

Chillers

## Technical Data

Air Cooled Chiller



ECDEN10-403A

EUWA\*-KBZW1  
EUWY\*-KBZW1

**R-407C**



Chillers

## Technical Data

Air Cooled Chiller



ECDEN10-403A

EUWA\*-KBZW1  
EUWY\*-KBZW1

**R-407C**

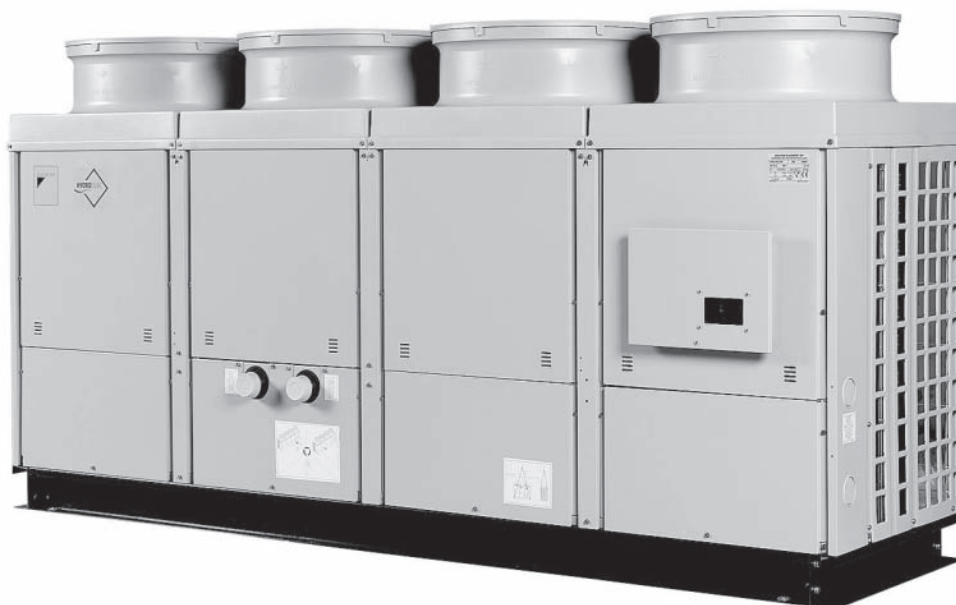
# TABLE OF CONTENTS

## EUWA-KBZW1

1	Features .....	2
2	Specifications .....	3
	Technical Specifications .....	3
	Electrical Specifications .....	9
3	Options .....	12
	Options .....	12
4	Capacity tables .....	13
	Cooling Capacity Tables .....	13
	Capacity Correction Factor .....	19
5	Dimensional drawings .....	21
	Dimensional Drawings .....	21
6	Centre of gravity .....	27
	Centre of Gravity .....	27
7	Piping diagrams .....	29
	Piping Diagrams .....	29
8	Wiring diagrams .....	30
	Wiring Diagrams - Three Phase .....	30
9	Sound data .....	31
	Sound Power Spectrum .....	31
10	Installation .....	32
	Water Charge, Flow and Quality .....	32
11	Operation range .....	33
	Operation Range .....	33
12	Hydraulic performance .....	34
	Water Pressure Drop Curve Evaporator .....	34
	Water Pressure Drop Curve Unit .....	36
	Static Pressure Pump .....	39

# 1 Features

- Optimised for use with R-407C
- Daikin scroll compressor
- Reduced installation time thanks to integrated pump and/or buffer tank
- Possibility for a 200l buffer tank
- Low operating sound level
- Easy maintenance
- Main switch
- Water flow switch
- 3 different design options available: EUWAN chiller without integrated hydraulic module; EUWAP chiller with integrated hydraulic module (pump, expansion vessel, hydraulic components); EUWAB chiller with integrated hydraulic module (buffer tank, pump, expansion vessel, hydraulic components)



## 2 Specifications

2-1 Technical Specifications					EUWAN5KBZW1	EUWAP5KBZW1	EUWAB5KBZW1	EUWAN8KBZW1	EUWAP8KBZW1	EUWAB8KBZW1	
Cooling capacity	Nom.		kW		11.3 (1)			19.7 (1)			
Capacity steps			%		0-100						
Power input	Cooling	Nom.		kW		4.48 (2)			7.27 (2)		
EER					2.53			2.46			
Casing	Colour				Ivory white (Munsell code: 5Y7.5/1)						
	Material				Polyester coated galvanised steel plate						
Dimensions	Unit	Height		mm		1,230					
		Width		mm		1,290					
		Depth		mm		734					
	Packed unit	Height		mm		1,425					
		Width		mm		1,380					
		Depth		mm		830					
Weight	Unit			kg	150	168	180	215	229	241	
	Operation weight			kg	152	171	239	218	232	300	
	Packed unit			kg	160	178	190	225	239	251	
Packing	Material				Wood + Plastic foil						
	Weight			kg	10						
Water heat exchanger	Type				Brazed plate						
	Quantity				1						
	Water volume			l	1.14			1.615			
	Water flow rate	Min.		l/min	16			26			
		Max.		l/min	65			102			
	Nominal water flow		Cooling	l/min	32 (1)			51 (1)			
	Nominal water pressure drop		Cooling	Heat exchanger	kPa	24			38		
	Insulation material				Kaiflex						
	Model		Type		AC70X-24HX			AC70X-34HX			
Air heat exchanger	Type				Cross fin coil/Hi-X tubes and PE coated waffle louvre fins						
	Rows		Quantity		2						
	Stages		Quantity		40						
	Fin pitch			mm	2						
	Face area			m²	1.570						
Pump	Quantity				-	1		-	1		
	Model				-	CM3-3		-	CM3-3		
	Nominal ESP pump		Cooling	kPa	-	239		-	198		
	Nominal ESP unit		Cooling	kPa	209 (1)			128 (1)			
Fan	Quantity				2						
	Type				Axial						
	Discharge direction				Vertical						
Fan group	Air flow rate		Cooling	Nom.	m³/min		160 (per 2 fans)			170 (per 2 fans)	
Fan motor	Output			W	140			190			
	Quantity				2			1			
	Drive				Direct drive						
Fan motor 2	Output			W	140			230			
Sound power level	Cooling		Nom.		dBA		67			76	
Compressor	Type				Hermetically sealed scroll compressor						
	Quantity				1						
	Model				JT140BF-YE			JT212DA-YE			
	Speed			rpm	2,900						
	Oil		Charged volume		l	1.5			2.7		
Refrigerant	Type				R-407C						
	Control				Thermostatic expansion valve						
	Circuits		Quantity		1						
Refrigerant circuit	Charge			kg	3.9			4.6			

## 2 Specifications

2-1 Technical Specifications				EUWAN5KBZW1	EUWAP5KBZW1	EUWAB5KBZW1	EUWAN8KBZW1	EUWAP8KBZW1	EUWAB8KBZW1
Water circuit	Piping connections diameter	inch		G 1"1/4 (male)					
	Piping	inch		1-1/4"					
	Safety valve	bar		-	3		-	3	
	Manometer			Yes					
	Drain valve / fill valve			Yes, ø15					
	Shut off valve			Yes					
	Air purge valve			Yes					
	Total water volume	l		2 (3)	3 (3)	59 (3)	3 (3)	3.0 (3)	59 (3)
	Minimum water volume in the system	l		54 (4.0)			85 (4.0)	4 (4.0)	85 (4.0)
Refrigerant oil	Type			FVC68D					
Safety devices	Item	01		High pressure switch					
		02		Discharge temperature control					
		03		Compressor motor overcurrent relay					
		04		Pump motor overcurrent					
		05		Fan motor thermal protection					
		06		Anti-recycling and guard timer					
		07		Digital display controller with electronic temperature control					
		08		Reverse phase protector					
		09		Fuse					
Hydraulic components	Buffer tank	Volume	l	-		55	-		55
	Nominal water pressure drop unit	Cooling	kPa	27	-		46	-	
	Expansion vessel	Volume	l	-	12		-	12	
		Pre pressure	bar	-	1.5		-	1.5	
	Water filter	Material		Brass					

2-1 Technical Specifications				EUWAN10KBZW1	EUWAP10KBZW1	EUWAB10KBZW1	EUWAN12KBZW1	EUWAP12KBZW1	EUWAB12KBZW1		
Cooling capacity	Nom.		kW	22.5 (1)			11.3 (1)	11.3 (1)			
Capacity steps			%	0-100							
Power input	Cooling	Nom.	kW	8.64 (2)			4.52 (2)				
EER				2.60			2.51				
Casing	Colour			Ivory white (Munsell code: 5Y7.5/1)							
	Material			Polyester coated galvanised steel plate							
Dimensions	Unit	Height	mm	1,450							
		Width	mm	1,290							
		Depth	mm	734							
	Packed unit	Height	mm	1,645							
		Width	mm	1,380							
		Depth	mm	830							
Weight	Unit		kg	245	259	271	248	262	274		
	Operation weight		kg	248	262	330	251	265	335		
	Packed unit		kg	255	269	281	258	272	284		
Packing	Material			Wood + Plastic foil							
	Weight		kg	10							
Water heat exchanger	Type			Brazen plate							
	Quantity			1							
	Water volume		l	1.9			2.375				
	Water flow rate	Min.	l/min	32			38				
		Max.	l/min	129			152				
	Nominal water flow		Cooling	l/min	64 (1)			76 (1)			
	Nominal water pressure drop		Cooling	Heat exchanger	kPa	43			37		
	Insulation material			Kaiflex							
	Model		Type	AC70X-40HX			AC70X-50HX				

## 2 Specifications

2-1 Technical Specifications					EUWAN10KBZW1	EUWAP10KBZW1	EUWAB10KBZW1	EUWAN12KBZW1	EUWAP12KBZW1	EUWAB12KBZW1				
Air heat exchanger	Type				Cross fin coil/Hi-X tubes and PE coated waffle louvre fins									
	Rows	Quantity			2									
	Stages	Quantity			50									
	Fin pitch		mm		2									
	Face area		m²		1.97									
Pump	Quantity				-	1		-	1					
	Model				-	CM5-3		-	CM5-3					
	Nominal ESP pump	Cooling	kPa		-	232		-	217					
	Nominal ESP unit	Cooling	kPa		-	138		-	105					
Fan	Quantity				2									
	Type				Axial									
	Discharge direction				Vertical									
Fan group	Air flow rate	Cooling	Nom.	m³/min	170 (per 2 fans)									
Fan motor	Output			W	190									
	Quantity				2									
	Drive				Direct drive									
Fan motor 2	Output			W	230									
Sound power level	Cooling	Nom.		dBA	78									
Compressor	Type				Hermetically sealed scroll compressor									
	Quantity				1									
	Model				JT265DA-YE			JT335DA-YE						
	Speed			rpm	2,900									
	Oil	Charged volume		l	2.7									
Refrigerant	Type				R-407C									
	Control				Thermostatic expansion valve									
	Circuits	Quantity			1									
Refrigerant circuit	Charge			kg	5.9			6.0						
Water circuit	Piping connections diameter			inch	G 1"1/4 (male)									
	Piping			inch	1-1/4"									
	Safety valve			bar	-	3		-	3					
	Manometer				Yes									
	Drain valve / fill valve				Yes, ø15									
	Shut off valve				Yes									
	Air purge valve				Yes									
	Total water volume			l	3 (3)		59 (3)		3 (3)		4 (3)		60 (3)	
	Minimum water volume in the system			l	108 (4.0)			126 (4.0)		126 (4.0)				
Refrigerant oil	Type				FVC68D									
Safety devices	Item	01			High pressure switch									
		02			Discharge temperature control									
		03			Compressor motor overcurrent relay									
		04			Pump motor overcurrent									
		05			Fan motor thermal protection									
		06			Anti-recycling and guard timer									
		07			Digital display controller with electronic temperature control									
		08			Reverse phase protector									
		09			Fuse									
Hydraulic components	Buffer tank	Volume	l		-		55		-		-		55	
	Nominal water pressure drop unit	Cooling	kPa		56	-		56		-				
	Expansion vessel	Volume	l		-	12		-		12				
		Pre pressure	bar		-	1.5		-		1.5				
		Water filter	Material			Brass								

2-1 Technical Specifications				EUWAN16KBZW1	EUWAP16KBZW1	EUWAB16KBZW1	EUWAN20KBZW1	EUWAP20KBZW1	EUWAB20KBZW1
Cooling capacity	Nom.			kW	34.6 (1)			46.6 (1)	
Capacity steps				%	0-50-100				
Power input	Cooling	Nom.		kW	14.70 (2)			17.90 (2)	
EER					2.35			2.60	

## 2 Specifications

2-1 Technical Specifications					EUWAN16KBZW1	EUWAP16KBZW1	EUWAB16KBZW1	EUWAN20KBZW1	EUWAP20KBZW1	EUWAB20KBZW1	
Casing	Colour				Ivory white (Munsell code: 5Y7.5/1)						
	Material				Polyester coated galvanised steel plate						
Dimensions	Unit	Height	mm		1,321			1,541			
		Width	mm		2,580						
		Depth	mm		734						
	Packed unit	Height	mm		1,745						
		Width	mm		2,260			2,660			
		Depth	mm		910						
Weight	Unit		kg	430	448	460	490	508	520		
	Operation weight		kg	436	457	525	496	518	545		
	Packed unit		kg	455	473	485	515	533	585		
Packing	Material				Wood + Plastic foil						
	Weight		kg	25					65		
Water heat exchanger	Type				Braze plate						
	Quantity				1						
	Water volume		l	2.964			3.9				
	Water flow rate	Min.	l/min	53			67				
		Max.	l/min	212			267				
	Nominal water flow		Cooling	l/min	99 (1)			134 (1)			
	Nominal water pressure drop		Cooling	Heat exchanger	kPa	22					
	Insulation material				Kaiflex						
	Model	Type			AC230X-38HX			AC230X-50HX			
Air heat exchanger	Type				Cross fin coil/Hi-X tubes and PE coated waffle louvre fins						
	Rows	Quantity			2						
	Stages	Quantity			40			50			
	Fin pitch		mm		2						
	Face area		m²		1.57+1.57			1.97+1.97			
Pump	Quantity				-	1		-	1		
	Model				-	CM10-2		-	CM10-2		
	Nominal ESP pump		Cooling	kPa	-	302		-	288		
	Nominal ESP unit		Cooling	kPa	-	240		-	195		
Fan	Quantity				4						
	Type				Axial						
	Discharge direction				Vertical						
Fan group	Air flow rate		Cooling	Nom.	m³/min		170 (per 2 fans)				
Fan motor	Output			W		190					
	Quantity				2						
	Drive				Direct drive						
Fan motor 2	Output			W		230					
Sound power level	Cooling		Nom.		dBA		79		81		
Compressor	Type				Hermetically sealed scroll compressor						
	Quantity				2						
	Model				JT212DA-YE			JT265DA-YE			
	Speed			rpm		2,900					
	Oil		Charged volume		l		2.7				
Refrigerant	Type				R-407C						
	Control				Thermostatic expansion valve						
	Circuits		Quantity			2					
Refrigerant circuit	Charge			kg		4.6		5.9			
Water circuit	Piping connections diameter			inch		2" male					
	Piping			inch		-					
	Safety valve			bar		-	3		-	3	
	Manometer				Yes						
	Drain valve / fill valve				Yes, ø15						
	Shut off valve				Yes						
	Air purge valve				Yes						
	Total water volume			l		6 (3)	9 (3)	65 (3)	6 (3)	10 (3)	66 (3)
	Minimum water volume in the system			l		88 (4.0)			111 (4.0)		



## 2 Specifications

2-1 Technical Specifications				EUWAN16KBZW1	EUWAP16KBZW1	EUWAB16KBZW1	EUWAN20KBZW1	EUWAP20KBZW1	EUWAB20KBZW1
Refrigerant oil	Type	FVC68D							
Safety devices	Item	01	High pressure switch						
		02	Discharge temperature control						
		03	Compressor motor overcurrent relay						
		04	Pump motor overcurrent						
		05	Fan motor thermal protection						
		06	Anti-recycling and guard timer						
		07	Digital display controller with electronic temperature control						
		08	Reverse phase protector						
		09	Fuse						
Hydraulic components	Buffer tank	Volume	l	-	55	-	55		
	Nominal water pressure drop unit	Cooling	kPa	25	-	30	-		
	Expansion vessel	Volume	l	-	12	-	12		
		Pre pressure	bar	-	1.5	-	1.5		
	Water filter	Material		Brass					

2-1 Technical Specifications				EUWAN24KBZW1	EUWAP24KBZW1	EUWAB24KBZW1
Cooling capacity	Nom.	kW		55.3 (1)		
Capacity steps		%		0-50-100		
Power input	Cooling	Nom.	kW	23.80 (2)		
EER				2.32		
Casing	Colour			Ivory white (Munsell code: 5Y7.5/1)		
	Material			Polyester coated galvanised steel plate		
Dimensions	Unit	Height	mm	1,541		
		Width	mm	2,580		
		Depth	mm	734		
	Packed unit	Height	mm	1,745		
		Width	mm	2,660		
		Depth	mm	910		
Weight	Unit	kg		496	514	526
	Operation weight	kg		503	524	592
	Packed unit	kg		521	539	551
Packing	Material			Wood + Plastic foil		
	Weight	kg		25		
Water heat exchanger	Type			Brazed plate		
	Quantity			1		
	Water volume		l	4.524		
	Water flow rate	Min.	l/min	79		
		Max.	l/min	317		
	Nominal water flow	Cooling	l/min	158 (1)		
	Nominal water pressure drop	Cooling	Heat exchanger kPa	22		
	Insulation material			Kaiflex		
	Model	Type		AC230X-58HX		
	Type			Cross fin coil/Hi-X tubes and PE coated waffle louvre fins		
Air heat exchanger	Rows	Quantity		2		
	Stages	Quantity		50		
	Fin pitch		mm	2		
	Face area		m <sup>2</sup>	1.97+1.97		
	Quantity			-	1	1
Pump	Model			-	CM10-2	CM10-2
	Nominal ESP pump	Cooling	kPa	-	276	276
	Nominal ESP unit	Cooling	kPa	-	158	158
	Quantity			-	4	4
Fan	Type			Axial		
	Discharge direction			Vertical		
	Quantity			4		
Fan group	Air flow rate	Cooling	Nom. m <sup>3</sup> /min	170 (per 2 fans)		

## 2 Specifications

2-1 Technical Specifications				EUWAN24KBZW1		EUWAP24KBZW1		EUWAB24KBZW1	
Fan motor	Output		W	190					
	Quantity			2					
	Drive			Direct drive					
Fan motor 2	Output		W	230					
Sound power level	Cooling	Nom.	dBA	81					
Compressor	Type			Hermetically sealed scroll compressor					
	Quantity			2					
	Model			JT335DA-YE					
	Speed		rpm	2,900					
	Oil	Charged volume	l	2.7					
Refrigerant	Type			R-407C					
	Control			Thermostatic expansion valve					
	Circuits	Quantity		2					
Refrigerant circuit	Charge		kg	6.0					
Water circuit	Piping connections diameter		inch	2" male					
	Piping		inch	-					
	Safety valve		bar	-	3	3			
	Manometer			Yes					
	Drain valve / fill valve			Yes, ø15					
	Shut off valve			Yes					
	Air purge valve			Yes					
	Total water volume		l	7 (3)	10 (3)	66 (3)			
	Minimum water volume in the system		l	132 (4.0)				132 (4.0)	
Refrigerant oil	Type			FVC68D					
Safety devices	Item	01	High pressure switch						
		02	Discharge temperature control						
		03	Compressor motor overcurrent relay						
		04	Pump motor overcurrent						
		05	Fan motor thermal protection						
		06	Anti-recycling and guard timer						
		07	Digital display controller with electronic temperature control						
		08	Reverse phase protector						
		09	Fuse						
Hydraulic components	Buffer tank	Volume	l	55					
	Nominal water pressure drop unit	Cooling	kPa	32	-	-			
	Expansion vessel	Volume	l	-	12	12			
		Pre pressure	bar	-	1.5	1.5			
	Water filter	Material		Brass					
Notes				(1)Condition: Ta 35°C - LWE 7°C ( DT = 5°C)					
				(2)Pump is not included					
				(3)Including piping + PHE + buffer tank (if present); excluding expansion vessel					
				(4)Including water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with high heat load, extra water volume might be required.					
				(5)EN/IEC 61000-3-12: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated currents ≤ 75A					

## 2 Specifications

2-2 Electrical Specifications				EUWAN5KBZW1	EUWAP5KBZW1	EUWAB5KBZW1	EUWAN8KBZW1	EUWAP8KBZW1	EUWAB8KBZW1
Pump	Type			Horizontal multi-stage end-suction					
	Phase			3~					
	Voltage		V	400					
	Maximum running current		A	-	1.3		-	1.3	
Compressor	Phase			3~					
	Voltage		V	400					
	Starting current		A	60.0			95.5		
	Nominal running current (RLA)		A	5.5			10.7		
	Maximum running current		A	9.0			14.0		
	Starting method			Direct on line					
	Crankcase heater		W	33			50		
Power supply	Name			W1					
	Phase			3N~					
	Frequency		Hz	50					
	Voltage		V	400					
	Voltage range	Min.	%	-10					
		Max.	%	10					
Unit	Starting current		A	62.2	63.5		97.9	99.2	
	Current	Zmax	Text	0.26			0.22		
	Nominal running current (RLA)	Cooling	A	7.7	9.0		13.6	14.9	
	Maximum running current		A	11.2	12.5		16.9	18.2	
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12					
	Recommended fuses according to IEC standard 269-2			3 x 20gL/gG			3 x 25gL/gG		
Fans	Phase			1~					
	Voltage		V	230					
	Maximum running current		A	2.2			2.9		
Control circuit	Phase			1~					
	Voltage		V	230					
	Recommended fuses			Factory installed					
Wiring connections				See installation manual					

2-2 Electrical Specifications				EUWAN10KBZW1	EUWAP10KBZW1	EUWAB10KBZW1	EUWAN12KBZW1	EUWAP12KBZW1	EUWAB12KBZW1
Pump	Type			Horizontal multi-stage end-suction					
	Phase			3~					
	Voltage		V	400					
	Maximum running current		A	-	1.3		-	1.3	
Compressor	Phase			3~					
	Voltage		V	400					
	Starting current		A	110.0			136.0	136.0	
	Nominal running current (RLA)		A	13.0			17.6	17.6	
	Maximum running current		A	17.0			24.0	24.0	
	Starting method			Direct on line					
	Crankcase heater		W	50					
Power supply	Name			W1					
	Phase			3N~					
	Frequency		Hz	50					
	Voltage		V	400					
	Voltage range	Min.	%	-10					
		Max.	%	10					
Unit	Starting current		A	113	114		139	140	
	Current	Zmax	Text	0.22			0.21	0.21	
	Nominal running current (RLA)	Cooling	A	15.9	17.2		20.5	21.8	
	Maximum running current		A	19.9	21.2		26.9	28.2	
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12					
	Recommended fuses according to IEC standard 269-2			3 x 25qL/qG	3 x 32qL/qG			3 x 40qL/qG	

## 2 Specifications

2-2 Electrical Specifications			EUWAN10KBZW1	EUWAP10KBZW1	EUWAB10KBZW1	EUWAN12KBZW1	EUWAP12KBZW1	EUWAB12KBZW1
Fans	Phase		1~					
	Voltage	V	230					
	Maximum running current	A	2.9					
Control circuit	Phase		1~					
	Voltage	V	230					
	Recommended fuses		Factory installed					
Wiring connections			See installation manual					

2-2 Electrical Specifications				EUWAN16KBZW1	EUWAP16KBZW1	EUWAB16KBZW1	EUWAN20KBZW1	EUWAP20KBZW1	EUWAB20KBZW1
Pump	Type			Horizontal multi-stage end-suction					
	Phase			3~					
	Voltage		V	400					
	Maximum running current		A	-	2		-	2	
Compressor	Phase			3~					
	Voltage		V	400					
	Starting current		A	95.0			110.0		
	Nominal running current (RLA)		A	10.7			13.0		
	Maximum running current		A	14.0			17.0		
	Starting method			Direct on line					
	Crankcase heater		W	50					
	Power supply	Name			W1				
Phase			3N~						
Frequency		Hz	50						
Voltage		V	400						
Voltage range		Min.	%	-10					
		Max.	%	10					
Unit		Starting current		A	62.2	63.5		97.9	99.2
	Current	Zmax	Text	0.21					
	Nominal running current (RLA)	Cooling	A	7.7	9.0		13.6	14.9	
	Maximum running current		A	11.2	12.5		16.9	18.2	
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12					
	Recommended fuses according to IEC standard 269-2			3 x 40gL/gG	3 x 50gL/gG				
	Fans	Phase			1~				
Voltage		V	230						
Maximum running current		A	5.8						
Control circuit	Phase			1~					
	Voltage		V	230					
	Recommended fuses			Factory installed					
Wiring connections				See installation manual					

2-2 Electrical Specifications				EUWAN24KBZW1		EUWAP24KBZW1		EUWAB24KBZW1	
Pump	Type			Horizontal multi-stage end-suction					
	Phase			3~					
	Voltage		V	400					
	Maximum running current		A	-		2.7		2	
Compressor	Phase			3~					
	Voltage		V	400					
	Starting current		A	136.0					
	Nominal running current (RLA)		A	17.6					
	Maximum running current		A	24.0					
	Starting method			Direct on line					
	Crankcase heater		W	50					
Power supply	Name			W1					
	Phase			3N~					
	Frequency		Hz	50					
	Voltage		V	400					
	Voltage range	Min.	%	-10					
		Max.	%	10					

## 2 Specifications

2-2 Electrical Specifications				EUWAN24KBZW1	EUWAP24KBZW1	EUWAB24KBZW1
Unit	Starting current		A	113	114	
	Current	Zmax	Text	0.20		
	Nominal running current (RLA)	Cooling	A	15.9	17.2	
	Maximum running current		A	19.9	21.2	
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses according to IEC standard 269-2			3 x 63gL/gG		
Fans	Phase			1~		
	Voltage		V	230		
	Maximum running current		A	5.8		
Control circuit	Phase			1~		
	Voltage		V	230		
	Recommended fuses			Factory installed		
Wiring connections				See installation manual		
Notes				(1)Condition: Ta 35°C - LWE 7°C ( DT = 5°C)		
				(2)Pump is not included		
				(3)Including piping + PHE + buffer tank (if present); excluding expansion vessel		
				(4)Including water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with high heat load, extra water volume might be required.		
				(5)EN/IEC 61000-3-12: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated currents ≤ 75A		

## 3 Options

### 3 - 1 Options

#### EUWA-KBZW1

Optional equipment for EUWA-KBZ  
Horse Power: 5~24

##### Model number

EUWA(\*)5KBZW1 (on)

EUWA(\*)10KBZW1 (on)

EUWA(\*)16KBZW1 (on)

EUWA(\*)24KBZW1 (on)

EUWA(\*)8KBZW1 (on)

EUWA(\*)12KBZW1 (on)

EUWA(\*)20KBZW1 (on)

Option number	Option description	Decimal code	(on)	Unit size																								Availability
				5KBZW1			8KBZW1			10KBZW1			12KBZW1			16KBZW1			20KBZW1			24KBZW1						
				N	P	B	N	P	B	N	P	B	N	P	B	N	P	B	N	P	B	N	P	B				
	Standard unit	—		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	<b>Not completely combinable options</b>																											
	chilled water temp down to -5°C	1st digit		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
ZH		12	C--	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
ZL	chilled water temp down to -10°C	24	O--	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
	<b>Completely combinable options</b>																											
	Fan motor size up (high esp 5mmH2O)	2nd/3rd digit		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
ESP		4	--4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
OP PUMP HIGH	Pump size up	8	--8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
OP10	Evaporator heatertape	16	--G	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
	<b>Available kits</b>																											
EKGAU5/8KA	Gauges kit 5/8 Hp-units			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKGAU10/12KA	Gauges kit 10/12 Hp-units			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKGAU16KA	Gauges kit 16 Hp-units			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKGAU20/24KA	Gauges kit 20/24 Hp-units			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKSS	Softstarter kit			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKAC10C	Address card for connection to BMS or Remote user interface			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKRUMCA	Remote installed user interface			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
EKBT	Buffertank 200 l			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit			
	<b>Example of possible option combinations</b>																											
ESP + OP PUMP HIGH		12	--C																									
ESP + OP10		20	--K																									
ESP + OP10 + OP PUMP HIGH		28	--S																									
OP10 + OP PUMP HIGH		24	--O																									

#### NOTES

- x = not available yet  
• = available  
-- = not available  
•-<number> = available and a quantity <number> is necessary / unit
- Impossible option combination : ZH + ZL
- (\*) = N or P or B
- (on) = option number  
- 1st digit (on) = sum of 1st digit decimal code and this summation transferred to a 36 character system

- 2/3rd digit (on) = sum of 2/3rd digit decimal code and this summation transferred to a 36 character system
- To install EKRUMCA => EKAC10C needs to be installed on the unit.
- EKAC10C : this address card allows direct connection to MODBUS BMS system

3TW60009-5

## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

CC EUWA\*5KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	5.23	6.21	7.18	8.16	9.14	10.1	11.1	12.1	13.5	15.0	17.9	19.9
25	4.81	5.75	6.69	7.63	8.57	9.51	10.5	11.4	12.8	14.2	17.0	18.9
30	4.39	5.29	6.20	7.10	8.00	8.91	9.81	10.7	12.1	13.4	16.1	17.9
35	3.97	4.84	5.70	6.57	7.44	8.30	9.17	10.0	11.3	12.6	15.2	17.0
40				6.04	6.87	7.70	8.53	9.35	10.6	11.8	14.3	16.0
43						7.33	8.14	8.95	10.2	11.4	13.8	

PI EUWA\*5KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	3.02	3.07	3.11	3.16	3.21	3.25	3.30	3.34	3.41	3.48	3.62	3.71
25	3.32	3.37	3.42	3.46	3.51	3.55	3.60	3.65	3.71	3.78	3.92	4.01
30	3.68	3.72	3.77	3.82	3.86	3.91	3.95	4.00	4.07	4.14	4.27	4.37
35	4.09	4.13	4.18	4.22	4.27	4.31	4.36	4.41	4.48	4.54	4.68	4.77
40				4.68	4.73	4.77	4.82	4.87	4.93	5.00	5.14	5.23
43						5.07	5.12	5.17	5.24	5.30	5.44	

4TW54752-1A

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Ta	: Ambient temperature (°C)

#### NOTES

- Cooling capacity (CAP)**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input (kW)**  
Power input is total input according to Eurovent rating standard 6/C/003-2003: Compressor + fans + control circuit.

## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

CC EUWA\*8KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	7.43	9.02	10.6	12.2	13.8	15.4	17.0	18.6	21.0	23.3	28.1	31.3
25	7.18	8.68	10.2	11.7	13.2	14.7	16.2	17.7	19.9	22.2	26.7	29.7
30	6.93	8.34	9.75	11.2	12.6	14.0	15.4	16.8	18.9	21.0	25.3	28.1
35	6.67	7.99	9.31	10.6	12.0	13.3	14.6	15.9	17.9	19.9	23.8	26.5
40				10.1	11.3	12.6	13.8	15.0	16.9	18.7	22.4	24.9
43						12.1	13.3	14.5	16.3	18.0	21.5	

PI EUWA\*8KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	4.22	4.36	4.49	4.63	4.77	4.91	5.05	5.18	5.39	5.60	6.01	6.29
25	4.76	4.89	5.03	5.17	5.31	5.45	5.58	5.72	5.93	6.14	6.55	6.83
30	5.38	5.52	5.66	5.80	5.94	6.07	6.21	6.35	6.56	6.76	7.18	7.45
35	6.10	6.24	6.38	6.51	6.65	6.79	6.93	7.07	7.27	7.48	7.89	8.17
40				7.32	7.46	7.60	7.73	7.87	8.08	8.29	8.70	8.98
43						8.12	8.26	8.40	8.61	8.81	9.23	

4TW54762-1A

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Ta	: Ambient temperature (°C)

#### NOTES

- Cooling capacity (CAP)**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input (kW)**  
Power input is total input according to Eurovent rating standard 6/C/003-2003: Compressor + fans + control circuit.



## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

CC EUWA\*10KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	11.8	13.6	15.4	17.2	19.1	20.9	22.7	24.5	27.3	30.0	35.4	39.1
25	10.6	12.4	14.2	15.9	17.7	19.5	21.2	23.0	25.7	28.3	33.6	37.2
30	9.49	11.2	12.9	14.6	16.4	18.1	19.8	21.5	24.1	26.7	31.8	35.2
35	8.34	10.0	11.7	13.3	15.0	16.7	18.3	20.0	22.5	25.0	30.0	33.3
40				12.0	13.7	15.3	16.9	18.5	20.9	23.3	28.2	31.4
43						14.4	16.0	17.6	20.0	22.3	27.1	

PI EUWA\*10KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	5.21	5.35	5.49	5.63	5.77	5.91	6.05	6.19	6.40	6.61	7.04	7.32
25	5.91	6.05	6.19	6.33	6.47	6.62	6.76	6.90	7.11	7.32	7.74	8.02
30	6.66	6.80	6.94	7.08	7.22	7.36	7.50	7.64	7.85	8.07	8.49	8.77
35	7.45	7.59	7.73	7.87	8.01	8.15	8.29	8.43	8.64	8.85	9.28	9.6
40				8.70	8.84	8.98	9.12	9.26	9.47	9.69	10.1	10.4
43						9.50	9.64	9.78	10.0	10.2	10.6	

4TW54772-1A

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Ta	: Ambient temperature (°C)

#### NOTES

- Cooling capacity (CAP)**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input (kW)**  
Power input is total input according to Eurovent rating standard 6/C/003-2003: Compressor + fans + control circuit.

## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

CC EUWA\*12KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	16.1	18.0	19.9	21.9	23.8	25.7	27.6	29.5	32.4	35.3	41.0	44.9
25	14.2	16.1	18.1	20.0	21.9	23.8	25.7	27.6	30.4	33.3	39.0	42.8
30	12.4	14.3	16.2	18.0	19.9	21.8	23.7	25.6	28.4	31.3	36.9	40.7
35	10.5	12.4	14.3	16.1	18.0	19.9	21.8	23.6	26.5	29.3	34.9	38.7
40				14.2	16.1	18.0	19.8	21.7	24.5	27.3	32.9	36.6
43						16.8	18.6	20.5	23.3	26.1	31.6	

PI EUWA\*12KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	6.79	7.00	7.21	7.42	7.63	7.84	8.05	8.27	8.58	8.90	9.5	9.9
25	7.59	7.80	8.01	8.23	8.44	8.65	8.86	9.07	9.38	9.7	10.3	10.8
30	8.58	8.79	9.00	9.21	9.42	9.63	9.84	10.1	10.4	10.7	11.3	11.7
35	9.75	9.96	10.2	10.4	10.6	10.8	11.0	11.2	11.4	11.9	12.5	12.9
40				11.7	11.9	12.2	12.4	12.6	12.9	13.2	13.8	14.3
43						13.1	13.3	13.5	13.8	14.1	14.7	

4TW54782-1B

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Ta	: Ambient temperature (°C)

#### NOTES

- Cooling capacity (CAP)**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input (kW)**  
Power input is total input according to Eurovent rating standard 6/C/003-2003: Compressor + fans + control circuit.

## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

CC EUWA\*16KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	12.6	16.3	20.0	23.6	26.5	29.4	32.3	35.1	39.4	43.7	52.2	57.8
25	12.2	15.9	19.6	23.1	25.8	28.5	31.1	33.8	37.8	41.7	49.6	54.9
30	11.8	15.6	19.3	22.6	25.1	27.6	30.0	32.5	36.2	39.8	47.1	51.9
35	11.5	15.2	18.9	22.3	24.5	26.8	29.0	31.2	34.6	37.9	44.5	49.0
40				22.0	24.0	26.0	28.0	30.0	33.0	36.0	42.0	46.0
43						25.5	27.4	29.2	32.0	34.8	40.5	

CC EUWA\*16KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	8.63	8.91	9.19	9.47	9.7	10.0	10.3	10.6	11.0	11.4	12.3	12.8
25	9.8	10.1	10.4	10.7	11.0	11.2	11.5	11.8	12.2	12.6	13.5	14.0
30	11.1	11.4	11.6	11.9	12.2	12.5	12.8	13.0	13.4	13.9	14.7	15.3
35	12.3	12.6	12.9	13.2	13.5	13.7	14.0	14.3	14.7	15.1	16.0	16.5
40				14.5	14.7	15.0	15.3	15.6	16.0	16.4	17.3	17.8
43						15.8	16.1	16.4	16.8	17.2	18.0	

4TW54792-1B

#### SYMBOLS

CC	Cooling capacity (kW)
PI	Power input (kW)
LWE	Leaving Water Evaporator temperature (°C)
Ta	Ambient temperature (°C)

#### NOTES

1. Cooling capacity (CAP)  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3-8^{\circ}\text{C}$
2. Power input (kW)  
Power input is total input according to Eurovent rating standard 6/C/003-2003:  
Compressor + fans + control circuit

## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

CC EUWA\*20KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	25.6	29.1	32.6	36.1	39.5	43.0	46.4	49.8	55.0	60.1	70.4	77.2
25	24.1	27.4	30.8	34.1	37.4	40.7	44.0	47.3	52.2	57.1	66.9	73.4
30	22.5	25.8	29.0	32.1	35.3	38.5	41.6	44.7	49.4	54.1	63.4	69.6
35	21.1	24.2	27.2	30.2	33.2	36.2	39.2	42.2	46.6	51.1	60.0	65.9
40				28.3	31.2	34.0	36.8	39.6	43.9	48.1	56.5	62.1
43						32.7	35.4	38.1	42.2	46.3	54.4	

PI EUWA\*20KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	11.0	11.2	11.5	11.8	12.1	12.4	12.7	13.0	13.4	13.9	14.7	15.3
25	12.6	12.9	13.2	13.4	13.7	14.0	14.3	14.6	15.0	15.5	16.3	16.9
30	14.1	14.4	14.7	15.0	15.2	15.5	15.8	16.1	16.6	17.0	17.9	18.4
35	15.5	15.8	16.1	16.4	16.7	16.9	17.2	17.5	17.9	18.4	19.3	19.9
40				17.7	18.0	18.3	18.6	18.8	19.3	19.7	20.6	21.2
43						19.0	19.3	19.6	20.0	20.5	21.4	

4TW54802-1A

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Ta	: Ambient temperature (°C)

#### NOTES

- Cooling capacity (CAP)**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input (kW)**  
Power input is total input according to Eurovent rating standard 6/C/003-2003: Compressor + fans + control circuit.

## 4 Capacity tables

### 4 - 2 Capacity Correction Factor

CC EUWA\*24KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	35.0	38.6	42.2	45.7	49.3	52.9	56.4	60.0	65.4	70.7	81.4	88.6
25	32.2	35.7	39.2	42.7	46.2	49.7	53.1	56.6	61.9	67.1	77.5	84.5
30	29.4	32.8	36.2	39.6	43.0	46.4	49.8	53.2	58.3	63.4	73.7	80.5
35	26.8	30.2	33.5	36.9	40.2	43.6	46.9	50.3	55.3	60.3	70.4	77.1
40				33.5	36.7	40.0	43.2	46.4	51.3	56.2	65.9	72.4
43						38.0	41.2	44.4	49.2	54.0	63.6	

PI EUWA\*24KBZW1

Ta/LWE	-10	-8	-6	-4	-2	0	2	4	7	10	16	20
20	14.3	14.7	15.2	15.6	16.0	16.5	16.9	17.3	18.0	18.6	20.0	20.8
25	16.2	16.6	17.0	17.5	17.9	18.3	18.8	19.2	19.9	20.5	21.8	22.7
30	18.2	18.6	19.0	19.5	19.9	20.3	20.8	21.2	21.9	22.5	23.8	24.7
35	20.3	20.7	21.2	21.6	22.0	22.5	22.9	23.3	23.8	24.6	25.9	26.8
40				23.8	24.3	24.7	25.2	25.6	26.2	26.9	28.2	29.1
43						26.1	26.6	27.0	27.7	28.3	29.6	

4TW54812-1A

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Ta	: Ambient temperature (°C)

#### NOTES

- Cooling capacity (CAP)**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input (kW)**  
Power input is total input according to Eurovent rating standard 6/C/003-2003: Compressor + fans + control circuit.

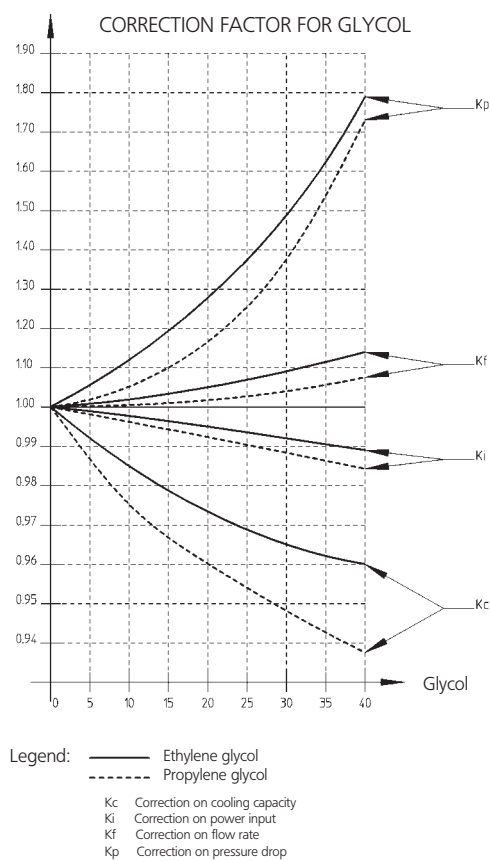
## 4 Capacity tables

### 4 - 2 Capacity Correction Factor

#### EUWA-KBZW1

Required glycol concentration

Type	Concentration (wt%)	0	10	20	30	40
Ethylene glycol	Freezing point °C	0	-4	-9	-16	-23
	Minimum LWE °C	5	2	0	-5	-11
Propylene glycol	Freezing point °C	0	-3	-7	-13	-22
	Minimum LWE °C	5	3	-2	-4	-10

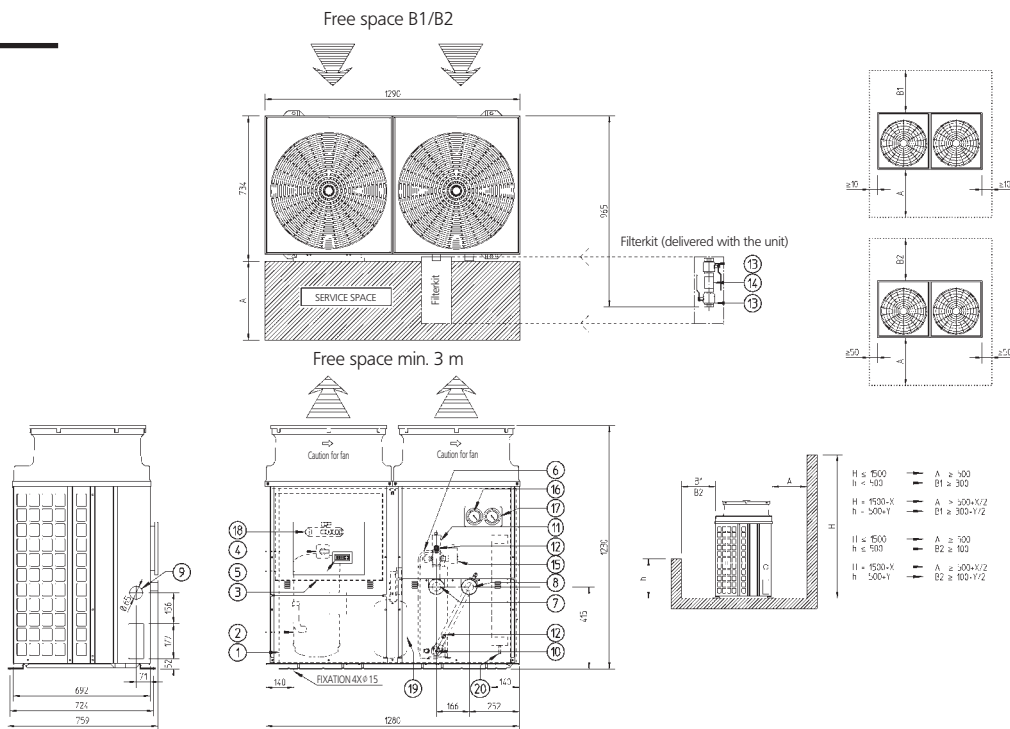


## 5 Dimensional drawings

## 5 - 1 Dimensional Drawings

**EUWAN5-8KBZW1**

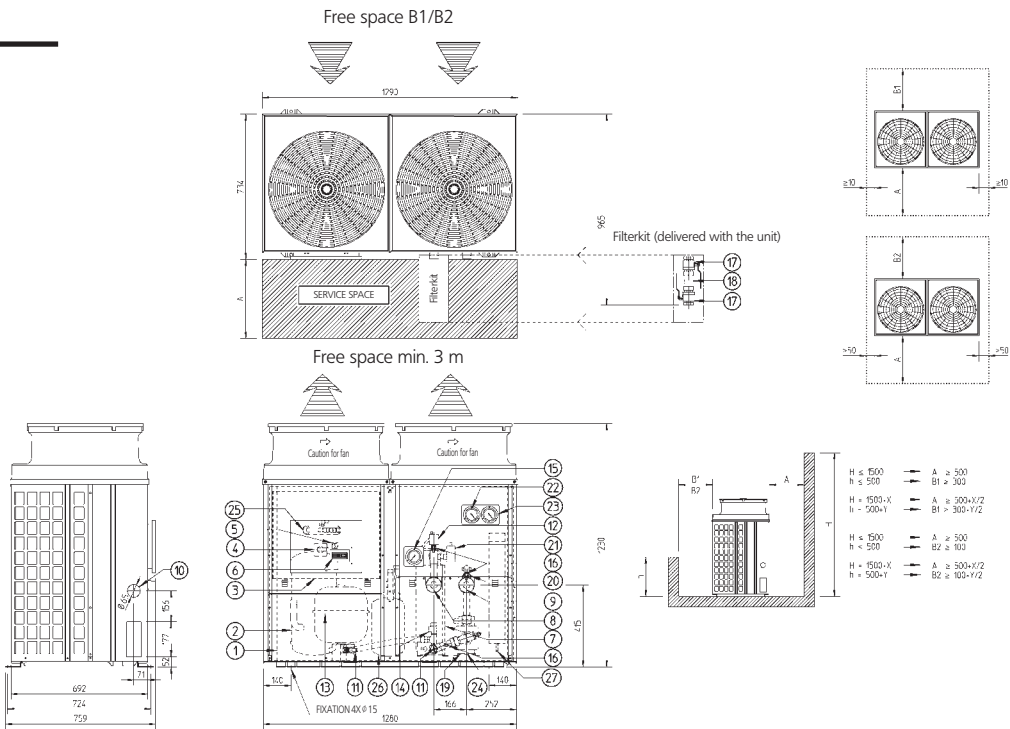
- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Digital display controller
  - 6 Water heat exchanger
  - 7 Water IN connection: 1 1/4" M BSP
  - 8 Water OUT connection: 1 1/4" M BSP
  - 9 Power supply intake
  - 10 Drain
  - 11 Air purge
  - 12 Pressure port
  - 13 Ball valve: 1-1/4" BSP
  - 14 Water filter: 1-1/4" BSP
  - 15 Flow switch
  - 16 High pressure gauge (optional)
  - 17 Low pressure gauge (optional)
  - 18 4 way valve \*
  - 19 Accumulator \*
  - 20 Liquid receiver \*
- \* Only for H/P models



3TW55694-1

**EUWAP5-8KBZW1**

- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 1 1/4" M BSP
  - 9 Water OUT connection: 1 1/4" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Manometer (water)
  - 16 Pressure port
  - 17 Ball valve: 1-1/4" BSP
  - 18 Water filter: 1-1/4" BSP
  - 19 Pump
  - 20 Regulation valve
  - 21 Flow switch
  - 22 High pressure gauge (optional)
  - 23 Low pressure gauge (optional)
  - 24 Pump drain
  - 25 4 way valve \*
  - 26 Accumulator \*
  - 27 Liquid receiver \*
- \* Only for H/P models



3TW55694-2

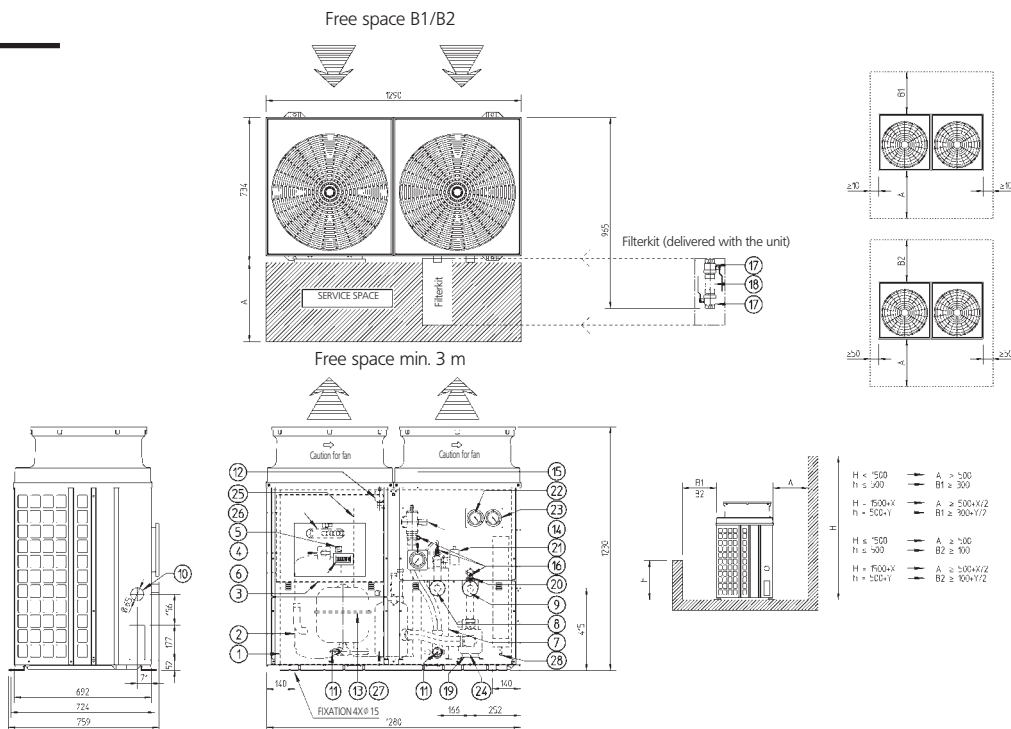
## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWAB5-8KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 1 1/4" M BSP
- 9 Water OUT connection: 1 1/4" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Manometer (water)
- 16 Pressure port
- 17 Ball valve: 1-1/4" BSP
- 18 Water filter: 1-1/4" BSP
- 19 Pump
- 20 Regulation valve
- 21 Flow switch
- 22 High pressure gauge (optional)
- 23 Low pressure gauge (optional)
- 24 Pump drain
- 25 Buffer tank
- 26 4 way valve\*
- 27 Accumulator\*
- 28 Liquid receiver\*

\* Only for H/P models

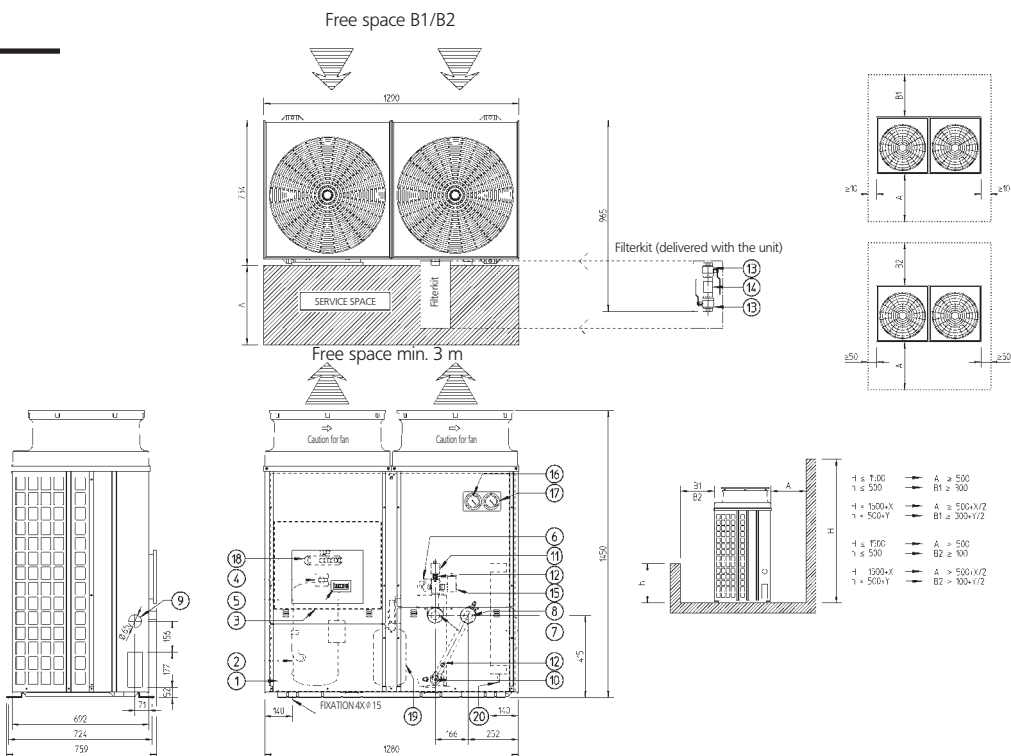


3TW55694-3

#### EUWAN10-12KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Digital display controller
- 6 Water heat exchanger
- 7 Water IN connection: 1 1/4" M BSP
- 8 Water OUT connection: 1 1/4" M BSP
- 9 Power supply intake
- 10 Drain
- 11 Air purge
- 12 Pressure port
- 13 Ball valve: 1-1/4" BSP
- 14 Water filter: 1-1/4" BSP
- 15 Flow switch
- 16 High pressure gauge (optional)
- 17 Low pressure gauge (optional)
- 18 4 way valve\*
- 19 Accumulator\*
- 20 Liquid receiver\*

\* Only for H/P models



3TW55714-1

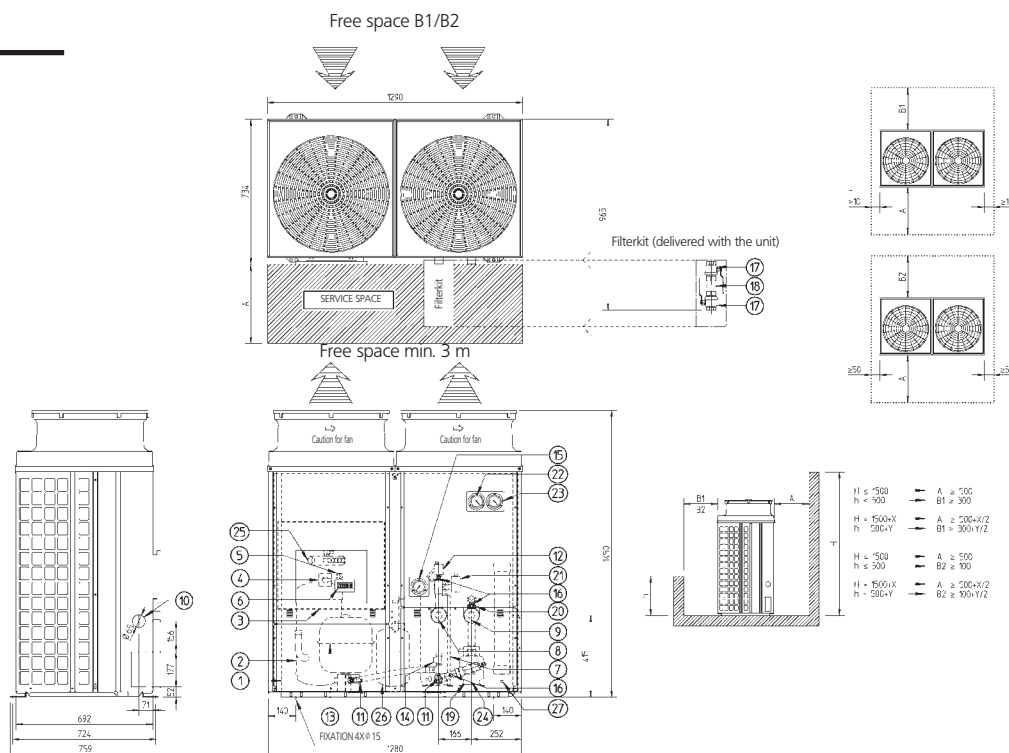


## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWAP10-12KBZW1

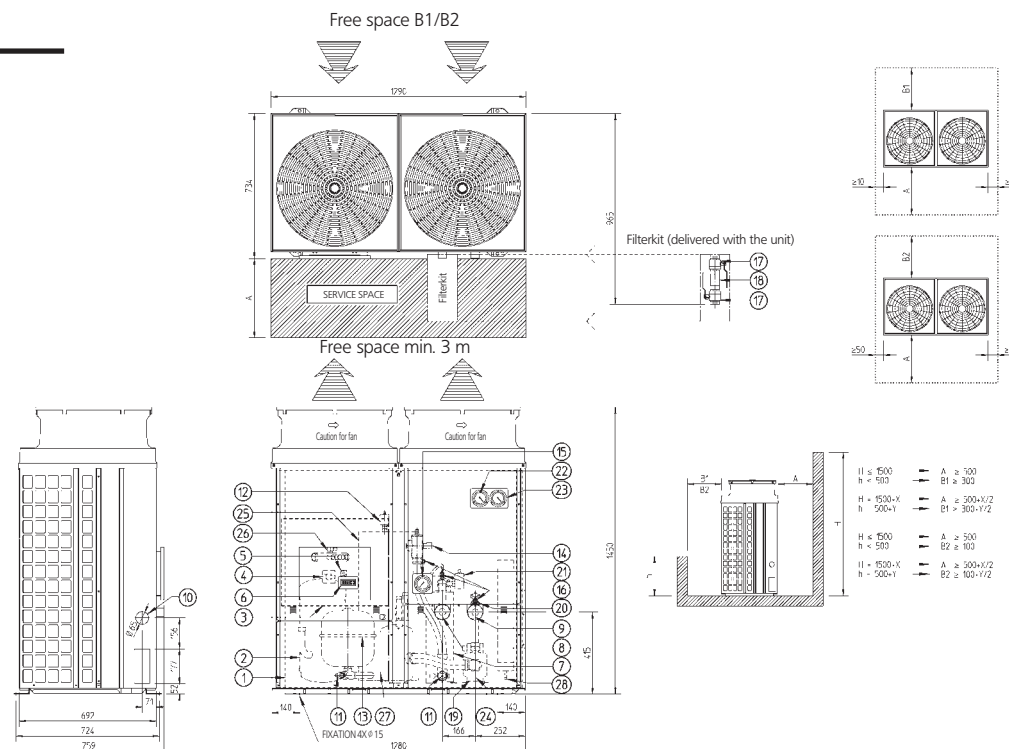
- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 1 1/4" M BSP
  - 9 Water OUT connection: 1 1/4" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Manometer (water)
  - 16 Pressure port
  - 17 Ball valve: 1-1/4" BSP
  - 18 Water filter: 1-1/4" BSP
  - 19 Pump
  - 20 Regulation valve
  - 21 Flow switch
  - 22 High pressure gauge (optional)
  - 23 Low pressure gauge (optional)
  - 24 Pump drain
  - 25 4 way valve \*
  - 26 Accumulator \*
  - 27 Liquid receiver \*
- \* Only for H/P models



3TW55714-2

#### EUWAB10-12KBZW1

- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 1 1/4" M BSP
  - 9 Water OUT connection: 1 1/4" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Manometer (water)
  - 16 Pressure port
  - 17 Ball valve: 1-1/4" BSP
  - 18 Water filter: 1-1/4" BSP
  - 19 Pump
  - 20 Regulation valve
  - 21 Flow switch
  - 22 High pressure gauge (optional)
  - 23 Low pressure gauge (optional)
  - 24 Pump drain
  - 25 Buffer tank
  - 26 4 way valve \*
  - 27 Accumulator \*
  - 28 Liquid receiver \*
- \* Only for H/P models



