

# Air Cooled Chiller

## EuroScroll 240-660 Air CO



238-654 kW



Plate



410A



Air cooled



Scroll

### Technical feature

- 10 sizes
- Cooling capacity from 238,1 to 654,2 kW
- 3 versions:
  - STD (Standard)
  - HT (High Temperature)
  - HPF (High Pressure Fans)
- 3 acoustic versions
  - - (Basic Low Noise)
  - L (Low Noise)
  - S (Super Low Noise)
- "Brine" version:
  - Cooling only for process application LWT -10°C
- Two refrigerant circuits
- 3/4/5/6 Scroll compressors
- Electronic expansion valve
- Microchannel coils
- E-Coating coil treatment as standard



### Accessories and options

- Automatic circuit breaker
- BMS interface
- Coils treatments
- Compressors acoustic box (standard)
- Compressors jackets (standard for S version)
- Desuperheater and total heat recovery (TR version)
- Hydrokit with 1 or 2 pumps with or without buffer tank
- Overload protection for compressors
- Mechanical gauges
- Pressostatic fan speed control (standard for S version)
- Power factor corrector capacitors
- Sequence phases control (standard)
- Softstart
- Unit protection grilles
- Water flow switch
- Water differential pressure switch (standard)
- Water filter

Operating limit (to be confirmed following selection software issue)

EuroScroll 240-360 Air CO				240		270		290		320		360	
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Chilled liquid	Liquid outlet temperature	Water	°C	+6 to +18									
		Water with glycol*	°C	-10 to +6									
		Temperature spread	K	3 to 7									
	Maximum operating pressure	bar	6										
Ambient air	Air entering temperature cooling	-	°C	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45		
		L	°C	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43		
		S	°C	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43		
		HT-HPF	°C	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47		
	External static pressure	Standard fans	Pa	0									
		High pressure fans	Pa	< 120									
Recommended system chilled water volume <sup>1</sup>			l	960	1.080	1.160	1.280	1.280	1.080	1.080			
Minimum capacity step			%	31	33	30	27	27	23	23			
Power supply voltage <sup>2</sup>			V	400 V / 3 Ø / 50 Hz (nominal)									

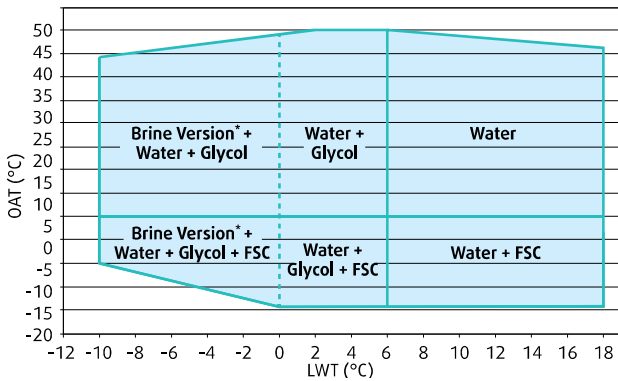
EuroScroll 420-660 Air CO				420		470		540		590		660	
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Chilled liquid	Liquid outlet temperature	Water	°C	+6 to +18									
		Water with glycol*	°C	-10 to +6									
		Temperature spread	K	3 to 7									
	Maximum operating pressure	bar	6										
Ambient air	Air entering temperature cooling	-	°C	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45	+10 to +45		
		L	°C	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43	+7 to +43		
		S	°C	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43	-14 to +43		
		HT-HPF	°C	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47	-18 to +47		
	External static pressure	Standard fans	Pa	0									
		High pressure fans	Pa	< 120									
Recommended system chilled water volume <sup>1</sup>			l	1.260	1.128	1.296	1.180	1.180	1.320	1.320			
Minimum capacity step			%	25	24	20	14	14	17	17			
Power supply voltage <sup>2</sup>			V	400 V / 3 Ø / 50 Hz (nominal)									

\* For Liquid outlet temperature <0 °C provide Brine Version (available for CO; on request for HP).

