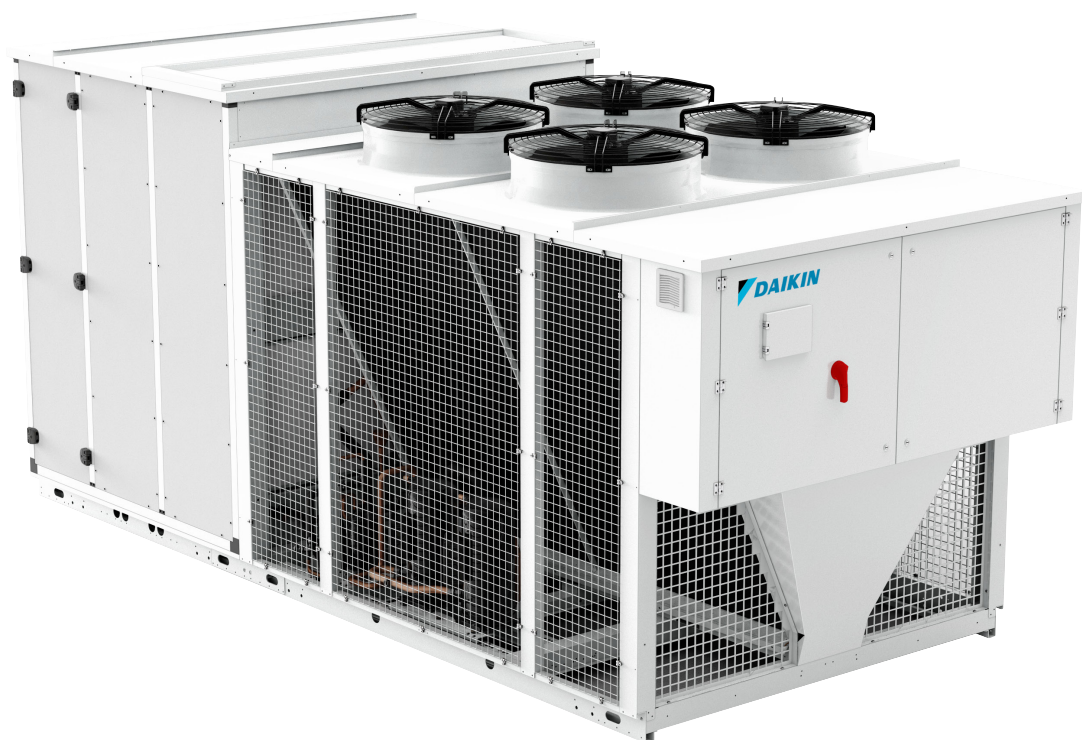


Rooftop base version Air Conditioning Technical Data UATYA-BBAY1



UATYA25BBAY1
UATYA30BBAY1
UATYA40BBAY1
UATYA50BBAY1
UATYA60BBAY1
UATYA70BBAY1
UATYA80BBAY1
UATYA90BBAY1
UATYA100BBAY1
UATYA110BBAY1
UATYA120BBAY1
UATYA140BBAY1
UATYA150BBAY1
UATYA160BBAY1
UATYA180BBAY1
UATYA190BBAY1

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UATYA-BBAY1

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1 Features

1 - 1 UATYA-BBAY1

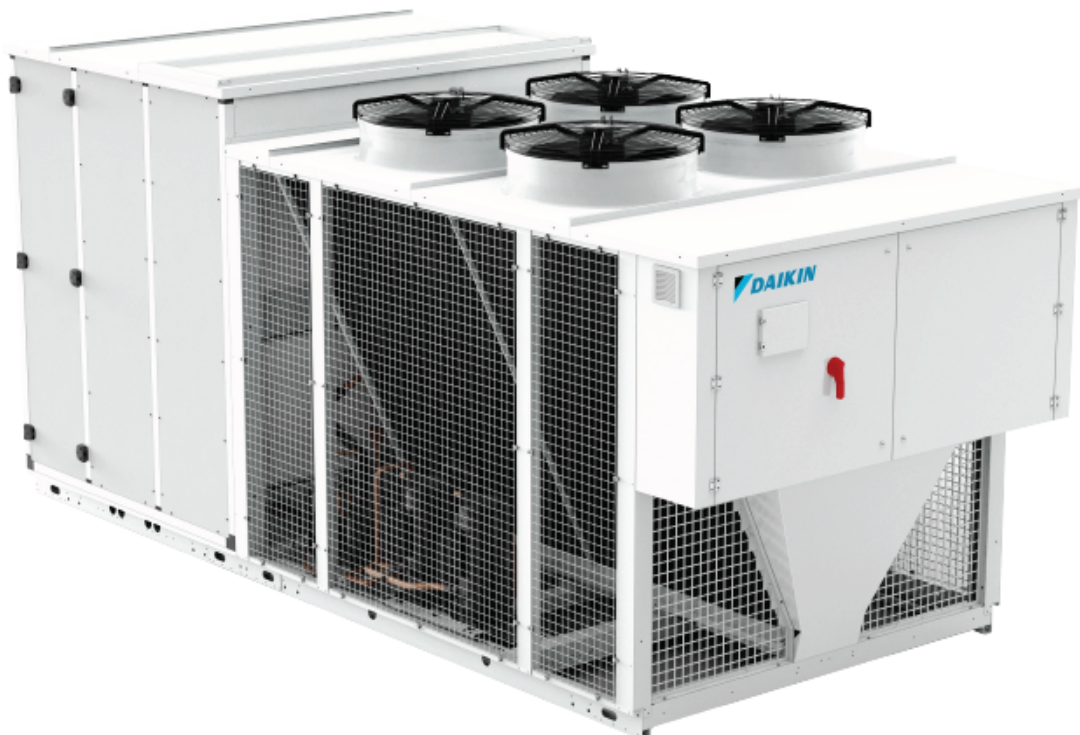
Extensive factory installed feature package for high installation flexibility and easy servicing

1

- › Reduced CO2 equivalent thanks to the use of lower GWP R-32 refrigerant
- › Highly efficient ERP compliant models, meeting the latest eco-design requirements
- › Easy to install 'plug and play' concept; no additional piping is required since this is a packaged unit
- › Available as Made-To-Stock units and Made-To-Order units with extensive option package
- › 25mm double skinned panels ensure long-lasting life and provide good thermal and sound insulation
- › Latest pCO2 controller allows direct integration with Daikin BMS, or third party BMS via BACnet or Modbus
- › Clogged filter alarm indicates when filter requires cleaning, improving air quality and efficiency
- › Flexible supply and return air connection
- › Wide operation range in cooling (-15 ~ 48°C) and heating (-15 ~ 20°C)



Inverter



2 Specifications

1 - 1 UATYA-BBAY1

Technical specifications				UATYA25BBAY1	UATYA30BBAY1	UATYA40BBAY1	UATYA50BBAY1
Cooling capacity	Nom.		kW	25.8 (1)	33.4 (1)	38.7 (1)	45.7 (1)
Heating capacity	Nom.		kW	25.3 (2)	31.1 (2)	36.3 (2)	46.2 (2)
Power input	Cooling	Nom.	kW	9.1 (1)	10.8 (1)	12.7 (1)	15.4 (1)
	Heating	Nom.	kW	7.8 (2)	9.4 (2)	11.1 (2)	14.2 (2)
EER				2.83 (1)	3.09 (1)	3.06 (1)	2.96 (1)
COP				3.22 (2)	3.31 (2)	3.26 (2)	3.24 (2)
Space cooling	Capacity	Pdesign	kW	25.8	33.4	38.7	45.7
	SEER			4.62 (3)	4.89 (3)	5.48 (3)	5.34 (3)
	ηs,c		%	181.6	192.6	216.1	210.5
	Annual energy consumption		kWh/a	3,378	4,101	4,238	5,139
Space heating (Average climate)	Capacity	Pdesign	kW	25.3	31.1	36.3	46.2
	SCOP/A			3.35 (3)	3.38 (3)	3.67 (3)	3.65 (3)
	ηs,h		%	131.0	132.2	143.8	143.0
	Pdh Heating capacity at -10°		kW	15.2	20.1	21.9	28.0
	Annual energy consumption		kWh/a	7,210	9,558	9,427	12,223
Space cooling	A	Pdc	kW	25.8	33.4	38.7	45.7
	Condition	EERd		2.83	3.09	3.06	2.96
	(35°C - 27/19)	Power input	kW	9.1	10.8	12.7	15.4
	B	Pdc	kW	19.1	24.5	28.5	33.6
	Condition	EERd		4.06	4.38	4.52	4.42
	(30°C - 27/19)	Power input	kW	4.7	5.6	6.3	7.6
	C	Pdc	kW	12.6	15.7	18.3	21.6
	Condition	EERd		5.73	6.04	6.78	6.75
	(25°C - 27/19)	Power input	kW	2.2	2.6	2.7	3.2
	D	Pdc	kW	12.9	14.0	14.5	20.4
	Condition	EERd		6.79	7.37	8.53	8.16
	(20°C - 27/19)	Power input	kW	1.9		1.7	2.5
Space heating (Average climate)	TOL	Tol (temperature operating limit)	°C	-10			
		Pdh (declared heating cap)	kW	15.2	20.1	21.9	28.0
		COPd (declared COP)		1.95	2.01	1.99	2.01
		Power input	kW	7.8	10.0	11.0	13.9
	TBivalent	Tbiv (bivalent temperature)	°C	-8			
		Pdh (declared heating cap)	kW	15.9	21.3	22.8	29.4
		COPd (declared COP)		2.01	2.11	2.07	2.10
		Power input	kW	7.9	10.1	11.0	14.0
	A Condition (-7°C)	Pdh (declared heating cap)	kW	15.3	20.4	21.8	28.1
Space heating (Average climate)	A	COPd (declared COP)		2.14	2.24	2.20	2.21
	Condition	Power input	kW	7.1	9.1	9.9	12.7
	(-7°C)						
	B	Pdh (declared heating cap)	kW	9.4	12.5	13.4	17.2
	Condition	COPd (declared COP)		3.62	3.57	3.94	3.91
	(2°C)	Power input	kW	2.6	3.5	3.4	4.4
	C	Pdh (declared heating cap)	kW	9.3	10.5	9.9	14.2
	Condition	COPd (declared COP)		4.23	4.20	4.50	4.58
	(7°C)	Power input	kW	2.2	2.5	2.2	3.1
	D	Pdh (declared heating cap)	kW	10.6	11.9	11.2	16.1
	Condition	COPd (declared COP)		5.05	4.96	5.60	5.55
	(12°C)	Power input	kW	2.1	2.4	2.0	2.9
Evaporator	Supply side	Fan	Quantity	1			
			Air flow rate	m³/h	4,500	5,800	7,500
			Nominal ESP	Pa	300 (4)		
			High ESP	Pa	480 (4)	782 (4)	565 (4)
		Filter	Thickness	mm	98		
Condenser	Air flow rate	Cooling	m³/h	15,725	16,038	16,374	16,341
	Fan	Motor	Quantity	1			
	Compressor	Quantity		1			
	Refrigerant	GWP		675			
		Charge	TCO2Eq	4,725	6,750	8,100	10,125
		Charge	kg	7.0	10.0	12.0	15.0
		Circuits	Quantity	1			
	Refrigerant oil	Charged volume	l	2	3		
	Dimensions	Unit	Height	1,924			2,374
			Width				2,250
			Depth				2,427
Weight	Unit		kg	852	908	966	986