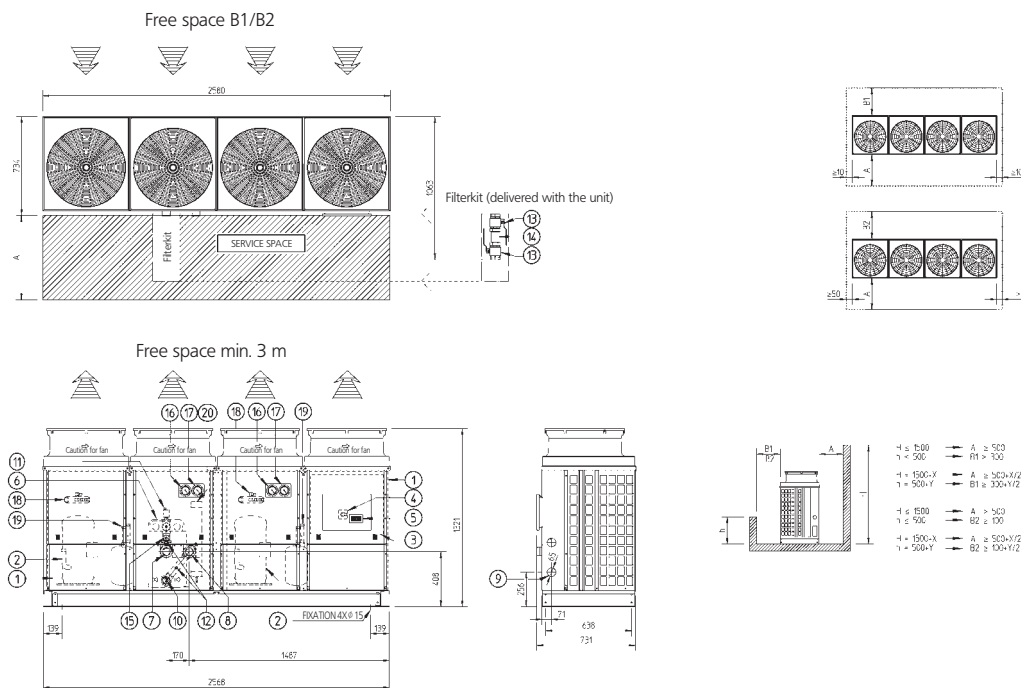
3TW55714-3

## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWAN16KBZW1

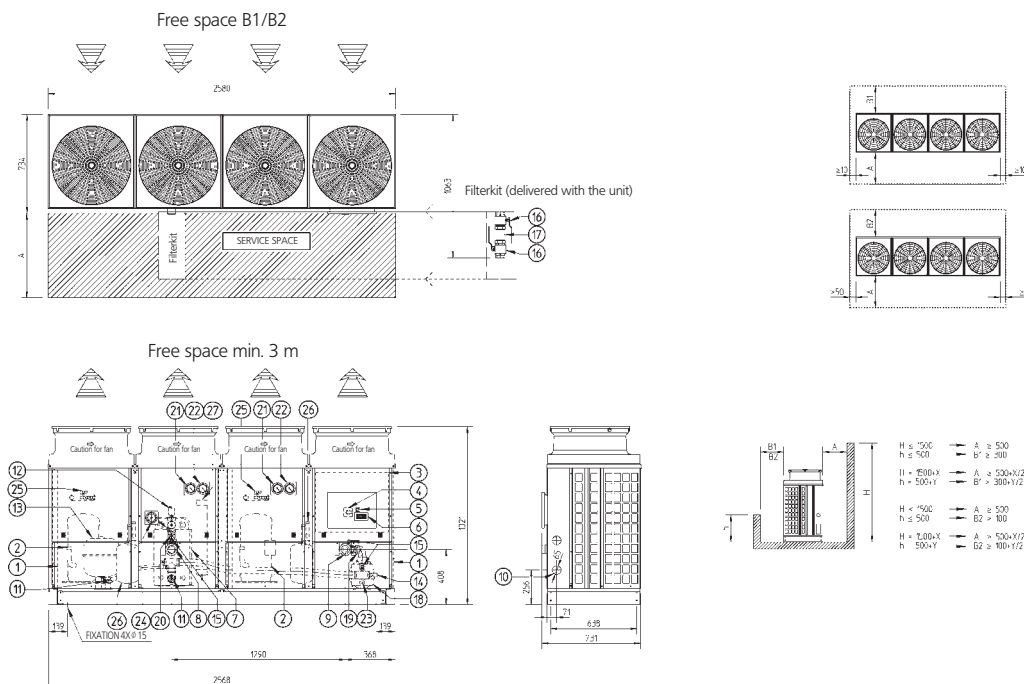
- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Digital display controller
  - 6 Water heat exchanger
  - 7 Water IN connection: 2" M BSP
  - 8 Water OUT connection: 2" M BSP
  - 9 Power supply intake
  - 10 Drain
  - 11 Air purge
  - 12 Pressure port
  - 13 Ball valve
  - 14 Water filter
  - 15 Flow switch
  - 16 High pressure gauge (optional)
  - 17 Low pressure gauge (optional)
  - 18 4 way valve\*
  - 19 Accumulator\*
  - 20 Liquid receiver\*
- \* Only for H/P models



3TW55734-1

#### EUWAP16KBZW1

- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 2" M BSP
  - 9 Water OUT connection: 2" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Pressure port
  - 16 Ball valve
  - 17 Water filter
  - 18 Pump
  - 19 Regulation valve
  - 20 Flow switch
  - 21 High pressure gauge (optional)
  - 22 Low pressure gauge (optional)
  - 23 Pump drain
  - 24 Water pressure gauge
  - 25 4 way valve\*
  - 26 Accumulator\*
  - 27 Liquid receiver\*
- \* Only for H/P models



3TW55734-2

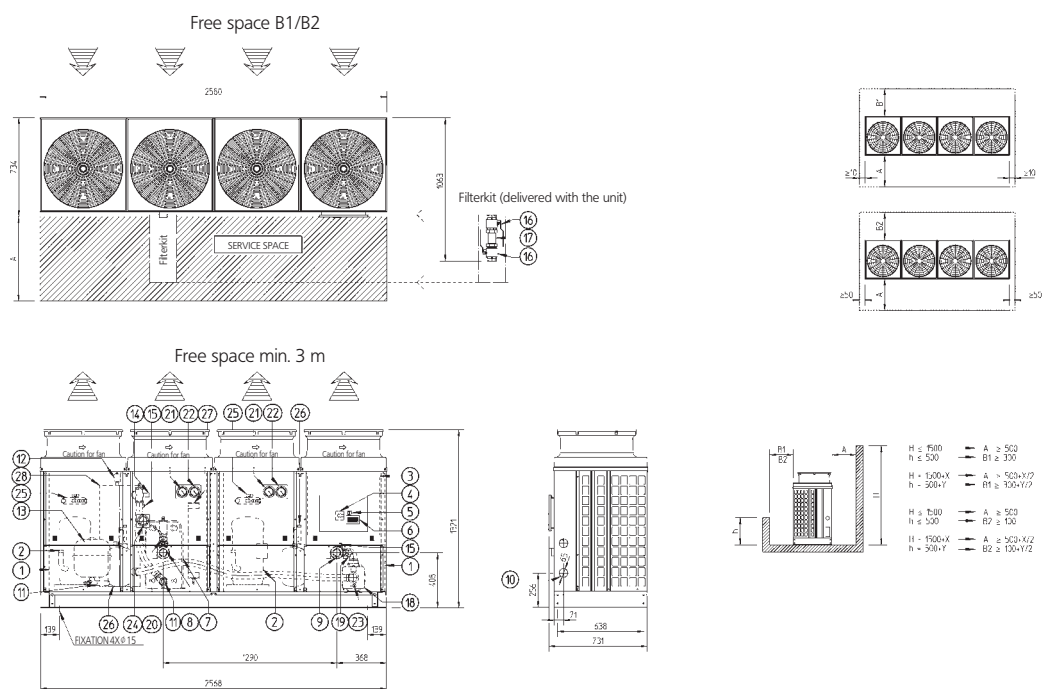
## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWAB16KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 2" M BSP
- 9 Water OUT connection: 2" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Pressure port
- 16 Ball valve
- 17 Water filter
- 18 Pump
- 19 Regulation valve
- 20 Flow switch
- 21 High pressure gauge (optional)
- 22 Low pressure gauge (optional)
- 23 Pump drain
- 24 Water pressure gauge
- 25 4 way valve \*
- 26 Accumulator \*
- 27 Liquid receiver \*
- 28 Buffer tank

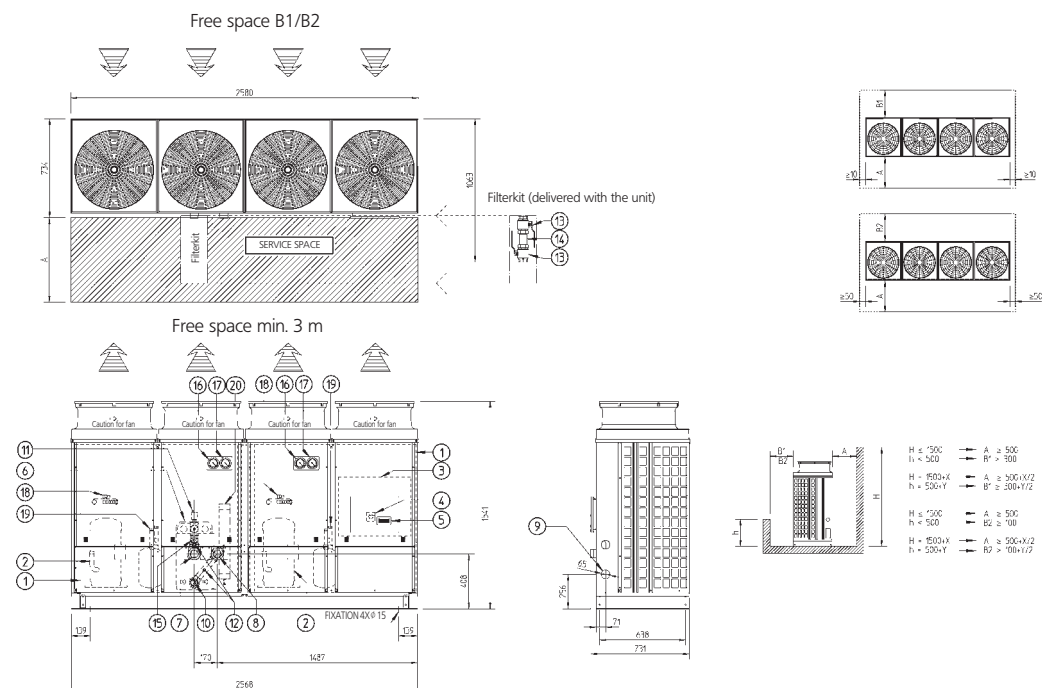
\* Only for H/P models



#### EUWAN20-24KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Digital display controller
- 6 Water heat exchanger
- 7 Water IN connection: 2" M BSP
- 8 Water OUT connection: 2" M BSP
- 9 Power supply intake
- 10 Drain
- 11 Air purge
- 12 Pressure port
- 13 Ball valve
- 14 Water filter
- 15 Flow switch
- 16 High pressure gauge (optional)
- 17 Low pressure gauge (optional)
- 18 4 way valve \*
- 19 Accumulator \*
- 20 Liquid receiver \*

\* Only for H/P models

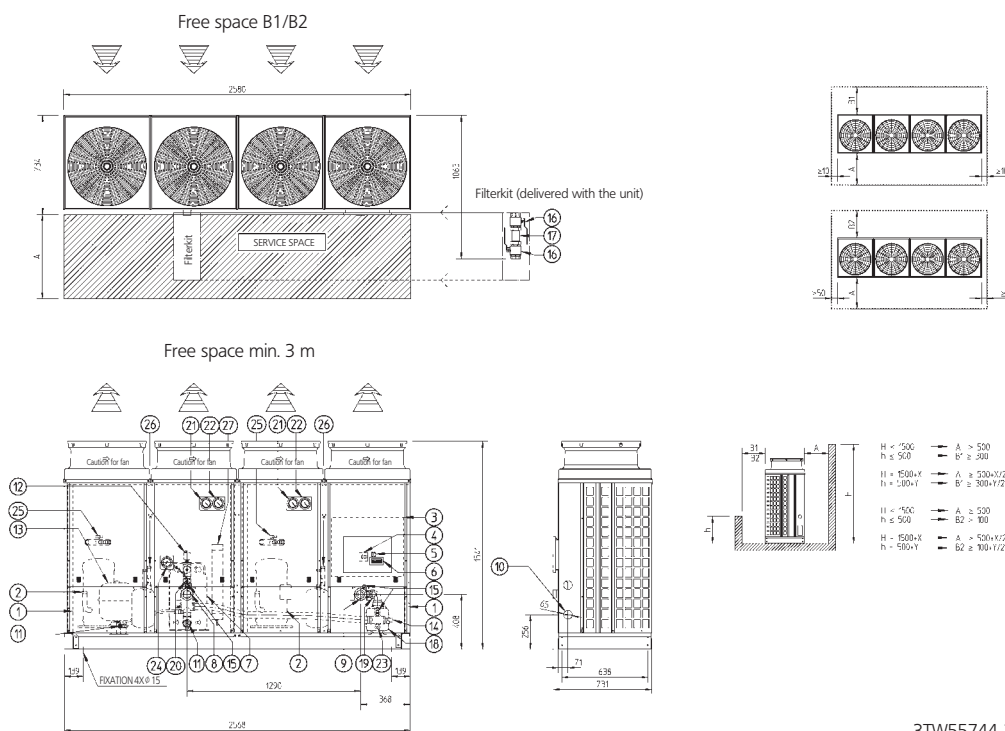


## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

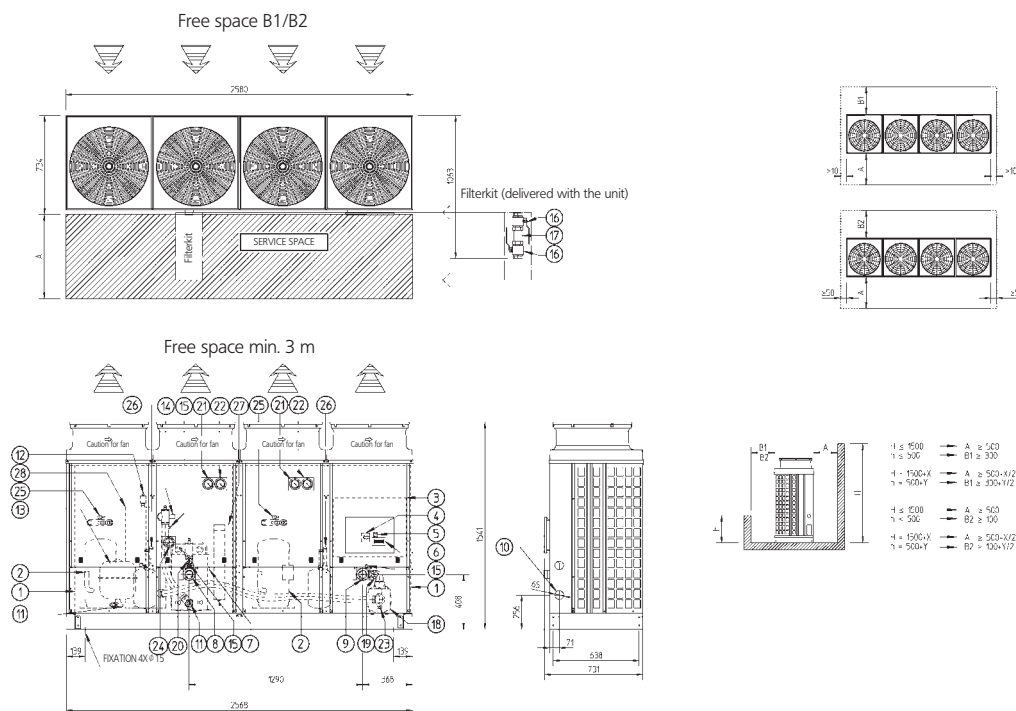
#### EUWAP20-24KBZW1

- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 2" M BSP
  - 9 Water OUT connection: 2" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Pressure port
  - 16 Ball valve
  - 17 Water filter
  - 18 Pump
  - 19 Regulation valve
  - 20 Flow switch
  - 21 High pressure gauge (optional)
  - 22 Low pressure gauge (optional)
  - 23 Pump drain
  - 24 Water pressure gauge
  - 25 4 way valve\*
  - 26 Accumulator\*
  - 27 Liquid receiver\*
- \* Only for H/P models



#### EUWAB20-24KBZW1

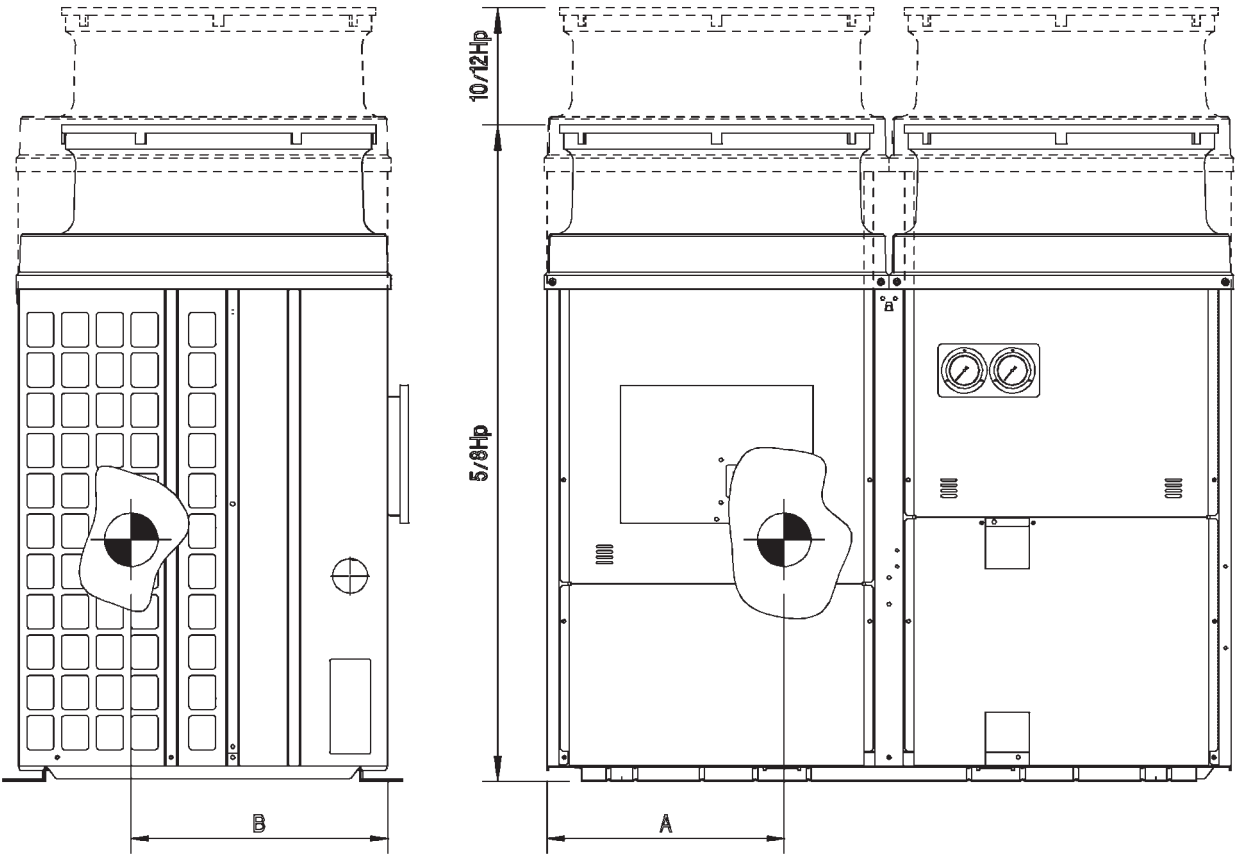
- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 2" M BSP
  - 9 Water OUT connection: 2" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Pressure port
  - 16 Ball valve
  - 17 Water filter
  - 18 Pump
  - 19 Regulation valve
  - 20 Flow switch
  - 21 High pressure gauge (optional)
  - 22 Low pressure gauge (optional)
  - 23 Pump drain
  - 24 Water pressure gauge
  - 25 4 way valve\*
  - 26 Accumulator\*
  - 27 Liquid receiver\*
  - 28 Buffer tank
- \* Only for H/P models



# 6 Centre of gravity

## 6 - 1 Centre of Gravity

EUWA\*5-12KBZW1



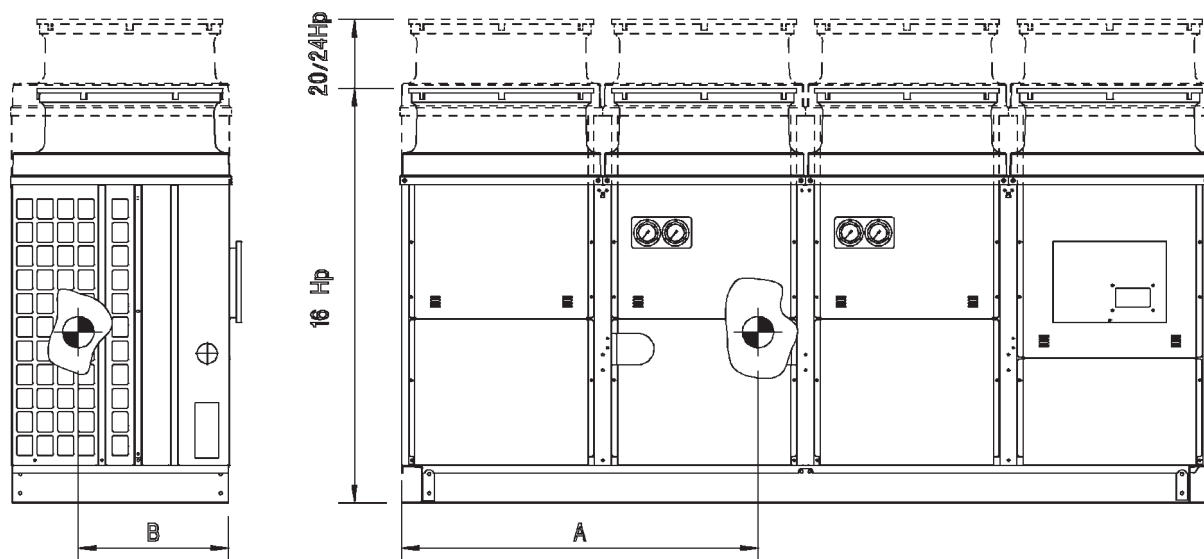
	5Hp		8Hp		10Hp		12Hp	
	A	B	A	B	A	B	A	B
B-Models	520	420	480	420	490	430	490	430
P-Models	510	420	470	420	480	430	490	430
N-Models	480	420	440	430	450	430	460	430

4TW54759-2

## 6 Centre of gravity

### 6 - 1 Centre of Gravity

EUWA\*16-24KBZW1



	16Hp		20Hp		24Hp	
	A	B	A	B	A	B
B-Models	1115	435	1120	435	1115	435
P-Models	1145	435	1140	435	1135	435
N-Models	1110	430	1115	435	1110	435

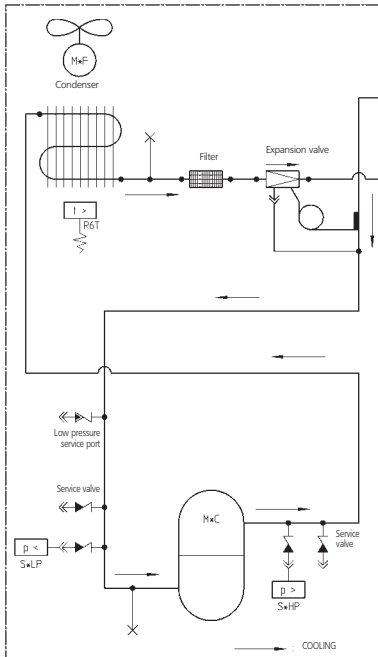
4TW54799-2

## 7 Piping diagrams

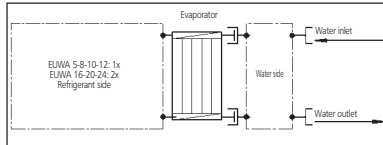
### 7 - 1 Piping Diagrams

#### EUWA\*5-24KBZW1

##### Refrigerant side

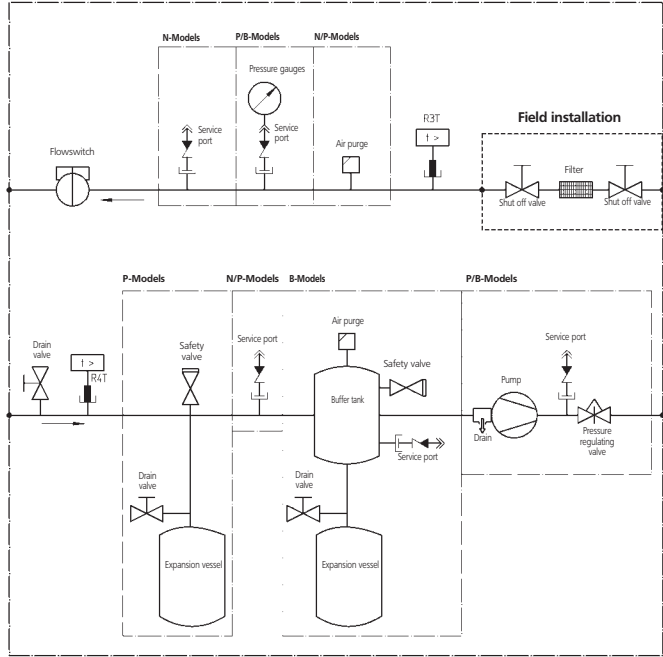


##### Overview



- R3T Inlet water temperature sensor
- R4T Outlet water temperature sensor
- R5T Ambient temperature sensor
- S\*HP High pressure switch
- S\*LP Low pressure switch
- M\*F Condenser fan
- M\*C Compressor

##### Water side



Check valve
 Flare connection
 Screw connection
 Flange connection
 Pinched pipe
 Spinned pipe

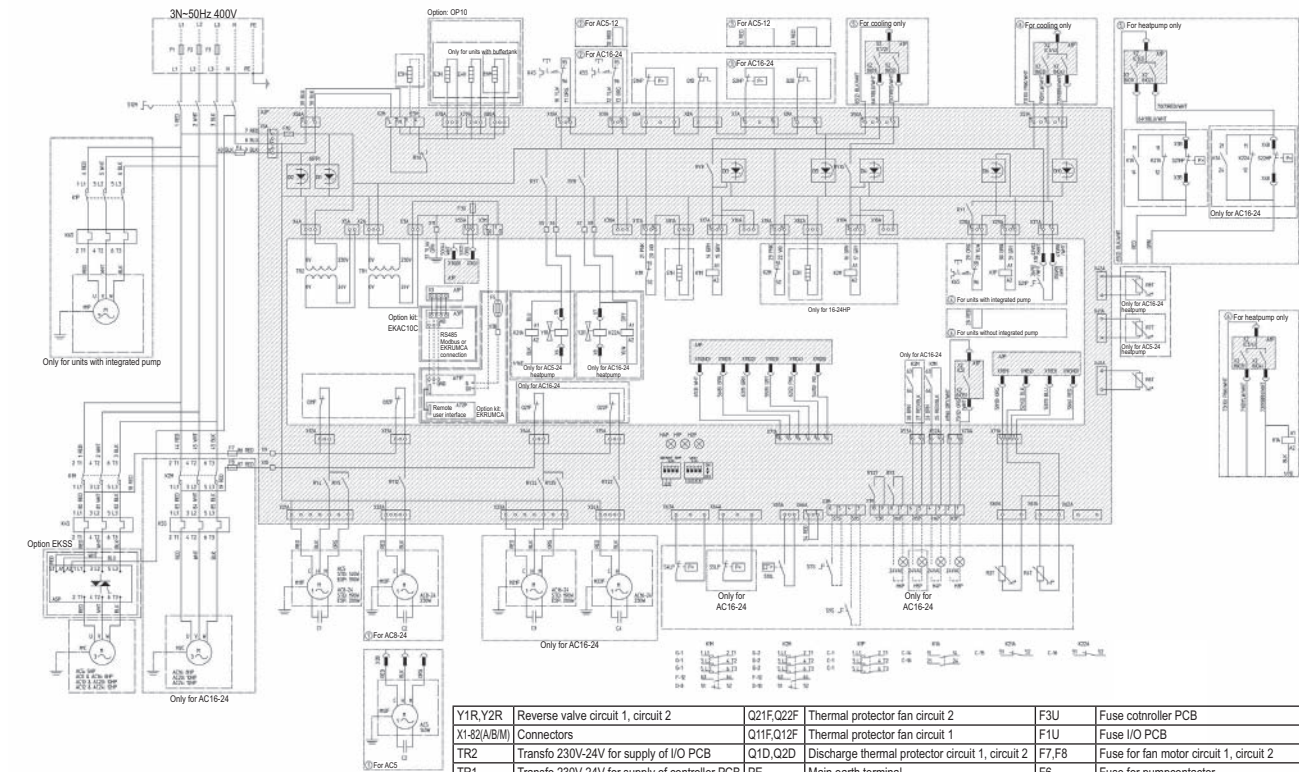
3TW55625-1



# 8 Wiring diagrams

## 8 - 1 Wiring Diagrams - Three Phase

### EUWA-KBZW1 / EUWY-KBZW1



	Not standard included	
	Not possible as option	Possible as option
Obligatory	#	##
Not obligatory	*	**

( ) Applicable for unit without integrated pump

A2P	A1P
<b>DIGITAL INPUTS</b>	<b>DIGITAL INPUTS</b>
D11 Reverse phase detection (L-N)	X1 (ID1-GND): Flow switch
D12 Reverse phase detection (N-L3)	X1 (ID2-GND): Remote CH selection
D13 M1C ON detection	X1 (ID3-GND): High pressure switch + discharge protector + overcurrent
D14 M2C ON detection	X1 (ID4-GND): Low pressure switch
D15 Safety device detection	X1 (ID5-GND): Remote On/Off
D16 Pump ON detection	
D17 ---	<b>DIGITAL OUTPUTS (RELAYS)</b>
D18 ---	X2 (C12-NO1): Compressor M1C on
D19 ---	X2 (C12-NO2): Compressor M2C on
D110 Reverse valve request	X2 (C3/4-NO3): Voltage free contact for pump
<b>DIGITAL OUTPUTS (RELAYS)</b>	X2 (C3/4-NO4): Reversing valve
RY1 Reversed phase protector	X2 (C5-NO5): Alarm voltage free contact
RY3 Pump/general operation	
RY4-24 Fan speed relay 1	<b>ANALOG INPUTS</b>
RY5-25 Fan speed relay 2	X1 (B1-GND): inlet water t°
RY6 Heater tape	X1 (B2-GND): outlet water t°
RY7 Reversing valve circ1	X1 (B3-GND): none
RY8 Reversing valve circ2	<b>ANALOG OUTPUTS</b>
RY9 M1C off (during defrost)	X1 (Y-GND)
RY10 M2C off (during defrost)	
RY12-22 Fan speed relay 3	
RY27 Reversing valve of water circuit	
<b>OTHERS</b>	
HAP Light emitting diode (service monitor green)	
H1P,H2P Light emitting diode (service monitor red)	
S1A Dipswitch (unit setting)	
S2A Dipswitch (defr. & fan setting)	

Units with integrated pump (400V)					
Fuses	5HP	8HP	10HP	12HP	16HP
F1,F2,F3 (= gL/gG)	3x20A	3x25A	3x32A	3x40A	3x50A

Units without integrated pump (400V)					
Fuses	5HP	8HP	10HP	12HP	16HP
F1,F2,F3 (= gL/gG)	3x20A	3x25A	3x32A	3x40A	3x50A

All models (400V)					
Fuses + overcurrent	5HP	8HP	10HP	12HP	16HP
F4	8A	8A	8A	8A	8A
F5	250mA	250mA	250mA	250mA	250mA
F7,8	5A	5A	5A	5A	5A
F10	5A	5A	5A	5A	5A
F3U	315mA	315mA	315mA	315mA	315mA
K4S	9A	14A	17A	24A	14A
K5S	---	---	---	---	---
K6S (st. pump or OPZH/ZL)	1.2A	1.2A	1.8A	1.8A	3A
K6S (op. pump or +OPZH/ZL)	1.9A	1.9A	1.9A	4.4A	4.4A