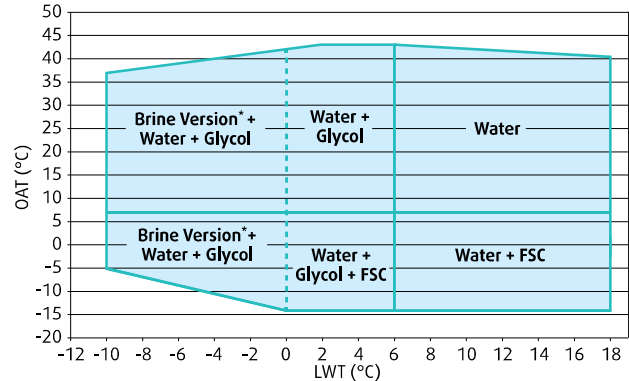
<sup>1</sup> Table shows minimum water / brine volume of system (about 3 lt/kW).

<sup>2</sup> Voltage 400V +/- 10%.

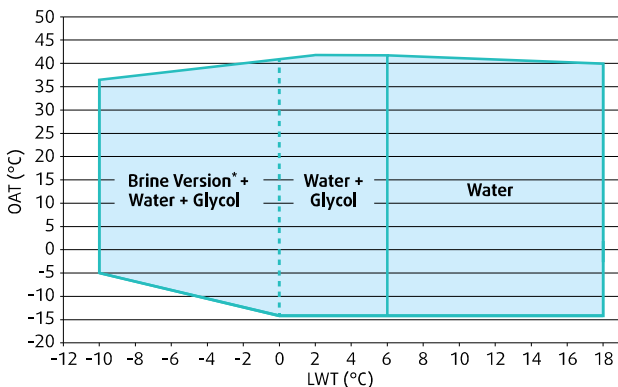
- version



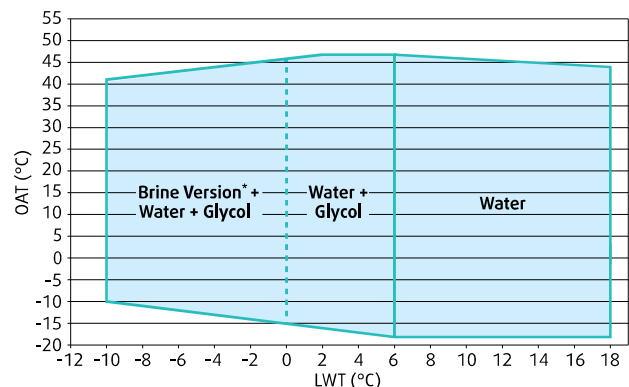
L version



S version



HT-HPF version



## Technical feature

EuroScroll 240-660 Air CO (STD-EC-HPF)		240	270	290	320	360	420	470	540	590	660
Nominal cooling capacity <sup>1</sup>	kW	238,1	267,4	287,4	316,1	362,0	414,2	469,6	533,7	588,9	654,2
Input power <sup>1</sup>	kW	83,8	99,0	103,4	111,6	128,3	148,7	160,9	183,9	198,1	221,6
EER <sup>1</sup>		2,84	2,70	2,78	2,83	2,82	2,78	2,92	2,90	2,97	2,95
Energy efficiency class		C	C	C	C	C	C	B	B	B	B
ESEER		3,75	3,62	3,80	3,89	3,93	3,95	4,01	3,87	4,01	3,98
EER <sup>*</sup>		2,87	2,73	2,81	2,86	2,85	2,82	2,95	2,93	3,01	2,99
ESEER <sup>*</sup>		3,84	3,69	3,89	3,98	4,02	4,04	4,10	3,95	4,09	4,06
EER <sup>**</sup>		2,70	2,58	2,64	2,70	2,69	2,66	2,78	2,77	2,83	2,82
ESEER <sup>**</sup>		3,40	3,33	3,44	3,53	3,55	3,57	3,64	3,54	3,66	3,73
Total capacity steps	%	31-62-100	33-67-100	30-60-100	27-64-100	23-46-69-100	25-50-75-100	24-47-65-82-100	20-40-60-80-100	14-29-43-62-81-100	17-33-50-67-83-100
<b>Refrigerant</b>											
Type		HFC 410A									
Number of refrigerant circuits		2									
<b>Compressor</b>											
Qty		3	3	3	3	4	4	5	5	6	6
Type		Scroll									
<b>Evaporator</b>											
Qty		1									
Type		Plate									
Water flow	m <sup>3</sup> /h	41,1	46,2	49,7	54,5	62,5	71,6	81,1	92,2	101,7	113,1
Pressure drop	kPa	50	62	72	35	45	58	44	57	54	66
Water volume	l	14	14	14	24	24	24	32	32	39	39
Antifreeze Heater	W	130	130	130	130	130	130	130	130	130	130
<b>Air cooled condenser</b>											
Qty of coils		5	5	6	6	7	8	9	10	11	12
Total coil face area per coil	m <sup>2</sup>	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4