2 Specifications

1 - 1 UATYA-BBAY1

2

Technical specifications					UATYA25BBAY1	UATYA30BBAY1	UATYA40BBAY1	UATYA50BBAY1
Sound pressure level	Cooling			dBa	63.9 (5)	66.0 (5)	68.0 (5)	67.3 (5)
Sound power level	Cooling			dBa	82.2 (6)	84.3 (6)	86.8 (6)	86.1 (6)
Operation range	Cooling	Min.		°CDB	-10			
		Max.		°CDB	48			
	Heating	Min.		°CWB	-15			
		Max.		°CWB	26			
Power consumption in other than active mode	Thermostat-off mode	Cooling	PTO	kW	0.190	0.348	0.195	0.268
		Heating	PTO	kW	0.233	0.375	0.226	0.284
	Standby mode	Cooling	PSB	kW	0.066		0.070	
Power consumption in other than active mode	Standby mode	Heating	PSB	kW	0.066		0.070	
	Off mode	Cooling	POFF	kW	0.066		0.070	
		Heating	POFF	kW	0.066		0.070	
Cooling	Cdc (Degradation cooling)				0.25			
Heating	Cdh (Degradation heating)				0.25			

Technical specifications					UATYA60BBAY1	UATYA70BBAY1	UATYA80BBAY1	UATYA90BBAY1
Cooling capacity	Nom.		kW		58.8 (1)	65.3 (1)	74.8 (1)	89.8 (1)
Heating capacity	Nom.		kW		55.1 (2)	64.9 (2)	68.5 (2)	84.2 (2)
Power input	Cooling	Nom.	kW		18.8 (1)	22.4 (1)	24.2 (1)	29.4 (1)
	Heating	Nom.	kW		16.9 (2)	20.2 (2)	20.3 (2)	26.1 (2)
EER					3.12 (1)	2.92 (1)	3.09 (1)	3.06 (1)
COP					3.25 (2)	3.21 (2)	3.37 (2)	3.22 (2)
Space cooling	Capacity	Pdesign	kW		58.8	65.3	74.8	89.8
	SEER				5.50 (3)	4.53 (3)	5.56 (3)	5.47 (3)
	ηs,c		%		217.1	178.1	219.4	215.8
	Annual energy consumption		kWh/a		6,411	8,652	8,124	9,852
Space heating (Average climate)	Capacity	Pdesign	kW		55.1	64.9	68.5	84.2
	SCOP/A				3.47 (3)	3.41 (3)	3.70 (3)	3.65 (3)
	ηs,h		%		135.6	133.5	145.2	143.0
	Pdh Heating capacity at -10°		kW		33.2	38.3	40.1	51.5
Space cooling	Annual energy consumption		kWh/a		15,091	17,811	17,498	22,119
	A	Pdc	kW		58.8	65.3	74.8	89.8
	Condition (35°C - 27/19)	EERd			3.12	2.92	3.09	3.06
		Power input	kW		18.8	22.4	24.2	29.4
	B	Pdc	kW		43.2	48.1	55.4	66.1
	Condition (30°C - 27/19)	EERd			4.70	3.87	3.96	4.35
		Power input	kW		9.2	12.4	14.0	15.2
	C	Pdc	kW		27.7	30.6	35.6	42.5
	Condition (25°C - 27/19)	EERd			6.76	5.67	6.72	6.64
		Power input	kW		4.1	5.4	5.3	6.4
	D	Pdc	kW		22.1	23.9	25.8	35.3
	Condition (20°C - 27/19)	EERd			8.84	7.24	10.32	8.83
		Power input	kW		2.5	3.3	2.5	4.0
	TOL	Tol (temperature operating limit)	°C		-10			
		Pdh (declared heating cap)	kW		33.2	38.3	40.1	51.5
		COPd (declared COP)			1.96	1.93		1.96
		Power input	kW		16.9	19.9	20.8	26.3
Space heating (Average climate)	TBivalent	Tbiv (bivalent temperature)	°C		-8			
		Pdh (declared heating cap)	kW		34.5	40.1	42.7	53.2
		COPd (declared COP)			2.04	2.02	2.04	2.03
		Power input	kW		16.9	19.9	20.9	26.2
	A Condition (-7°C)	Pdh (declared heating cap)	kW		33.0	42.3	44.5	55.3
	A	COPd (declared COP)			2.17	2.12	2.13	2.10
	Condition (-7°C)	Power input	kW		15.2	20.0	20.9	26.3
	B	Pdh (declared heating cap)	kW		20.3	23.5	25.0	19.6
	Condition (2°C)	COPd (declared COP)			3.69	3.67	3.91	3.77
		Power input	kW		5.5	6.4		5.2
	C	Pdh (declared heating cap)	kW		14.9	16.0	15.3	22.4
	Condition (7°C)	COPd (declared COP)			4.26	4.10	4.64	4.87
		Power input	kW		3.5	3.9	3.3	4.6
	D	Pdh (declared heating cap)	kW		16.9	18.4	17.7	25.4
	Condition (12°C)	COPd (declared COP)			5.12	4.84	5.71	5.77
		Power input	kW		3.3	3.8	3.1	4.4

2 Specifications

1 - 1 UATYA-BBAY1

Technical specifications					UATYA60BBAY1	UATYA70BBAY1	UATYA80BBAY1	UATYA90BBAY1
Evaporator	Supply side	Fan	Quantity		1		2	
			Air flow rate	m³/h	11,000	13,000	14,500	16,500
			Nominal ESP	Pa	300 (4)			
			High ESP	Pa	684 (4)	465 (4)	581 (4)	548 (4)
		Filter	Thickness	mm	98			
Condenser	Air flow rate	Cooling		m³/h	31,183	32,203	35,774	37,285
	Fan	Motor	Quantity		2			
	Compressor	Quantity			1	2		
	Refrigerant	GWP			675			
		Charge		TCO2Eq	12,150		15,525	16,200
		Charge		kg	18.0		23.0	24.0
		Circuits	Quantity			1		
	Refrigerant oil	Charged volume		l	3	6		
Dimensions	Unit	Height	mm		1,924		2,374	
		Width	mm		2,250			
		Depth	mm		4,317			
Weight	Unit		kg	1,551	1,651	1,798	1,856	
Sound pressure level	Cooling		dBA	69.0 (5)	68.1 (5)	72.6 (5)	68.7 (5)	
Sound power level	Cooling		dBA	88.5 (6)	87.5 (6)	92.5 (6)	88.6 (6)	
Operation range	Cooling	Min.	°CDB		-10			
		Max.	°CDB		48			
	Heating	Min.	°CWB		-15			
		Max.	°CWB		26			
Power consumption in other than active mode	Thermostat-off mode	Cooling	PTO	kW	0.517	0.893	0.222	0.293
		Heating	PTO	kW	0.524	0.940	0.280	0.352
	Standby mode	Cooling	PSB	kW	0.070	0.132		0.161
Power consumption in other than active mode	Standby mode	Heating	PSB	kW	0.070	0.132		0.161
	Off mode	Cooling	POFF	kW	0.070	0.132		0.161
		Heating	POFF	kW	0.070	0.132		0.161
Cooling	Cdc (Degradation cooling)				0.25			
Heating	Cdh (Degradation heating)				0.25			

Technical specifications					UATYA100BBAY1	UATYA110BBAY1	UATYA120BBAY1	UATYA140BBAY1
Cooling capacity	Nom.		kW		95.8 (1)	108.9 (1)	115.0 (1)	133.4 (1)
Heating capacity	Nom.		kW		92.8 (2)	101.5 (2)	108.0 (2)	123.1 (2)
Power input	Cooling	Nom.	kW		32.3 (1)	36.4 (1)	39.5 (1)	42.5 (1)
					29.0 (2)	30.3 (2)	33.2 (2)	35.8 (2)
EER					2.97 (1)	2.99 (1)	2.91 (1)	3.14 (1)
COP					3.20 (2)	3.35 (2)	3.25 (2)	3.44 (2)
Space cooling	Capacity	Pdesign	kW		95.8	108.9	115.0	133.4
					5.17 (3)	5.29 (3)	5.15 (3)	4.38 (3)
	ηs,c		%		203.7	208.6	203.0	172.1
					11,122	12,348	13,397	18,280
Space heating (Average climate)	Capacity	Pdesign	kW		92.8	101.5	108.0	123.1
					3.62 (3)	3.56 (3)	3.53 (3)	3.39 (3)
	ηs,h		%		141.6	139.3	138.3	132.5
					54.7	59.8	64.3	71.6
Space cooling	A	Pdc	kW		95.8	108.9	115.0	133.4
					2.97	2.99	2.91	3.14
		Power input	kW		32.3	36.4	39.5	42.5
					69.9	80.1	84.6	98.3
	B	Pdc	kW		69.9	80.1	84.6	98.3
					3.97	4.09	3.90	4.15
		Power input	kW		17.6	19.6	21.7	23.7
					45.3	51.4	54.3	63.2
	C	Pdc	kW		45.3	51.4	54.3	63.2
					6.29	6.27	6.17	5.02
		Power input	kW		7.2	8.2	8.8	12.6
					35.5	37.0	37.3	45.4
Space heating	D	Pdc	kW		35.5	37.0	37.3	45.4
					8.66	9.25	9.10	5.47
	Condition (20°C - 27/19)	Power input	kW		4.1	4.0	4.1	8.3

2 Specifications

1 - 1 UATYA-BBAY1

2

Technical specifications				UATYA100BBAY1	UATYA110BBAY1	UATYA120BBAY1	UATYA140BBAY1
Space heating (Average climate)	TOL	Tol (temperature operating °C limit)		-10			
		Pdh (declared heating cap) kW		54.7	59.8	64.3	71.6
		COPd (declared COP)		1.56	2.01	1.98	1.91
		Power input kW		35.0	29.8	32.5	37.4
	TBivalent	Tbiv (bivalent temperature) °C		-8			
		Pdh (declared heating cap) kW		58.5	63.8	68.5	80.8
		COPd (declared COP)		1.71	2.10	2.08	2.15
		Power input kW		34.3	30.4	33.0	37.6
	A Condition (-7°C)	Pdh (declared heating cap) kW		60.1	66.0	70.2	80.0
Space heating (Average climate)	A	COPd (declared COP)		1.78	2.18	2.13	2.12
		Power input kW		33.8	30.3	32.9	37.7
	B	Pdh (declared heating cap) kW		34.3	37.3	40.1	51.5
		COPd (declared COP)		3.94	3.52		3.68
		Power input kW		8.7	10.6	11.4	14.0
	C	Pdh (declared heating cap) kW		22.5	22.6	22.7	34.4
		COPd (declared COP)		4.79	4.81	4.73	4.15
		Power input kW		4.7		4.8	8.3
	D	Pdh (declared heating cap) kW		25.5	25.6	25.8	38.3
		COPd (declared COP)		5.67	5.69	5.73	4.67
		Power input kW			4.5		8.2
Evaporator	Supply side	Fan	Quantity	2			
			Air flow rate m ³ /h	18,000	19,800	21,600	25,000
			Nominal ESP Pa	300 (4)			
		Filter	High ESP Pa	518 (4)	482 (4)	449 (4)	496 (4)
			Thickness mm	98			
Condenser	Air flow rate	Cooling m ³ /h		36,195	38,143	36,865	70,704
	Fan	Motor	Quantity	2			
			Quantity	2			
	Refrigerant	GWP		675			
		Charge	TCO2Eq	18,900	20,250	24,300	25,650
		Charge	kg	28.0	30.0	36.0	38.0
		Circuits	Quantity	1			
	Refrigerant oil	Charged volume l		6	8		14
Dimensions	Unit	Height mm		2,374			
		Width mm		2,250			
		Depth mm		4,317			
Weight	Unit	kg		1,922	2,008	2,018	2,454
Sound pressure level	Cooling	dBA		69.9 (5)	70.6 (5)	74.2 (5)	68.3 (5)
Sound power level	Cooling	dBA		89.8 (6)	90.5 (6)	94.1 (6)	88.6 (6)
Operation range	Cooling	Min.	°CDB	-10			
		Max.	°CDB	48			
	Heating	Min.	°CWB	-15			
		Max.	°CWB	26			
Power consumption in other than active mode	Thermostat-off mode	Cooling	PTO kW	0.450	0.545	0.653	0.624
		Heating	PTO kW	0.495	0.572	0.640	0.672
	Standby mode	Cooling	PSB kW	0.161			
Power consumption in other than active mode	Standby mode	Heating	PSB kW	0.161			
Off mode	Cooling	POFF	kW	0.161			
		Heating	POFF kW	0.161			
Cooling	Cdc (Degradation cooling)			0.25			
Heating	Cdh (Degradation heating)			0.25			