Y1R,Y2R	Reverse valve circuit 1, circuit 2	Q21F,Q22F	Thermal protector fan circuit 2	F3U	Fuse controller PCB
X1-82(A/B/M)	Connectors	Q11F,Q12F	Thermal protector fan circuit 1	F1U	Fuse I/O PCB
TR2	Transfo 230V-24V for supply of I/O PCB	Q10,Q20	Discharge thermal protector circuit 1, circuit 2	F7,F8	Fuse for fan motor circuit 1, circuit 2
TR1	Transfo 230V-24V for supply of controller PCB	PE	Main earth terminal	F6	Fuse for pump/contact
S21P	Switch for pump: Manual/Auto	M1P	Pump motor	F5	Surge proof fuse
S12M	Main isolator switch	M11F,M12F	Fan motors circuit 1	F4	Fuse I/O PCB & evaporator heater tape
S10L	Flow switch	M21F,M22F	Fan motors circuit 2	F1,F2,F3	Main fuses for the unit
S9S	Switch for remote start/stop or dual setpoint	M1C,M2C	Compressor motor circuit 1, circuit 2	E6H	Buffer tank (55l) heater
S7S	Switch for remote cooling/heating selection or dual setpoint	K1P	Pump/contact	E5H	Field heater
S4LP,S5LP	Low pressure switch circuit 1, circuit 2	K4S,K5S	Overcurrent relay circuit 1, circuit 2	E3H,E4H	Evaporator heater tape
S1HP,S2HP	High pressure switch circuit 1, circuit 2	K1M, K2M	Compressor contactor circuit 1, circuit 2	E1H,E2H	Crankcase heater circuit 1, circuit 2
S21HP,S22HP	High pressure switch during defrost circuit 1, circuit 2	K1A	Auxiliary bypass relay	C1,C2,C3,C4	Capacitors for fan motors
R7T,R8T	Coil temperature sensor for circuit 1, circuit 2	K21A,K22A	Auxiliary bypass relay	A71P	PCB: Power supply card
R6T	Ambient temperature sensor	H6P	Indication lamp general operation	A72P	PCB: Remote user interface
R4T	Evaporator outlet water temperature sensor	H5P	Indication lamp operation compressor 2	A5P	PCB: Softstarter for circuit 1
R3T	Evaporator inlet water temperature sensor	H4P	Indication lamp operation compressor 1	A3P	PCB: Address card
		H3P	Indication lamp alarm	A2P	PCB: I/O PCB
				A1P	PCB: Controller PCB

1TW60006-1

### NOTES

1. ' : Terminal 1, --- : Wire 2, --- : Field wiring to be in accordance with the local electrical regulations,

--- : Earth wiring, [ ] : Option, [ ] : PCB, [ ] : outside switchbox

2. If compressor rotates reversely, it may be damaged

3. Optional:

- OP10 = Evaporator heater tape
- EKAC10C = Address card kit for Modbus or remote user interface connection
- EKSS = softstart
- OP PUMP high = High head pressure pump
- EKRUMCA = Remote user interface

4. Terminals for fieldwiring

X1M: H3-6P: output terminal for fieldwiring (voltage free contact max 2A / output)

X2M: E5H: fieldheater (max 500W resistive / 230VAC / 50Hz)

X3M: S7S,S9S: Input terminal for fieldwiring (don't connect voltage)/(switch load 6mA / 30VDC)

5. Y1R, Y2R are activated in cooling mode

S7S open = heating

S7S closed = cooling

6. Dipswitch setting

S2A dipswitch: Defrost & Fan setting

1 > Only applicable for heatpump:

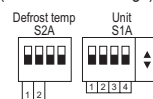
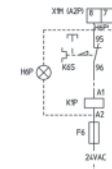
Off= start condition 1 for defrost cycle

On= start condition 2 for defrost cycle (5, 8, 10, 12, 16, 20, 24HP)

2 > Off= fansetting 1 (5, 8, 16HP)

On= fansetting 2 (10, 12, 20, 24HP)

7. Pump contact for units without integrated pump



S1A dipswitch: Unit setting

1 > Off= 1 circuit

On= 2 circuit

234 > Off Off = WC CO & WC CL CO

Off On Off = AC CO

On Off Off = AC HP (without compr. stop for defrost cycle)

On Off On = AC HP (with compr. stop for defrost cycle)



## 9 Sound data

### 9 - 1 Sound Power Spectrum

	Sound power Lw per Octave band (dB)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EUWA/Y(*)5K(B)ZW1	70	71	67	64	61	59	53	46	67
EUWA/Y(*)8K(B)ZW1	78	76	72	77	68	64	58	52	76
EUWA/Y(*)10K(B)ZW1	82	91	77	77	71	67	63	57	78
EUWA/Y(*)12K(B)ZW1	82	91	77	77	71	67	63	57	78
EUWA/Y(*)16K(B)ZW1	81	79	75	80	71	67	61	55	79
EUWA/Y(*)20K(B)ZW1	85	94	80	80	74	70	66	60	81
EUWA/Y(*)24K(B)ZW1	85	94	80	80	74	70	66	60	81

4TW54757-1D

#### NOTES

1. Data valid at nominal operation condition
2. Measured according ISO3744

## 10 Installation

### 10 - 1 Water Charge, Flow and Quality

Be sure the water quality is in accordance with the specifications below:

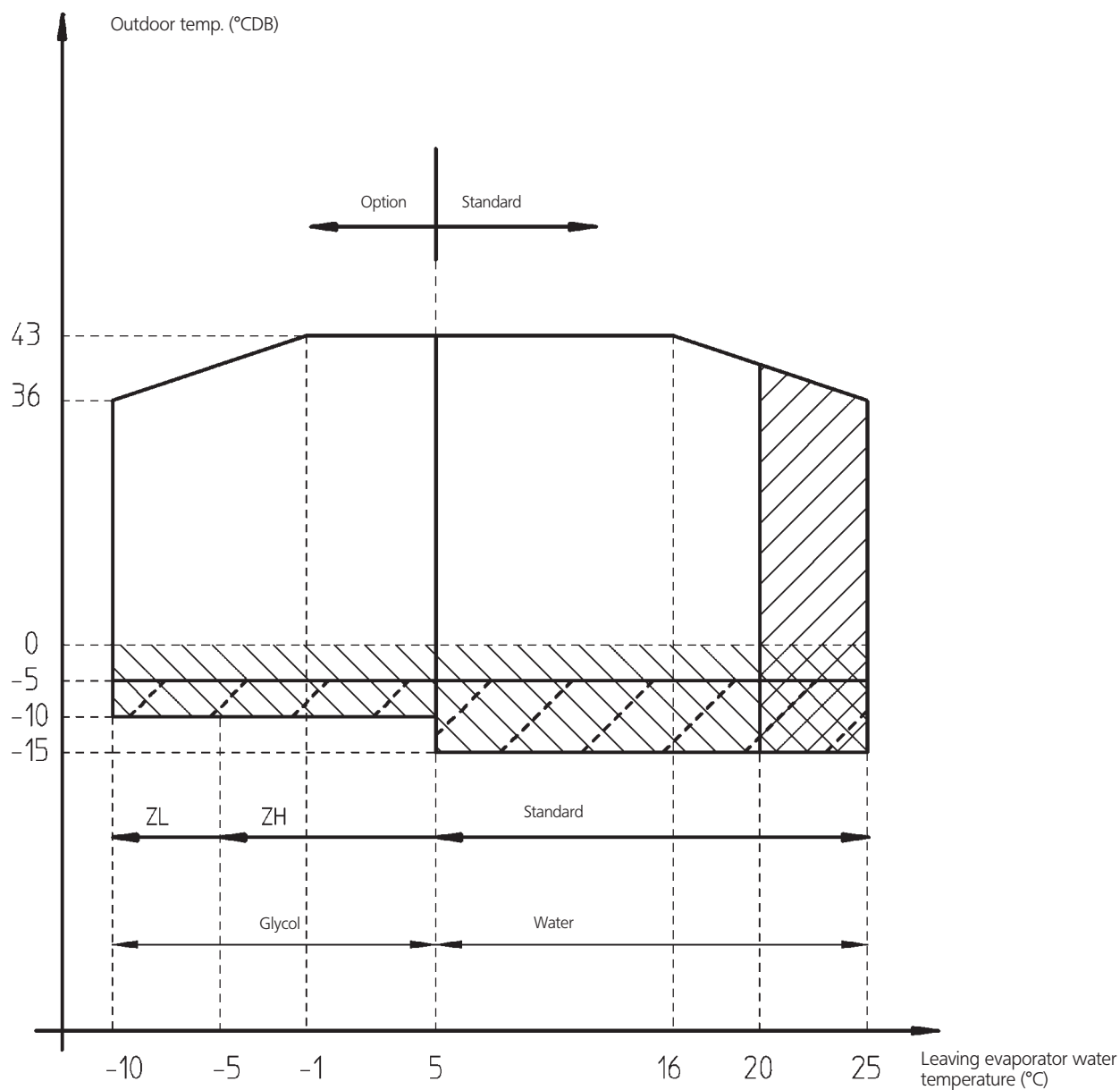
ITEMS	Cooled water		Tendency if out of criteria
	Circulating water (below 20°C)	Water supply	
Items to be controlled:			
- pH at 25°C	6.8 - 8.0	6.8 - 8.0	Corrosion + scale
- Electrical conduct (mS/m) at 25°C	Below 40	Below 30	Corrosion + scale
(μS/cm) at 25°C	—	—	Corrosion + scale
- Chloride ion (mg Cl <sup>-</sup> /l)	Below 50	Below 50	Corrosion
- Sulfate ion (mg SO <sub>4</sub> <sup>2-</sup> /l)	Below 50	Below 50	Corrosion
- M-alkalinity (pH 4.8) (mg SO <sub>3</sub> /l)	Below 50	Below 50	Scale
- Total hardness (mg CaCO <sub>3</sub> /l)	Below 70	Below 70	Scale
- Calcium hardness (mg CaCO <sub>3</sub> /l)	Below 50	Below 50	Scale
- Silica ion (mg SiO <sub>2</sub> /l)	Below 30	Below 30	Scale
Items to be referred to:			
- Iron (mg Fe/l)	Below 1.0	Below 0.3	Corrosion + scale
- Copper (mg Cu/l)	Below 1.0	Below 0.1	Corrosion
- Sulfite ion (mg S <sup>2-</sup> /l)	Not detectable	Not detectable	Corrosion
- ammonium ion (mg NH <sub>4</sub> <sup>+</sup> /l)	Below 1.0	Below 0.1	Corrosion
- Remaining chloride (mg Cl/l)	Below 0.3	Below 0.3	Corrosion
- Free carbide (mg SO <sub>2</sub> /l)	Below 4.0	Below 4.0	Corrosion
- Stability index	—	—	Corrosion + scale

Names, definitions and units are according to JIS K 0101. Units and figures between brackets are old units published as reference only.

# 11 Operation range

## 11 - 1 Operation Range

EUWA\*5-24KBZW1



Pull down area



Protect the water circuit against freezing



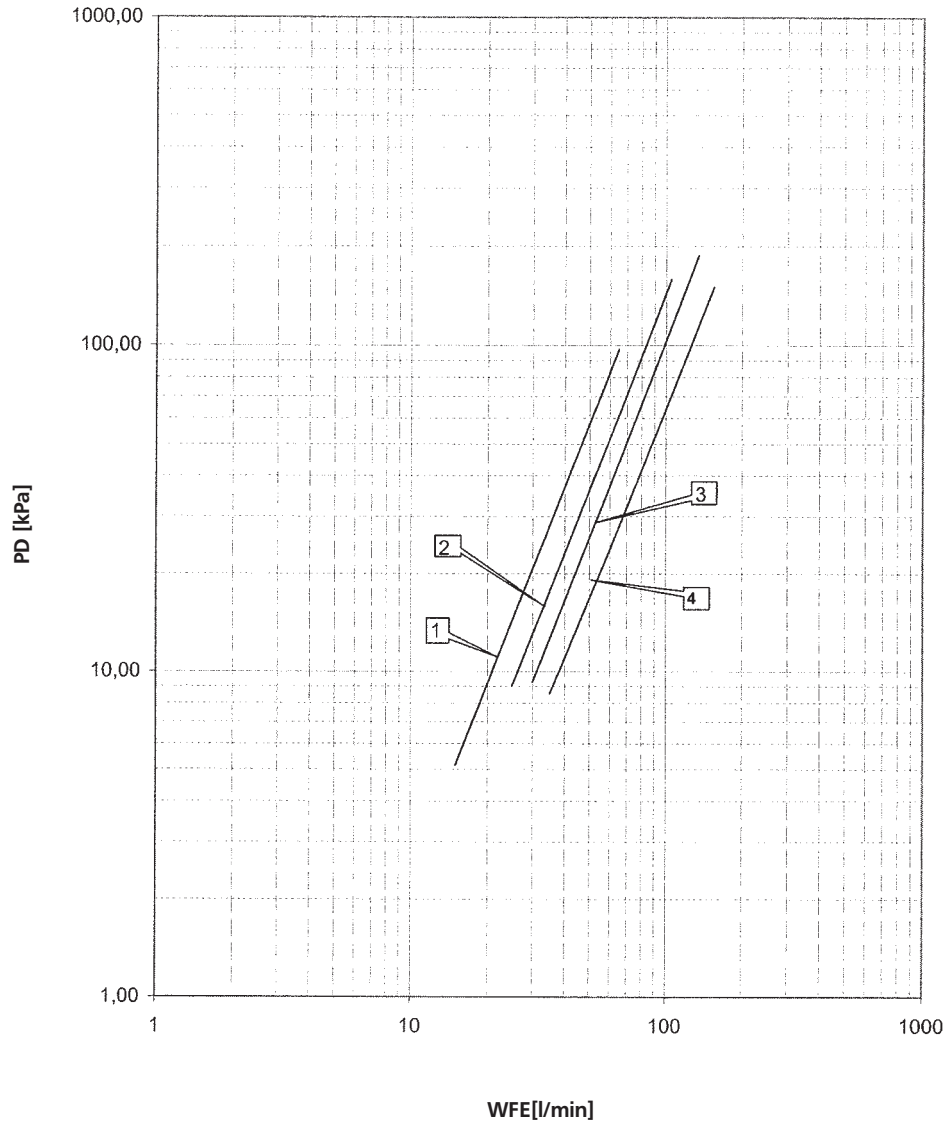
If the units operate below -5°C and are installed in a rather windy space, a windscreen is required.

4TW54753-1

## 12 Hydraulic performance

### 12 - 1 Water Pressure Drop Curve Evaporator

EUWA\*5-12KBZW1



PD: Pressure drop through evaporator

WFE: Evaporator waterflow rate

- ① EUWA(\*)5K(B)ZW1
- ② EUWA(\*)8K(B)ZW1
- ③ EUWA(\*)10K(B)ZW1
- ④ EUWA(\*)12K(B)ZW1

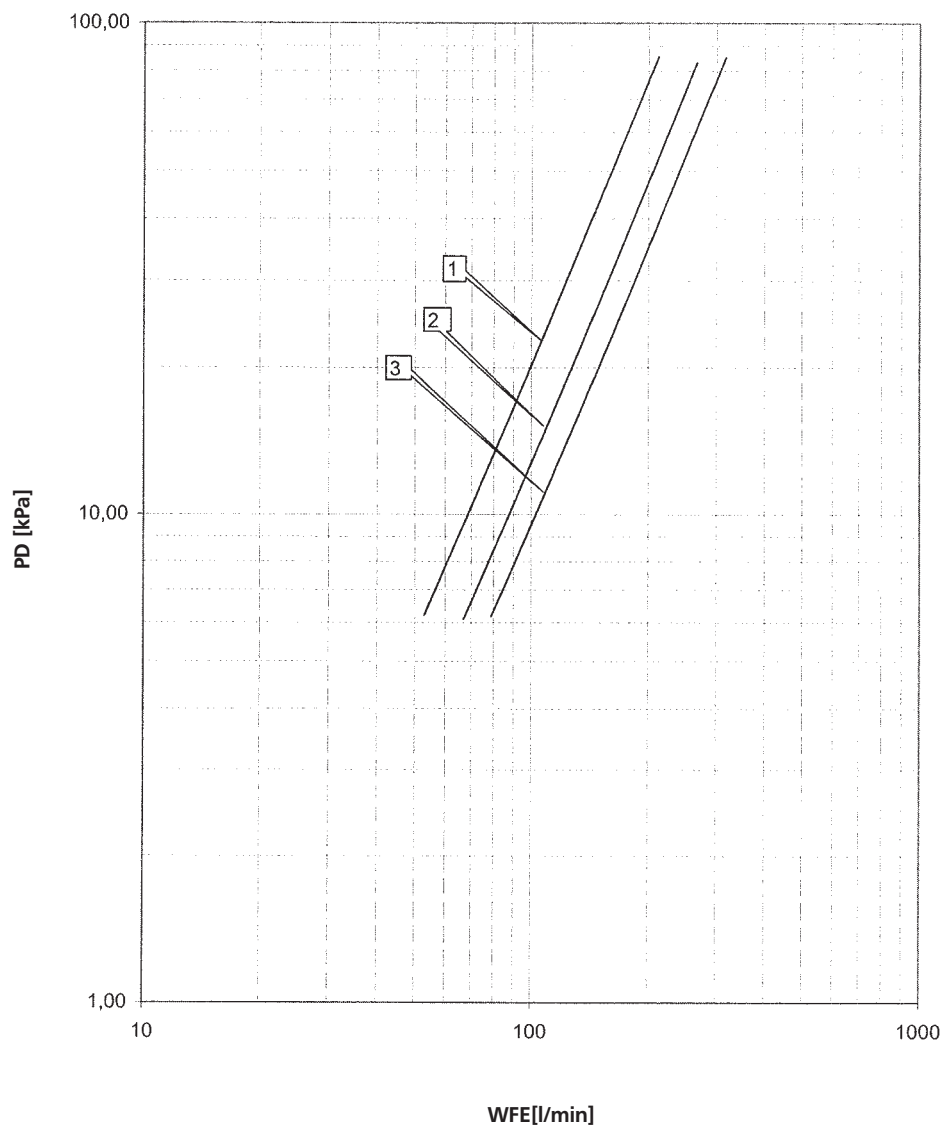
**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW54759-1A

## 12 Hydraulic performance

### 12 - 1 Water Pressure Drop Curve Evaporator

EUWA\*16-24KBZW1



PD: Pressure drop through evaporator

WFE: Evaporator waterflow rate

① EUWA(\*)16K(B)ZW1

② EUWA(\*)20K(B)ZW1

③ EUWA(\*)24K(B)ZW1

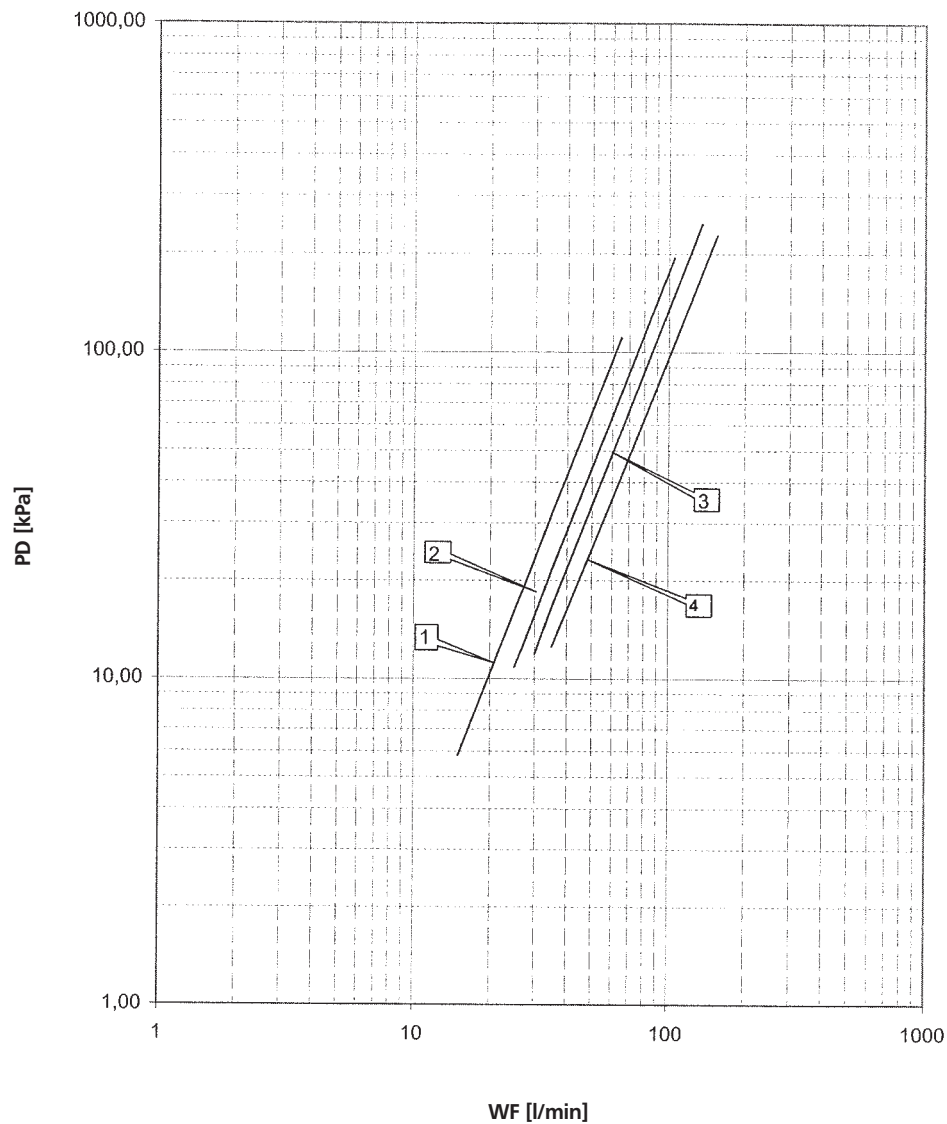
**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW54799-1B

## 12 Hydraulic performance

### 12 - 2 Water Pressure Drop Curve Unit

EUWAN5-12KBZW1



PD: Pressure drop through the unit

WF: Waterflow rate

- ① EUWAN5KBZW1
- ② EUWAN8KBZW1
- ③ EUWAN10KBZW1
- ④ EUWAN12KBZW1

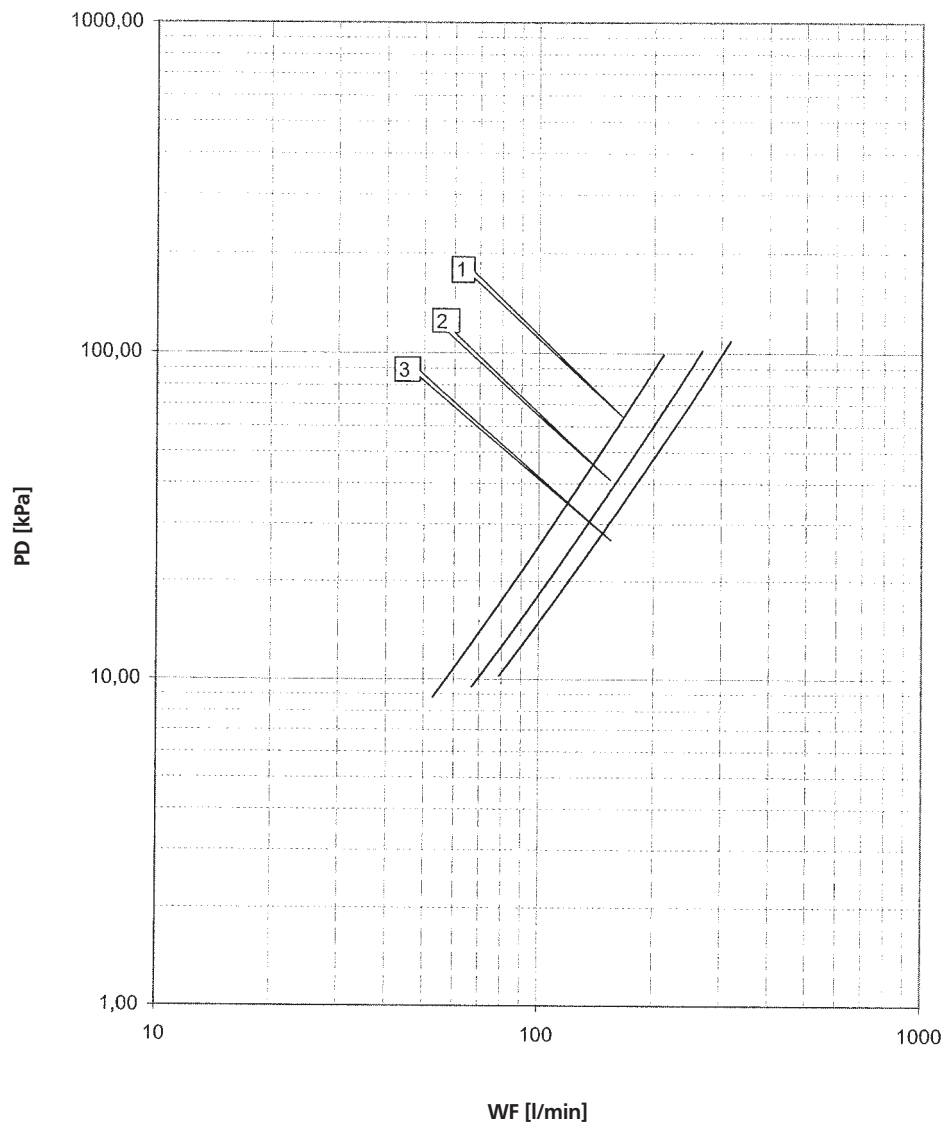
**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW55629-6

## 12 Hydraulic performance

### 12 - 2 Water Pressure Drop Curve Unit

EUWAN16-24KBZW1



PD: Pressure drop through the unit

WF: Waterflow rate

- ① EUWAN16KBZW1
- ② EUWAN20KBZW1
- ③ EUWAN24KBZW1

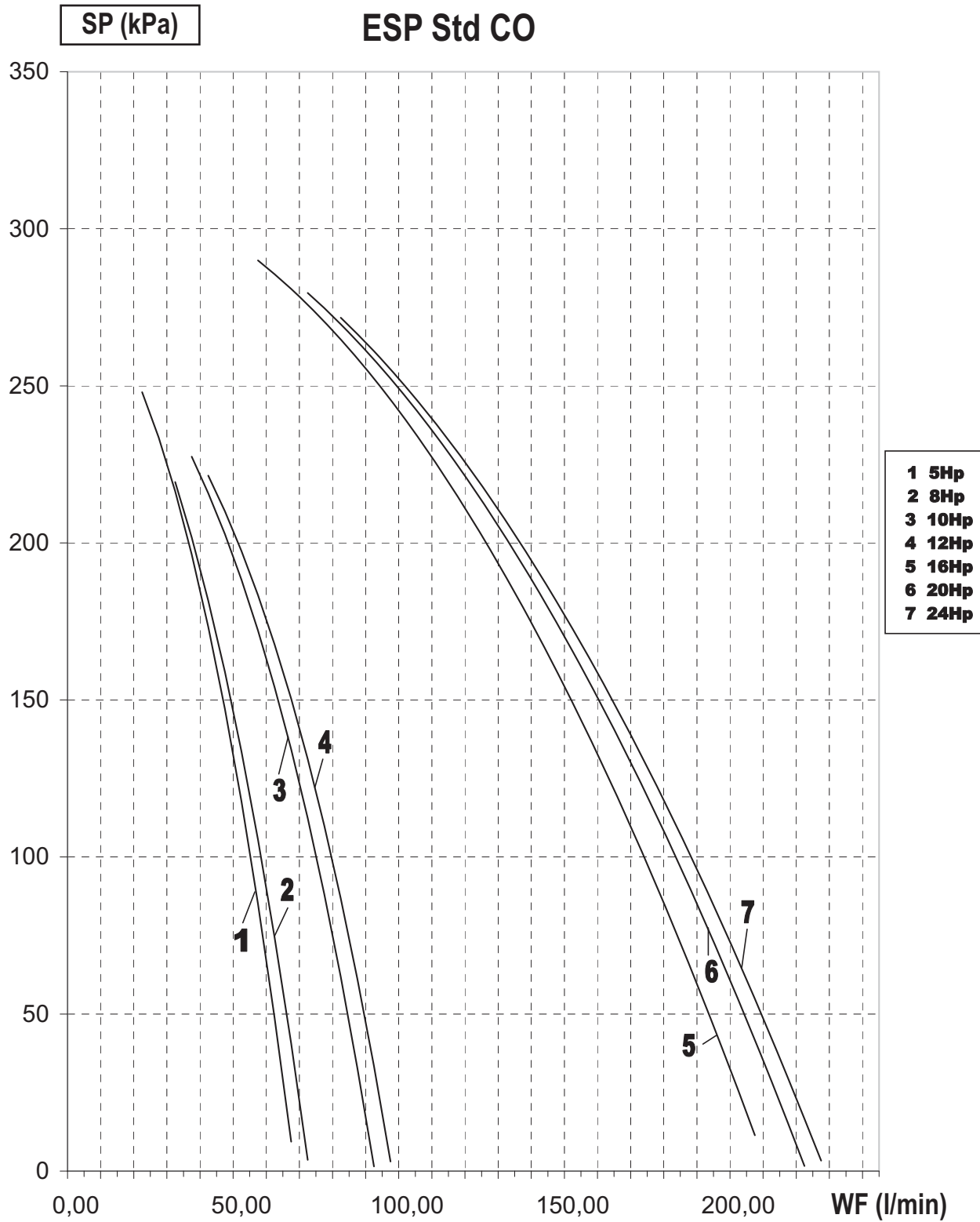
**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW55669-6

## 12 Hydraulic performance

### 12 - 3 External Static Pressure Drop Unit

#### EUWA5-24KBZW1



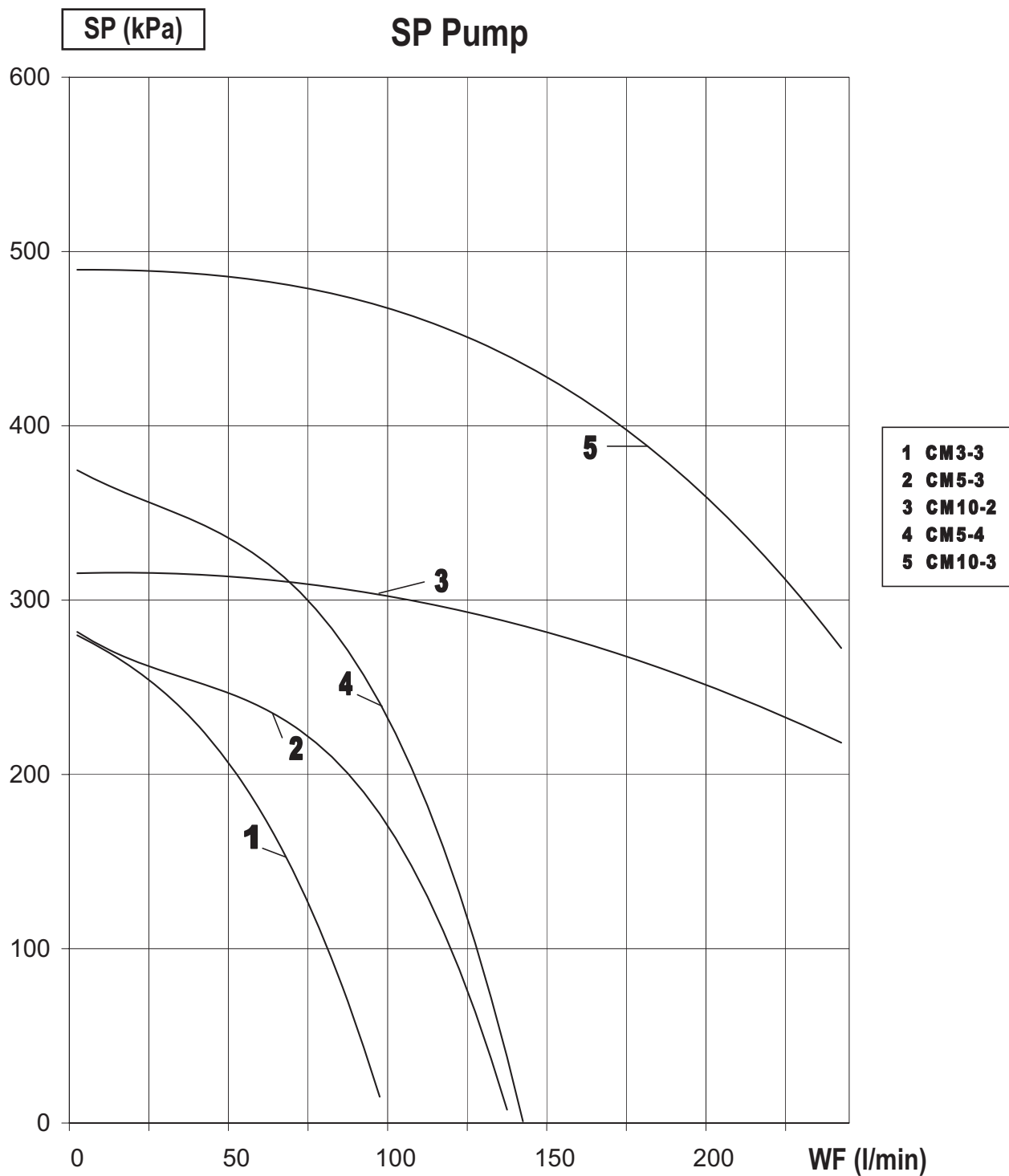
4TW60009-4



## 12 Hydraulic performance

### 12 - 4 Static Pressure Pump

**EUWA5-24KBZW1**  
**EUWY5-24KBZW1**



4TW60009-3



# TABLE OF CONTENTS

## EUWY-KBZW1

1	Features .....	42
2	Specifications .....	43
	Technical Specifications .....	43
	Electrical Specifications .....	50
3	Options .....	53
	Options .....	53
4	Capacity tables .....	54
	Cooling Capacity Tables .....	54
	Heating Capacity Tables .....	56
	Capacity Correction Factor .....	57
5	Dimensional drawings .....	58
	Dimensional Drawings .....	58
6	Centre of gravity .....	64
	Centre of Gravity .....	64
7	Piping diagrams .....	66
	Piping Diagrams .....	66
8	Wiring diagrams .....	67
	Wiring Diagrams - Three Phase .....	67
9	Sound data .....	68
	Sound Power Spectrum .....	68
10	Installation .....	69
	Water Charge, Flow and Quality .....	69
11	Operation range .....	70
	Operation Range .....	70
12	Hydraulic performance .....	71
	Water Pressure Drop Curve Evaporator .....	71
	Water Pressure Drop Curve Unit .....	73
	External Static Pressure Drop Unit .....	75
	Static Pressure Pump .....	76

