

# Air Cooled Chiller

## AQVL 85-140



83-137 kW



Plate



410A



Air cooled



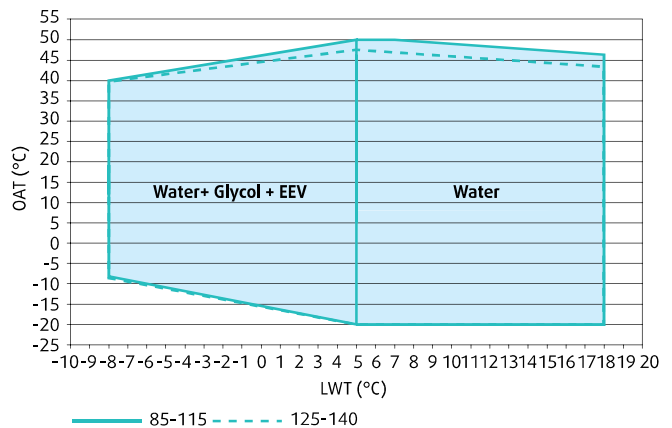
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### Technical feature

- 6 sizes
- Cooling capacity from 83,3 to 136,5 kW
- 4 versions:
  - STD (Standard)
  - HSE (High Seasonal Efficiency)
  - HT (High Temperature)
  - HPF (High Pressure Fans)
- 2 acoustic versions:
  - Standard version (STD), Extra Low Noise version (ELN)
- Two refrigerant circuits
- Scroll compressors
- Microprocessor control
- Low operating water content in the plant
- Electronic expansion valve as standard
- "Brine" version for process application
- E-Coating coil treatment as standard

### Accessories and options

- Automatic circuit breaker
- BMS interface
- Coils treatments
- Compressors acoustic box (standard)
- Compressors jackets as standard on ELN
- Desuperheater & Totaly heat recovery
- Fan speed control
- Hydrokit with 1 or 2 pumps with or without buffer tank
- Mechanical gauges
- Overload protection for compressors
- Power factor corrector capacitors
- Pressure switch
- Sequence phases control (standard)
- Sofstart
- Unit protection grilles
- Water differential pressure & Water flow switch (standard)
- Water filter



Operating limit (to be confirmed following selection software issue)

AQVL 85-140			Min	Max
Leaving water temperature	Water	°C	+5	+18
	Water with glycol	°C	0	+18
	Water with glycol (Brine version)	°C	-8	+18
Air temperature	BLN	°C	+5	+47
	ELN	°C	-18	+44
	HSE/HT	°C	-18	+50 (85-115) +47 (125-140)
External static pressure	Standard fans	Pa	0	
	High Pressure Fans (HPF)	Pa	< 120	

## Technical feature

AQVL 85-140 BLN		85	95	105	115	125	140
Cooling capacity <sup>1</sup>	kW	83,3	93,3	102,6	110,5	121,6	136,5
Power input <sup>1</sup>	kW	27,1	31,0	33,6	36,6	40,9	46,1
EER <sup>1</sup>		3,08	3,01	3,05	3,02	2,97	2,96
Energy Efficiency class		B	B	B	B	B	B
ESEER		4,16	4,15	4,07	4,12	3,95	4,01
EER HSE <sup>1</sup>		3,19	3,09	3,13	3,10	3,05	3,03
Energy Efficiency class		A	B	A	A	B	B
ESEER HSE		4,06	4,12	4,23	4,19	3,96	4,08
Part load steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power supply	V/Ph/Hz	400/3/50					
Startup type		Direct					
<b>Refrigerant</b>							
Type		HFC 410A					
Number of refrigerant circuits		2	2	2	2	2	2
<b>Compressor</b>							
Qty		4	4	4	4	4	4
Type		Scroll					
Crankcase heater	W	90	90	90	90	90	90
<b>Evaporator</b>							
Qty		1	1	1	1	1	1
Type		Plate exchanger AISI 316					
Water flow	m <sup>3</sup> /h	14.377	16.116	17.681	19.023	21.033	23.588
Antifreeze heater	W	130	130	130	130	130	130
Connection type		Male GAS threaded					
Inlet/outlet diameter	inch	2½"	2½"	2½"	2½"	2½"	2½"
<b>Condenser</b>							
Qty		2	2	2	2	2	2
Total coil face area per coil	mm	2,4	2,4	2,4	2,4	3,1	3,1
<b>Fan</b>							
Qty		2	2	2	2	2	2
Air flow	m <sup>3</sup> /h	34.000	34.000	33.200	32.400	44.000	42.800
Speed	rpm/min	690	690	690	690	900	900
Power input	kW	2,1	2,1	2,1	2,1	3,4	3,4
Power input HSE	kW	1,2	1,2	1,2	1,2	2,4	2,4
Power input HPF	kW	3,6	3,6	3,6	3,6	4,6	4,6
<b>Weight</b>							
Shipping	kg	1.033	1.047	1.084	1.116	1.151	1.230
Operating	kg	1.058	1.072	1.111	1.143	1.183	1.262
<b>Dimensions</b>							
Length	mm	2.555	2.555	2.555	2.555	3.155	3.155
Width	mm	1.095	1.095	1.095	1.095	1.095	1.095
Height	mm	2.185	2.185	2.185	2.185	2.185	2.185
<b>Acoustical data</b>							
Sound power level <sup>2</sup>	dB(A)	84	84	84	84	88	88
Sound pressure level <sup>3</sup>	dB(A)	52	52	52	52	56	56
Sound power level HPF <sup>2</sup>	dB(A)	92	92	92	92	95	95
Sound pressure level HPF <sup>3</sup>	dB(A)	60	60	60	60	63	63