Technical specifications				UATYA150BBAY1	UATYA160BBAY1	UATYA180BBAY1	UATYA190BBAY1
Cooling capacity	Nom.	kW		144.7 (1)	154.6 (1)	171.9 (1)	187.0 (1)
Heating capacity	Nom.	kW		136.4 (2)	147.1 (2)	157.1 (2)	176.9 (2)
Power input	Cooling	Nom.	kW	47.9 (1)	50.7 (1)	56.1 (1)	62.9 (1)
	Heating	Nom.	kW	40.9 (2)	45.1 (2)	47.2 (2)	54.2 (2)
EER				3.02 (1)	3.05 (1)	3.07 (1)	2.97 (1)
COP				3.33 (2)	3.26 (2)	3.33 (2)	3.27 (2)
Space cooling	Capacity	Pdesign	kW	144.7	154.6	171.9	187.0
	SEER			4.26 (3)	4.27 (3)	4.15 (3)	4.08 (3)
	ηs,c	%		167.2	167.6	162.8	160.2
	Annual energy consumption		kWh/a	20,374	21,779	24,876	27,540

2 Specifications

1 - 1 UATYA-BBAY1

Technical specifications					UATYA150BBAY1	UATYA160BBAY1	UATYA180BBAY1	UATYA190BBAY1	
Space heating (Average climate)	Capacity	Pdesign	kW		136.4	147.1	157.1	176.9	
	SCOP/A				3.36 (3)	3.34 (3)	3.31 (3)	3.34 (3)	
	ηs,h		%		131.4	130.8	129.5	130.6	
	Pdh Heating capacity at -10°		kW		80.3	85.9	95.5	105.9	
	Annual energy consumption		kWh/a		44,258	47,649	51,965	56,838	
Space cooling	A	Pdc	kW		144.7	154.6	171.9	187.0	
	Condition	EERd			3.02	3.05	3.07	2.97	
	(35°C - 27/19)	Power input	kW		47.9	50.7	56.1	62.9	
	B	Pdc	kW		106.5	114.1	126.7	138.0	
	Condition	EERd			4.05	3.98	4.05	3.84	
	(30°C - 27/19)	Power input	kW		26.3	28.7	31.3	35.9	
	C	Pdc	kW		68.5	73.3	81.4	88.7	
	Condition	EERd			4.86	4.92	4.82		
	(25°C - 27/19)	Power input	kW		14.1	14.9	16.9	18.4	
	D	Pdc	kW		49.7	50.2	58.3	58.5	
Condition	EERd			5.29	5.34	5.03	5.00		
(20°C - 27/19)	Power input	kW		9.4		11.6	11.7		
Space heating (Average climate)	TOL	Tol (temperature operating limit)	°C		-10				
		Pdh (declared heating cap)	kW		80.3	85.9	95.5	105.9	
		COPd (declared COP)			1.91	1.88	1.97	1.98	
		Power input	kW		42.0	45.8	48.4	53.4	
	TBivalent	Tbiv (bivalent temperature)	°C		-6				
		Pdh (declared heating cap)	kW		89.9	96.3	104.0	114.7	
		COPd (declared COP)			2.12	2.08	2.14	2.13	
		Power input	kW		42.5	46.4	48.7	53.9	
	A Condition (-7°C)	Pdh (declared heating cap)	kW		86.4	93.6	103.4	113.7	
	Space heating (Average climate)	A	COPd (declared COP)			2.03		2.11	
Condition (-7°C)		Power input	kW		42.5	46.2	49.1	53.8	
B		Pdh (declared heating cap)	kW		57.3	61.3	66.3	80.0	
Condition (2°C)		COPd (declared COP)			3.67		3.60	3.67	
		Power input	kW		15.6	16.7	18.4	21.8	
C		Pdh (declared heating cap)	kW		38.3	38.5	45.0	45.3	
Condition (7°C)		COPd (declared COP)			4.12	4.10	4.02	4.01	
		Power input	kW		9.3	9.4	11.2	11.3	
D		Pdh (declared heating cap)	kW		42.3		48.9	49.2	
Condition (12°C)		COPd (declared COP)			4.60	4.55	4.45	4.43	
	Power input	kW		9.2	9.3	11.0	11.1		
Evaporator	Supply side	Fan	Quantity		3				
			Air flow rate	m³/h		26,500	28,000	30,500	31,500
			Nominal ESP	Pa		300 (4)			
			High ESP	Pa		471 (4)	443 (4)	395 (4)	365 (4)
		Filter	Thickness	mm		98			
Condenser	Air flow rate	Cooling	m³/h		72,395	67,733	70,200	72,005	
	Fan	Motor	Quantity		4				
	Compressor	Quantity			4				
	Refrigerant	GWP			675				
		Charge	TCO2Eq		25,650	31,050	33,750		
		Charge	kg		38.0	46.0	50.0		
		Circuits	Quantity		2				
	Refrigerant oil	Charged volume	l		14		16		
	Dimensions	Unit	Height	mm		2,374			
			Width	mm		2,250			
Depth			mm		5,117				
Weight	Unit		kg	2,462	2,504	2,558	2,636		
Sound pressure level	Cooling		dBA	68.3 (5)	68.7 (5)	69.1 (5)	70.0 (5)		
Sound power level	Cooling		dBA	88.6 (6)	89.0 (6)	89.3 (6)	90.2 (6)		
Operation range	Cooling	Min.	°CDB		-10				
		Max.	°CDB		48				
	Heating	Min.	°CWB		-15				
		Max.	°CWB		26				
Power consumption in other than active mode	Thermostat-off mode	Cooling	PTO	kW	0.661	0.861	1.383	1.553	
		Heating	PTO	kW	0.666	0.835	1.272	1.474	
	Standby mode	Cooling	PSB	kW		0.268		0.324	

2 Specifications

1 - 1 UATYA-BBAY1

2

Technical specifications					UATYA150BBAY1	UATYA160BBAY1	UATYA180BBAY1	UATYA190BBAY1
Power consumption in other than active mode	Standby mode	Heating	PSB	kW	0.268			0.324
	Off mode	Cooling	POFF	kW	0.268			0.324
		Heating	POFF	kW	0.268			0.324
Cooling	Cdc (Degradation cooling)				0.25			
Heating	Cdh (Degradation heating)				0.25			

Electrical specifications					UATYA25BBAY1	UATYA30BBAY1	UATYA40BBAY1	UATYA50BBAY1
Power supply	Name	400/3/50±5%						
	Phase	3~						
	Frequency	Hz	50					
	Voltage	V	400					
Current	Nominal running current (RLA)	Cooling	A	13.3	22.6	23.4	31.6	
	Recommended fuses		A	25	40	50		
Wiring connections	For power supply	Quantity	4G					

Electrical specifications					UATYA60BBAY1	UATYA70BBAY1	UATYA80BBAY1	UATYA90BBAY1
Power supply	Name	400/3/50±5%						
	Phase	3~						
	Frequency	Hz	50					
	Voltage	V	400					
Current	Nominal running current (RLA)	Cooling	A	34.5	42.0	47.9	65.0	
	Recommended fuses		A	50	63	80	100	
Wiring connections	For power supply	Quantity	4G					

Electrical specifications					UATYA100BBAY1	UATYA110BBAY1	UATYA120BBAY1	UATYA140BBAY1
Power supply	Name	400/3/50±5%						
	Phase	3~						
	Frequency	Hz	50					
	Voltage	V	400					
Current	Nominal running current (RLA)	Cooling	A	65.0	68.4	98.6		
	Recommended fuses		A	100	160			
Wiring connections	For power supply	Quantity	4G					

Electrical specifications					UATYA150BBAY1	UATYA160BBAY1	UATYA180BBAY1	UATYA190BBAY1
Power supply	Name	400/3/50±5%						
	Phase	3~						
	Frequency	Hz	50					
	Voltage	V	400					
Current	Nominal running current (RLA)	Cooling	A	107.4	116.0	125.2	131.2	
	Recommended fuses		A	160	200			
Wiring connections	For power supply	Quantity	4G					

(1)Conditions for calculation: Ambient air 27°C DB, 19°C WB; External air 35°C DB, 24°C WB. 100% recirculating air; calculated according to EN 14511/2018 |

(2)Conditions for calculation: Ambient air 20°C DB, 15°C WB; External air 7°C DB, 6°C WB. 100% recirculating air; calculated according to EN 14511/2018 |

(3)Calculated according to EN 14825/2019 |

(4)Value refers to unit at nominal airflow, delivered with no accessories and with only G4 filters. |

(5)Average sound pressure level, at 1 meter from the unit, in free field on a reflective surface. Not binding value derived from the sound power level |

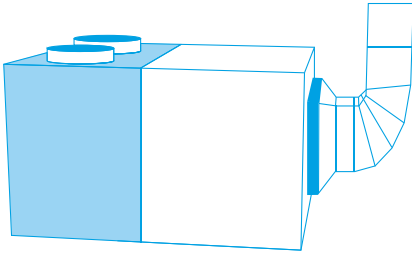
(6)Sound power level in free field calculated according to standard ISO 3744. Values refer only to the base unit version

3 Features and advantages

3 - 1 Features and Advantages

UATYA-BBAY1
UATYA-BFC2Y1
UATYA-BFC3Y1

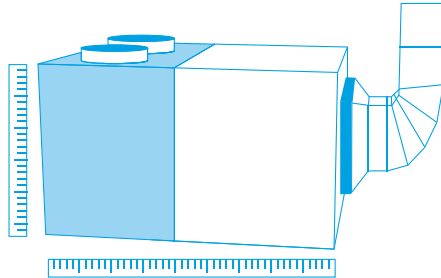
Made-To-Stock units (MTS)



48 predefined units readily available from stock

- › Fast delivery
- › 3 versions: Base, 2 dampers and 3 dampers
 - › Thermodynamic heat recovery available on full FC3 range
- › Extended capacity up to 190 kW!
- › Comes with a wide range of standard integrated features

Made-To-Order units (MTO)