# 1 Features

- Optimised for use with R-407C
- Daikin scroll compressor
- Reduced installation time thanks to integrated pump and/or buffer tank
- Possibility for a 200l buffer tank
- Low operating sound level
- Easy maintenance
- Main switch
- Water flow switch
- 3 different design options available: EUWAN chiller without integrated hydraulic module; EUWAP chiller with integrated hydraulic module (pump, expansion vessel, hydraulic components); EUWAB chiller with integrated hydraulic module (buffer tank, pump, expansion vessel, hydraulic components)

2

1



## 2 Specifications

2-1 Technical Specifications					EUWYN5KBZW1	EUWYP5KBZW1	EUWYB5KBZW1	EUWYN8KBZW1	EUWYP8KBZW1	EUWYB8KBZW1	
Cooling capacity	Nom.		kW	9.1 (1)				17.1 (1)			
Heating capacity	Nom.		kW	11.9 (2)				18.5 (2)			
Capacity steps			%	0-100							
Power input	Cooling	Nom.	kW	3.77 (3)				7.38 (3)			
	Heating	Nom.	kW	4.56 (3)				7.01 (3)			
EER				2.41				2.32			
COP				2.61				2.64			
Casing	Colour			Ivory white (Munsell code: 5Y7.5/1)							
	Material			Polyester coated galvanised steel plate							
Dimensions	Unit	Height	mm	1,230							
		Width	mm	1,290							
		Depth	mm	734							
	Packed unit	Height	mm	1,425							
		Width	mm	1,380							
		Depth	mm	830							
Weight	Unit		kg	163	181	193	227	241	253		
	Operation weight		kg	165	184	252	230	244	312		
	Packed unit		kg	173	191	203	237	251	263		
Packing	Material			Wood + Plastic foil							
	Weight		kg	10							
Water heat exchanger	Type			Brazed plate							
	Quantity			1							
	Water volume		l	1.14				1.615			
	Water flow rate	Min.	l/min	21				31			
		Max.	l/min	68				106			
	Nominal water flow	Cooling	l/min	26 (1)				49 (1)			
		Heating	l/min	34 (2)				53 (2)			
	Nominal water pressure drop	Cooling	Filter	kPa	10				25		
		Heating	Filter	kPa	17				29		
	Insulation material			Kaiflex							
	Model	Type		AC70X-34HX				AC70X-40HX			
Air heat exchanger	Type			Cross fin coil/Hi-X tubes and PE coated waffle louvre fins							
	Rows	Quantity		2							
	Stages	Quantity		40							
	Fin pitch		mm	2							
	Face area		m²	1.570							
Pump	Quantity			-	1		-	1			
	Model			-	CM3-3		-	CM3-3			
	Nominal ESP pump	Cooling	kPa	-	249		-	203			
	Nominal ESP unit	Cooling	kPa	-	232 (1)		-	149 (1)			
Fan	Quantity			2							
	Type			Axial							
	Discharge direction			Vertical							
Fan group	Air flow rate	Cooling	Nom.	m³/min	160 (per 2 fans)				170 (per 2 fans)		
Fan motor	Output		W	140				190			
	Quantity			2				1			
	Drive			Direct drive							
Fan motor 2	Output		W	-				230			
	Quantity			-				1			
Sound power level	Cooling	Nom.	dBA	67				76			
Compressor	Type			Hermetically sealed scroll compressor							
	Quantity			1							
	Model			JT140BF-YE				JT212DA-YE			
	Speed		rpm	2,900							
	Oil	Charged volume		l	1.5				2.7		
Refrigerant	Type			R-407C							
	Control			Thermostatic expansion valve							
	Circuits	Quantity		1							

## 2 Specifications

2-1 Technical Specifications				EUWYN5KBZW1	EUWYP5KBZW1	EUWYB5KBZW1	EUWYN8KBZW1	EUWYP8KBZW1	EUWYB8KBZW1	
Refrigerant circuit	Charge	kg	4.6			4.7				
Water circuit	Piping connections diameter	inch	G 1"1/4 (male)							
	Piping	inch	1-1/4"							
	Safety valve	bar	-	3		-	3			
	Manometer		Yes							
	Drain valve / fill valve		Yes, ø15							
	Shut off valve		Yes							
	Air purge valve		Yes							
	Total water volume	l	2 (4)	3 (4)	59 (4)	3 (4)		59 (4)		
	Minimum water volume in the system	l	43 (5.0)				82 (5.0)			
Refrigerant oil	Type		FVC68D							
Safety devices	Item	01	High pressure switch							
		02	Discharge temperature control							
		03	Compressor motor overcurrent relay							
		04	Pump motor overcurrent							
		05	Fan motor thermal protection							
		06	Anti-recycling and guard timer							
		07	Digital display controller with electronic temperature control							
		08	Reverse phase protector							
		09	Fuse							
Hydraulic components	Buffer tank	Volume	l	-		55	-		55	
	Nominal water pressure drop unit	Cooling	kPa	13	-		34	-		
	Expansion vessel	Volume	l	-		12	-	12		
		Pre pressure	bar	-		1.5	-	1.5		
	Water filter	Material		Brass						
	Safety valve	bar		-	3		-	3		

2-1 Technical Specifications				EUWYN10KBZW1	EUWYP10KBZW1	EUWYB10KBZW1	EUWYN12KBZW1	EUWYP12KBZW1	EUWYB12KBZW1
Cooling capacity	Nom.		kW	21.0 (1)			25.0 (1)		
Heating capacity	Nom.		kW	24.0 (2)			27.0 (2)		
Capacity steps			%	0-100					
Power input	Cooling	Nom.	kW	8.49 (3)			11.3 (3)		
	Heating	Nom.	kW	8.98 (3)			10.7 (3)		
EER				2.47			2.21		
COP				2.67			2.52		
Casing	Colour			Ivory white (Munsell code: 5Y7.5/1)					
	Material			Polyester coated galvanised steel plate					
Dimensions	Unit	Height	mm	1,450					
		Width	mm	1,290					
		Depth	mm	734					
	Packed unit	Height	mm	1,645					
		Width	mm	1,380					
		Depth	mm	830					
Weight	Unit		kg	258	272	284	258	272	284
	Operation weight		kg	261	275	343	261	275	343
	Packed unit		kg	268	282	294	268	282	294
Packing	Material			Wood + Plastic foil					
	Weight			10					

## 2 Specifications

2-1 Technical Specifications					EUWYN10KBZW1	EUWYP10KBZW1	EUWYB10KBZW1	EUWYN12KBZW1	EUWYP12KBZW1	EUWYB12KBZW1				
Water heat exchanger	Type				Brazed plate									
	Quantity				1									
	Water volume			l	1.9		2.375		2.375					
	Water flow rate	Min.		l/min	38		45		45					
		Max.		l/min	137		155		155					
	Nominal water flow	Cooling		l/min	60 (1)		72 (1)		72 (1)					
		Heating		l/min	69 (2)		77 (2)		77 (2)					
	Nominal water pressure drop	Cooling	Filter	kPa	24		33		33					
		Heating	Filter	kPa	31		38		38					
Insulation material				Kaiflex										
Model		Type		AC70X-50HX										
Air heat exchanger	Type				Cross fin coil/Hi-X tubes and PE coated waffle louvre fins									
	Rows		Quantity		2									
	Stages		Quantity		50									
	Fin pitch			mm	2									
	Face area			m²	1.970									
	Pump	Quantity				-	1		-		1			
Model				-	CM5-3		-		CM5-3					
Nominal ESP pump		Cooling	kPa		-	237		-		223				
Nominal ESP unit		Cooling	kPa		-	167 (1)		-		123 (1)				
Fan	Quantity				2									
	Type				Axial									
	Discharge direction				Vertical									
Fan group	Air flow rate	Cooling	Nom.	m³/min	170 (per 2 fans)									
Fan motor	Output			W	190									
	Quantity			1										
	Drive			Direct drive										
Fan motor 2	Output			W	230									
	Quantity			1										
Sound power level	Cooling	Nom.		dBA	78									
Compressor	Type				Hermetically sealed scroll compressor									
	Quantity				1									
	Model			JT256DA-YE		JT335DA-YE								
	Speed			rpm	2,900									
	Oil	Charged volume		l	2.7									
Refrigerant	Type				R-407C									
	Control				Thermostatic expansion valve									
	Circuits	Quantity			1									
Refrigerant circuit	Charge			kg	5.4									
Water circuit	Piping connections diameter			inch	G 1"1/4 (male)									
	Piping			inch	1-1/4"									
	Safety valve			bar	3		-		3					
	Manometer				Yes									
	Drain valve / fill valve				Yes, ø15									
	Shut off valve				Yes									
	Air purge valve				Yes									
	Total water volume			l	3 (4)		59 (4)		3 (4)		4 (4)		60 (4)	
	Minimum water volume in the system			l	100 (5.0)				119 (5.0)					
Refrigerant oil	Type				FVC68D									
Safety devices	Item	01			High pressure switch									
		02			Discharge temperature control									
		03			Compressor motor overcurrent relay									
		04			Pump motor overcurrent									
		05			Fan motor thermal protection									
		06			Anti-recycling and guard timer									
		07			Digital display controller with electronic temperature control									
		08			Reverse phase protector									
		09			Fuse									

## 2 Specifications

2-1 Technical Specifications				EUWYN10KBZW1	EUWYP10KBZW1	EUWYB10KBZW1	EUWYN12KBZW1	EUWYP12KBZW1	EUWYB12KBZW1
Hydraulic components	Buffer tank	Volume	l	-	-	55	-	-	55
	Nominal water pressure drop unit	Cooling	kPa	37	-	-	52	-	-
	Expansion vessel	Volume	l	-	12	-	-	12	-
		Pre pressure	bar	-	1.5	-	-	1.5	-
	Water filter	Material		Brass					
	Safety valve	bar		-	3	-	-	3	-

2-1 Technical Specifications					EUWYN16KBZW1	EUWYP16KBZW1	EUWYB16KBZW1	EUWYN20KBZW1	EUWYP20KBZW1	EUWYB20KBZW1	
Cooling capacity	Nom.			kW	34.2 (1)			40 (1)			
Heating capacity	Nom.			kW	37.0 (2)			46 (2)			
Capacity steps				%	0-50-100						
Power input	Cooling	Nom.	kW	14.8 (3)				16.2 (3)			
	Heating	Nom.	kW	14.10 (3)				17.3 (3)			
EER				2.3				2.5			
COP				2.62				2.66			
Casing	Colour			Ivory white (Munsell code: 5Y7.5/1)							
	Material			Polyester coated galvanised steel plate							
Dimensions	Unit	Height	mm	1,321			1,541				
		Width	mm	2,580							
		Depth	mm	734							
	Packed unit	Height	mm	1,745							
		Width	mm	2,660							
		Depth	mm	910							
Weight	Unit			kg	455	473	485	516	534	546	
	Operation weight			kg	461	482	550	522	544	612	
	Packed unit			kg	480	498	510	541	559	571	
Packing	Material			Wood + Plastic foil							
	Weight			kg	25						
Water heat exchanger	Type			Brazen plate							
	Quantity			1							
	Water volume			l	2.964			3.9			
	Water flow rate	Min.	l/min	61			72				
		Max.	l/min	212			263				
	Nominal water flow	Cooling	l/min	98 (1)			115 (1)				
		Heating	l/min	106 (2)			132 (2)				
	Nominal water pressure drop	Cooling	Filter	kPa	12				16		
		Heating	Filter	kPa	14						
	Insulation material				Kaiflex						
Model		Type		AC230X-38HX			AC230X-50HX				
Air heat exchanger	Type			Cross fin coil/Hi-X tubes and PE coated waffle louvre fins							
	Rows	Quantity		2							
	Stages	Quantity		40			50				
	Fin pitch			mm	2						
	Face area			m²	1.57+1.57			1.970+1.970			
Pump	Quantity			-	1		-	1			
	Model			-	CM10-2		-	CM10-2			
	Nominal ESP pump	Cooling	kPa	-	302		-	296			
	Nominal ESP unit	Cooling	kPa	-	249 (1)		-	229 (1)			
Fan	Quantity			4							
	Type			Axial							
	Discharge direction			Vertical							
Fan group	Air flow rate	Cooling	Nom.	m³/min	170 (per 2 fans)						
Fan motor	Output			W	190						
	Quantity			2							
	Drive			Direct drive							
Fan motor 2	Output			W	230						
	Quantity			2							
Sound power level	Cooling	Nom.	dBA	79			81				



## 2 Specifications

2-1 Technical Specifications				EUWYN16KBZW1	EUWYP16KBZW1	EUWYB16KBZW1	EUWYN20KBZW1	EUWYP20KBZW1	EUWYB20KBZW1
Compressor	Type			Hermetically sealed scroll compressor					
	Quantity			2					
	Model			JT212DA-YE			JT265DA-YE		
	Speed		rpm	2,900					
	Oil	Charged volume	l	2.7					
Refrigerant	Type			R-407C					
	Control			Thermostatic expansion valve					
	Circuits	Quantity		2					
Refrigerant circuit	Charge		kg	5.1			5.4		
Water circuit	Piping connections diameter		inch	2" male					
	Piping		inch	2"					
	Safety valve		bar	-	3		-	3	
	Manometer			Yes					
	Drain valve / fill valve			Yes, ø15					
	Shut off valve			Yes					
	Air purge valve			Yes					
	Total water volume		l	6 (4)	9 (4)	65 (4)	6 (4)	10 (4)	66 (4)
	Minimum water volume in the system		l	82 (5.0)			96 (5.0)		
Refrigerant oil	Type			FVC68D					
Safety devices	Item	01		High pressure switch					
		02		Discharge temperature control					
		03		Compressor motor overcurrent relay					
		04		Pump motor overcurrent					
		05		Fan motor thermal protection					
		06		Anti-recycling and guard timer					
		07		Digital display controller with electronic temperature control					
		08		Reverse phase protector					
		09		Fuse					
Hydraulic components	Buffer tank	Volume	l	-		55	-		55
	Nominal water pressure drop unit	Cooling	kPa	12	-		19	-	
	Expansion vessel	Volume	l	-		12	-	12	
		Pre pressure	bar	-		1.5	-	1.5	
	Water filter	Material							
	Safety valve		bar	-	3		-	3	

2-1 Technical Specifications				EUWYN24KBZW1		EUWYP24KBZW1		EUWYB24KBZW1		
Cooling capacity		Nom.		kW		50.0 (1)			50.0 (1)	
Heating capacity		Nom.		kW		54.0 (2)			54.0 (2)	
Capacity steps				%		0-50-100				
Power input		Cooling	Nom.	kW		22.6 (3)			22.6 (3)	
		Heating	Nom.	kW		21.4 (3)			21.4 (3)	
EER						2.2			2.2	
COP						2.52			2.52	
Casing		Colour		Ivory white (Munsell code: 5Y7.5/1)						
		Material		Polyester coated galvanised steel plate						
Dimensions		Unit	Height	mm	1,541					
			Width	mm	2,580					
			Depth	mm	734					
		Packed unit	Height	mm	1,745					
			Width	mm	2,660					
			Depth	mm	910					
Weight		Unit		kg	516		534		546	
		Operation weight		kg	522		544		612	
		Packed unit		kg	541		559		571	
Packing		Material			Wood + Plastic foil					
		Weight			kg	25				

## 2 Specifications

2-1 Technical Specifications					EUWYN24KBZW1	EUWYP24KBZW1	EUWYB24KBZW1
Water heat exchanger	Type				Brazen plate		
	Quantity				1		
	Water volume			l	4.524		
	Water flow rate	Min.	l/min		89		
		Max.	l/min		309		
	Nominal water flow	Cooling	l/min		143 (1)		
		Heating	l/min		155 (2)		
	Nominal water pressure drop	Cooling	Filter	kPa	19		
		Heating	Filter	kPa	22		
	Insulation material				Kaiflex		
Model		Type		AC230X-58HX			
Air heat exchanger	Type				Cross fin coil/Hi-X tubes and PE coated waffle louvre fins		
	Rows	Quantity			2		
	Stages	Quantity			50		
	Fin pitch			mm	2		
	Face area			m²	1.970+1.970		
Pump	Quantity				-	1	
	Model				-	CM10-2	
	Nominal ESP pump	Cooling	kPa		-	284	
	Nominal ESP unit	Cooling	kPa		-	185 (1)	
Fan	Quantity				4		
	Type				Axial		
	Discharge direction				Vertical		
Fan group	Air flow rate	Cooling	Nom.	m³/min	170 (per 2 fans)		
Fan motor	Output			W	190		
	Quantity				2		
	Drive				Direct drive		
Fan motor 2	Output			W	230		
	Quantity				2		
Sound power level	Cooling	Nom.		dBA	81		
Compressor	Type				Hermetically sealed scroll compressor		
	Quantity				2		
	Model				JT335DA-YE		
	Speed			rpm	2,900		
	Oil	Charged volume		l	2.7		
Refrigerant	Type				R-407C		
	Control				Thermostatic expansion valve		
	Circuits	Quantity			2		
Refrigerant circuit	Charge			kg	5.6		
Water circuit	Piping connections diameter			inch	2" male		
	Piping			inch	2"		
	Safety valve			bar	-		
	Manometer				Yes		
	Drain valve / fill valve				Yes, ø15		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	6 (4)	10 (4)	66 (4)
	Minimum water volume in the system			l	119 (5.0)		
Refrigerant oil	Type				FVC68D		
Safety devices	Item	01			High pressure switch		
		02			Discharge temperature control		
		03			Compressor motor overcurrent relay		
		04			Pump motor overcurrent		
		05			Fan motor thermal protection		
		06			Anti-recycling and guard timer		
		07			Digital display controller with electronic temperature control		
		08			Reverse phase protector		
		09			Fuse		

## 2 Specifications

2-1 Technical Specifications				EUWYN24KBZW1	EUWYP24KBZW1	EUWYB24KBZW1
Hydraulic components	Buffer tank	Volume	l	-		55
	Nominal water pressure drop unit	Cooling	kPa	27	-	-
	Expansion vessel	Volume	l	-	12	
		Pre pressure	bar	-	1.5	
	Water filter	Material		Brass		
	Safety valve		bar	-	3	
Notes				(1)Condition: Ta 35°C - LWE 7°C ( DT = 5°C)		
				(2)Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		
				(3)Pump is not included		
				(4)Including piping + PHE + buffer tank (if present); excluding expansion vessel		
				(5)Including water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with high heat load, extra water volume might be required.		
				(6)EN/IEC 61000-3-12: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated currents ≤ 75A		

2

2

## 2 Specifications

2-2 Electrical Specifications				EUWYN5KBZW1	EUWYP5KBZW1	EUWYB5KBZW1	EUWYN8KBZW1	EUWYP8KBZW1	EUWYB8KBZW1
Pump	Type			Horizontal multi-stage end-suction					
	Phase			3~					
	Voltage		V	400					
	Maximum running current		A	1.3					
Compressor	Phase			3~					
	Voltage		V	400					
	Starting current		A	60.0			95.5		
	Nominal running current (RLA)		A	5.5			10.7		
	Maximum running current		A	9.0			14.0		
	Starting method			Direct on line					
	Crankcase heater		W	33			50		
	Power supply	Name			W1				
Phase			3N~						
Frequency		Hz	50						
Voltage		V	400						
Voltage range		Min.	%	-10					
		Max.	%	10					
Unit		Starting current		A	62.2	63.5		97.9	99.2
	Current	Zmax	Text	0.26			0.22		
	Nominal running current (RLA)	Cooling	A	7.7	9.0		13.6	14.9	
	Maximum running current		A	11.2	12.5		16.9	18.2	
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12					
	Recommended fuses according to IEC standard 269-2			3 x 20gL/gG			3 x 25gL/gG		
	Fans	Phase			1~				
Voltage		V	230						
Maximum running current		A	2.2			2.9			
Control circuit	Phase			1~					
	Voltage		V	230					
	Recommended fuses			Factory installed					
Wiring connections				See installation manual					

2-2 Electrical Specifications				EUWYN10KBZW1	EUWYP10KBZW1	EUWYB10KBZW1	EUWYN12KBZW1	EUWYP12KBZW1	EUWYB12KBZW1
Pump	Type							Horizontal multi-stage end-suction	
	Phase							3~	
	Voltage		V					400	
	Maximum running current		A					1.3	
Compressor	Phase							3~	
	Voltage		V					400	
	Starting current		A	110.0			136.0	136.0	
	Nominal running current (RLA)		A	13.0			17.6	17.6	
	Maximum running current		A	17.0			24.0	24.0	
	Starting method							Direct on line	
	Crankcase heater		W					50	
Power supply	Name			V3			W1	W1	
	Phase			1~			3N~	3N~	
	Frequency		Hz					50	
	Voltage		V	230			400	400	
	Voltage range	Min.	%					-10	
		Max.	%					10	

## 2 Specifications

2-2 Electrical Specifications				EUWYN10KBZW1	EUWYP10KBZW1	EUWYB10KBZW1	EUWYN12KBZW1	EUWYP12KBZW1	EUWYB12KBZW1
Unit	Starting current		A	113	114		139	140	
	Current	Zmax	Text				0.21	0.21	
	Nominal running current (RLA)	Cooling	A	15.9	17.2		20.5	21.8	
	Maximum running current		A	19.9	21.2		26.9	28.2	
	Minimum Ssc value							Equipment complying with EN/ IEC 61000-3-12	
	Recommended fuses according to IEC standard 269-2				3 x 32gL/gG			3 x 40gL/gG	
Fans	Phase							1~	
	Voltage		V					230	
	Maximum running current		A					2.9	
Control circuit	Phase							1~	
	Voltage		V					230	
	Recommended fuses							Factory installed	
Wiring connections								See installation manual	

2-2 Electrical Specifications				EUWYN16KBZW1	EUWYP16KBZW1	EUWYB16KBZW1	EUWYN20KBZW1	EUWYP20KBZW1	EUWYB20KBZW1
Pump	Type			Horizontal multi-stage end-suction					
	Phase			3~					
	Voltage		V	400					
	Maximum running current		A	2.0					
Compressor	Phase			3~					
	Voltage		V	400					
	Starting current		A	95.0			110.0		
	Nominal running current (RLA)		A	10.7			13.0		
	Maximum running current		A	14.0			17.0		
	Starting method			Direct on line					
	Crankcase heater		W	50					
Power supply	Name			W1					
	Phase			3N~					
	Frequency		Hz	50					
	Voltage		V	400					
	Voltage range	Min.	%	-10					
		Max.	%	10					
Unit	Starting current		A	97.9	99.9		113	115	
	Current	Zmax	Text	0.21					
	Nominal running current (RLA)	Cooling	A	27.2	29.2		31.8	33.8	
	Maximum running current		A	33.8	25.8		39.8	41.8	
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12					
	Recommended fuses according to IEC standard 269-2				3 x 50gL/gG				
Fans	Phase			1~					
	Voltage		V	230					
	Maximum running current		A	5.8					
Control circuit	Phase			1~					
	Voltage		V	230					
	Recommended fuses			Factory installed					
Wiring connections				See installation manual					

2-2 Electrical Specifications				EUWYN24KBZW1	EUWYP24KBZW1	EUWYB24KBZW1
Pump	Type					Horizontal multi-stage end-suction
	Phase					3~
	Voltage		V			400
	Maximum running current		A		2.7	2.7

## 2 Specifications

2-2 Electrical Specifications				EUWYN24KBZW1	EUWYP24KBZW1	EUWYB24KBZW1
Compressor	Phase					3~
	Voltage		V			400
	Starting current		A	136.0		136.0
	Nominal running current (RLA)		A	17.6		17.6
	Maximum running current		A	24.0		24.0
	Starting method					Direct on line
	Crankcase heater		W			50
Power supply	Name					W1
	Phase					3N~
	Frequency		Hz			50
	Voltage		V			400
	Voltage range	Min.	%			-10
		Max.	%			10
Unit	Starting current		A	139	142	142
	Current	Zmax	Text	0.20		0.20
	Nominal running current (RLA)	Cooling	A	41	43.7	43.7
	Maximum running current		A	53.8	56.5	56.5
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses according to IEC standard 269-2			3 x 63gL/gG		
Fans	Phase			1~		
	Voltage		V	230		
	Maximum running current		A	5.8		
Control circuit	Phase			1~		
	Voltage		V	230		
	Recommended fuses			Factory installed		
Wiring connections				See installation manual		
Notes				(1)Condition: Ta 35°C - LWE 7°C ( DT = 5°C)		
				(2)Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		
				(3)Pump is not included		
				(4)Including piping + PHE + buffer tank (if present); excluding expansion vessel		
				(5)Including water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with high heat load, extra water volume might be required.		
				(6)EN/IEC 61000-3-12: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated currents ≤ 75A		

## 3 Options

### 3 - 1 Options

#### EUWY-KBZW1

##### Optional equipment for EUWY-KBZ

Horse Power: 5~24

##### Model number

EUWY(\*)5KBZW1 (on)

EUWY(\*)10KBZW1 (on)

EUWY(\*)16KBZW1 (on)

EUWY(\*)24KBZW1 (on)

EUWY(\*)8KBZW1 (on)

EUWY(\*)12KBZW1 (on)

EUWY(\*)20KBZW1 (on)

Option number	Option description	Decimal code	(on)	Unit size																								Availability
	Standard unit	—		5KBZW1			8KBZW1			10KBZW1			12KBZW1			16KBZW1			20KBZW1			24KBZW1						
				N	P	B	N	P	B	N	P	B	N	P	B	N	P	B	N	P	B	N	P	B				
ZH	<b>Not completely combinable options</b> chilled water temp down to -5°C chilled water temp down to -10°C	1st digit	C O	•	•	•							•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
ZL		12		•	•	•								•	•	•	•	•	•	•	•	•	•	•	Factory mounted			
		24		•	•	•									•	•	•	•	•	•	•	•	•	•	•			
	<b>Completely combinable options</b>	2nd/3rd digit																										
ESP	Fan motor size up (high esp 5mmH2O)	4	—4 —8 —G	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted		
OP PUMP HIGH	Pump size up	8		—	•	•	—	•	•	—	•	•	—	•	•	—	•	•	—	•	•	—	•	•	—	•	•	Factory mounted
OP10	Evaporator heatertape	16		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Factory mounted	
	<b>Available kits</b>																											
EKGAU5/8KA	Gauges kit 5/8 Hp-units			•	•	•	•	•	•	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Kit		
EKGAU10/12KA	Gauges kit 10/12 Hp-units			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Kit		
EKGAU16KA	Gauges kit 16 Hp-units			—	—	—	—	—	—	—	—	—	—	—	—	•	•	•	—	—	—	—	—	—	—	Kit		
EKGAU20/24KA	Gauges kit 20/24 Hp-units			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Kit		
EKSS	Softstarter kit			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit		
EKAC10C	Address card for connection to BMS or Remote user interface			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit		
EKRUMCA		Remote installed user interface			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit		
EKBT		Buffertank 200 l			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Kit		
	<b>Example of possible option combinations</b>																											
ESP + OP PUMP HIGH		12	—C —K —S —O																									
ESP + OP10		20																										
ESP + OP10 + OP PUMP HIGH		28																										
OP10 + OP PUMP HIGH		24																										

#### NOTES

- x = not available yet  
• = available  
— = not available  
•-<number> = available and a quantity <number> is necessary / unit
- Impossible option combination : ZH + ZL
- (\*) = N or P or B
- (on) = option number
  - 1st digit (on) = sum of 1st digit decimal code and this summation transferred to a 36 character system
  - 2/3rd digit (on) = sum of 2/3rd digit decimal code and this summation transferred to a 36 character system
- To install EKRUMCA => EKAC10C needs to be installed on the unit.
- EKAC10C : this address card allows direct connection to MODBUS BMS system

3TW60079-5

## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

Tamb (°C)		20		25		30		35		40	
LWE (°C)	MODEL	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	5 KZ	5.85	2.65	5.35	2.97	4.95	3.29	4.55	3.61		
	8 KZ	10.01	4.71	8.58	5.16	7.15	5.70	6.66	6.44		
	10 KZ	13.3	5.36	11.9	5.91	10.5	6.47	9.10	7.20		
	12 KZ	16.7	6.96	15.0	7.77	13.2	8.43	11.4	9.4		
	16 KZ	20.0	9.43	17.2	10.3	14.3	11.4	13.3	12.9		
	20 KZ	25.3	10.2	22.7	11.3	20.0	12.3	17.3	13.7		
-7	24 KZ	33.4	14.0	30.0	15.6	26.4	15.7	22.8	17.7		
	5 KZ	6.60	2.67	6.10	3.00	5.70	3.32	5.30	3.64	4.80	4.03
	8 KZ	11.2	4.90	9.90	5.35	8.60	5.89	8.00	6.61	7.50	7.31
	10 KZ	15.4	5.58	14.0	6.13	12.6	6.70	11.2	7.44	10.5	8.33
	12 KZ	19.1	7.24	17.4	8.05	15.6	8.72	13.8	9.7	12.1	10.7
	16 KZ	22.4	9.82	19.8	10.7	17.2	11.8	16.0	13.2	13.4	14.6
-4	20 KZ	29.3	10.7	26.7	11.7	24.0	12.8	21.3	14.2	20.0	15.9
	24 KZ	38.2	14.5	34.8	16.1	31.2	16.6	27.6	18.6	24.2	20.6
	5 KZ	7.35	2.70	6.85	3.02	6.45	3.34	6.05	3.67	5.55	4.04
	8 KZ	13.3	5.08	12.0	5.53	10.7	6.08	10.0	6.79	8.65	7.51
	10 KZ	17.5	5.79	16.1	6.34	14.7	6.93	13.3	7.67	12.5	8.55
	12 KZ	21.5	7.51	19.8	8.33	18.0	9.00	16.2	10.0	14.5	11.0
-1	16 KZ	26.6	10.2	24.0	11.1	21.4	12.2	19.9	13.6	17.3	15.0
	20 KZ	33.3	11.1	30.7	12.1	28.0	13.2	25.3	14.6	23.7	16.3
	24 KZ	43.0	15.1	39.6	16.7	36.0	17.4	32.4	19.5	29.0	21.5
	5 KZ	8.10	2.73	7.60	3.05	7.20	3.37	6.80	3.69	6.30	4.06
	8 KZ	15.4	5.26	14.1	5.71	12.8	6.26	11.9	6.96	10.6	7.69
	10 KZ	19.6	5.99	18.2	6.55	16.8	7.16	15.4	7.90	14.4	8.76
2	12 KZ	23.9	7.78	22.2	8.61	20.4	9.28	18.6	10.3	16.9	11.3
	16 KZ	30.8	10.6	28.2	11.5	25.6	12.5	23.8	13.9	21.2	15.4
	20 KZ	37.3	11.5	34.7	12.5	32.0	13.7	29.3	15.1	27.4	16.7
	24 KZ	47.8	15.7	44.4	17.3	40.8	18.3	37.2	20.3	33.8	22.4
	5 KZ	8.85	2.76	8.35	3.08	7.95	3.40	7.55	3.72	7.05	4.07
	8 KZ	17.5	5.43	16.2	5.89	14.9	6.44	13.9	7.12	12.6	7.88
	10 KZ	21.7	6.20	20.3	6.75	18.9	7.38	17.5	8.12	16.4	8.98
	12 KZ	26.3	8.04	24.6	8.87	22.8	9.55	21.0	10.6	19.3	11.6
	16 KZ	35.0	10.9	32.4	11.8	29.8	12.9	27.7	14.3	25.1	15.8
	20 KZ	41.3	11.9	38.7	12.9	36.0	14.1	33.3	15.5	31.1	17.1
	24 KZ	52.6	16.2	49.2	17.9	45.6	19.2	42.0	21.2	38.6	23.2

3TW55172-2

#### SYMBOLS

CC	: Cooling capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator temperature (°C)
Tamb	: Ambient temperature (°C)

#### CONDITIONS:

- Cooling capacity**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input**  
Power input is total input according to Eurovent rating standard 6/C/003-2003.