<b>Fan</b>											
Qty of fans		5	5	6	6	7	8	9	10	11	12
Nominal speed	rpm	900	900	900	900	900	900	900	900	900	900
Total airflow	m <sup>3</sup> /h	112.500	112.500	135.000	135.000	157.500	180.000	202.500	225.000	247.500	270.000
Total input power	kW	8,5	8,5	10,2	10,2	11,9	13,6	15,3	17,0	18,7	20,4
Total input power <sup>*</sup>	kW	7,5	7,5	9,0	9,0	10,5	12,0	13,5	15,0	16,5	18,0
Total input power <sup>**</sup>	kW	13,0	13,0	15,6	15,6	18,2	20,8	23,4	26,0	28,6	31,2
External static pressure	Pa	0 or 120 Pa <sup>**</sup>									
<b>Water Connections (Evaporator)</b>											
Type		Male GAS Threaded					Victaulic				
Inlet diameter	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
Outlet diameter	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
<b>Water Connections (Desuperheater)</b>											
Type		Male GAS Threaded									
Inlet diameter/Outlet diameter	inch	1"/1"									
<b>Weight</b>											
Shipping	kg	1.772	1.773	1.865	1.921	2.306	2.417	2.897	3.009	3.412	3.509
Operating	kg	1.786	1.787	1.879	1.945	2.330	2.441	2.934	3.047	3.456	3.553
<b>Additional weight</b>											
HT-HPF versions	kg	50	50	60	60	70	80	90	100	110	120
With desuperheater	kg	49	49	49	49	62	62	73	73	83	83
<b>Dimensions</b>											
Length	mm	3.500	3.500	3.500	3.500	4.550	4.550	5.600	5.600	6.650	6.650
Width	mm	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150
Height	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600
<b>Acoustical data</b>											
Sound power level <sup>2</sup>	dB(A)	93	93	94	94	94	95	95	96	96	97
Sound pressure level 10 m <sup>3</sup>	dB(A)	61	61	62	62	62	63	63	64	64	64

<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.

<sup>\*</sup> Unità alta temperatura (HT) con ventilatori inverter.

<sup>\*\*</sup> HPF Units with high static pressure fans.