Fully customizable units for maximum flexibility

- › Almost infinite configuration possibilities thanks to wide choice of options
- › 4 versions: Base, 2 dampers, 3 dampers and 4 dampers
 - › Thermodynamic heat recovery available on full FC3 range
 - › Premium efficiency plate heat exchanger available on RS4 range
- › Extended capacity up to 190 kW!
- › Comes with a wide range of standard integrated features
- › Easy selection via selection software: rooftop.daikin.eu

ECPEN21-117

3 Features and advantages

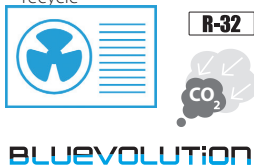
3 - 1 Features and Advantages

UATYA-BBAY1
UATYA-BFC2Y1
UATYA-BFC3Y1

Standard integrated features on all Made-To-Stock and Made-To-Order units

1 R-32 refrigerant

- › Top sustainability thanks to the use of low GWP (675) refrigerant
- › Single component refrigerant, easy to re-use and recycle



BLUEEVOLUTION

2 Inverter driven compressors

- › Great year-round seasonal efficiency
- › Available up to 120 kW models

3 Increased capacity range up to 190 kW!

- › More flexibility to tackle larger projects with a small footprint



4 25 mm double skinned panels

- › Ensuring long-lasting life and providing good thermal and sound insulation

5 Full color touch display

- › Intuitive to use
- › Better visualisation of unit parameters



6 Integrated connectivity

- › Direct integration into Daikin intelligent Touch Manager BMS (via BACNET protocol)
- › Easy integration in 3rd party BMS systems via Ethernet port (BACnet TCP/IP & Modbus TCP/IP) or 3-cable port (Modbus over RS485)



7 Selection software

- › Easy selection of the correction unit and options based on location conditions
- › Direct availability of technical drawings

More standard integrated features

- › ISO Coarse 75% filter (G4) (standard for MTS only)
- › Standard clogged filter alarm
- › Flexible air delivery
- › Hydrophilic aluminum fins on indoor and outdoor unit side
- › Mesh coil guard on outdoor heat exchanger
- › Factory mounted drain pan with heater
- › Single operation voltage-free contact
- › Power supply connection safety through max/min voltage relay and reversed phase connection

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Options

Options

UATYA-BBAY1 UATYA-BFC2Y1 UATYA-BFC3Y1

	MTS - BASE series - UATYA-BBAY1					MTS - FC2 series - UATYA-BFC2Y1					MTS - FC3 series - UATYA-BFC3Y1				
	25-30	40-50	60-70	80-120	140-190	25-30	40	50	60-70	80-190	25-30	40-50	60-70	80-120	140-190
Air treatment	Filter ISO Coarse 75% (G4)	2x UATYAC75A + 2x UATYAC75B (Standard)	3x UATYAC75A + 3x UATYAC75B (Standard)	6x UATYAC75B (Standard)	12x UATYAC75C (Standard)	12x UATYAC75C (Standard)	2x UATYAC75A + 2x UATYAC75B (Standard)	3x UATYAC75A + 3x UATYAC75B (Standard)	3x UATYAC75A + 3x UATYAC75B (Standard)	6x UATYAC75B (Standard)	12x UATYAC75C (Standard)	2x UATYAC75A + 2x UATYAC75B (Standard)	3x UATYAC75A + 3x UATYAC75B (Standard)	6x UATYAC75B (Standard)	12x UATYAC75C (Standard)
	Filter ISO ePM10 50% (M5/F5)	2x UATY-AEPM1050A + 2x UATYAEPM1050B	3x UATY-AEPM1050A + 3x UATYAEPM1050B	6x UATY-AEPM1050B	12x UATY-AEPM1050C	12x UATY-AEPM1050C	2x UATY-AEPM1050A + 2x UATYAEPM1050B	3x UATY-AEPM1050A + 3x UATYAEPM1050B	3x UATY-AEPM1050A + 3x UATYAEPM1050B	6x UATY-AEPM1050B	12x UATY-AEPM1050C	2x UATY-AEPM1050A + 2x UATYAEPM1050B	3x UATY-AEPM1050A + 3x UATYAEPM1050B	6x UATY-AEPM1050B	12x UATY-AEPM1050C
	Filter ISO ePM10 70% (M6)	2x UATY-AEPM1070A + 2x UATYAEPM1070B	3x UATY-AEPM1070A + 3x UATYAEPM1070B	6x UATY-AEPM1070B	12x UATY-AEPM1070C	12x UATY-AEPM1070C	2x UATY-AEPM1070A + 2x UATYAEPM1070B	3x UATY-AEPM1070A + 3x UATYAEPM1070B	3x UATY-AEPM1070A + 3x UATYAEPM1070B	6x UATY-AEPM1070B	12x UATY-AEPM1070C	2x UATY-AEPM1070A + 2x UATYAEPM1070B	3x UATY-AEPM1070A + 3x UATYAEPM1070B	6x UATY-AEPM1070B	12x UATY-AEPM1070C
	Rigid bag filter ISO ePM1 50% (F7)	2x UATY-AEPM150A + 2x UATYAEPM150B	3x UATY-AEPM150A + 3x UATYAEPM150B	6x UATYAEPM150B	12x UATY-AEPM150C	12x UATY-AEPM150C	2x UATY-AEPM150A + 2x UATYAEPM150B	3x UATY-AEPM150A + 3x UATYAEPM150B	3x UATY-AEPM150A + 3x UATYAEPM150B	6x UATYAEPM150B	12x UATY-AEPM150C	2x UATY-AEPM150A + 2x UATYAEPM150B	3x UATY-AEPM150A + 3x UATYAEPM150B	6x UATYAEPM150B	12x UATY-AEPM150C
	Rigid bag filter ISO ePM1 85% (F9)	2x UATY-AEPM185A + 2x UATYAEPM185B	3x UATY-AEPM185A + 3x UATYAEPM185B	6x UATYAEPM185B	12x UATY-AEPM185C	12x UATY-AEPM185C	2x UATY-AEPM185A + 2x UATYAEPM185B	3x UATY-AEPM185A + 3x UATYAEPM185B	3x UATY-AEPM185A + 3x UATYAEPM185B	6x UATYAEPM185B	12x UATY-AEPM185C	2x UATY-AEPM185A + 2x UATYAEPM185B	3x UATY-AEPM185A + 3x UATYAEPM185B	6x UATYAEPM185B	12x UATY-AEPM185C
Control	UATYAC2P - Duct air quality CO2 probe	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	UATYACAP - Constant air pressure control airflow transducer	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	UATYAWRC - Remote touch screen wired remote controller	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	UATYARRP - Room temperature return probe (incl. housing)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	UATYASA - Fire and smoke alarm	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Other	Rubber antivibration mounts	2x UATYAAM1	1x UATYAAM1 + 1x UATYAAM2	2x UATYAAM1 + 1x UATYAAM2	4x UATYAAM1	2x UATYAAM1 + 2x UATYAAM2	2x UATYAAM1	2x UATYAAM1	1x UATYAAM1 + 1x UATYAAM2	3x UATYAAM1 + 2x UATYAAM2	2x UATYAAM1 + 2x UATYAAM2	1x UATYAAM1 + 1x UATYAAM2	1x UATYAAM1 + 2x UATYAAM2	2x UATYAAM1 + 2x UATYAAM2	3x UATYAAM1 + 2x UATYAAM2
	Rainproof hood with anti-intrusion grille					UATYARPH1	UATYARPH2	UATYARPH2	UATYARPH3	UATYARPH4	2x UATYARPH1	2x UATYARPH2	2x UATYARPH3	2x UATYARPH4	2x UATYARPH4

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5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA25BBAY1
UATYA25BFC2Y1
UATYA25BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																		
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil														
	T DB	T WB		20			25			30			35			40		
	[°C]	[°C]		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
4500	24	17		26,3	18,7	7,3	25,8	18,5	7,8	25,1	18,4	8,4	24,3	17,9	9,0	23,5	17,6	9,6
	25	18		27,1	18,6	7,3	26,5	18,4	7,8	25,9	18,3	8,4	25,0	17,8	9,0	24,2	17,5	9,7
	26	18		27,2	20,2	7,3	26,5	19,9	7,8	25,8	19,6	8,4	25,1	18,8	9,1	24,4	18,6	9,7
	27	19		28,1	20,0	7,4	27,3	19,6	7,9	26,6	19,5	8,5	25,8	19,3	9,1	25,0	19,0	9,8
	28	20		28,9	19,7	7,5	28,2	19,6	8,0	27,4	19,1	8,6	26,6	19,1	9,2	25,8	18,8	9,9
	30	22		30,6	19,2	7,6	29,9	18,9	8,1	29,2	18,9	8,8	28,3	18,4	9,4	27,4	18,3	10,0

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
4500	-15	-16	14,0	6,4	13,9	6,5	14,3	6,8	13,9	7,0	14,2	7,2	14,4	7,4	14,3	7,6	14,0	7,8
	-10	-11	16,1	6,6	16,5	6,9	16,2	7,1	16,6	7,4	16,7	7,6	16,7	7,8	17,1	8,1	16,9	8,3
	-7	-8	17,9	6,8	18,0	7,0	17,8	7,2	18,0	7,4	18,1	7,7	18,0	7,9	17,7	8,1	18,2	8,4
	-3	-4	20,0	6,7	19,9	7,0	19,9	7,2	20,1	7,4	19,9	7,6	20,1	7,8	20,3	8,1	20,1	8,3
	0	-1	21,7	6,7	21,7	6,9	21,4	7,1	21,8	7,3	21,5	7,5	21,5	7,7	21,3	8,0	21,7	8,2
	2	1	22,6	6,7	22,7	6,8	22,7	7,1	22,7	7,3	22,6	7,5	22,5	7,7	22,4	7,9	22,5	8,2
	7	6	25,8	6,8	25,7	7,0	25,5	7,2	25,4	7,4	25,4	7,6	25,3	7,9	25,3	8,1	25,1	8,3
	12	11	28,7	7,1	28,7	7,3	28,4	7,5	28,1	7,7	28,2	8,0	28,1	8,2	28,2	8,5	27,9	8,7

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
4500	-15	-16	12,7	6,4	12,6	6,5	13,0	6,8	12,7	7,0	12,9	7,2	13,1	7,4	13,0	7,6	12,8	7,8
	-10	-11	14,6	6,6	15,0	6,9	14,7	7,1	15,1	7,4	15,2	7,6	15,2	7,8	15,5	8,1	15,4	8,3
	-7	-8	16,3	6,8	16,4	7,0	16,2	7,2	16,3	7,4	16,5	7,7	16,4	7,9	16,1	8,1	16,5	8,4
	-3	-4	18,2	6,7	18,1	7,0	18,1	7,2	18,3	7,4	18,1	7,6	18,3	7,8	18,4	8,1	18,3	8,3
	0	-1	19,8	6,7	19,8	6,9	19,5	7,1	19,8	7,3	19,6	7,5	19,6	7,7	19,4	8,0	19,7	8,2
	2	1	20,6	6,7	20,6	6,8	20,6	7,1	20,6	7,3	20,5	7,5	20,5	7,7	20,4	7,9	20,4	8,2
	7	6	25,8	6,8	25,7	7,0	25,5	7,2	25,4	7,4	25,4	7,6	25,3	7,9	25,3	8,1	25,1	8,3
	12	11	28,7	7,1	28,7	7,3	28,4	7,5	28,1	7,7	28,2	8,0	28,1	8,2	28,2	8,5	27,9	8,7

