

MC9R range

Liquid chillers for use with remote condenser, for medium and high temperature applications



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Chillers for high temperature applications

Chillers with mechanical capacity regulation (815...1194 kW with 7/12 °C cooled water)

Model		MC9R-K7-H	MC9R-K8-H	MC9R-K9-H	MC9R-K10-H
Refrigerant		R717	R717	R717	R717
System type		Flooded	Flooded	Flooded	Flooded
Number of compressors		1	1	1	1
Compressor manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Capacity regulation method		Mechanical 25... 100%	Mechanical 25... 100%	Mechanical 25... 100%	Mechanical 25... 100%
Compressor speed		2900 1/min	2900 1/min	2900 1/min	2900 1/min
Swept volume		700 m ³ /h	805 m ³ /h	910 m ³ /h	1015 m ³ /h
Rated motor power		160 kW	160 kW	200 kW	250 kW
Motor efficiency class		IE3	IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz	50 Hz
Number of combined oil separators		1	1	1	1
Combined oil separator manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Oil cooling method		remote oil cooler	remote oil cooler	remote oil cooler	remote oil cooler
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval	AlfaLaval
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		5020 x 2340 x 2900	5020 x 2340 x 2900	5320 x 2340 x 2950	5320 x 2340 x 2950
Empty weight ⁽¹⁾		8200 kg	8400 kg	8500 kg	9300 kg
Performance with 7 / 12 °C cooled water, 35 °C condensation temperature ^{(1),(3)}	Cooling capacity	815 kW	946 kW	1069 kW	1194 kW
	Shaft power	123 kW	140 kW	162 kW	179 kW
	Compressor COP (cooling capacity / shaft power)	6,64	6,77	6,6	6,68
	SEER ⁽²⁾	6,88	7,02	6,85	6,94
	Condenser capacity	923 kW	1072 kW	1212 kW	1353 kW
Oil cooling capacity		14 kW	13 kW	19 kW	20 kW

(1) - Tentative data

(2) - SEER is calculated according to EN14825 as a benchmark value, and it is only valid for the standard criteria

(3) - Cooled water outlet temperatures between 0,5...15 °C and condensation temperatures between 25...50 °C are possible according to individual requests

Chillers for VSD operation (1124...1647 kW with 7/12 °C cooled water)

Model		MC9R-K7-HF	MC9R-K8-HF	MC9R-K9-HF	MC9R-K10-HF
Refrigerant		R717	R717	R717	R717
System type		Flooded	Flooded	Flooded	Flooded
Number of compressors		1	1	1	1
Compressor manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Capacity regulation method		VSD	VSD	VSD	VSD
Compressor speed		1500...4000 1/min	1500...4000 1/min	1500...4000 1/min	1500...4000 1/min
Swept volume at maximum speed		966 m ³ /h	1110 m ³ /h	1255 m ³ /h	1400 m ³ /h
Rated motor power		200 kW	250 kW	250 kW	315 kW
Motor efficiency class		IE3	IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz	50 Hz
Number of combined oil separators		1	1	1	1
Combined oil separator manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Oil cooling method		remote oil cooler	remote oil cooler	remote oil cooler	remote oil cooler
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval	AlfaLaval
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		5320 x 2340 x 2950	5320 x 2340 x 2950	5620 x 2340 x 2950	5620 x 2340 x 2950
Empty weight ⁽¹⁾		8500 kg	9300 kg	9600 kg	9850 kg
Performance with 7 / 12 °C cooled water, 35 °C condensation temperature ^{(1),(3)}	Cooling capacity at maximum speed	1124 kW	1305 kW	1474 kW	1647 kW
	Shaft power at maximum speed	170 kW	193 kW	223 kW	247 kW
	Compressor COP (cooling capacity / shaft power)	6,64	6,77	6,6	6,68
	SEER ⁽²⁾	7,19	7,33	7,15	7,25
	Condenser capacity	1273 kW	1479 kW	1672 kW	1866 kW
Oil cooling capacity		19 kW	18 kW	26 kW	28 kW

(1) - Tentative data

(2) - SEER is calculated according to EN14825 as a benchmark value, and it is only valid for the standard criteria

(3) - Cooled water outlet temperatures between 0,5...15 °C and condensation temperatures between 25...50 °C are possible according to individual requests

Chillers for medium temperature applications

Chillers with mechanical capacity regulation (454...669 kW with -8/-2 °C brine)

