

# Chillers

## R-410A

- » High efficiency values both in cooling and heating mode
- » Extremely wide operating range, outside ambient temperatures up to 52°C
- » One or two refrigerant circuits
- » Low sound levels
- » Reliable and efficient ON/OFF scroll compressor
- » Huge range of options for a complete customization
- » Plug&play unit concept and straightforward maintenance accessibility
- » Small footprint and reduced installation cost

Air cooled multi-scroll chillers and heat pumps



[www.daikin.eu](http://www.daikin.eu)



EWAQ-E-/F-  
EWYQ-F-



EUROVENT EFFICIENCY CLASS **A**

**EER  $\geq$  3.1**  
**COP  $\geq$  3.2**

The highest partial load efficiency values in its range:

**ESEER up to 4.83**

Efficient → reduces operating costs

Quiet → sound ratings

Ideal for retrofit → reduces installation costs

Environmentally responsible → thanks to R-410A refrigerant



## Multi-scroll air cooled chillers and heat pumps

**The new multi-scroll family is a new complete range of on-off air cooled chillers for outdoor installations.**

EWAQ-E-/F-range for cooling only applications and EWYQ-F-series for heat pump installations are the right choices for high efficiency and sound sensitive projects at affordable price.

The scroll-family range has been designed with the aim to provide maximum energy efficiency, low noise emissions, reduced footprint, easy installation, versatile for every kind of applications and able to be integrated in any monitoring system.

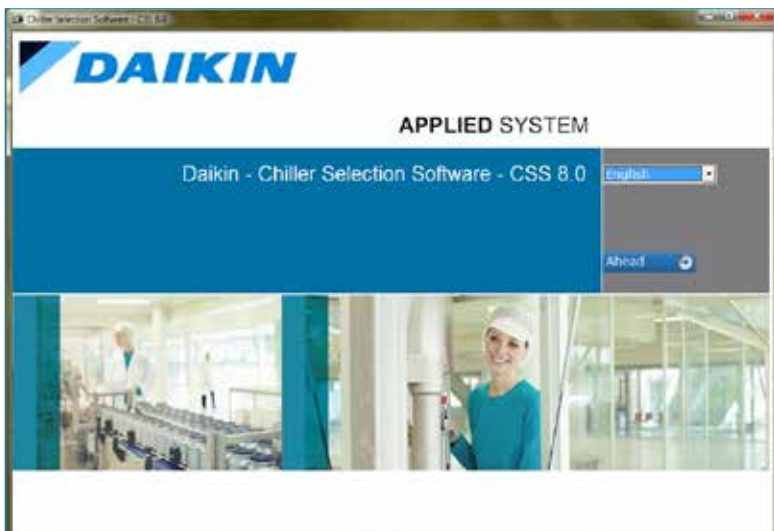
### **Eurovent certified series and design fully based on new European directives**

Both multiple scroll chillers and heat pumps have been optimized and entirely designed in accordance with EN14511 and EN14825 normatives.

# Multi-scroll series

low-priced efficiency  
in cooling & heating mode

With this range Daikin makes good on its commitment to supply the market with superior solutions suitable for all your applications all year round



## Selection flexibility

Thanks to the advanced Daikin chiller selection software every kind of multi-scroll chiller selection is easily performed. Full load and part load performances at whichever running conditions can be simulated to suit any job requirement.

### High efficiency values

Top level performances at full and partial loads thanks to high efficient components. ESEER up to 4.83 and Class A efficiencies both for cooling only and heat pump series.

- > EER for multiple scroll cooling only > 3.1
- > COP for multiple scroll heat pump > 3.2

### Small footprint & reduced installation cost

Reduced footprint installation, thanks to «V» and «W» shape frame ; the multi-scroll chiller family is the ideal solution for unit replacements and tight installations.



cooling up to  
**+52°C**  
ambient

heating down to  
**-17°C**  
ambient

### Extremely wide operation range

The multi-scroll series are equipped with scroll compressor and its condensing section is properly sized in order to achieve +52°C ambient temperature in cooling and -17°C in heating .

### Superior control system

MicroTech III controller is the user friendly controller designed for efficiency optimization, high reliability and easy integration in any monitoring system.

- > PID logic (proportional, integrative, derivative)
- > Easy visual interface with 4 rows display and 3 keypads
- > Push and roll navigating wheel
- > Extendable with additional I/O modules





### ON-OFF scroll compressors

The best on-off scroll compressor technology allowing top efficiency levels, high reliability, very low sounds emissions and easy serviceability.



### Huge range of options for a complete customization

Main standard factory mounted options:

- › Evaporator victaulic kit
- › Evaporator electric heater
- › Evaporator flow switch
- › Electronic expansion valve
- › Water filter

An extensive list of tailor-made options complete multi-scroll series to suit any application requirements.

- › Heat recovery
- › Power factor correction
- › Energy meter
- › Inverter driven fans (for an enhanced part loads efficiencies and sound reduction)
- › Integrated hydronic module
- › Nordic kit (to improve working conditions in heating mode and specially during defrost cycles)

Water pump selectable according to custom available pressure needs



### Plug & play unit concept and straightforward maintenance accessibility

Multi-scroll design allows faster chiller installation with consequent reduction of commissioning cost.