Data calculated in accordance with EN 14511

UATYA25BBAY1
UATYA25BFC2Y1
UATYA25BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{\frac{x * V_{intake}}{V_{axial}}}{100} + T_{outdoor} * \left(1 - \frac{\frac{x * V_{intake}}{V_{axial}}}{100}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA30BBAY1
UATYA30BFC2Y1
UATYA30BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																	
Air Flow [m ³ /h]	Air Condition on Supply Coil		Air conditions on External Coil														
	T DB	TWB	20			30			30			35			40		
	°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
5800	24	17	33,9	23,7	8,4	33,2	23,5	9,1	32,3	23,1	9,8	31,4	22,9	10,6	30,4	21,8	11,6
	30	18	35,0	23,4	8,5	34,3	23,2	9,1	33,4	22,8	9,9	32,4	22,6	10,7	31,3	22,2	11,6
	26	18	35,1	25,7	8,5	34,3	24,7	9,2	33,4	25,1	9,9	32,3	24,5	10,7	31,5	23,9	11,7
	27	19	36,2	25,1	8,6	35,5	25,1	9,2	34,4	24,6	10,0	33,5	24,6	10,8	32,3	24,0	11,7
	28	20	37,3	25,0	8,7	36,5	24,4	9,3	35,5	24,4	10,1	34,5	24,0	10,9	33,4	23,6	11,8
	30	22	39,8	24,2	8,8	38,9	23,8	9,4	37,8	23,8	10,2	36,8	23,6	11,1	35,4	23,0	12,0

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
5800	-15	-16	17,2	7,6	17,4	7,9	17,2	8,1	17,5	8,4	17,4	8,7	17,9	9,0	18,0	9,3	18,0	9,7
	-10	-11	20,2	8,0	19,7	8,2	19,8	8,5	20,4	8,8	20,4	9,2	20,9	9,5	21,1	9,9	21,0	10,3
	-7	-8	22,0	8,0	22,2	8,3	22,3	8,6	22,2	8,9	22,2	9,3	22,0	9,6	22,6	10,0	21,9	10,3
	-3	-4	24,3	8,0	24,4	8,2	24,6	8,6	24,6	8,8	24,7	9,2	24,6	9,6	24,8	9,9	24,7	10,3
	0	-1	26,5	7,8	26,4	8,1	26,5	8,4	26,2	8,8	26,7	9,0	26,6	9,4	26,6	9,8	26,5	10,1
	2	1	28,2	7,7	27,8	8,0	27,8	8,3	27,8	8,6	27,8	8,9	27,9	9,2	28,0	9,6	27,8	10,0
	7	6	31,4	7,8	31,2	8,1	31,2	8,4	31,2	8,7	31,2	9,0	31,2	9,4	31,0	9,7	31,2	10,2
	12	11	34,7	8,0	34,6	8,4	34,5	8,7	34,4	9,0	34,3	9,4	34,2	9,7	34,2	10,1	34,2	10,5

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
5800	-15	-16	15,7	7,6	15,9	7,9	15,7	8,1	15,9	8,4	15,8	8,7	16,2	9,0	16,3	9,3	16,4	9,7
	-10	-11	18,4	8,0	17,9	8,2	18,0	8,5	18,6	8,8	18,6	9,2	19,0	9,5	19,2	9,9	19,1	10,3
	-7	-8	20,0	8,0	20,2	8,3	20,3	8,6	20,2	8,9	20,2	9,3	20,0	9,6	20,6	10,0	20,0	10,3
	-3	-4	22,1	8,0	22,2	8,2	22,4	8,6	22,4	8,8	22,4	9,2	22,4	9,6	22,5	9,9	22,4	10,3
	0	-1	24,1	7,8	24,0	8,1	24,1	8,4	23,8	8,8	24,3	9,0	24,2	9,4	24,2	9,8	24,1	10,1
	2	1	25,7	7,7	25,2	8,0	25,2	8,3	25,3	8,6	25,3	8,9	25,3	9,2	25,5	9,6	25,3	10,0
	7	6	31,4	7,8	31,2	8,1	31,2	8,4	31,2	8,7	31,2	9,0	31,2	9,4	31,0	9,7	31,2	10,2
	12	11	34,7	8,0	34,6	8,4	34,5	8,7	34,4	9,0	34,3	9,4	34,2	9,7	34,2	10,1	34,2	10,5

Data calculated in accordance with EN 14511

UATYA30BBAY1
UATYA30BFC2Y1
UATYA30BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA40BBAY1
UATYA40BFC2Y1
UATYA40BFC3Y1

Cooling Capacity and Power Input Table [EN 14511]																		
Air Flow	Air Condition on Supply Coil					Air conditions on External Coil												
	T DB	TWB	20			40			30			35			40			
	[°C]	[°C]	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
7500	24	17	39,2	27,6	10,1	38,4	27,1	10,8	37,4	26,8	11,6	36,5	26,5	12,4	35,2	26,0	13,4	
	40	18	40,5	27,1	10,2	39,7	26,9	10,9	38,7	26,6	11,7	37,6	26,1	12,6	36,4	25,9	13,5	
	26	18	40,4	29,3	10,2	39,6	29,3	10,9	39,0	28,8	11,7	37,6	28,0	12,6	36,4	27,2	13,6	
	27	19	41,7	29,1	10,3	40,9	28,9	11,0	39,8	28,6	11,8	38,8	28,4	12,7	37,4	27,8	13,7	
	28	20	43,1	28,7	10,3	42,2	28,4	11,1	41,2	28,2	11,9	40,1	27,9	12,8	38,8	27,7	13,8	
	30	22	45,8	28,1	10,6	44,8	27,6	11,3	44,0	27,6	12,1	42,5	26,8	13,0	41,1	26,8	14,0	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
7500	-15	-16	19,8	8,7	20,0	9,1	19,8	9,3	20,3	9,7	20,1	9,9	20,7	10,4	20,5	10,7	20,9	11,1
	-10	-11	23,2	9,2	23,2	9,5	23,3	9,9	23,8	10,2	24,0	10,7	24,0	11,0	24,2	11,4	24,5	11,8
	-7	-8	25,5	9,3	25,1	9,6	25,2	10,0	25,7	10,3	25,4	10,7	25,8	11,1	25,8	11,5	26,0	11,9
	-3	-4	28,9	9,4	28,7	9,7	28,8	10,0	28,9	10,3	28,9	10,7	28,5	11,2	28,5	11,6	28,9	11,9
	0	-1	31,0	9,3	30,6	9,7	31,3	9,9	31,3	10,2	31,2	10,7	31,1	11,0	31,1	11,4	30,9	11,8
	2	1	32,8	9,2	32,6	9,5	32,6	9,9	32,5	10,2	32,4	10,5	32,5	11,0	32,4	11,3	32,4	11,7
	7	6	36,9	9,4	36,7	9,7	36,7	10,0	36,5	10,4	36,5	10,8	36,3	11,1	36,2	11,6	36,2	12,0
	12	11	40,5	9,8	40,3	10,1	40,2	10,5	40,0	10,8	39,8	11,2	39,7	11,6	39,5	12,0	39,4	12,4

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
7500	-15	-16	18,0	8,7	18,2	9,1	18,0	9,3	18,4	9,7	18,2	9,9	18,8	10,4	18,7	10,7	19,0	11,1
	-10	-11	21,1	9,2	21,1	9,5	21,2	9,9	21,7	10,2	21,8	10,7	21,9	11,0	22,0	11,4	22,3	11,8
	-7	-8	23,2	9,3	22,8	9,6	22,9	10,0	23,3	10,3	23,1	10,7	23,5	11,1	23,5	11,5	23,6	11,9
	-3	-4	26,3	9,4	26,1	9,7	26,2	10,0	26,3	10,3	26,2	10,7	25,9	11,2	26,0	11,6	26,3	11,9
	0	-1	28,2	9,3	27,8	9,7	28,5	9,9	28,5	10,2	28,3	10,7	28,3	11,0	28,3	11,4	28,1	11,8
	2	1	29,8	9,2	29,7	9,5	29,6	9,9	29,5	10,2	29,5	10,5	29,6	11,0	29,4	11,3	29,4	11,7
	7	6	36,9	9,4	36,7	9,7	36,7	10,0	36,5	10,4	36,5	10,8	36,3	11,1	36,2	11,6	36,2	12,0
	12	11	40,5	9,8	40,3	10,1	40,2	10,5	40,0	10,8	39,8	11,2	39,7	11,6	39,5	12,0	39,4	12,4

Data calculated in accordance with EN 14511

UATYA40BBAY1
UATYA40BFC2Y1
UATYA40BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA50BBAY1
UATYA50BFC2Y1
UATYA50BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																	
Air Flow (m³/h)	Air Condition on Supply Coil		Air conditions on External Coil														
	T DB [°C]	TWB [°C]	20			40			30			35			40		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
9000	24	17	46,3	31,9	12,2	45,2	31,5	13,1	44,2	31,2	14,1	43,0	30,6	15,2	42,1	30,9	16,4
	40	18	47,8	31,3	12,4	46,7	30,7	13,2	45,8	30,7	14,2	44,3	29,8	15,3	43,8	31,0	16,5
	26	18	47,8	34,6	12,4	46,6	33,6	13,2	45,6	33,6	14,2	44,4	33,0	15,3	43,3	33,0	16,5
	27	19	49,1	33,4	12,5	48,1	33,4	13,4	47,0	32,8	14,3	45,7	32,5	15,4	44,4	32,5	16,7
	28	20	50,5	32,6	12,6	49,6	32,6	13,5	48,4	32,0	14,5	47,1	32,0	15,6	45,8	32,0	16,8
	30	22	53,6	32,5	12,8	52,5	32,5	13,7	51,3	31,9	14,7	49,9	31,2	15,8	48,1	30,3	17,1

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
9000	-15	-16	24,9	10,5	25,3	11,0	25,4	11,4	25,5	11,7	25,6	12,1	25,8	12,6	25,8	13,0	26,2	13,6
	-10	-11	30,0	11,5	29,8	11,9	29,9	12,3	30,2	12,8	30,4	13,3	30,8	13,9	31,1	14,5	31,6	15,0
	-7	-8	32,6	11,5	32,6	12,1	32,8	12,5	32,6	13,1	32,9	13,6	33,2	14,1	33,0	14,6	33,8	15,2
	-3	-4	36,6	11,7	36,4	12,1	36,3	12,6	36,8	13,2	36,3	13,6	36,6	14,1	37,1	14,6	37,3	15,2
	0	-1	39,5	11,7	39,5	12,1	39,5	12,6	39,5	13,1	39,6	13,6	39,7	14,0	39,7	14,6	39,8	15,2
	2	1	41,3	11,6	41,3	12,1	41,3	12,5	41,4	13,0	41,3	13,5	41,4	14,0	41,5	14,5	41,5	15,0
	7	6	46,4	11,7	46,3	12,2	46,3	12,7	46,3	13,2	46,2	13,7	46,2	14,2	45,7	14,7	45,9	15,3
	12	11	50,4	12,2	50,4	12,7	50,1	13,2	50,0	13,7	50,0	14,2	49,9	14,8	49,8	15,3	49,5	15,8