## 4 Capacity tables

### 4 - 1 Cooling Capacity Tables

Tamb (°C)		20		25		30		35		40	
LWE (°C)	MODEL	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	5 KZ	9.60	2.80	9.10	3.10	8.70	3.43	8.30	3.75	7.80	4.06
	8 KZ	19.6	5.63	18.3	6.05	17.0	6.62	15.8	7.28	14.5	8.03
	10 KZ	23.8	6.39	22.4	6.95	21.0	7.60	19.6	8.34	18.3	9.19
	12 KZ	28.7	8.3	27.0	9.1	25.2	10.0	23.4	11.0	21.7	12.0
	16 KZ	39.2	11.4	36.6	12.2	34.0	13.3	31.6	14.6	29.0	16.1
	20 KZ	45.3	12.3	42.7	13.3	40.0	14.6	37.3	16.0	34.9	17.5
	24 KZ	57.4	16.8	54.0	18.4	50.4	20.0	46.8	22.1	43.4	24.1
7	5 KZ	10.1	2.82	9.90	3.13	9.50	3.45	9.10	3.77	8.60	4.07
	8 KZ	21.0	5.74	19.7	6.19	18.4	6.73	17.1	7.38	15.8	8.14
	10 KZ	25.2	6.52	23.8	7.08	22.4	7.74	21.0	8.49	19.6	9.32
	12 KZ	30.3	8.5	28.6	9.3	26.8	10.2	25.0	11.3	23.3	12.3
	16 KZ	42.0	11.6	39.4	12.5	36.8	13.5	34.2	14.8	31.6	16.3
	20 KZ	48.0	12.6	45.3	13.6	42.7	14.8	40.0	16.2	37.3	17.8
	24 KZ	60.6	17.1	57.2	18.8	53.6	20.6	50.0	22.6	46.6	24.7
10	5 KZ	11.3	2.84	11.2	3.16	10.7	3.47	10.3	3.79	9.80	4.10
	8 KZ	23.3	5.92	21.9	6.37	20.5	6.92	19.1	7.59	17.8	8.34
	10 KZ	27.3	6.72	25.9	7.28	24.4	7.95	23.0	8.70	21.5	9.53
	12 KZ	32.7	8.9	30.9	9.8	29.2	10.7	27.4	11.6	25.7	12.7
	16 KZ	46.6	12.0	43.8	12.9	41.0	14.0	38.2	15.3	35.6	16.7
	20 KZ	52.0	13.0	49.3	14.0	46.5	15.3	43.8	16.7	41.0	18.2
	24 KZ	65.4	18.1	61.8	19.7	58.4	21.6	54.8	23.4	51.4	25.4
13	5 KZ	11.5	2.86	11.3	3.18	11.0	3.49	10.6	3.81	10.2	4.12
	8 KZ	25.5	6.06	24.0	6.53	22.6	7.07	21.2	7.75	19.7	8.50
	10 KZ	29.4	6.90	27.9	7.48	26.4	8.14	25.0	8.90	23.5	9.74
	12 KZ	35.1	9.2	33.3	10.1	31.6	11.0	29.8	12.0	28.0	13.0
	16 KZ	51.0	12.3	48.0	13.3	45.2	14.3	42.4	15.6	39.4	17.1
	20 KZ	56.0	13.4	53.1	14.4	50.3	15.7	47.6	17.1	44.8	18.7
	24 KZ	70.2	18.8	66.6	20.5	63.2	22.3	59.6	24.2	56.0	26.2
16	5 KZ	11.7	2.89	11.5	3.21	11.2	3.54	10.9	3.86	10.5	4.16
	8 KZ	27.8	6.22	26.3	6.68	24.7	7.26	23.2	7.94	21.7	8.71
	10 KZ	31.5	7.09	30.0	7.66	28.5	8.33	27.0	9.09	25.4	9.9
	12 KZ	37.5	9.7	35.7	10.5	34.0	11.4	32.2	12.4	30.4	13.5
	16 KZ	55.6	12.7	52.6	13.6	49.4	14.7	46.4	16.0	43.4	17.6
	20 KZ	60.0	13.7	57.1	14.8	54.3	16.1	51.4	17.5	48.4	19.1
	24 KZ	75.0	19.7	71.4	21.4	68.0	23.0	64.4	25.1	60.8	27.1
19	5 KZ	11.9	2.92	11.8	3.24	11.6	3.56	11.3	3.88	11.0	4.18
	8 KZ	30.8	6.38	29.1	6.86	27.5	7.45	25.9	8.15	24.3	8.90
	10 KZ	33.6	7.26	32.1	7.84	30.5	8.52	29.0	9.28	27.4	10.1
	12 KZ	39.9	10.0	38.1	10.8	36.3	11.8	34.6	12.8	32.8	13.8
	16 KZ	61.6	13.2	58.2	14.1	55.0	15.2	51.8	16.5	48.6	18.0
	20 KZ	64.0	14.1	61.1	15.2	58.1	16.5	55.2	17.9	52.2	19.5
	24 KZ	79.8	20.4	76.2	22.1	72.6	24.0	69.2	25.8	65.6	27.9

3TW55172-1D

#### SYMBOLS

CC : Cooling capacity (kW)  
 PI : Power input (kW)  
 LWE : Leaving Water Evaporator temperature (°C)  
 Tamb : Ambient temperature (°C)

#### NOTES

- Cooling capacity**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input**  
Power input is total input according to Eurovent rating standard 6/C/003-2003.

## 4 Capacity tables

### 4 - 2 Heating Capacity Tables

Tamb (°CDB)		-7		-3		0		3		7		10		13	
LWC (°C)	MODEL	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
35	5 KZ	8.60	3.44	9.70	3.58	10.6	3.63	11.4	3.67	12.6	3.72	13.4	3.76	14.3	3.80
	8 KZ	12.9	5.79	14.5	5.83	15.8	5.86	17.2	5.87	19.1	5.90	20.6	5.91	22.2	5.92
	10 KZ	15.0	7.28	17.5	7.30	19.4	7.31	21.3	7.32	23.8	7.31	25.7	7.31	27.6	7.31
	12 KZ	16.9	8.63	19.7	8.65	21.8	8.66	23.9	8.66	26.8	8.66	28.9	8.65	31.0	8.63
	16 KZ	25.8	11.6	29.0	11.7	31.6	11.8	34.4	11.8	38.2	11.9	41.2	11.9	44.4	12.0
	20 KZ	28.8	14.0	33.5	14.0	37.2	14.1	40.8	14.1	45.6	14.1	49.3	14.2	52.9	14.2
	24 KZ	33.8	17.3	39.4	17.4	43.6	17.4	47.8	17.4	53.6	17.5	57.8	17.5	62.0	17.5
40	5 KZ	8.30	3.94	9.40	4.00	10.3	4.04	11.1	4.08	12.2	4.14	13.1	4.18	14.0	4.22
	8 KZ	12.6	6.34	14.2	6.38	15.5	6.41	16.9	6.44	18.8	6.46	20.3	6.48	21.9	6.49
	10 KZ	15.1	8.12	17.6	8.13	19.5	8.15	21.4	8.15	23.9	8.15	25.8	8.15	27.7	8.14
	12 KZ	17.0	9.62	19.8	9.64	21.9	9.65	24.1	9.65	26.9	9.64	29.0	9.63	31.1	9.62
	16 KZ	25.2	12.7	28.4	12.8	31.0	12.9	33.8	12.9	37.6	13.0	40.6	13.1	43.8	13.1
	20 KZ	28.9	15.6	33.7	15.6	37.4	15.7	41.0	15.7	45.8	15.7	49.5	15.8	53.1	15.8
	24 KZ	34.0	19.3	39.6	19.3	43.8	19.4	48.2	19.4	53.8	19.4	58.0	19.5	62.2	19.5
45	5 KZ	7.90	4.36	9.10	4.42	9.90	4.46	10.8	4.50	11.9	4.56	12.8	4.59	13.6	4.63
	8 KZ	12.3	6.89	13.9	6.93	15.2	6.96	16.6	6.99	18.5	7.01	20.0	7.03	21.6	7.04
	10 KZ	15.2	8.95	17.7	8.97	19.6	8.97	21.5	8.98	24.0	8.98	25.9	8.98	27.8	8.98
	12 KZ	17.1	10.6	19.9	10.6	22.1	10.6	24.2	10.6	27.0	10.7	29.1	10.7	31.3	10.7
	16 KZ	24.6	13.8	27.8	13.9	30.4	14.0	33.2	14.0	37.0	14.1	40.0	14.2	43.2	14.2
	20 KZ	29.1	17.2	33.9	17.2	37.6	17.3	41.2	17.3	46.0	17.3	49.6	17.4	53.3	17.4
	24 KZ	34.2	21.3	39.8	21.3	44.2	21.4	48.4	21.4	54.0	21.4	58.2	1.4	62.6	21.4
50	5 KZ			8.80	4.83	9.60	4.87	10.5	4.92	11.6	4.97	12.4	5.01	13.3	5.05
	8 KZ			13.6	7.50	14.9	7.53	16.3	7.55	18.2	7.58	19.7	7.59	21.2	7.60
	10 KZ			17.8	9.80	19.7	9.81	21.6	9.81	24.1	9.82	26.0	9.82	27.9	9.81
	12 KZ			20.1	11.6	22.2	11.6	24.3	11.6	27.1	11.6	29.3	11.6	31.4	11.6
	16 KZ			27.2	15.0	29.8	15.1	32.6	15.2	36.4	15.2	39.4	15.3	42.4	15.3
	20 KZ			34.1	18.8	37.8	18.9	41.4	18.9	46.2	18.9	49.8	19.0	53.5	19.0
	24 KZ			40.2	23.3	44.4	23.3	48.6	23.4	54.2	23.4	58.6	23.4	62.8	23.4

3TW55172-1D

#### SYMBOLS

HC : Heating capacity (kW)  
 LWC : Leaving condenser water temperature (°C)  
 PI : Power input (kW)  
 Tamb : Ambient temperature dry bulb (°CDB)

#### NOTES

- Heating capacity**  
Capacity is according to Eurovent rating standard 6/C/003-2003 and valid for chilled water range  $\Delta t = 3 - 8^{\circ}\text{C}$ .
- Power input**  
Power input is total input according to Eurovent rating standard 6/C/003-2003.

#### NOTES

The heating capacities tabulated do not include capacity drop during frosting period and defrosting operation.

Namely, the integrated heating capacities in consideration with capacity drop during frosting period and defrosting operation are obtained from the following formula.

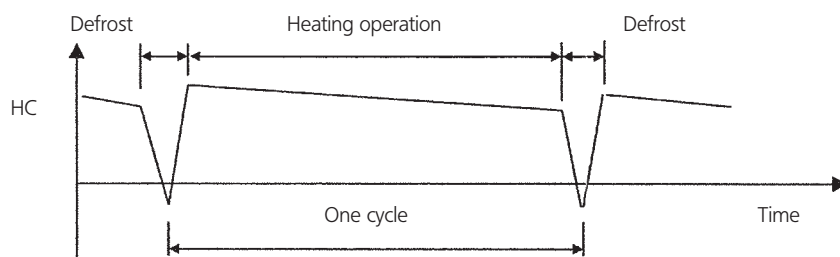
Integrated heating capacity = (Capacity tabulated) x Integrated correction factor during frosting period

Integrated heating capacity means that heating capacity during one cycle (between defrosting period and defrosting period) as shown below, which is integrated and converted to heating capacity per hour.

Integrated correction factor

Entering air temp (°C) RH 85%	-7	-5	-3	0	3	5	7
Correction factors	0.85	0.86	0.86	0.87	0.89	0.91	1

Integrated heating capacity graph:



In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CDB), relative humidity (RH) and frosting volume.

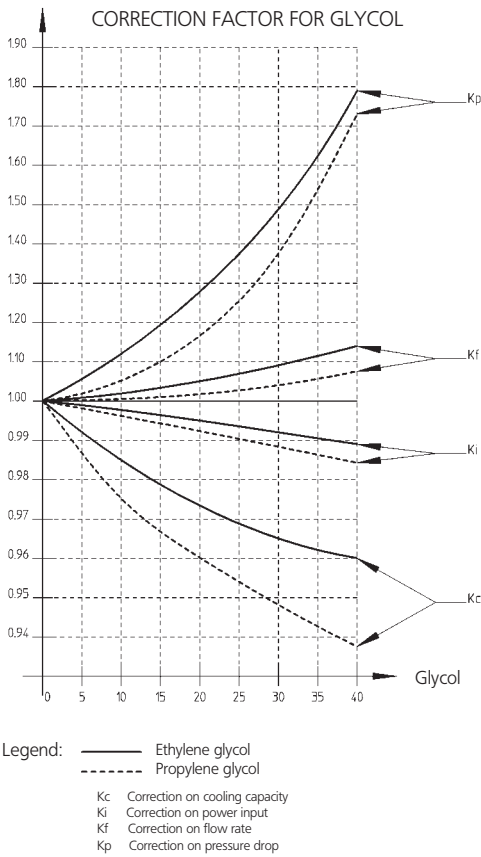
# 4 Capacity tables

## 4 - 3 Capacity Correction Factor

### EUWY-KBZW1

Required glycol concentration

Type	Concentration (wt%)	0	10	20	30	40
Ethylene glycol	Freezing point °C	0	-4	-9	-16	-23
	Minimum LWE °C	5	2	0	-5	-11
Propylene glycol	Freezing point °C	0	-3	-7	-13	-22
	Minimum LWE °C	5	3	-2	-4	-10



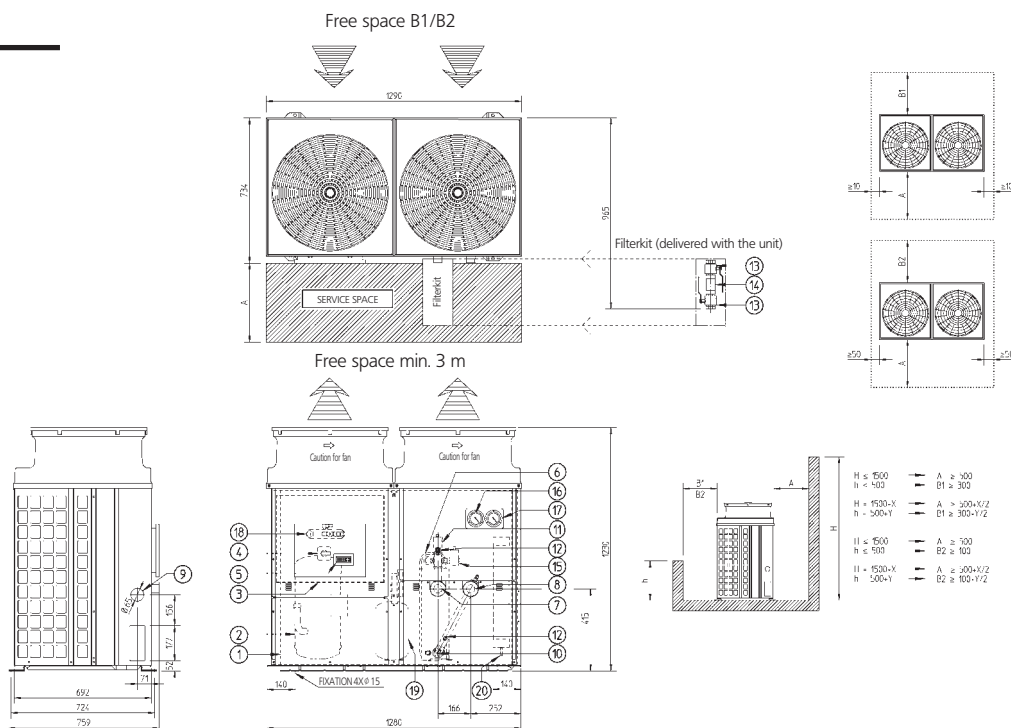
## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWYN5-8KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Digital display controller
- 6 Water heat exchanger
- 7 Water IN connection: 1 1/4" M BSP
- 8 Water OUT connection: 1 1/4" M BSP
- 9 Power supply intake
- 10 Drain
- 11 Air purge
- 12 Pressure port
- 13 Ball valve: 1-1/4" BSP
- 14 Water filter: 1-1/4" BSP
- 15 Flow switch
- 16 High pressure gauge (optional)
- 17 Low pressure gauge (optional)
- 18 4 way valve\*
- 19 Accumulator\*
- 20 Liquid receiver\*

\* Only for H/P models

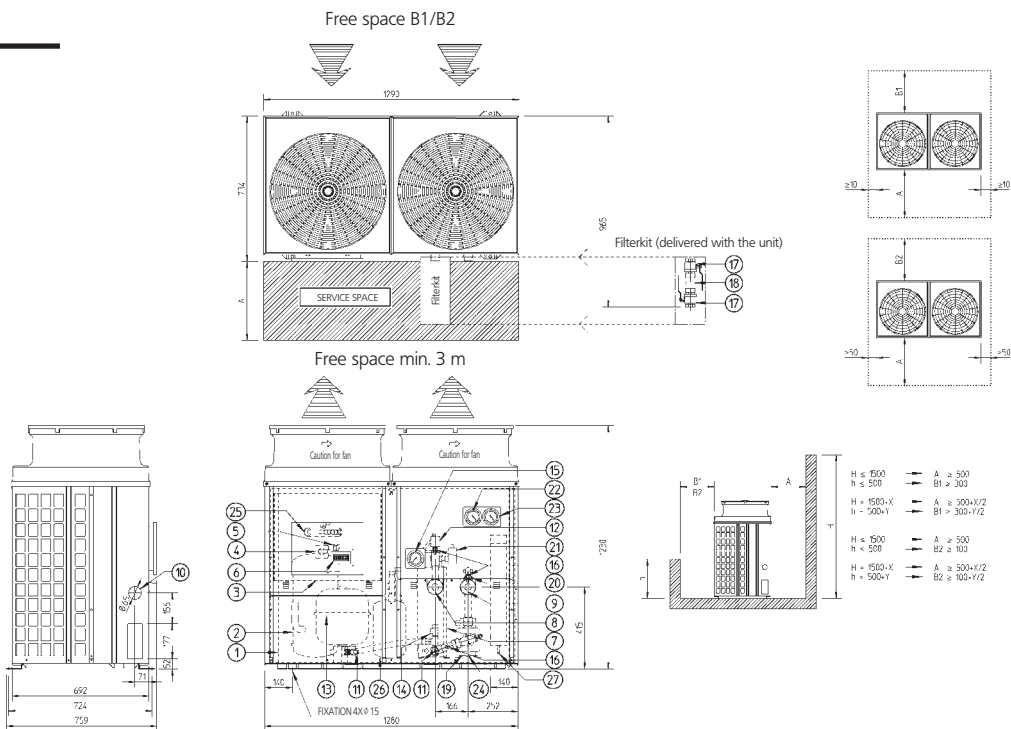


3TW55694-1

#### EUWYP5-8KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 1 1/4" M BSP
- 9 Water OUT connection: 1 1/4" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Manometer (water)
- 16 Pressure port
- 17 Ball valve: 1-1/4" BSP
- 18 Water filter: 1-1/4" BSP
- 19 Pump
- 20 Regulation valve
- 21 Flow switch
- 22 High pressure gauge (optional)
- 23 Low pressure gauge (optional)
- 24 Pump drain
- 25 4 way valve\*
- 26 Accumulator\*
- 27 Liquid receiver\*

\* Only for H/P models



3TW55694-2

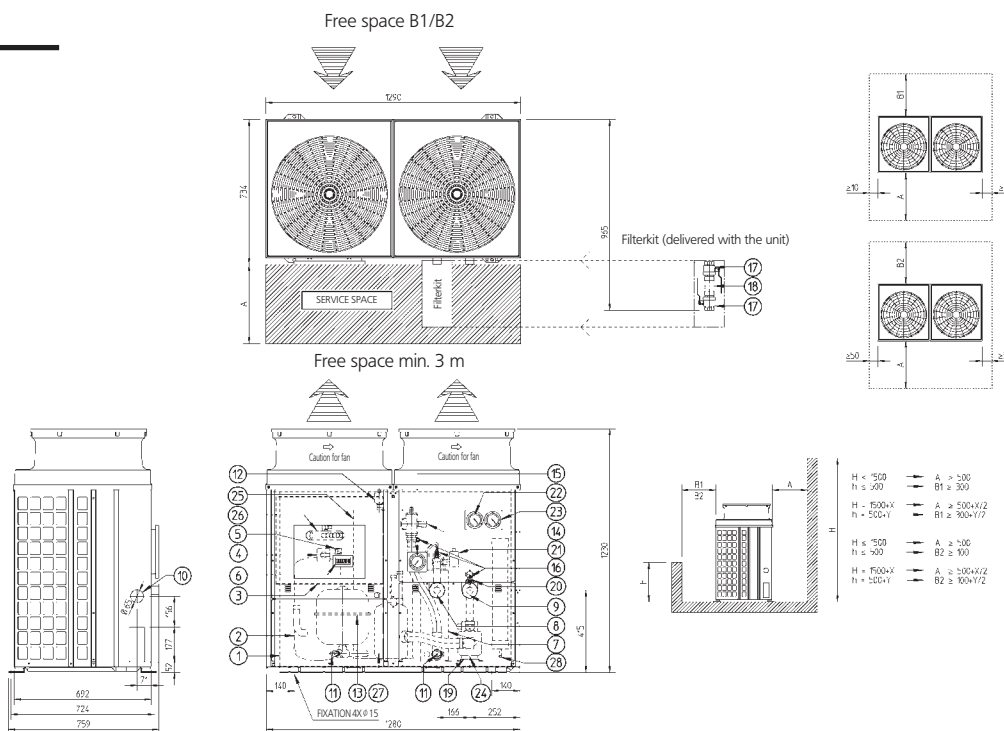
## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWYB5-8KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 1 1/4" M BSP
- 9 Water OUT connection: 1 1/4" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Manometer (water)
- 16 Pressure port
- 17 Ball valve: 1-1/4" BSP
- 18 Water filter: 1-1/4" BSP
- 19 Pump
- 20 Regulation valve
- 21 Flow switch
- 22 High pressure gauge (optional)
- 23 Low pressure gauge (optional)
- 24 Pump drain
- 25 Buffer tank
- 26 4 way valve \*
- 27 Accumulator \*
- 28 Liquid receiver \*

\* Only for H/P models

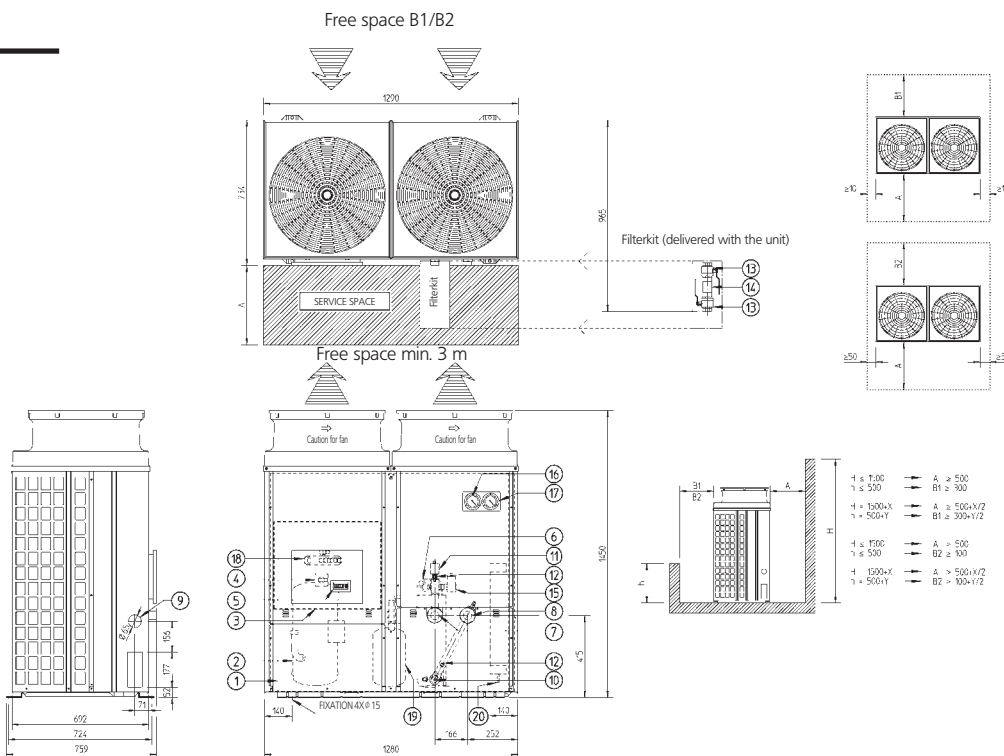


3TW55694-3

#### EUWYN10-12KBZW1

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Digital display controller
- 6 Water heat exchanger
- 7 Water IN connection: 1 1/4" M BSP
- 8 Water OUT connection: 1 1/4" M BSP
- 9 Power supply intake
- 10 Drain
- 11 Air purge
- 12 Pressure port
- 13 Ball valve: 1-1/4" BSP
- 14 Water filter: 1-1/4" BSP
- 15 Flow switch
- 16 High pressure gauge (optional)
- 17 Low pressure gauge (optional)
- 18 4 way valve \*
- 19 Accumulator \*
- 20 Liquid receiver \*

\* Only for H/P models



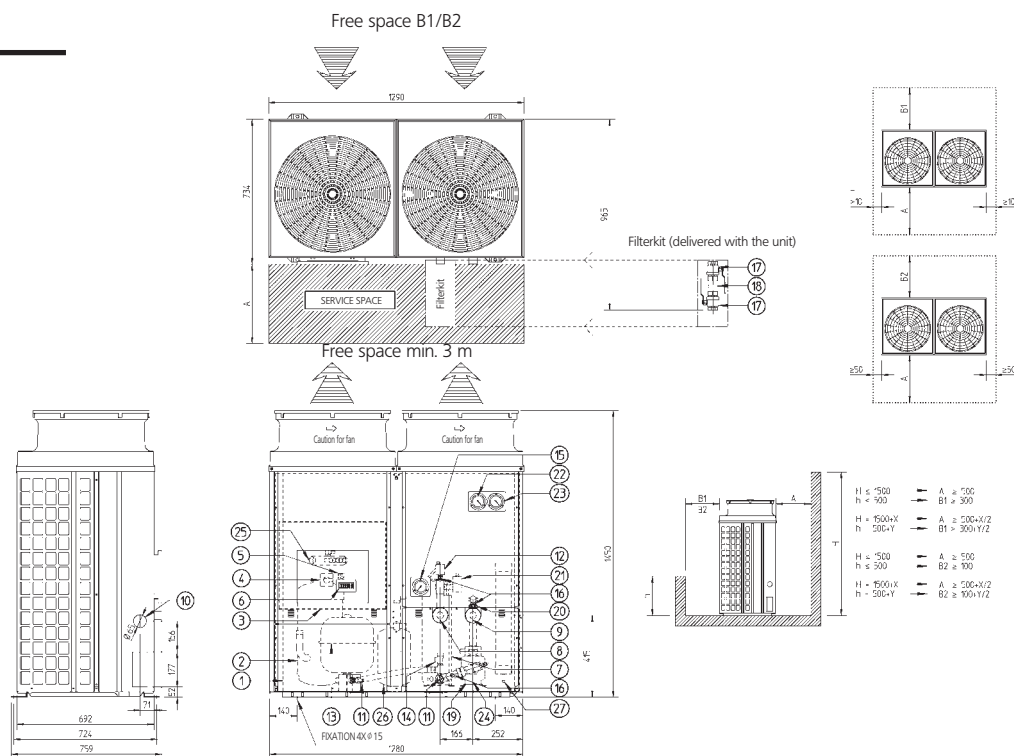
3TW55714-1



## 5 - 1 Dimensional Drawings

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 1 1/4" M BSP
- 9 Water OUT connection: 1 1/4" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Manometer (water)
- 16 Pressure port
- 17 Ball valve: 1-1/4" BSP
- 18 Water filter: 1-1/4" BSP
- 19 Pump
- 20 Regulation valve
- 21 Flow switch
- 22 High pressure gauge (optional)
- 23 Low pressure gauge (optional)
- 24 Pump drain
- 25 4 way valve\*
- 26 Accumulator\*
- 27 Liquid receiver\*