- › Standard factory functional test
- › Full refrigerant and oil charge
- › Integrated Control Logic
- › Single evaporator
- › Single main power connection point
- › Optional on-board inline dual-pumps

### One or two refrigerant circuits

The highest cooling capacity in a single circuit with multi-scroll compressors. The new range is available in one refrigerant circuit with two or three compressors from 173 to 336 kW on a "V" shape frame. Dual refrigerant circuits range with four to six compressors for a capacity range up to 675 kW available on "V" or "W" shape frame.

### Low sound levels

3 different versions to cope with whichever sound target:

- › **STANDARD**
- › **LOW**
- › **REDUCED**

# Cooling only

# High efficiency Standard sound

EWAQ-E-XS				180	200	230	260	320	340		
Cooling capacity	Nom.	kW		178 <sup>1</sup>	200 <sup>1</sup>	226 <sup>1</sup>	263 <sup>1</sup>	315 <sup>1</sup>	334 <sup>1</sup>		
Capacity control	Method	Step									
	Minimum capacity	%		50	43	50	33	27	33		
Power input	Cooling	Nom.	kW		58.0 <sup>1</sup>	65.3 <sup>1</sup>	73.8 <sup>1</sup>	86.2 <sup>1</sup>	103 <sup>1</sup>	110 <sup>1</sup>	
EER				3.99	3.06			3.05			
ESEER				3.99	4.06	3.87		4.09	4.04		
Dimensions	Unit	HeightxWidthxDepth	mm		2,271x1,224x4,413						
Weigh	Unit	kg		1,722	1,807	1,871	2,173	2,304	2,492		
	Operation weight	kg		1,734	1,819	1,885	2,188	2,318	2,507		
Water heat exchanger	Type	Plate heat exchanger									
	Water volume	l		12				14			
	Nominal water flow	Cooling	l/s		8.5	9.6	10.8	12.6	15.1	16.0	
	Nominal water pressure drop	Cooling	Total	kPa		27	34	35	47	54	
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler									
Fan	Air flow rate	Nom.	l/s		21,845	21,148	26,874	25,884	32,953	32,065	
	Speed	rpm		900							
Sound power level	Cooling	Nom.	dBA		93 <sup>2</sup>	94 <sup>2</sup>	96 <sup>2</sup>	95 <sup>2</sup>	96 <sup>2</sup>	97 <sup>2</sup>	
Sound pressure level	Cooling	Nom.	dBA		75		76		77		
Compressor	Type	Scroll compressor									
Operation range	Water side	Cooling	Min.-Max.	°CDB		-15~-18					
	Air side	Cooling	Min.-Max.	°CDB		-18~-52					

# Cooling only

# High efficiency Standard sound

EWAQ-F-XS				170	200	220	250	310	320	350	360	400	430	450	520	610	680				
Cooling capacity	Nom.	kW		170 <sup>1</sup>	194 <sup>1</sup>	220 <sup>1</sup>	244 <sup>1</sup>	316 <sup>1</sup>		356 <sup>1</sup>		403 <sup>1</sup>	428 <sup>1</sup>	457 <sup>1</sup>	528 <sup>1</sup>	607 <sup>1</sup>	672 <sup>1</sup>				
Capacity control	Method	Step																			
	Minimum capacity	%		25	21	25	22	23		25		21	20	25	17	14	17				
Power input	Cooling	Nom.	kW		54.8 <sup>1</sup>	62.2 <sup>1</sup>	70.6 <sup>1</sup>	78.3 <sup>1</sup>	102 <sup>1</sup>		115 <sup>1</sup>	130 <sup>1</sup>	137 <sup>1</sup>	146 <sup>1</sup>	170 <sup>1</sup>	198 <sup>1</sup>	219 <sup>1</sup>				
EER				3.11	3.13	3.12			3.09			3.10		3.12	3.10	3.07					
ESEER				3.89	4.08	3.91	4.03	4.05	4.30	4.06	4.33	4.22	4.26	4.22	4.29	4.24	4.14				
Dimensions	Unit	HeightxWidthxDepth	mm		2,271x1,224x4,413		2,271x1,224x5,313		2,271x1,224x6,213		2,271x1,224x6,213		2,271x1,224x6,213		2,221x2,258x4,110		2,221x2,258x5,010				
Weigh	Unit	kg		1,688	1,958	2,210	2,339	2,500	2,600	2,632	2,732	2,744	2,845	2,861	3,569	3,667	4,054				
	Operation weight	kg		1,700	1,973	2,225	2,353	2,514		2,672	2,772	2,784	2,891	2,907	3,615	3,727	4,115				
Water heat exchanger	Type	Plate heat exchanger																			
	Water volume	l		12				14				40				46					
	Nominal water flow	Cooling	l/s		8.2	9.3	10.5	11.7	15.1		17.0	19.3	20.5	21.8	25.3	29.0	32.2				
	Nominal water pressure drop	Cooling	Total	kPa		25	27	34	42	22	23	31	29	30	41	44	55				
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler																			
Fan	Air flow rate	Nom.	l/s		21,845	21,148	26,874	25,204	31,722		30,245	42,296	40,326		50,408	60,489					
	Speed	rpm		900																	
Sound power level	Cooling	Nom.	dBA		91 <sup>2</sup>	93 <sup>2</sup>	94 <sup>2</sup>	95 <sup>2</sup>		96 <sup>2</sup>		97 <sup>2</sup>		98 <sup>2</sup>		99 <sup>2</sup>	100 <sup>2</sup>				
Sound pressure level	Cooling	Nom.	dBA		72	74	75	76	77	76	77	78	79	78	79	79					
Compressor	Type	Scroll compressor																			
Operation range	Water side	Cooling	Min.-Max.	°CDB		-15~-18															
	Air side	Cooling	Min.-Max.	°CDB		-18~-52															