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
9000	-15	-16	22,7	10,5	23,0	11,0	23,1	11,4	23,2	11,7	23,3	12,1	23,5	12,6	23,5	13,0	23,8	13,6
	-10	-11	27,3	11,5	27,1	11,9	27,2	12,3	27,4	12,8	27,6	13,3	28,0	13,9	28,3	14,5	28,7	15,0
	-7	-8	29,6	11,5	29,7	12,1	29,9	12,5	29,6	13,1	30,0	13,6	30,1	14,1	30,0	14,6	30,7	15,2
	-3	-4	33,3	11,7	33,1	12,1	33,0	12,6	33,4	13,2	33,0	13,6	33,2	14,1	33,7	14,6	33,9	15,2
	0	-1	35,9	11,7	35,9	12,1	35,9	12,6	36,0	13,1	36,0	13,6	36,1	14,0	36,1	14,6	36,2	15,2
	2	1	37,5	11,6	37,6	12,1	37,6	12,5	37,6	13,0	37,6	13,5	37,6	14,0	37,7	14,5	37,7	15,0
	7	6	46,4	11,7	46,3	12,2	46,3	12,7	46,3	13,2	46,2	13,7	46,2	14,2	45,7	14,7	45,9	15,3
	12	11	50,4	12,2	50,4	12,7	50,1	13,2	50,0	13,7	50,0	14,2	49,9	14,8	49,8	15,3	49,5	15,8

Data calculated in accordance with EN 14511

UATYA50BBAY1
UATYA50BFC2Y1
UATYA50BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA60BBAY1
UATYA60BFC2Y1
UATYA60BFC3Y1

5

Cooling Capacity and Power Input Table (EN 14511)																	
Air Flow (m³/h)	Air Condition on Supply Coil		Air conditions on External Coil														
	T DB [°C]	TWB [°C]	20			40			30			35			40		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
11000	24	17	59,9	40,9	14,8	58,7	40,1	15,9	56,9	39,4	17,1	55,2	39,0	18,5	53,6	38,6	20,1
	40	18	62,0	41,0	15,0	60,4	39,9	16,0	58,7	39,1	17,3	56,9	38,8	18,7	54,9	37,6	20,2
	26	18	61,8	43,8	14,9	60,3	43,0	16,0	58,8	42,7	17,2	56,8	41,9	18,7	55,0	41,2	20,2
	27	19	63,8	43,2	15,1	62,4	42,4	16,2	60,6	42,1	17,4	58,8	41,3	18,8	56,8	40,9	20,4
	28	20	66,0	43,0	15,2	64,5	42,2	16,3	62,7	41,4	17,5	60,8	41,1	19,0	58,5	40,3	20,5
	30	22	70,3	42,5	15,5	68,6	42,1	16,7	66,5	41,3	17,9	64,4	40,6	19,3	62,3	39,8	20,9

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
11000	-15	-16	30,3	13,7	29,6	13,9	30,2	14,5	30,4	15,0	30,6	15,5	31,0	16,0	31,1	16,6	31,6	17,1
	-10	-11	35,3	14,2	35,8	14,8	34,7	15,2	35,5	15,8	36,3	16,4	36,5	17,0	36,6	17,4	37,1	18,1
	-7	-8	38,5	14,4	38,7	14,9	38,2	15,4	38,8	15,9	39,2	16,5	38,3	17,0	38,6	17,5	38,9	18,1
	-3	-4	43,2	14,4	43,4	14,9	43,5	15,4	43,6	15,8	43,1	16,4	43,8	16,9	43,7	17,5	43,6	18,0
	0	-1	47,4	14,2	47,0	14,6	46,6	15,1	47,1	15,6	46,1	16,2	46,9	16,7	46,6	17,2	46,8	17,8
	2	1	49,4	14,1	49,3	14,5	49,5	14,9	48,6	15,5	48,9	16,0	48,9	16,5	48,8	17,1	49,0	17,6
	7	6	56,1	14,4	55,6	14,8	55,6	15,3	55,3	15,8	55,2	16,4	55,0	16,9	54,8	17,5	54,7	18,0
	12	11	61,8	14,9	61,5	15,4	61,3	16,0	61,1	16,5	60,5	17,0	60,3	17,6	60,1	18,2	60,0	18,8

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
11000	-15	-16	27,5	13,7	26,9	13,9	27,5	14,5	27,6	15,0	27,8	15,5	28,2	16,0	28,3	16,6	28,7	17,1
	-10	-11	32,1	14,2	32,5	14,8	31,5	15,2	32,3	15,8	33,0	16,4	33,2	17,0	33,3	17,4	33,7	18,1
	-7	-8	35,0	14,4	35,2	14,9	34,7	15,4	35,3	15,9	35,6	16,5	34,8	17,0	35,1	17,5	35,4	18,1
	-3	-4	39,3	14,4	39,5	14,9	39,6	15,4	39,6	15,8	39,2	16,4	39,8	16,9	39,8	17,5	39,6	18,0
	0	-1	43,1	14,2	42,8	14,6	42,4	15,1	42,8	15,6	41,9	16,2	42,6	16,7	42,3	17,2	42,6	17,8
	2	1	45,0	14,1	44,9	14,5	45,0	14,9	44,2	15,5	44,4	16,0	44,4	16,5	44,4	17,1	44,6	17,6
	7	6	56,1	14,4	55,6	14,8	55,6	15,3	55,3	15,8	55,2	16,4	55,0	16,9	54,8	17,5	54,7	18,0
	12	11	61,8	14,9	61,5	15,4	61,3	16,0	61,1	16,5	60,5	17,0	60,3	17,6	60,1	18,2	60,0	18,8

Data calculated in accordance with EN 14511

UATYA60BBAY1
UATYA60BFC2Y1
UATYA60BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA70BBAY1
UATYA70BFC2Y1
UATYA70BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air Condition on Supply Coil		Air conditions on External Coil															
	T DB [°C]	TWB [°C]	20			40			30			35			40			
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
13000	24	17	66,6	45,1	17,6	65,2	44,2	18,9	63,4	43,8	20,3	61,3	43,4	22,0	59,2	42,0	23,8	
	40	18	68,7	45,3	17,8	67,3	44,4	19,0	65,2	43,1	20,5	63,2	42,6	22,2	61,1	41,7	24,0	
	26	18	68,6	48,1	17,8	67,2	47,7	19,0	65,4	47,2	20,5	63,3	46,8	22,2	61,1	46,3	24,0	
	27	19	70,9	47,8	18,0	69,3	47,4	19,2	67,7	46,9	20,7	65,4	46,0	22,4	63,0	45,6	24,2	
	28	20	73,1	47,5	18,2	71,5	46,6	19,4	69,7	45,7	20,9	67,6	45,3	22,6	64,9	44,4	24,4	
	30	22	77,9	46,9	18,5	76,0	46,0	19,8	73,7	45,6	21,3	71,5	44,2	22,9	69,2	44,2	24,8	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
13000	-15	-16	36,3	16,2	36,3	16,7	36,0	17,1	36,4	17,8	36,1	18,4	35,7	18,9	36,4	19,3	36,5	19,9
	-10	-11	42,3	16,8	43,4	17,4	43,5	18,0	42,6	18,6	41,5	19,1	42,2	19,8	43,6	20,6	42,1	21,2
	-7	-8	47,2	17,0	45,1	17,5	46,4	18,1	45,0	18,7	46,0	19,4	46,8	20,1	45,1	20,6	46,5	21,4
	-3	-4	50,0	17,1	51,9	17,6	50,4	18,3	50,4	18,8	50,4	19,5	50,4	20,2	52,3	20,9	50,5	21,6
	0	-1	55,2	16,9	55,2	17,4	54,9	18,0	54,2	18,7	54,7	19,3	55,1	19,9	54,5	20,6	54,9	21,2
	2	1	58,4	16,8	58,8	17,3	58,3	17,9	58,3	18,5	59,1	19,2	58,1	19,8	58,3	20,5	57,9	21,1
	7	6	65,8	17,0	65,7	17,6	65,5	18,2	65,3	18,9	65,1	19,5	64,6	20,1	65,0	20,9	64,3	21,5
	12	11	72,4	17,7	72,1	18,3	72,1	19,0	71,8	19,7	71,5	20,3	71,2	21,0	71,0	21,7	70,8	22,4

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
13000	-15	-16	33,0	16,2	33,0	16,7	32,7	17,1	33,1	17,8	32,8	18,4	32,5	18,9	33,1	19,3	33,2	19,9
	-10	-11	38,4	16,8	39,4	17,4	39,5	18,0	38,7	18,6	37,8	19,1	38,3	19,8	39,7	20,6	38,3	21,2
	-7	-8	43,0	17,0	41,0	17,5	42,2	18,1	41,0	18,7	41,9	19,4	42,6	20,1	41,0	20,6	42,2	21,4
	-3	-4	45,5	17,1	47,2	17,6	45,8	18,3	45,8	18,8	45,8	19,5	45,8	20,2	47,5	20,9	45,9	21,6
	0	-1	50,2	16,9	50,2	17,4	49,9	18,0	49,2	18,7	49,7	19,3	50,1	19,9	49,6	20,6	49,9	21,2
	2	1	53,1	16,8	53,4	17,3	53,0	17,9	53,0	18,5	53,8	19,2	52,8	19,8	53,0	20,5	52,6	21,1
	7	6	65,8	17,0	65,7	17,6	65,5	18,2	65,3	18,9	65,1	19,5	64,6	20,1	65,0	20,9	64,3	21,5
	12	11	72,4	17,7	72,1	18,3	72,1	19,0	71,8	19,7	71,5	20,3	71,2	21,0	71,0	21,7	70,8	22,4

Data calculated in accordance with EN 14511

UATYA70BBAY1
UATYA70BFC2Y1
UATYA70BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA80BBAY1
UATYA80BFC2Y1
UATYA80BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																		
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil														
	T DB	T WB		20			40			30			35			40		
(m³/h)	(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
14500	24	17	76,0	55,3	19,3	74,4	54,8	20,6	72,7	54,3	22,1	70,3	53,3	23,8	67,8	52,8	25,7	
	40	18	78,5	54,5	19,5	77,7	55,5	21,0	74,9	53,5	22,3	72,7	53,0	24,0	70,1	52,0	26,0	
	26	18	78,3	59,7	19,5	76,6	58,7	20,8	74,6	58,2	22,3	73,0	57,2	24,0	70,4	56,2	26,0	
	27	19	81,0	59,4	19,7	79,4	59,4	21,0	77,2	57,9	22,5	74,6	56,9	24,2	72,1	56,4	26,2	
	28	20	83,5	58,6	19,9	81,7	57,6	21,2	79,7	57,6	22,7	77,6	57,6	24,5	74,6	56,1	26,4	
	30	22	89,1	56,9	20,4	86,9	56,4	21,7	84,9	56,4	23,1	82,2	55,4	24,9	79,4	54,9	26,9	