## Technical feature

EuroScroll 240-660 Air CO L		240	270	290	320	360	420	470	540	590	660
Nominal cooling capacity <sup>1</sup>	kW	230,0	256,9	277,6	303,8	348,5	398,6	451,7	513,1	566,5	628,8
Input power <sup>1</sup>	kW	85,1	101,5	104,9	113,9	131,1	151,6	164,2	187,5	202,2	225,9
EER <sup>1</sup>		2,70	2,53	2,65	2,67	2,66	2,63	2,75	2,74	2,80	2,78
Energy efficiency class		C	D	D	D	D	D	C	C	C	C
ESEER		3,83	3,60	3,73	3,82	3,99	4,03	4,07	3,89	4,01	3,99
Total capacity steps	%	31-62-100	33-67-100	30-60-100	27-64-100	23-46-69-100	25-50-75-100	24-47-65-82-100	20-40-60-80-100	14-29-43-62-81-100	17-33-50-67-83-100
<b>Refrigerant</b>											
Type		HFC 410A									
Number of refrigerant circuits		2									
<b>Compressor</b>											
Qty		3	3	3	3	4	4	5	5	6	6
Type		Scroll									
<b>Evaporator</b>											
Qty		1									
Type		Plate									
Water flow	m <sup>3</sup> /h	39,7	44,4	48,0	52,4	60,2	68,9	78,0	88,6	97,8	108,6
Water pressure drop	kPa	47	58	67	32	42	54	41	52	50	61
Water volume	l	14	14	14	24	24	24	32	32	39	39
Antifreeze heater	W	130	130	130	130	130	130	130	130	130	130
<b>Air cooled condenser</b>											
Qty		5	5	6	6	7	8	9	10	11	12
Total coil face area per coil	m <sup>2</sup>	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4
<b>Fan</b>											
Qty		5	5	6	6	7	8	9	10	11	12
Nominal speed	rpm	700	700	700	700	700	700	700	700	700	700
Total airflow	m <sup>3</sup> /h	92.500	92.500	111.000	111.000	129.500	148.000	166.500	185.000	203.500	222.000
Total input power	kW	6,0	6,0	7,2	7,2	8,4	9,6	10,8	12,0	13,2	14,4
<b>Water Connections (Evaporator)</b>											
Type		Male GAS Threaded				Victaulic					
Inlet diameter	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
Outlet diameter	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
<b>Water Connections (Desuperheater)</b>											
Type		Male GAS Threaded									
Inlet diameter/Outlet diameter	inch	1"/1"									
<b>Weight</b>											
Shipping	kg	1.772	1.773	1.865	1.921	2.306	2.417	2.897	3.009	3.412	3.509
Operating	kg	1.786	1.787	1.879	1.945	2.330	2.441	2.934	3.047	3.456	3.553
<b>Additional weight</b>											
With desuperheater	kg	49	49	49	49	62	62	73	73	83	83
<b>Dimensions</b>											
Length	mm	3.500	3.500	3.500	3.500	4.550	4.550	5.600	5.600	6.650	6.650
Width	mm	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150
Height	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600
<b>Acoustical data</b>											
Sound power level <sup>2</sup>	dB(A)	88	88	89	89	90	91	91	91	92	92
Sound pressure level 10 m <sup>3</sup>	dB(A)	56	56	57	57	58	59	59	59	59	59

<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

EuroScroll 240-660 Air CO S		240	270	290	320	360	420	470	540	590	660
Nominal cooling capacity <sup>1</sup>	kW	214,4	236,9	259,0	280,6	323,0	368,9	418,3	474,2	524,1	580,9
Input power <sup>1</sup>	kW	91,0	109,9	112,0	122,6	141,3	162,9	176,6	201,5	217,3	242,5
EER <sup>1</sup>		2,36	2,16	2,31	2,29	2,29	2,26	2,37	2,35	2,41	2,40
Energy efficiency class		E	F	E	F	F	F	E	E	E	E
ESEER		3,61	3,42	3,57	3,59	3,82	3,88	3,90	3,68	3,99	3,99
Total capacity steps	%	31-62-100	33-67-100	30-60-100	27-64-100	23-46-69-100	25-50-75-100	24-47-65-82-100	20-40-60-800-100	14-29-43-62-81-100	17-33-50-67-83-100
<b>Refrigerant</b>											
Type		HFC 410A									
Number of refrigerant circuits		2									
<b>Compressor</b>											
Qty		3	3	3	3	4	4	5	5	6	6
Type		Scroll									
<b>Evaporator</b>											
Qty		1									
Type		Plate									
Water flow	m <sup>3</sup> /h	37,0	40,9	44,8	48,4	55,7	63,7	72,2	81,9	90,5	100,3
Water pressure drop	kPa	41	49	59	28	36	47	35	45	43	53
Water volume	l	14	14	14	24	24	24	32	32	39	39
Antifreeze heater	W	130	130	130	130	130	130	130,0	130	130	130
<b>Air cooled condenser</b>											
Qty		5	5	6	6	7	8	9	10	11	12
Total coil face area per coil	m <sup>2</sup>	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4
<b>Fan</b>											
Qty		5	5	6	6	7	8	9	10	11	12
Nominal speed	rpm	550	550	550	550	550	550	550	550	550	550
Total airflow	m <sup>3</sup> /h	72.500	72.500	87.000	87.000	101.500	116.000	130.500	145.000	159.500	174.000
Total input power	kW	4,5	4,5	5,4	5,4	6,3	7,2	8,1	9,0	9,9	10,8
<b>Water Connections (Evaporator)</b>											
Type		Male GAS Threaded					Victaulic				
Inlet diameter	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
Outlet diameter	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
<b>Water Connections (Desuperheater)</b>											
Type		Male GAS Threaded									
Inlet diameter/Outlet diameter	inch	1"/1"									
<b>Weight</b>											
Shipping	kg	1.772	1.773	1.865	1.921	2.306	2.417	2.897	3.009	3.412	3.509
Operating	kg	1.786	1.787	1.879	1.945	2.330	2.441	2.934	3.047	3.456	3.553
<b>Additional weight</b>											
With desuperheater	kg	49	49	49	49	62	62	73	73	83	83
<b>Dimensions</b>											
Length	mm	3.500	3.500	3.500	3.500	4.550	4.550	5.600	5.600	6.650	6.650
Width	mm	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150
Height	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600
<b>Acoustical data</b>											
Sound power level <sup>2</sup>	dB(A)	85	86	87	87	88	88	89	89	90	90
Sound pressure level 10 m <sup>3</sup>	dB(A)	53	54	55	55	56	56	57	57	57	57

