
Oil cooling method		Glycol or water ⁽³⁾	Glycol or water ⁽³⁾	Glycol or water ⁽³⁾
Oil cooler heat exchanger manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Oil charge ⁽¹⁾		120 L	125 L	125 L
Condenser manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval
Refrigerant charge ⁽¹⁾		85 kg	90 kg	95 kg
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		4870 x 2270 x 2800	4870 x 2270 x 2850	4870 x 2270 x 2850
Operating weight ⁽¹⁾		6150 kg	6300 kg	6450 kg
Performance with -8 / -2 °C 35% ethylene glycol, 30 / 35 °C cooling water ^{(1),(4)}	Total cooling capacity at maximum speed	349 kW	415 kW	457 kW
	Total shaft power at maximum speed	113 kW	130 kW	139 kW
	Compressor COP (cooling capacity / shaft power)	3,08	3,21	3,29
	SEPR ⁽²⁾	4,30	4,42	4,50
	Condenser capacity	401 kW	477 kW	524 kW
	Oil cooling capacity	62 kW	68 kW	72 kW

(1) - Tentative data

(2) - SEPR is calculated according to EN 14825 as a benchmark value, and it is only valid for the standard criteria

(3) - Glycol / water oil cooling can be used as heat recovery

(4) - Cooled brine outlet temperatures between -15...-2 °C and cooling water inlet temperatures between 15...38 °C (or up to 45 °C with special options) are possible according to individual requests

Notes:

Specification shown in this document is subject to change without notification

For further details please contact us.

Customized solutions for different temperatures, configurations are possible, please contact us with your request.