PEAK Heating Capacity and Power Input Table (EN 14511)																				
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil																	
	T DB	TWB	10		12		14		16		18		20		22		24			
	°C	°C	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI		
14500	-15	-16	38,2	17,4	36,8	17,7	37,4	18,3	38,4	19,1	38,3	19,7	38,4	20,3	38,7	21,2	38,0	21,7		
	-10	-11	43,8	17,8	43,7	18,3	44,3	18,9	45,0	19,5	43,5	20,2	44,1	20,8	44,1	21,5	44,2	22,3		
	-7	-8	48,0	17,8	47,7	18,4	48,3	19,0	47,6	19,6	48,1	20,2	47,4	20,8	47,8	21,6	47,7	22,3		
	-3	-4	54,1	17,9	55,4	18,3	53,1	19,0	53,6	19,6	53,9	20,2	54,1	20,9	53,6	21,6	53,4	22,3		
	0	-1	59,4	17,6	59,4	18,1	58,9	18,7	58,6	19,3	58,2	19,9	58,7	20,4	58,8	21,1	58,7	21,8		
	2	1	61,2	17,4	61,1	18,0	60,9	18,5	60,7	19,1	60,3	19,7	60,6	20,4	61,5	20,9	61,4	21,6		
	7	6	70,0	17,3	69,0	17,9	69,4	18,5	69,2	19,1	68,9	19,7	68,5	20,3	68,6	21,1	67,8	21,7		
	12	11	75,9	17,7	75,6	18,3	75,2	18,9	75,0	19,5	74,7	20,2	74,4	20,8	74,2	21,5	73,8	22,2		

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																				
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil																	
	T DB	TWB	10		12		14		16		18		20		22		24			
	°C	°C	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI		
14500	-15	-16	34,8	17,4	33,5	17,7	34,0	18,3	34,9	19,1	34,9	19,7	34,9	20,3	35,2	21,2	34,5	21,7		
	-10	-11	39,8	17,8	39,7	18,3	40,2	18,9	40,9	19,5	39,6	20,2	40,1	20,8	40,1	21,5	40,2	22,3		
	-7	-8	43,6	17,8	43,4	18,4	43,9	19,0	43,2	19,6	43,7	20,2	43,1	20,8	43,4	21,6	43,4	22,3		
	-3	-4	49,1	17,9	50,4	18,3	48,3	19,0	48,7	19,6	49,0	20,2	49,2	20,9	48,7	21,6	48,6	22,3		
	0	-1	54,0	17,6	54,0	18,1	53,5	18,7	53,3	19,3	52,9	19,9	53,3	20,4	53,5	21,1	53,4	21,8		
	2	1	55,7	17,4	55,6	18,0	55,4	18,5	55,2	19,1	54,8	19,7	55,1	20,4	55,9	20,9	55,8	21,6		
	7	6	70,0	17,3	69,0	17,9	69,4	18,5	69,2	19,1	68,9	19,7	68,5	20,3	68,6	21,1	67,8	21,7		
	12	11	75,9	17,7	75,6	18,3	75,2	18,9	75,0	19,5	74,7	20,2	74,4	20,8	74,2	21,5	73,8	22,2		

Data calculated in accordance with EN 14511

UATYA80BBAY1
UATYA80BFC2Y1
UATYA80BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA90BBAY1
UATYA90BFC2Y1
UATYA90BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																			
Air Flow [m³/h]	Air Condition on Supply Coil			Air conditions on External Coil															
	T DB		TWB	20			40			30			35			40			
	°C	°C		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
16500	24	17		90,9	61,8	23,2	89,1	60,7	24,9	87,0	59,5	26,7	84,2	59,0	28,9	81,4	57,8	31,3	
	40	18		93,8	62,0	23,4	91,8	60,9	25,1	89,8	59,7	27,0	86,8	58,6	29,1	84,0	57,5	31,5	
	26	18		93,7	66,2	23,4	91,9	65,1	25,1	89,7	65,1	26,9	87,1	63,9	29,1	84,1	63,4	31,6	
	27	19		96,9	65,3	23,6	94,8	64,2	25,3	92,5	64,2	27,2	89,8	63,0	29,4	86,8	61,9	31,8	
	28	20		100,1	65,5	23,8	98,3	64,9	25,6	95,5	63,2	27,4	92,7	62,6	29,6	89,3	60,9	32,0	
	30	22		106,3	64,2	24,2	104,0	63,1	25,9	101,4	61,9	27,9	98,1	61,3	30,1	95,0	60,8	32,6	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
16500	-15	-16	46,1	20,6	46,2	21,3	46,4	22,0	47,0	22,7	47,0	23,8	47,5	24,7	47,7	25,6	47,5	26,6
	-10	-11	55,5	21,8	55,7	22,6	55,8	23,5	56,4	24,5	56,0	25,3	56,7	26,3	56,7	27,3	56,9	28,3
	-7	-8	59,3	21,9	59,9	22,8	60,0	23,7	61,2	24,6	59,9	25,4	59,3	26,2	60,7	27,3	60,7	28,3
	-3	-4	67,0	22,2	67,0	23,1	66,9	23,9	66,0	24,7	68,0	25,6	68,4	26,6	68,2	27,5	67,6	28,5
	0	-1	72,9	21,9	71,4	22,7	69,8	23,6	72,4	24,4	72,4	25,2	70,8	26,2	70,6	27,1	72,5	28,1
	2	1	75,7	21,7	75,6	22,5	75,9	23,4	76,2	24,2	75,8	25,2	75,0	25,9	75,7	26,8	75,6	27,7
	7	6	85,6	22,0	85,3	22,6	84,1	23,4	83,8	24,2	83,6	25,1	84,2	26,1	83,7	27,0	83,0	27,9
	12	11	91,4	22,4	91,5	23,0	92,0	24,2	90,2	25,1	90,7	26,0	90,8	26,9	90,7	27,8	90,1	29,0

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
16500	-15	-16	41,9	20,6	42,0	21,3	42,2	22,0	42,7	22,7	42,8	23,8	43,2	24,7	43,4	25,6	43,2	26,6
	-10	-11	50,5	21,8	50,6	22,6	50,8	23,5	51,2	24,5	50,9	25,3	51,5	26,3	51,6	27,3	51,8	28,3
	-7	-8	53,9	21,9	54,4	22,8	54,6	23,7	55,7	24,6	54,5	25,4	53,9	26,2	55,2	27,3	55,2	28,3
	-3	-4	60,9	22,2	60,9	23,1	60,8	23,9	60,0	24,7	61,8	25,6	62,2	26,6	62,0	27,5	61,4	28,5
	0	-1	66,3	21,9	64,9	22,7	63,5	23,6	65,8	24,4	65,8	25,2	64,4	26,2	64,1	27,1	65,9	28,1
	2	1	68,8	21,7	68,7	22,5	69,0	23,4	69,3	24,2	68,9	25,2	69,1	25,9	68,8	26,8	68,8	27,7
	7	6	85,6	22,0	85,3	22,6	84,1	23,4	83,8	24,2	83,6	25,1	84,2	26,1	83,7	27,0	83,0	27,9
	12	11	91,4	22,4	91,5	23,0	92,0	24,2	90,2	25,1	90,7	26,0	90,8	26,9	90,7	27,8	90,1	29,0

Data calculated in accordance with EN 14511

UATYA90BBAY1
UATYA90BFC2Y1
UATYA90BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{exhaust} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA100BBAY1
UATYA100BFC2Y1
UATYA100BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																		
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil														
	T DB	TWB		20			40			30			35			40		
(m³/h)	(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
18000	24	17	96,6	65,3	26,0	94,7	64,7	27,7	93,0	64,1	29,5	90,6	63,5	31,7	87,1	61,6	34,3	
	40	18	99,8	64,9	26,2	97,7	64,3	27,9	95,5	63,1	29,9	92,5	61,8	32,0	89,8	61,2	34,4	
	26	18	99,9	70,1	26,2	98,0	69,5	27,8	96,3	70,1	29,8	93,5	68,2	32,2	90,3	68,2	34,6	
	27	19	102,9	69,1	26,5	100,9	67,8	28,2	98,6	67,8	30,1	96,0	67,2	32,3	92,7	66,0	34,8	
	28	20	106,2	69,3	26,7	104,1	68,1	28,4	101,6	66,8	30,4	98,9	66,2	32,6	95,4	64,3	35,1	
	30	22	113,2	66,6	27,2	110,7	66,6	28,9	108,0	65,4	30,9	105,0	64,1	33,2	101,1	63,5	35,8	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	°C	°C	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
18000	-15	-16	49,1	29,6	49,0	30,6	49,0	31,7	49,4	32,9	49,4	33,9	49,6	35,2	50,1	36,5	50,1	37,8
	-10	-11	58,4	29,4	59,3	30,4	58,7	31,6	59,7	32,6	59,4	33,7	60,2	35,0	60,3	36,3	60,3	37,6
	-7	-8	65,8	28,4	65,7	29,5	64,6	30,6	65,8	31,7	65,8	32,7	66,1	34,0	65,1	35,0	66,6	36,5
	-3	-4	73,4	27,0	73,1	27,9	73,6	28,9	73,8	29,9	73,6	30,9	72,8	31,9	74,0	33,1	74,5	34,2
	0	-1	81,2	25,4	80,9	26,4	80,8	27,2	80,6	28,2	80,7	29,1	80,7	30,1	80,7	31,1	80,6	32,4
	2	1	85,5	24,4	85,3	25,3	85,3	26,1	84,9	27,1	84,8	28,0	84,8	28,9	84,8	29,8	84,8	30,9
	7	6	95,7	24,7	95,4	25,6	95,1	26,4	94,8	27,4	94,6	28,3	92,8	28,9	94,0	30,2	91,9	30,9
	12	11	102,4	25,4	102,4	26,4	102,0	27,2	101,7	28,2	101,2	29,1	101,0	30,1	100,7	31,1	100,4	32,1

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	°C	°C	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
18000	-15	-16	44,6	29,6	44,5	30,6	44,5	31,7	44,9	32,9	44,9	33,9	45,1	35,2	45,5	36,5	45,6	37,8
	-10	-11	53,1	29,4	53,9	30,4	53,3	31,6	54,2	32,6	54,0	33,7	54,7	35,0	54,8	36,3	54,8	37,6
	-7	-8	59,8	28,4	59,7	29,5	58,8	30,6	59,8	31,7	59,8	32,7	60,1	34,0	59,2	35,0	60,6	36,5
	-3	-4	66,7	27,0	66,5	27,9	66,9	28,9	67,1	29,9	66,9	30,9	66,2	31,9	67,3	33,1	67,7	34,2
	0	-1	73,8	25,4	73,5	26,4	73,5	27,2	73,3	28,2	73,3	29,1	73,3	30,1	73,4	31,1	73,3	32,4
	2	1	77,7	24,4	77,6	25,3	77,6	26,1	77,2	27,1	77,1	28,0	77,1	28,9	77,1	29,8	77,1	30,9
	7	6	95,7	24,7	95,4	25,6	95,1	26,4	94,8	27,4	94,6	28,3	92,8	28,9	94,0	30,2	91,9	30,9
	12	11	102,4	25,4	102,4	26,4	102,0	27,2	101,7	28,2	101,2	29,1	101,0	30,1	100,7	31,1	100,4	32,1