# Heating & Cooling

# High efficiency Standard sound

EWYQ-F-XS				160	190	210	230	310	340	380	400	430	510	570	630				
Cooling capacity	Nom.	kW		164 <sup>1</sup>	184 <sup>1</sup>	205 <sup>1</sup>	231 <sup>1</sup>	304 <sup>1</sup>	335 <sup>1</sup>	376 <sup>1</sup>	401 <sup>1</sup>	427 <sup>1</sup>	501 <sup>1</sup>	565 <sup>1</sup>	624 <sup>1</sup>				
Heating capacity	Nom.	kW		173 <sup>1</sup>	197 <sup>1</sup>	227 <sup>1</sup>	254 <sup>1</sup>	329 <sup>1</sup>	362 <sup>1</sup>	404 <sup>1</sup>	429 <sup>1</sup>	463 <sup>1</sup>	535 <sup>1</sup>	607 <sup>1</sup>	674 <sup>1</sup>				
Capacity control	Method	Step																	
	Minimum capacity	%		50	43	50	33	27	33	27	33	27	33	27	33				
Power input	Cooling	Nom.	kW		57.6	63.3	70.3	79.3	102	114	129	138	145	172	195	214			
Power input	Heating	Nom.	kW		54.0	61.6	70.5	79.2	101	113	126	133	140	167	190	210			
EER				2.84	2.91	2.92		2.99	2.93	2.91	2.90	2.94	2.91	2.90	2.91				
ESEER				3.73	3.89	3.81	3.71	4.07	4.19	3.99	3.96	4.14	4.20	3.98	4.06				
COP				3.20		3.22	3.21	3.24	3.21	3.21	3.23	3.30	3.21	3.20	3.21				
Dimensions	Unit	HeightxWidthxDepth	mm		2,270x1,200x4,370		2,270x1,200x5,270		2,220x2,258x4,125		2,220x2,258x5,025		2,220x2,258x5,925		2,220x2,258x6,825				
Weigh	Unit	kg		1,430	1,850	2,300	2,350	2,900	2,910	2,920	3,730	3,750	4,250	4,280	4,670				
	Operation weight	kg		1,470	1,890	2,340	2,390	2,980	2,990	3,000	3,840	3,850	4,370	4,400	4,780				
Water heat exchanger	Type	Plate heat exchanger																	
	Water volume	l		18				44				60				70			
	Nominal water flow	Cooling	l/s		7.8	8.8	9.8	11.1	14.6	16.0	18.0	19.2	20.4	24.0	27.1	29.9			
	Nominal water pressure drop	Cooling	Heat exchanger	kPa		22	28	36	40	21	27	30	29	34	37	42	56		
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler																	
Compressor	Type	Scroll compressor																	
	Quantity			4				8				10				12			
Fan	Quantity			4				5				8				14			
	Air flow rate	Nom.	l/s		22,577	21,593	26,992		43,187		43,187		55,213	53,983	64,780		75,577		
Sound power level	Cooling	Nom.	dBA		92 <sup>2</sup>	94 <sup>2</sup>	95 <sup>2</sup>		97 <sup>2</sup>		98 <sup>2</sup>		99 <sup>2</sup>		100 <sup>2</sup>				
	Cooling	Nom.	dBA		72	74	75	76	77	77	78		79		80				
Operation range	Water side	Cooling	Min.-Max.	°CDB		-15~-15				-15~-15									
		Heating	Min.-Max.	°CDB		25~-50				25~-50									
	Air side	Cooling	Min.-Max.	°CDB		-10~-46				-10~-46									
		Heating	Min.-Max.	°CDB		-17~-20				-17~-20									

All values refer to standard sound levels. For low and reduced sound levels, please have a look in our Applied systems catalogue or general catalogue. (1) Cooling mode: 12/7°C evaporator water temperature, 35°C ambient temperature; Heating mode: 40/45°C condenser leaving water temperature, 7°C ambient temperature. Data in accordance with EN14511. (2) At full load and at nominal conditions.

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