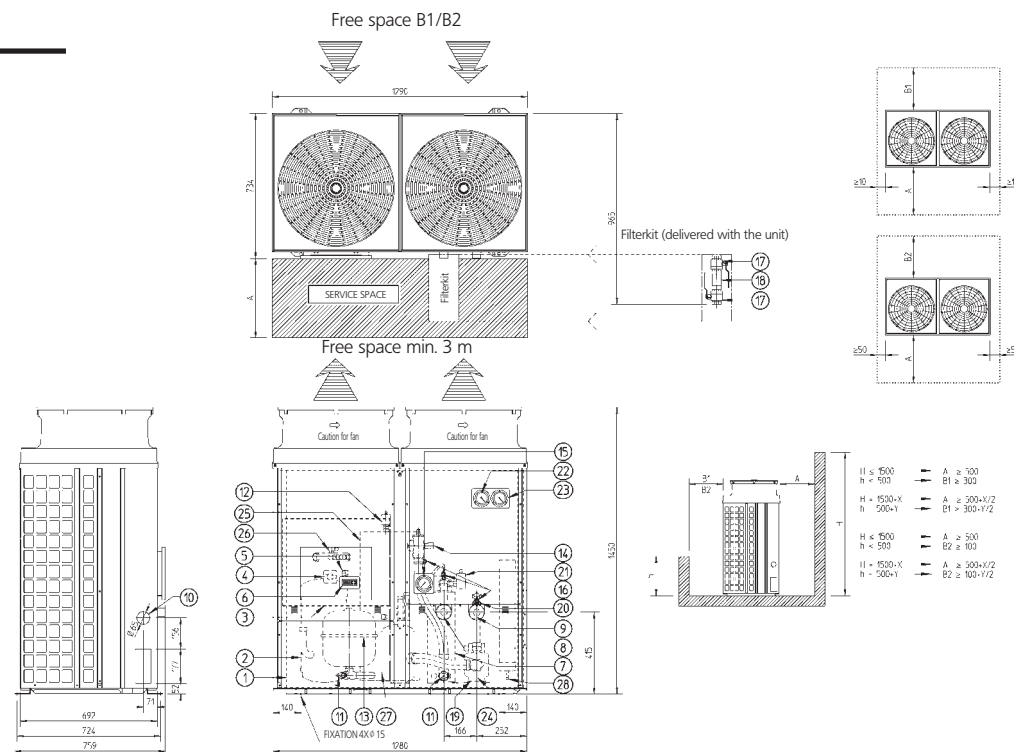
\* Only for H/P models



3TW55714-2

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 1 1/4" M BSP
- 9 Water OUT connection: 1 1/4" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Manometer (water)
- 16 Pressure port
- 17 Ball valve: 1-1/4" BSP
- 18 Water filter: 1-1/4" BSP
- 19 Pump
- 20 Regulation valve
- 21 Flow switch
- 22 High pressure gauge (optional)
- 23 Low pressure gauge (optional)
- 24 Pump drain
- 25 Buffer tank
- 26 4 way valve \*
- 27 Accumulator \*
- 28 Liquid receiver \*

\* Only for H/P models



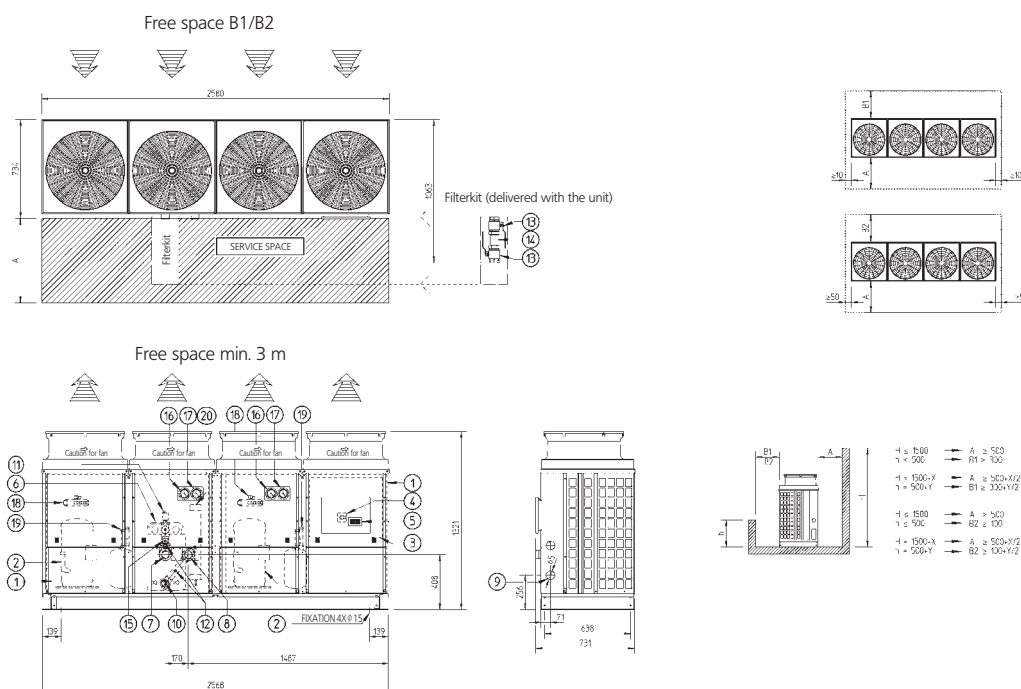
3TW55714-3

## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### EUWYN16KBZW1

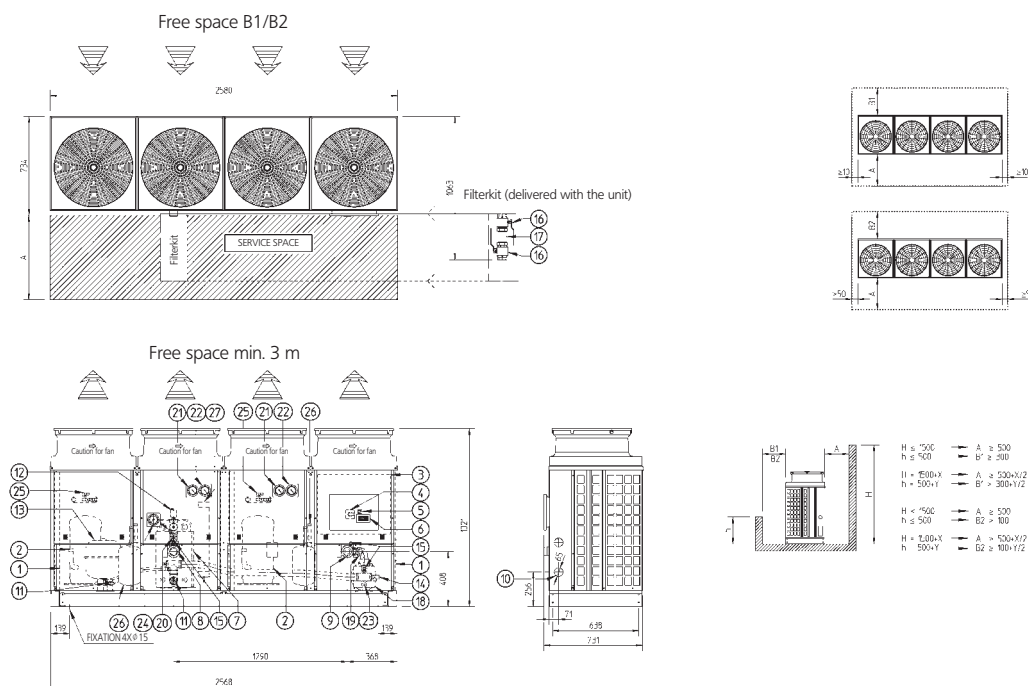
- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Digital display controller
  - 6 Water heat exchanger
  - 7 Water IN connection: 2" M BSP
  - 8 Water OUT connection: 2" M BSP
  - 9 Power supply intake
  - 10 Drain
  - 11 Air purge
  - 12 Pressure port
  - 13 Ball valve
  - 14 Water filter
  - 15 Flow switch
  - 16 High pressure gauge (optional)
  - 17 Low pressure gauge (optional)
  - 18 4 way valve \*
  - 19 Accumulator \*
  - 20 Liquid receiver \*
- \* Only for H/P models



3TW55734-1

#### EUWYP16KBZW1

- 1 Air heat exchanger
  - 2 Compressor
  - 3 Switch box
  - 4 Main switch
  - 5 Pump switch
  - 6 Digital display controller
  - 7 Water heat exchanger
  - 8 Water IN connection: 2" M BSP
  - 9 Water OUT connection: 2" M BSP
  - 10 Power supply intake
  - 11 Drain
  - 12 Air purge
  - 13 Expansion vessel
  - 14 Safety valve
  - 15 Pressure port
  - 16 Ball valve
  - 17 Water filter
  - 18 Pump
  - 19 Regulation valve
  - 20 Flow switch
  - 21 High pressure gauge (optional)
  - 22 Low pressure gauge (optional)
  - 23 Pump drain
  - 24 Water pressure gauge
  - 25 4 way valve \*
  - 26 Accumulator \*
  - 27 Liquid receiver \*
- \* Only for H/P models

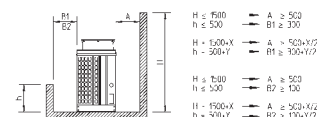
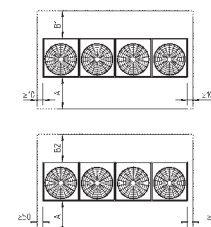
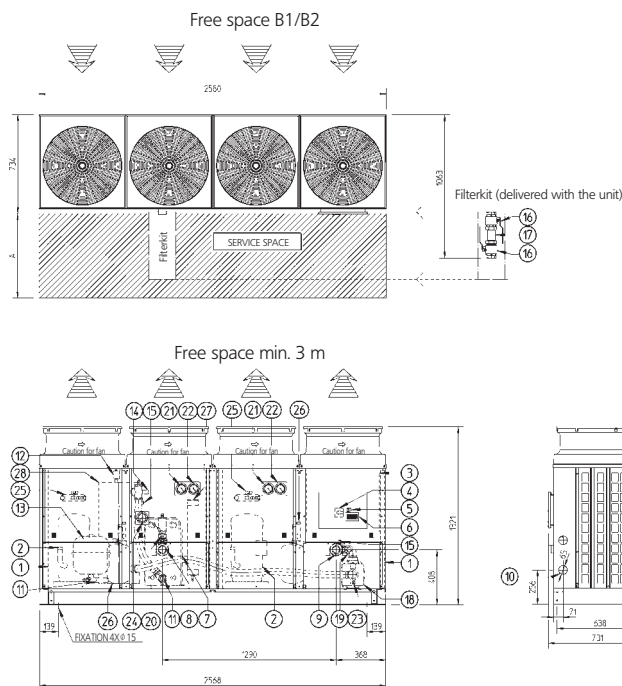


3TW55734-2

## 5 - 1 Dimensional Drawings

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Pump switch
- 6 Digital display controller
- 7 Water heat exchanger
- 8 Water IN connection: 2" M BSP
- 9 Water OUT connection: 2" M BSP
- 10 Power supply intake
- 11 Drain
- 12 Air purge
- 13 Expansion vessel
- 14 Safety valve
- 15 Pressure port
- 16 Ball valve
- 17 Water filter
- 18 Pump
- 19 Regulation valve
- 20 Flow switch
- 21 High pressure gauge (optional)
- 22 Low pressure gauge (optional)
- 23 Pump drain
- 24 Water pressure gauge
- 25 4 way valve \*
- 26 Accumulator \*
- 27 Liquid receiver \*
- 28 Buffer tank

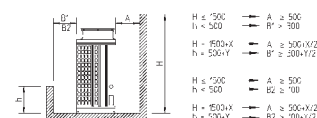
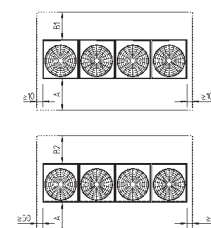
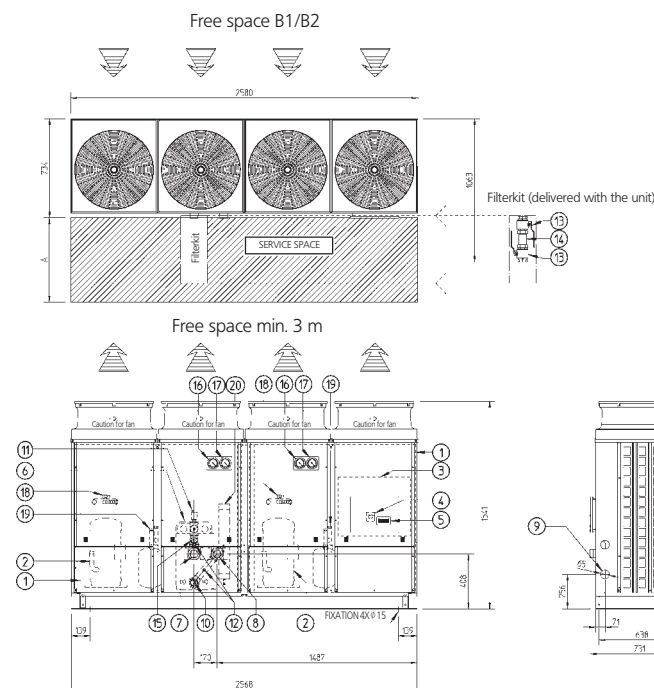
\* Only for H/P models



3TW55734-3

- 1 Air heat exchanger
- 2 Compressor
- 3 Switch box
- 4 Main switch
- 5 Digital display controller
- 6 Water heat exchanger
- 7 Water IN connection: 2" M BSP
- 8 Water OUT connection: 2" M BSP
- 9 Power supply intake
- 10 Drain
- 11 Air purge
- 12 Pressure port
- 13 Ball valve
- 14 Water filter
- 15 Flow switch
- 16 High pressure gauge (optional)
- 17 Low pressure gauge (optional)
- 18 4 way valve \*
- 19 Accumulator \*
- 20 Liquid receiver \*

\* Only for H/P models



3TW55744-1

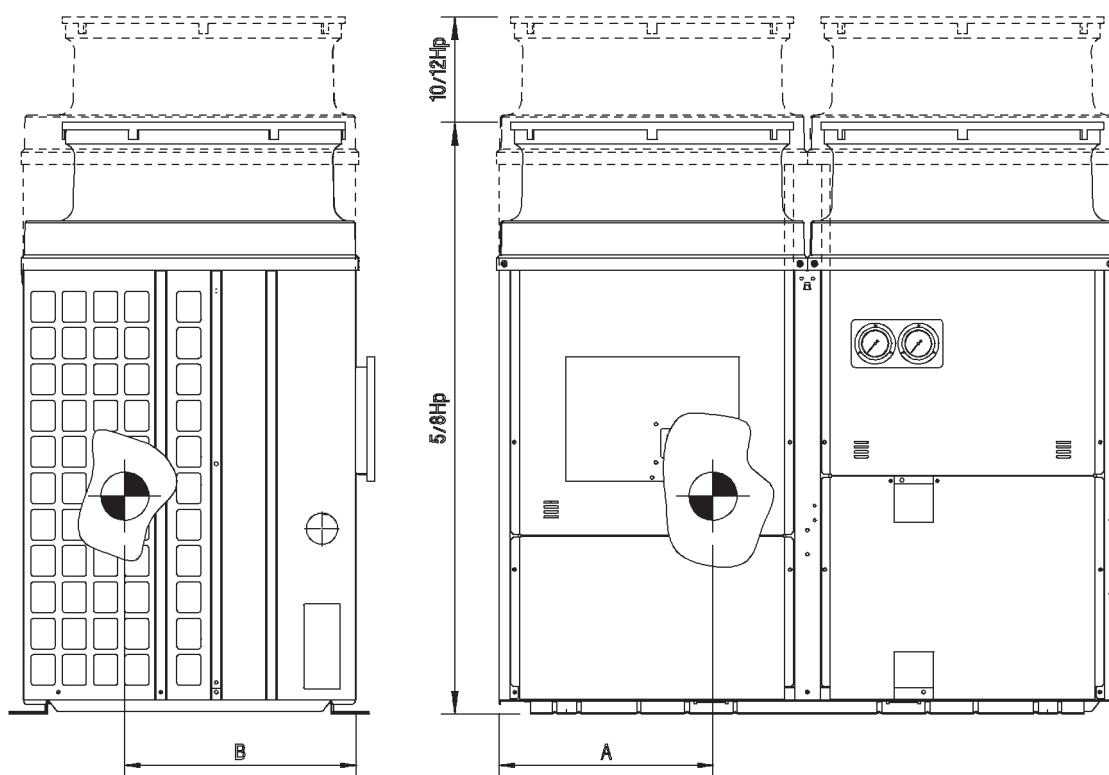




## 6 Centre of gravity

### 6 - 1 Centre of Gravity

EUWY\*5-12KBZW1



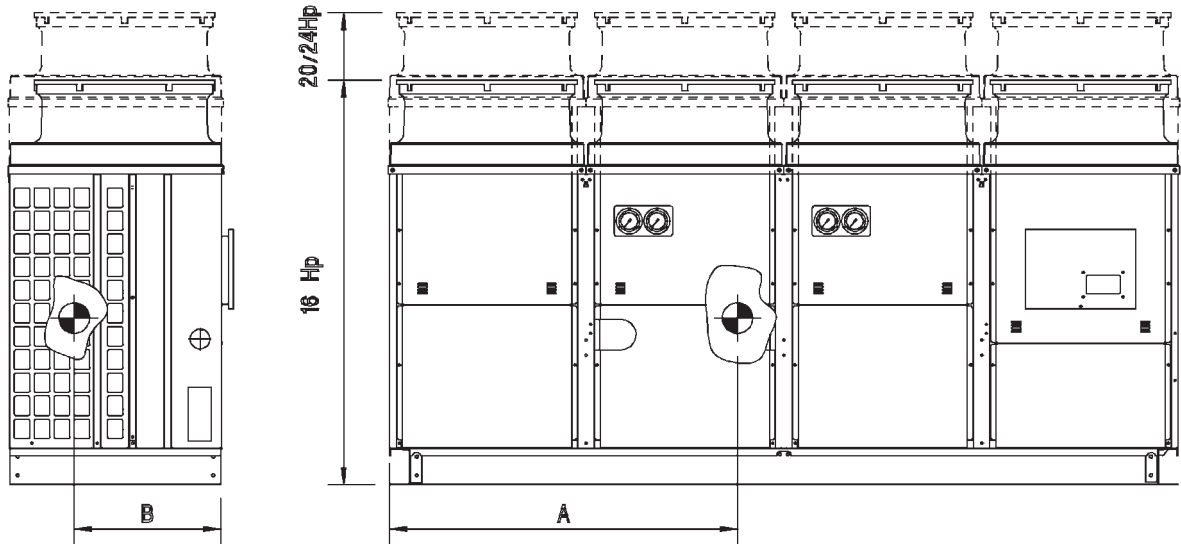
	5Hp		8Hp		10Hp		12Hp	
	A	B	A	B	A	B	A	B
B-Models	520	420	480	420	490	430	490	430
P-Models	510	420	470	420	480	430	490	430
N-Models	480	420	440	430	450	430	460	430

4TW54759-2

# 6 Centre of gravity

## 6 - 1 Centre of Gravity

EUWY\*16-24KBZW1

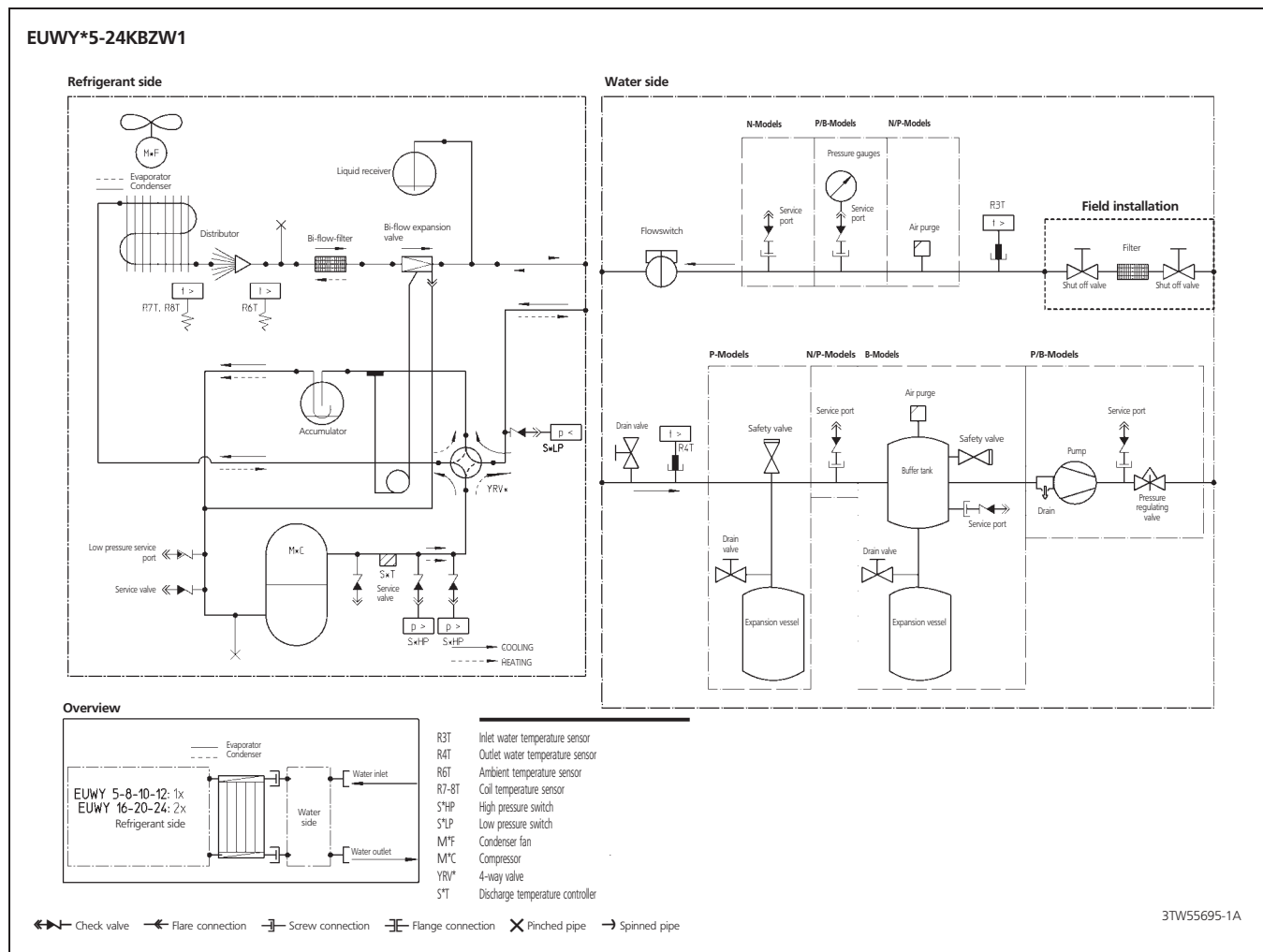


	16Hp		20Hp		24Hp	
	A	B	A	B	A	B
B-Models	1115	435	1120	435	1115	435
P-Models	1145	435	1140	435	1135	435
N-Models	1110	430	1115	435	1110	435

4TW54799-2

## 7 Piping diagrams

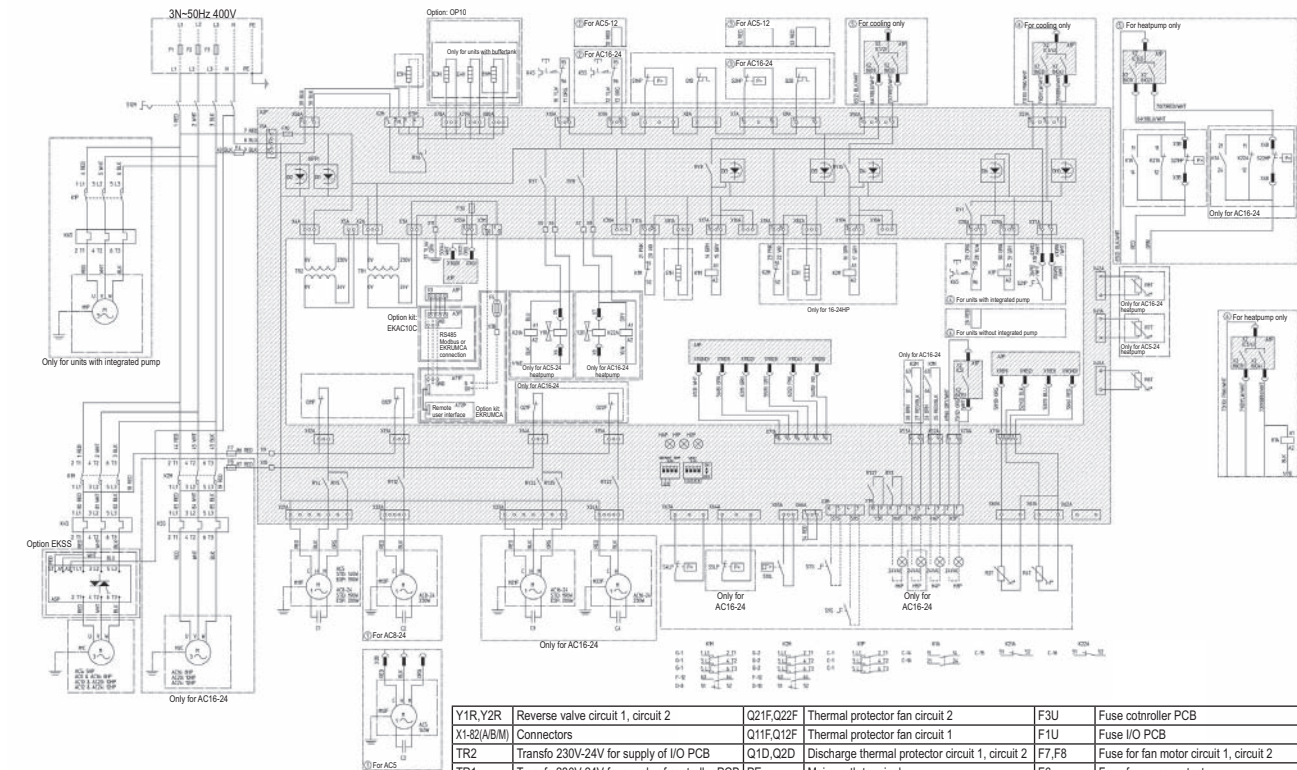
### 7 - 1 Piping Diagrams



## 8 Wiring diagrams

### 8 - 1 Wiring Diagrams - Three Phase

#### EUWA-KBZW1 / EUWY-KBZW1



	Not standard included	
	Not possible as option	Possible as option
Obligatory	#	##
Not obligatory	*	**

( ) Applicable for unit without integrated pump

A2P	A1P
<b>DIGITAL INPUTS</b>	<b>DIGITAL INPUTS</b>
D11 Reverse phase detection (L1-N)	X1 (D1-GND) : Flow switch
D12 Reverse phase detection (N-L3)	X1 (D2-GND) : Remote C/H selection
D13 M1C ON detection	X1 (D3-GND) : High pressure switch + discharge protector + overcurrent
D14 M2C ON detection	X1 (D4-GND) : Low pressure switch
D15 Safety device detection	X1 (D5-GND) : Remote On/Off
D16 Pump ON detection	
D17 --	<b>DIGITAL OUTPUTS (RELAYS)</b>
D18 --	X2 (C1/2-NO1) : Compressor M1C on
D19 --	X2 (C1/2-NO2) : Compressor M2C on
D110 Reverse valve request	X2 (C3/4-NO3) : Voltage free contact for pump
<b>DIGITAL OUTPUTS (RELAYS)</b>	X2 (C3/4-NO4) : Reversing valve
RY1 Reversed phase protector	X2 (C5-NO5) : Alarm voltage free contact
RY3 Pump/general operation	<b>ANALOG INPUTS</b>
RY4-24 Fan speed relay 1	X1 (B1-GND) : inlet water t°
RY5-25 Fan speed relay 2	X1 (B2-GND) : outlet water t°
RY6 Heater tape	X1 (B3-GND) : none
RY7 Reversing valve circ1	<b>ANALOG OUTPUTS</b>
RY8 Reversing valve circ2	X1 (Y-GND)
RY9 M1C off (during defrost)	
RY10 M2C off (during defrost)	
RY12-22 Fan speed relay 3	
RY27 Reversing valve of water circuit	
<b>OTHERS</b>	
HAP Light emitting diode (service monitor green)	
H1P,H2P Light emitting diode (service monitor red)	
S1A Dipswitch (unit setting)	
S2A Dipswitch (defr. & fan setting)	

Units with integrated pump (400V)							
Fuses	5HP	8HP	10HP	12HP	16HP	20HP	24HP
F1,F2,F3 (= gL/gG)	3x20A	3x25A	3x32A	3x40A	3x50A	3x50A	3x63A

Units without integrated pump (400V)							
Fuses	5HP	8HP	10HP	12HP	16HP	20HP	24HP
F1,F2,F3 (= g/L/gG)	3x20A	3x25A	3x25A	3x32A	3x40A	3x50A	3x63A

All models (400V)							
Fuses + overcurrent	5HP	8HP	10HP	12HP	16HP	20HP	24HP
F4	8A	8A	8A	8A	8A	8A	8A
F5	250mA	250mA	250mA	250mA	250mA	250mA	250mA
F7,8	5A	5A	5A	5A	5A	5A	5A
F1U	5A	5A	5A	5A	5A	5A	5A
F3U	315mA	315mA	315mA	315mA	315mA	315mA	315mA
K4S	9A	14A	17A	24A	14A	17A	24A
K5S	--	--	--	--	14A	17A	24A
K6S (st. pump or OPZH/L)	1.2A	1.2A	1.8A	1.8A	3A	3A	3A
K6S (op. pump or +OPZH/L)	1.9A	1.9A	1.9A	4.4A	4.4A	4.4A	4.4A

Y1R,Y2R	Reverse valve circuit 1, circuit 2	Q21F,Q22F	Thermal protector fan circuit 2	F3U	Fuse controller PCB
X1-S2(A/B/M)	Connectors	Q11F,Q12F	Thermal protector fan circuit 1	F1U	Fuse I/O PCB
TR2	Transfo 230V-24V for supply of I/O PCB	Q1D,Q2D	Discharge thermal protector circuit 1, circuit 2	F7,F8	Fuse for fan motor circuit 1, circuit 2
TR1	Transfo 230V-24V for supply of controller PCB	PE	Main earth terminal	F6	Fuse for pump/contactor
S21P	Switch for pump: Manual/Auto	M1P	Pump motor	F5	Surge proof fuse
S12M	Main isolator switch	M11F,M12F	Fan motors circuit 1	F4	Fuse I/O PCB & evaporator heater tape
S10L	Flow switch	M21F,M22F	Fan motors circuit 2	F1,F2,F3	Main fuses for the unit
S9S	Switch for remote start/stop or dual setpoint	M1C,M2C	Compressor motor circuit 1, circuit 2	E6H	Buffer tank (55l) heater
S7S	Switch for remote cooling/heating selection or dual setpoint	K1P	Pump/contactor	E5H	Field heater
S4LP,S5LP	Low pressure switch circuit 1, circuit 2	K6S	Overcurrent relay pump	E3H,E4H	Evaporator heater tape
S1HP,S2HP	High pressure switch circuit 1, circuit 2	K4S,K5S	Overcurrent relay circuit 1, circuit 2	E1H,E2H	Crankcase heater circuit 1, circuit 2
S21HP,S22HP	High pressure switch during defrost circuit 1, circuit 2	K1M, K2M	Compressor contactor circuit 1, circuit 2	C1,C2,C3,C4	Capacitors for fan motors
R7T,R8T	Coil temperature sensor for circuit 1, circuit 2	K1A	Auxiliary bypass relay	A71P	PCB: Power supply card
R6T	Ambient temperature sensor	K21A,K22A	Auxiliary bypass relay	A72P	PCB: Remote user interface
R4T	Evaporator outlet water temperature sensor	H6P	Indication lamp general operation	A5P	PCB: Softstarter for circuit 1
R3T	Evaporator inlet water temperature sensor	H5P	Indication lamp operation compressor 2	A3P	PCB: Address card
		H4P	Indication lamp operation compressor 1	A2P	PCB: I/O PCB
		H3P	Indication lamp alarm	A1P	PCB: Controller PCB