<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

EuroScroll 240-660 Air TR		240	270	290	320	360	420	470	540	590	660
Nominal cooling capacity <sup>1</sup>	kW	233,7	266,1	280,1	321,2	365,4	413,9	474,9	535,1	596,3	659,2
Input power <sup>1</sup>	kW	85,5	100,5	105,2	113,9	131,3	151,7	169,1	189,9	207,3	228,3
EER <sup>1</sup>		2,93	2,83	2,74	3,17	3,10	2,97	3,23	3,12	3,29	3,21
Total heat rejection <sup>1</sup>		313,4	360,3	382,5	422,6	483,2	553,3	622,0	706,5	777,7	864,9
Total capacity steps	%	31-62-100	33-67-100	30-60-100	27-64-100	23-46-69-100	25-50-75-100	24-47-65-82-100	20-40-60-80-100	14-29-43-62-81-100	17-33-50-67-83-100
<b>Refrigerant</b>											
Type		HFC 410A									
Number of refrigerant circuits		2									
<b>Compressor</b>											
Qty		3	3	3	3	4	4	5	5	6	6
Type		Scroll									
<b>Evaporator</b>											
Qty		1									
Type		Plate									
Water flow	m <sup>3</sup> /h	40,4	46,0	48,5	55,4	63,1	71,5	82,0	92,4	103,0	113,9
Water pressure drop	kPa	48	62	68	36	46	58	45	57	55	67
Water volume	l	14	14	14	24	24	24	32	32	39	39
Inlet/outlet water connection	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
<b>Recovery condenser</b>											
Qty		1									
Type		Plate									
Water flow	m <sup>3</sup> /h	53,5	61,4	65,2	72,3	82,6	94,5	106,4	120,7	132,9	147,6
Water pressure drop	kPa	83	108	121	59	77	99	74	95	91	111
Water volume		14	14	14	24	24	24	32	32	39	39
Inlet/outlet water connection	inch	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
<b>Weight</b>											
Shipping	kg	1.918	1.919	2.011	2.111	2.506	2.616	3.143	3.256	3.705	9.801
Operating	kg	1.946	1.947	2.039	2.160	2.554	2.665	3.218	3.331	3.793	9.889
<b>Dimensions</b>											
Length	mm	3.500	3.500	3.500	3.500	4.550	4.550	5.600	5.600	6.650	6.650
Width	mm	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150	2.150
Height	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600

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