<sup>1</sup> Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

<sup>2</sup> Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

<sup>3</sup> Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

## Technical feature

AQVL 85-140 ELN		85	95	105	115	125	140
Cooling capacity <sup>1</sup>	kW	80,6	89,9	98,3	105,6	119,6	133,5
Power input <sup>1</sup>	kW	26,1	30,2	32,8	35,7	39,9	45,1
EER <sup>1</sup>		2,87	2,75	2,77	2,73	2,90	2,86
Energy efficiency class		C	C	C	C	B	C
ESEER		3,91	3,78	3,81	3,67	3,92	3,93
EER HSE <sup>1</sup>		3,00	2,87	2,87	2,81	2,96	2,91
Energy efficiency class		B	C	C	C	B	B
ESEER HSE		3,91	3,87	3,87	3,79	3,99	3,94
Part load steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power supply	V/Ph/Hz	400/3/50					
Startup type		Direct					
<b>Refrigerant</b>							
Type		HFC 410A					
Number of refrigerant circuits		2	2	2	2	2	2
<b>Compressor</b>							
Qty		4	4	4	4	4	4
Type		Scroll					
Crankcase heater	W	90	90	90	90	90	90
<b>Evaporator</b>							
Qty		1	1	1	1	1	1
Type		Plate exchanger AISI 316					
Water flow	l/h	13.906	15.532	16.971	18.204	20.550	22.988
Antifreeze heater	W	130	130	130	130	130	130
Connection type		Male GAS threaded					
Inlet/outlet diameter	inch	2½"	2½"	2½"	2½"	2½"	2½"
<b>Condenser</b>							
Qty		2	2	2	2	2	2
Total coil face area per coil	m <sup>2</sup>	2,4	2,4	2,4	2,4	3,1	3,1
<b>Fan</b>							
Qty		2	2	2	2	2	2
Air flow	m <sup>3</sup> /h	25.200	25.200	24.600	24.000	36.500	35.000
Speed	rpm/min	500	500	500	500	690	690
Power input	kW	1,8	1,8	1,8	1,8	2,1	2,1
Power input HSE	kW	0,6	0,6	0,6	0,6	1,2	1,2
<b>Weight</b>							
Shipping	kg	1.063	1.077	1.114	1.146	1.181	1.260
Operating	kg	1.088	1.102	1.141	1.173	1.213	1.292
<b>Dimensions</b>							
Length	mm	2.555	2.555	2.555	2.555	3.155	3.155
Width	mm	1.095	1.095	1.095	1.095	1.095	1.095
Height	mm	2.185	2.185	2.185	2.185	2.185	2.185
<b>Acoustical data</b>							
Sound power level <sup>2</sup>	dB(A)	82	82	82	82	86	86
Sound pressure level <sup>3</sup>	dB(A)	50	50	50	50	54	54

<sup>1</sup> Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

<sup>2</sup> Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

<sup>3</sup> Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

## Technical feature

AQVL 85-140 HT		85	95	105	115	125	140
Cooling capacity <sup>1</sup>	kW	86,2	97,0	106,9	115,3	124,6	139,6
Power input <sup>2</sup>	kW	23,2	26,6	28,9	31,4	36,1	40,9
EER		3,10	3,10	3,19	3,21	3,06	3,07
ESEER		4,34	4,34	4,46	4,49	4,29	4,30
Part load steps	%	0-25-50-75-100	0-25-50-75-100	0-24-47-74-100	0-25-50-75-100	0-22-43-72-100	0-25-50-75-100
Power supply	V/Ph/Hz	400/3/50					
Startup type		Direct					
<b>Refrigerant</b>							
Type		HFC 410A					
Number of refrigerant circuits		2	2	2	2	2	2
<b>Compressor</b>							
Qty		4	4	4	4	4	4
Type		Scroll					
Crankcase heater	W	90	90	90	90	90	90
<b>Evaporator</b>							
Qty		1	1	1	1	1	1
Type		Plate exchanger AISI 316					
Water flow	l/h	14.835	16.680	18.381	19.838	21.427	24.014
Antifreeze heater	W	130	130	130	130	130	130
Connection type		Male GAS threaded					
Inlet/outlet diameter	inch	2½"	2½"	2½"	2½"	2½"	2½"
<b>Condenser</b>							
Qty		2	2	2	2	2	2
Total coil face area per coil	m <sup>2</sup>	2,4	2,4	2,4	2,4	3,1	3,1
<b>Fans</b>							
Qty		2	2	2	2	2	2
Air flow	m <sup>3</sup> /h	49.700	49.700	48.950	48.200	52.200	50.700
Speed	rpm/min	1.130	1.130	1.130	1.130	1.130	1.130
Power input	kW	4,6	4,6	4,6	4,6	4,6	4,6
<b>Weight</b>							
Shipping	kg	1.033	1.047	1.084	1.116	1.151	1.230
Operating	kg	1.058	1.072	1.111	1.143	1.183	1.262
<b>Dimensions</b>							
Length	mm	2.555	2.555	2.555	2.555	3.155	3.155
Width	mm	1.095	1.095	1.095	1.095	1.095	1.095
Height	mm	2.185	2.185	2.185	2.185	2.185	2.185
<b>Acoustical data</b>							
Sound power level <sup>3</sup>	dB(A)	95	95	95	95	95	95
Sound pressure level <sup>4</sup>	dB(A)	63	63	63	63	63	63

<sup>1</sup> Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature.

<sup>2</sup> Input power (only compressors).

<sup>3</sup> Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

<sup>4</sup> Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.