Model		MC9R-K7-M	MC9R-K8-M	MC9R-K9-M	MC9R-K10-M
Refrigerant		R717	R717	R717	R717
System type		Flooded	Flooded	Flooded	Flooded
Number of compressors		1	1	1	1
Compressor manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Capacity regulation method		Mechanical 25...100%	Mechanical 25...100%	Mechanical 25...100%	Mechanical 25...100%
Compressor speed		2900 1/min	2900 1/min	2900 1/min	2900 1/min
Swept volume		700 m ³ /h	805 m ³ /h	910 m ³ /h	1015 m ³ /h
Rated motor power		160 kW	160 kW	200 kW	250 kW
Motor efficiency class		IE3	IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz	50 Hz
Number of combined oil separators		1	1	1	1
Combined oil separator manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Oil cooling method		remote oil cooler	remote oil cooler	remote oil cooler	remote oil cooler
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval	AlfaLaval
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		5020 x 2340 x 2900	5020 x 2340 x 2900	5320 x 2340 x 2950	5320 x 2340 x 2950
Empty weight ⁽¹⁾		8000 kg	8200 kg	8350 kg	9050 kg
Performance with -8 / -2 °C 35% ethylene glycol, 35 °C condensation temperature ^{(1),(3)}	Cooling capacity	454 kW	529 kW	597 kW	669 kW
	Shaft power	119 kW	134 kW	154 kW	169 kW
	Compressor COP (cooling capacity / shaft power)	3,82	3,94	3,89	3,96
	SEPR ⁽²⁾	5,11	5,25	5,20	5,27
	Condenser capacity	523 kW	608 kW	687 kW	769 kW
	Oil cooling capacity	51 kW	55 kW	64 kW	68 kW

(1) - Tentative data

(2) - SEPR is calculated according to EN14825 as a benchmark value, and it is only valid for the standard criteria

(3) - 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 (626...923 kW with -8/-2 °C brine)

Model		MC9R-K7-MF	MC9R-K8-MF	MC9R-K9-MF	MC9R-K10-MF
Refrigerant		R717	R717	R717	R717
System type		Flooded	Flooded	Flooded	Flooded
Number of compressors		1	1	1	1
Compressor manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Capacity regulation method		VSD	VSD	VSD	VSD
Compressor speed		1500...4000 1/min	1500...4000 1/min	1500...4000 1/min	1500...4000 1/min
Swept volume at maximum speed		966 m ³ /h	1110 m ³ /h	1255 m ³ /h	1400 m ³ /h
Rated motor power		200 kW	250 kW	250 kW	315 kW
Motor efficiency class		IE3	IE3	IE3	IE3
Power supply voltage		380...415 V	380...415 V	380...415 V	380...415 V
Power grid frequency		50 Hz	50 Hz	50 Hz	50 Hz
Number of combined oil separators		1	1	1	1
Combined oil separator manufacturer		Bitzer	Bitzer	Bitzer	Bitzer
Oil cooling method		remote oil cooler	remote oil cooler	remote oil cooler	remote oil cooler
Compressor oil type		Arctic SHC226E	Arctic SHC226E	Arctic SHC226E	Arctic SHC226E
Evaporator manufacturer		AlfaLaval	AlfaLaval	AlfaLaval	AlfaLaval
Design pressure LP / HP		19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar	19 bar / 25 bar
Dimensions (Length [mm] x Width [mm] x Height [mm]) ⁽¹⁾		5320 x 2340 x 2900	5320 x 2340 x 2900	5320 x 2340 x 2950	5620 x 2340 x 2950
Empty weight ⁽¹⁾		8300 kg	9050 kg	9250 kg	9500 kg
Performance with -8 / -2 °C 35% ethylene glycol, 35 °C condensation temperature ^{(1),(3)}	Cooling capacity at maximum speed	626 kW	730 kW	823 kW	923 kW
	Shaft power at maximum speed	164 kW	185 kW	212 kW	233 kW
	Compressor COP (cooling capacity / shaft power)	3,82	3,94	3,89	3,96
	SEPR ⁽²⁾	5,21	5,35	5,3	5,37
	Condenser capacity	721 kW	839 kW	948 kW	1061 kW
Oil cooling capacity		70 kW	76 kW	88 kW	94 kW

(1) - Tentative data

(2) - SEPR is calculated according to EN14825 as a benchmark value, and it is only valid for the standard criteria

(3) - 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.