1TW60006-1

#### NOTES

1. ∴ : Terminal 1, — : Wire 2, --- : Field wiring to be in accordance with the local electrical regulations,

--- : Earth wiring, □ : Option, ▨ : PCB, □ : outside switchbox

2. If compressor rotates reversely, it may be damaged

3. Optional:

- OP10 = Evaporator heater tape
- EKAC10C = Address card kit for Modbus or remote user interface connection
- EKSS = softstart
- OP PUMP high = High head pressure pump
- EKRUMCA = Remote user interface

4. Terminals for fieldwiring

X1M: H3-6P: output terminal for fieldwiring (voltage free contact max 2A / output)

X2M: E5H: fieldheater (max 500W resistive / 230VAC / 50Hz)

X3M: S7S,S9S: Input terminal for fieldwiring (don't connect voltage)(switch load 6mA / 30VDC)

5. Y1R, Y2R are activated in cooling mode

S7S open = heating

S7S closed = cooling

6. Dipswitch setting

S2A dipswitch: Defrost & Fan setting

1 > Only applicable for heatpump:

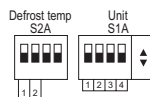
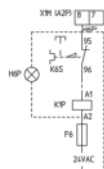
Off = start condition 1 for defrost cycle

On = start condition 2 for defrost cycle (5, 8, 10, 12, 16, 20, 24Hp)

2 > Off = fan setting 1 (5, 8, 16Hp)

On = fan setting 2 (10, 12, 20, 24Hp)

7. Pump contact for units without integrated pump



S1A dipswitch: Unit setting

1 > Off = 1 circuit

On = 2 circuit

234 > Off = WC CO & WC CL CO

Off = AC CO

On = AC HP (without compr. stop for defrost cycle)

On = AC HP (with compr. stop for defrost cycle)

## 9 Sound data

### 9 - 1 Sound Power Spectrum

	Sound power Lw per Octave band (dB)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EUWA/Y(*)5K(B)ZW1	70	71	67	64	61	59	53	46	67
EUWA/Y(*)8K(B)ZW1	78	76	72	77	68	64	58	52	76
EUWA/Y(*)10K(B)ZW1	82	91	77	77	71	67	63	57	78
EUWA/Y(*)12K(B)ZW1	82	91	77	77	71	67	63	57	78
EUWA/Y(*)16K(B)ZW1	81	79	75	80	71	67	61	55	79
EUWA/Y(*)20K(B)ZW1	85	94	80	80	74	70	66	60	81
EUWA/Y(*)24K(B)ZW1	85	94	80	80	74	70	66	60	81

4TW54757-1D

2

9

#### NOTES

1. Data valid at nominal operation condition
2. Measured according ISO3744

## 10 Installation

### 10 - 1 Water Charge, Flow and Quality

Be sure the water quality is in accordance with the specifications below:

ITEMS	Cooled water		Tendency if out of criteria
	Circulating water (below 20°C)	Water supply	
Items to be controlled:			
- pH at 25°C	6.8 - 8.0	6.8 - 8.0	Corrosion + scale
- Electrical conduct			Corrosion + scale
(mS/m) at 25°C	Below 40	Below 30	
(μS/cm) at 25°C	—	—	
- Chloride ion (mg Cl <sup>-</sup> /l)	Below 50	Below 50	Corrosion
- Sulfate ion (mg SO <sub>4</sub> <sup>2-</sup> /l)	Below 50	Below 50	Corrosion
- M-alkalinity (pH 4.8) (mg SO <sub>3</sub> /l)	Below 50	Below 50	Scale
- Total hardness (mg CaCO <sub>3</sub> /l)	Below 70	Below 70	Scale
- Calcium hardness (mg CaCO <sub>3</sub> /l)	Below 50	Below 50	Scale
- Silica ion (mg SiO <sub>2</sub> /l)	Below 30	Below 30	Scale
Items to be referred to:			
- Iron (mg Fe/l)	Below 1.0	Below 0.3	Corrosion + scale
- Copper (mg Cu/l)	Below 1.0	Below 0.1	Corrosion
- Sulfite ion (mg S <sup>2-</sup> /l)	Not detectable	Not detectable	Corrosion
- ammonium ion (mg NH <sub>4</sub> <sup>+</sup> /l)	Below 1.0	Below 0.1	Corrosion
- Remaining chloride (mg Cl/l)	Below 0.3	Below 0.3	Corrosion
- Free carbide (mg SO <sub>2</sub> /l)	Below 4.0	Below 4.0	Corrosion
- Stability index	—	—	Corrosion + scale

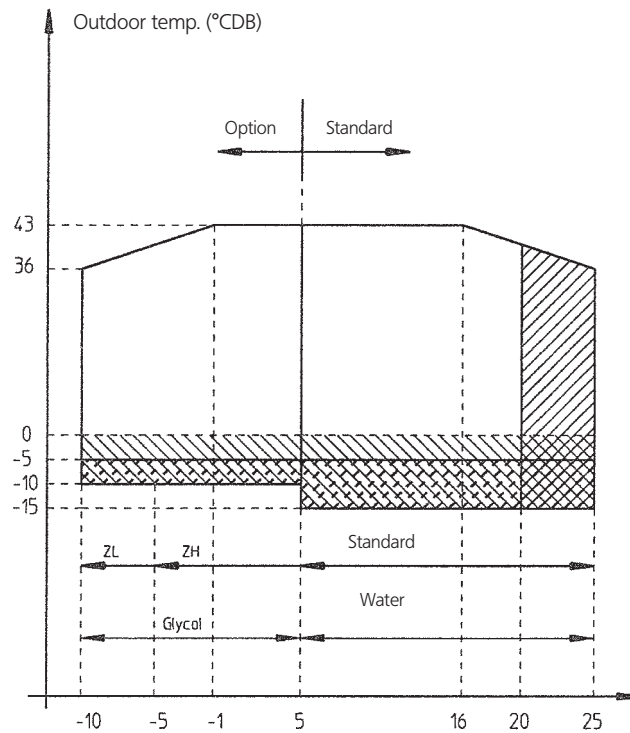
Names, definitions and units are according to JIS K 0101. Units and figures between brackets are old units published as reference only.

## 11 Operation range

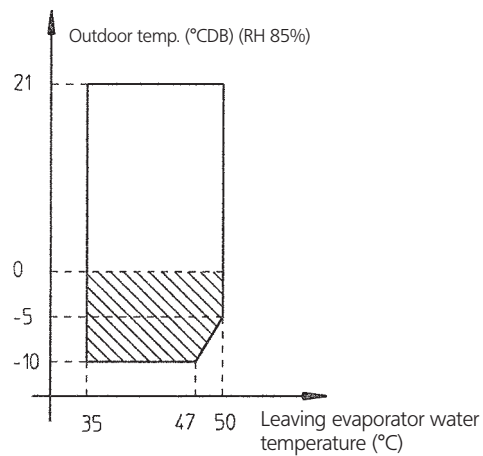
### 11 - 1 Operation Range




#### EUWY\*5-24KBZW1

##### Cooling mode



##### Heating mode



-  Pull down area
-  Protect the water circuit against freezing
-  If the units operate below -5°C and are installed in a rather windy space, a windscreen is required.

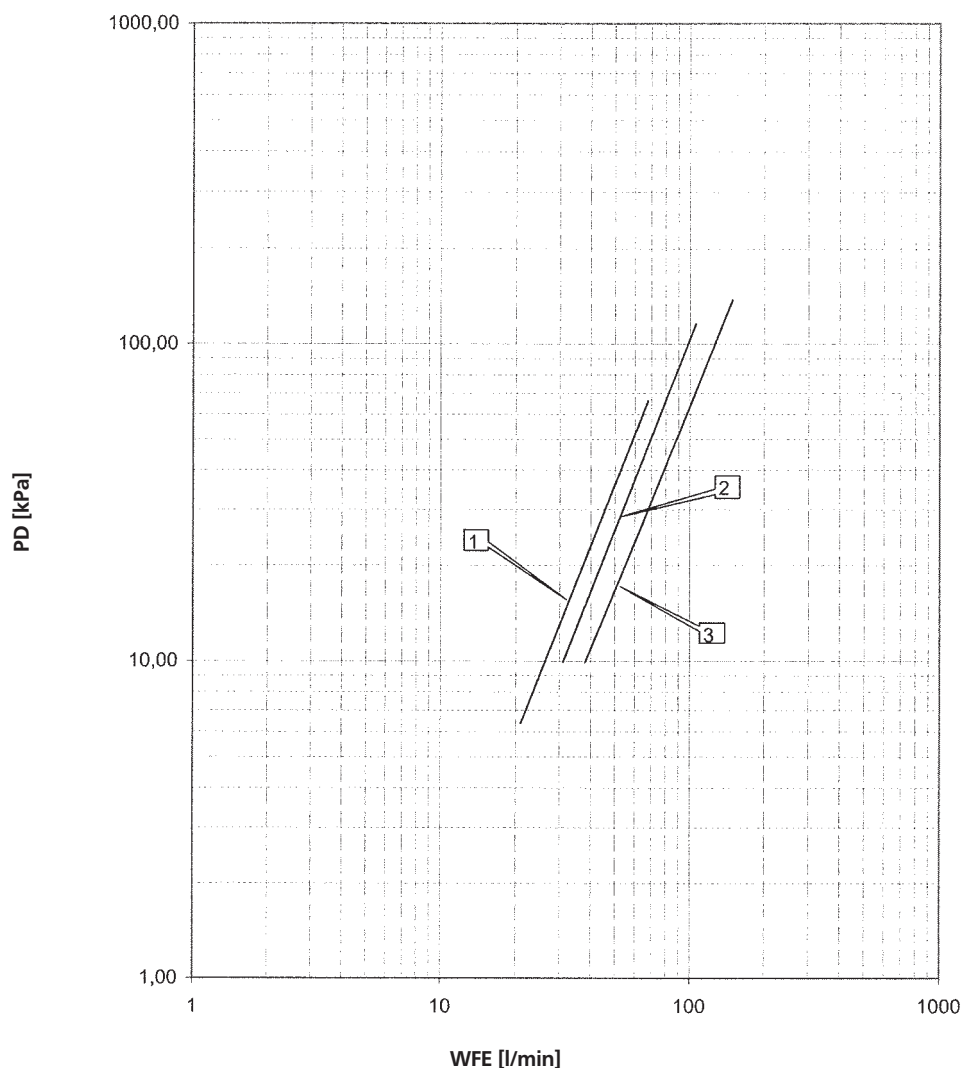
4TW55173-1



## 12 Hydraulic performance

### 12 - 1 Water Pressure Drop Curve Evaporator

EUWY\*5-12KBZW1



PD: Pressure drop evaporator  
WF: Evaporator waterflow rate

- ① EUWY(\*)5K(B)ZW1
- ② EUWY(\*)8K(B)ZW1
- ③ EUWY(\*)10K(B)ZW1  
EUWY(\*)12K(B)ZW1(\*)

**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrate in the technical specifications.

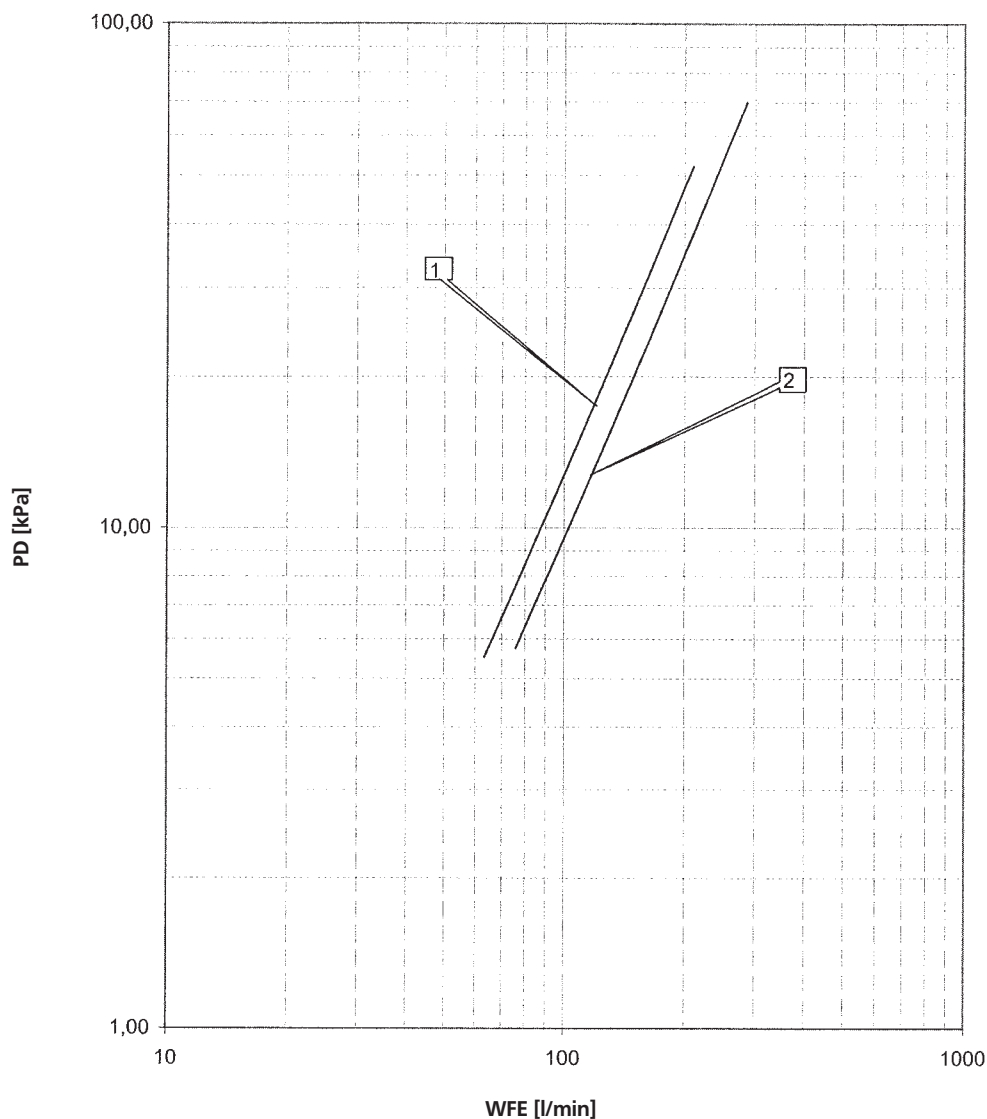
**(\*) Note:**  
Minimum allowed flow of 12 Hp is 45 l/min.

4TW55179-1A

## 12 Hydraulic performance

### 12 - 1 Water Pressure Drop Curve Evaporator

EUWY\*16-24KBZW1



PD: Pressure drop evaporator

WF: Waterflow rate

① EUWY(\*)16K(B)ZW1

② EUWY(\*)20K(B)ZW1  
EUWY(\*)24K(B)ZW1(\*)

**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrate in the technical specifications.

**(\*) Note:**

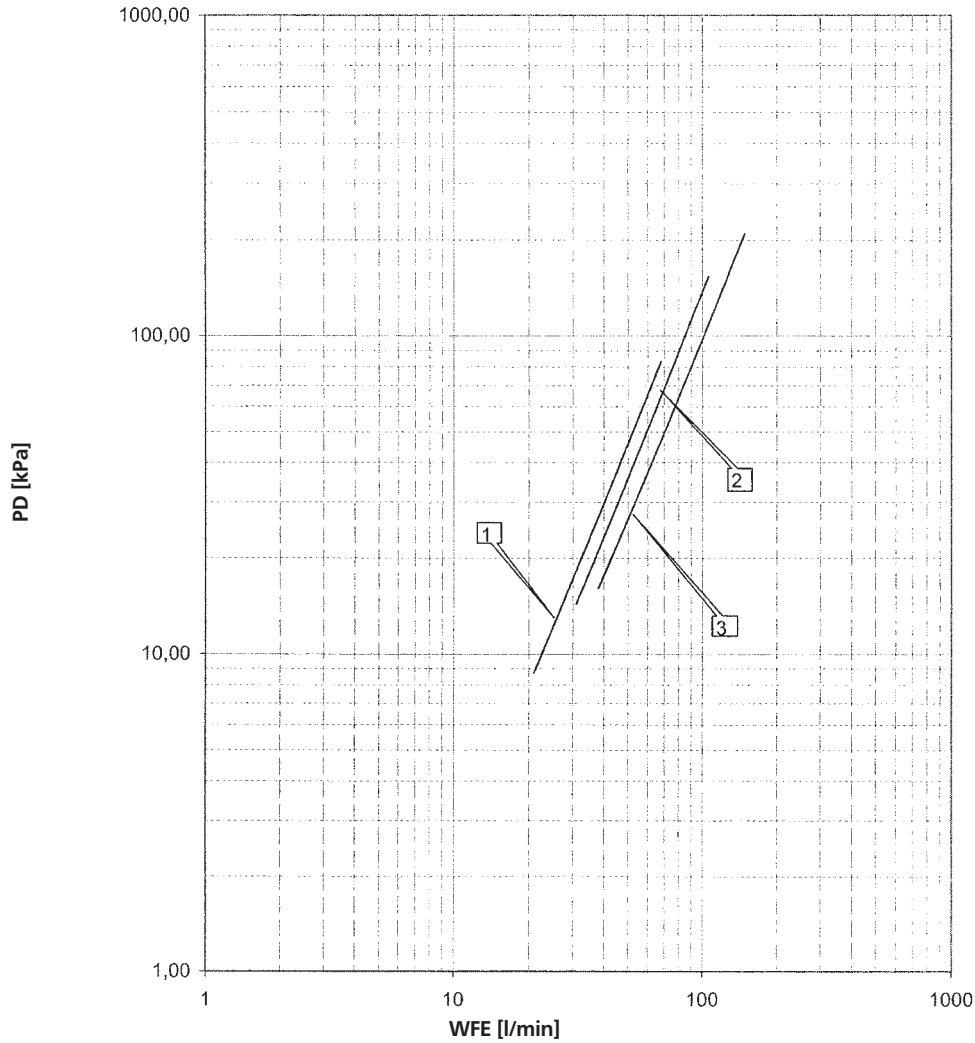
Minimum allowed waterflow of 24 Hp unit is 90 l/min.

4TW55219-1A

## 12 Hydraulic performance

### 12 - 2 Water Pressure Drop Curve Unit

EUWYN5-12KBZW1



PD: Pressure drop evaporator  
WF: Evaporator waterflow rate

- ① EUWYN5KBZW1
- ② EUWYN8KBZW1
- ③ EUWYN10KBZW1 - EUWYN12KBZW1(\*)

**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

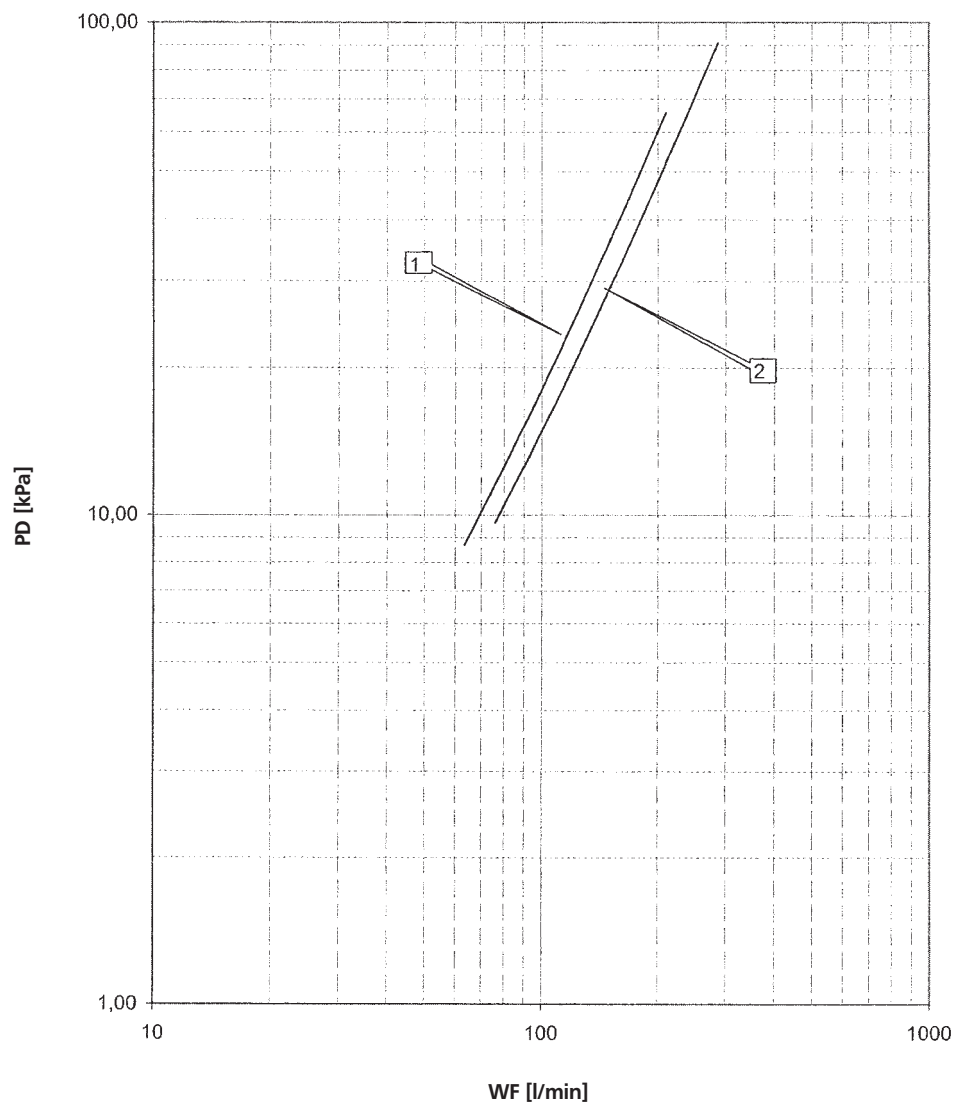
**(\*) Note:**  
Minimum allowed flow of 12 Hp is 45 l/min.

4TW55699-6

## 12 Hydraulic performance

### 12 - 2 Water Pressure Drop Curve Unit

EUWYN16-24KBZW1



PD: Pressure drop through the unit

WF: Waterflow rate

① EUWYN16KBZW1

② EUWYN20KBZW1 - EUWYN24KBZW1(\*)

**Warning:** Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

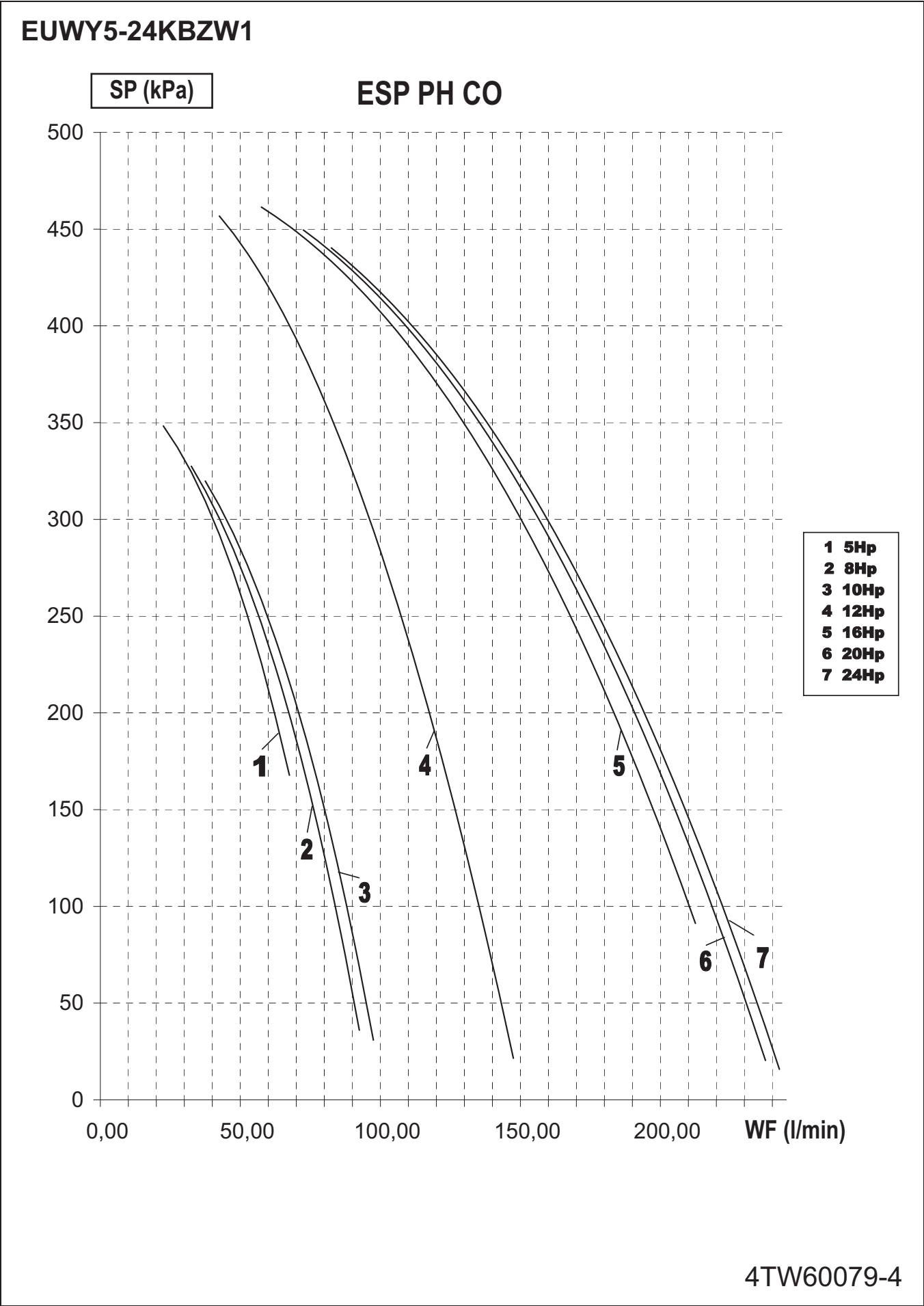
**(\*) Note:**

Minimum allowed waterflow of 24 Hp unit is 90 l/min.

4TW55739-6

12    Hydraulic performance

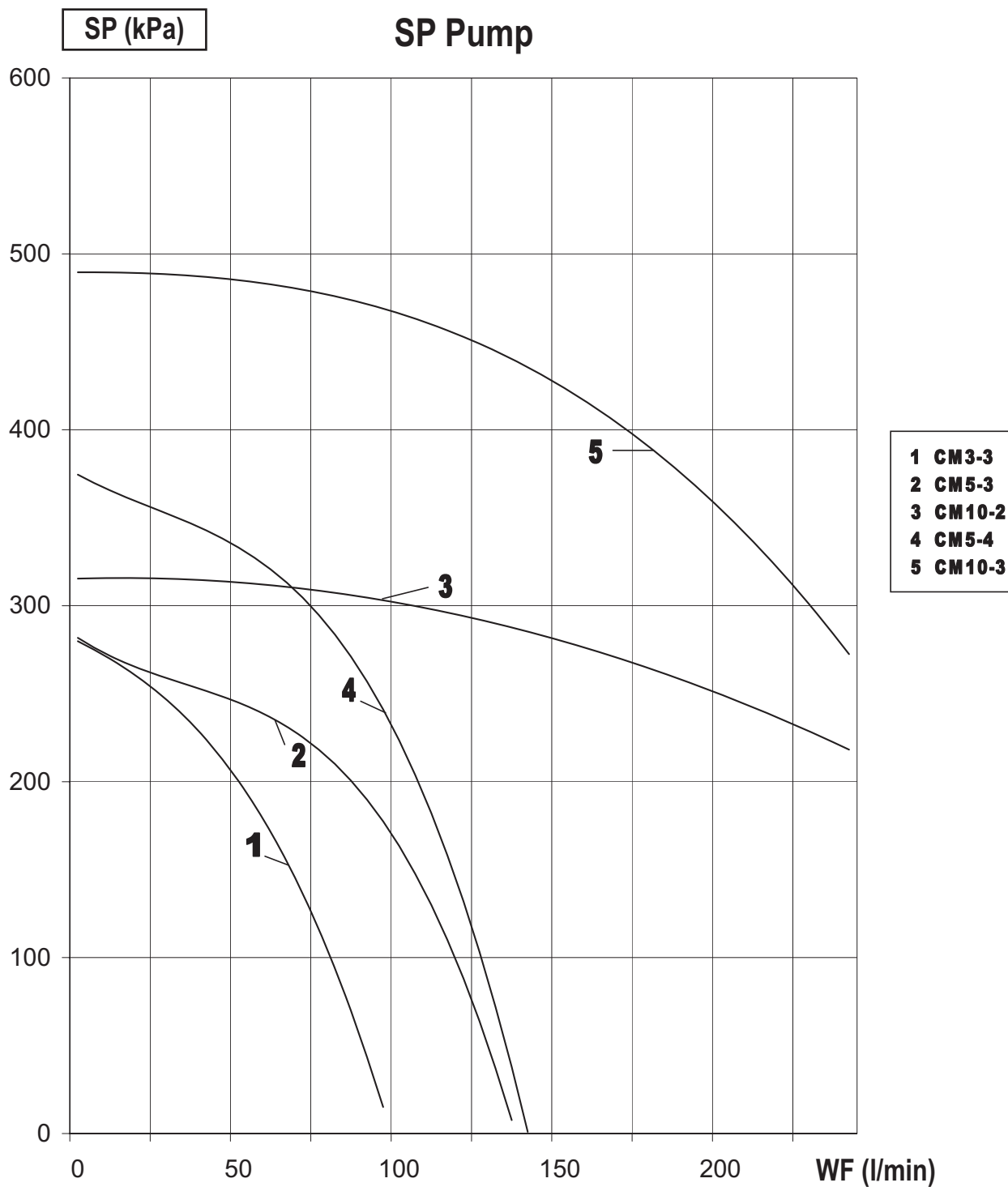
12 - 3 External Static Pressure Drop Unit



## 12 Hydraulic performance

### 12 - 4 Static Pressure Pump

**EUWA5-24KBZW1**  
**EUWY5-24KBZW1**



4TW60009-3



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



The present publication is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V. Daikin Europe N.V. has compiled the content of this publication to the best of its knowledge. No express or implied warranty is given for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this publication. All content is copyrighted by Daikin Europe N.V.

Daikin products are distributed by:



Daikin Europe N.V. is participating in the EUROVENT Certification Programme. Products are as listed in the EUROVENT Directory of Certified Products.