Data calculated in accordance with EN 14511

UATYA100BBAY1
UATYA100BFC2Y1
UATYA100BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA110BBAY1
UATYA110BFC2Y1
UATYA110BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																		
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil														
	T DB	TWB		20			40			30			35			40		
(m³/h)	(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
19800	24	17	110,6	76,7	29,4	108,6	76,7	31,2	105,8	75,3	33,2	102,6	74,7	35,7	99,7	74,7	38,6	
	40	18	114,2	76,9	29,8	111,6	74,9	31,6	109,1	74,9	33,6	106,0	74,2	36,1	102,2	72,9	38,9	
	26	18	113,9	82,6	29,7	112,6	84,0	31,7	109,7	83,3	33,9	105,6	80,6	36,1	102,8	81,3	39,0	
	27	19	117,6	82,2	30,1	115,2	81,5	31,8	112,1	80,9	34,0	108,9	80,2	36,4	105,3	78,8	39,3	
	28	20	121,3	81,1	30,4	118,9	80,5	32,2	115,7	79,8	34,4	112,4	79,1	36,8	108,2	77,7	39,8	
	30	22	129,6	80,3	31,0	126,7	78,9	32,9	123,2	77,6	35,1	119,5	76,2	37,6	115,1	76,2	40,6	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
19800	-15	-16	55,1	24,1	56,0	25,0	56,0	25,3	56,4	26,7	55,8	27,3	56,9	28,4	57,3	29,5	57,3	30,5
	-10	-11	65,2	25,2	65,2	26,0	65,4	26,9	65,2	27,9	64,9	28,8	65,2	29,8	65,2	30,7	66,8	32,0
	-7	-8	72,2	25,7	72,8	26,5	71,8	27,4	71,3	28,3	73,1	29,4	73,4	30,4	72,5	31,4	74,0	32,6
	-3	-4	77,9	25,9	81,7	26,8	81,4	27,7	80,8	28,5	81,2	29,6	81,1	30,6	81,3	31,7	81,3	32,7
	0	-1	87,6	25,7	87,5	26,6	87,4	27,6	87,3	28,3	85,1	29,3	87,1	30,3	87,0	31,4	84,7	32,5
	2	1	89,0	26,1	91,7	26,4	91,6	27,3	91,3	28,2	91,3	29,2	91,1	30,1	91,0	31,2	90,9	32,2
	7	6	103,1	25,6	102,7	26,5	102,4	27,4	102,1	28,3	101,8	29,2	101,5	30,3	101,3	31,4	101,1	32,5
	12	11	111,1	26,4	110,0	27,3	109,6	28,2	109,4	29,1	109,5	30,1	108,5	31,2	108,3	32,3	107,8	33,4

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
19800	-15	-16	50,1	24,1	50,9	25,0	50,9	25,3	51,3	26,7	50,7	27,3	51,7	28,4	52,1	29,5	52,1	30,5
	-10	-11	59,3	25,2	59,3	26,0	59,5	26,9	59,2	27,9	59,0	28,8	59,2	29,8	59,3	30,7	60,7	32,0
	-7	-8	65,6	25,7	66,1	26,5	65,3	27,4	64,8	28,3	66,5	29,4	66,7	30,4	65,9	31,4	67,3	32,6
	-3	-4	70,8	25,9	74,3	26,8	74,0	27,7	73,4	28,5	73,8	29,6	73,7	30,6	73,9	31,7	73,9	32,7
	0	-1	79,6	25,7	79,5	26,6	79,4	27,6	79,3	28,3	77,4	29,3	79,2	30,3	79,1	31,4	77,0	32,5
	2	1	80,9	26,1	83,3	26,4	83,3	27,3	83,0	28,2	83,0	29,2	82,8	30,1	82,7	31,2	82,7	32,2
	7	6	103,1	25,6	102,7	26,5	102,4	27,4	102,1	28,3	101,8	29,2	101,5	30,3	101,3	31,4	101,1	32,5
	12	11	111,1	26,4	110,0	27,3	109,6	28,2	109,4	29,1	109,5	30,1	108,5	31,2	108,3	32,3	107,8	33,4

Data calculated in accordance with EN 14511

UATYA110BBAY1
UATYA110BFC2Y1
UATYA110BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA120BBAY1
UATYA120BFC2Y1
UATYA120BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																		
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil														
	T DB	T WB		20			40			30			35			40		
[m ³ /h]	[°C]	[°C]	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
21600	24	17	117,0	82,3	32,1	114,3	81,5	34,0	111,1	80,8	36,3	108,2	80,1	38,6	104,5	78,6	41,5	
	40	18	120,6	81,8	32,5	117,8	81,1	34,4	114,7	79,6	36,7	111,5	78,8	39,1	107,9	77,4	42,0	
	26	18	120,9	90,3	32,6	117,3	88,1	34,4	117,6	90,3	37,0	111,3	85,8	39,1	107,9	85,8	42,1	
	27	19	124,1	88,4	32,9	121,4	86,9	34,8	118,6	86,9	37,1	114,7	85,4	39,5	111,1	84,6	42,5	
	28	20	128,0	87,2	33,3	125,3	85,7	35,2	122,0	84,9	37,5	118,5	84,1	40,0	114,4	83,4	43,0	
	30	22	136,5	85,5	34,1	133,2	83,9	36,1	129,9	83,2	38,3	126,1	82,4	40,8	121,5	80,9	43,6	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
21600	-15	-16	59,2	25,9	58,6	27,1	59,1	28,0	60,2	29,1	60,4	29,8	60,7	31,1	60,9	32,0	61,4	33,2
	-10	-11	69,3	27,5	69,4	28,4	70,4	29,4	69,5	30,4	69,7	31,5	70,1	32,5	70,1	33,4	69,9	34,5
	-7	-8	76,6	28,1	76,8	29,0	77,5	29,9	75,6	30,9	77,5	31,9	75,8	33,0	76,1	34,1	77,2	35,3
	-3	-4	84,7	28,5	84,3	29,4	86,4	30,3	86,5	31,2	86,4	32,3	86,6	33,5	87,0	34,6	87,2	35,8
	0	-1	93,4	28,3	93,3	29,2	92,9	30,1	92,9	31,1	92,9	32,1	91,7	33,3	92,9	34,5	92,5	35,4
	2	1	97,1	28,2	97,6	29,1	97,4	30,0	97,2	31,0	97,1	32,0	97,1	33,1	96,6	34,2	97,0	35,4
	7	6	109,1	28,2	96,6	28,9	108,5	30,0	108,6	31,1	108,3	32,1	108,0	33,2	107,8	34,3	107,5	35,5
	12	11	118,1	29,2	117,6	30,1	117,2	31,1	116,7	32,1	116,2	33,2	115,9	34,3	114,9	35,4	114,9	36,5

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
21600	-15	-16	53,8	25,9	53,3	27,1	53,7	28,0	54,7	29,1	54,9	29,8	55,2	31,1	55,3	32,0	55,8	33,2
	-10	-11	63,0	27,5	63,1	28,4	64,0	29,4	63,2	30,4	63,4	31,5	63,7	32,5	63,7	33,4	63,6	34,5
	-7	-8	69,7	28,1	69,8	29,0	70,5	29,9	68,8	30,9	70,5	31,9	68,9	33,0	69,2	34,1	70,2	35,3
	-3	-4	77,0	28,5	76,6	29,4	78,6	30,3	78,6	31,2	78,6	32,3	78,8	33,5	79,1	34,6	79,3	35,8
	0	-1	84,9	28,3	84,8	29,2	84,5	30,1	84,4	31,1	84,5	32,1	83,4	33,3	84,4	34,5	84,1	35,4
	2	1	88,2	28,2	88,7	29,1	88,5	30,0	88,4	31,0	88,3	32,0	88,3	33,1	87,9	34,2	88,2	35,4
	7	6	109,1	28,2	96,6	28,9	108,5	30,0	108,6	31,1	108,3	32,1	108,0	33,2	107,8	34,3	107,5	35,5
	12	11	118,1	29,2	117,6	30,1	117,2	31,1	116,7	32,1	116,2	33,2	115,9	34,3	114,9	35,4	114,9	36,5

Data calculated in accordance with EN 14511

UATYA120BBAY1
UATYA120BFC2Y1
UATYA120BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA140BBAY1
UATYA140BFC2Y1
UATYA140BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																			
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil															
	T DB	T WB		20			40			30			35			40			
	[m³/h]	[°C]	[°C]	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
25000	24	17		136,2	98,0	33,1	133,6	97,1	35,5	129,7	95,4	38,4	125,7	94,5	41,7	121,1	92,8	45,4	
	40	18		141,1	97,4	33,3	138,2	97,4	35,8	133,8	94,0	38,8	129,6	94,0	42,2	124,9	92,3	45,8	
	26	18		140,6	105,5	33,3	137,3	104,7	35,7	133,5	103,0	38,7	129,7	98,6	42,2	125,7	103,8	46,2	
	27	19		144,9	104,2	33,6	142,2	105,0	36,1	138,2	103,3	39,2	133,5	100,7	42,5	128,6	99,8	46,2	
	28	20		149,8	103,6	33,8	146,0	102,8	36,4	142,4	101,9	39,1	137,5	100,2	42,9	133,0	100,2	46,8	
	30	22		159,4	100,8	34,2	155,6	99,9	36,9	151,7	99,9	40,1	146,4	98,2	43,6	140,8	96,4	47,3	

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10				12				14				16			
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
25000	-15	-16	66,3	30,1	67,3	31,2	66,7	32,0	66,5	33,2	68,6	34,5	66,9	35,5	67,5	37,0	67,4	38,2
	-10	-11	79,3	31,8	80,1	32,7	80,3	33,8	79,3	35,0	78,5	36,2	78,8	37,4	79,7	38,7	79,4	40,1
	-7	-8	86,9	32,0	87,0	33,0	86,5	34,0	86,4	35,1	87,5	36,4	88,7	37,6	84,9	38,9	86,3	40,3
	-3	-4	100,2	31,8	98,8	32,9	95,0	34,1	98,0	35,1	98,1	36,1	97,2	37,4	96,8	38,7	95,1	40,1
	0	-1	104,1	31,7	103,0	32,7	106,0	33,1	105,8	34,1	105,6	35,4	102,5	37,0	105,5	37,7	102,1	39,6
	2	1	109,4	30,9	109,4	31,7	109,5	32,8	107,7	34,0	107,9	35,0	107,4	36,4	107,7	37,4	108,2	38,7
	7	6	125,4	30,3	124,6	31,3	124,0	32,4	123,4	33,5	123,3	34,8	123,1	35,8	122,6	37,0	122,1	38,4
	12	11	135,3	30,7	134,5	31,8	134,4	32,8	132,5	34,0	133,7	35,1	133,1	36,3	132,5	37,6	131,9	38,9

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10				12				14				16			
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
25000	-15	-16	60,3	30,1	61,2	31,2	60,6	32,0	60,5	33,2	62,3	34,5	60,9	35,5	61,4	37,0	61,3	38,2
	-10	-11	72,1	31,8	72,8	32,7	73,0	33,8	72,1	35,0	71,4	36,2	71,6	37,4	72,4	38,7	72,2	40,1
	-7	-8	79,0	32,0	79,1	33,0	78,7	34,0	78,6	35,1	79,6	36,4	80,6	37,6	77,2	38,9	78,4	40,3
	-3	-4	91,1	31,8	89,8	32,9	86,4	34,1	89,1	35,1	89,2	36,1	88,4	37,4	88,0	38,7	86,5	40,1
	0	-1	94,6	31,7	93,6	32,7	96,3	33,1	96,2	34,1	96,0	35,4	93,2	37,0	95,9	37,7	92,8	39,6
	2	1	99,5	30,9	99,4	31,7	99,5	32,8	97,9	34,0	98,1	35,0	97,6	36,4	97,9	37,4	98,4	38,7
	7	6	125,4	30,3	124,6	31,3	124,0	32,4	123,4	33,5	123,3	34,8	123,1	35,8	122,6	37,0	122,1	38,4
	12	11	135,3	30,7	134,5	31,8	134,4	32,8	132,5	34,0	133,7	35,1	133,1	36,3	132,5	37,6	131,9	38,9

Data calculated in accordance with EN 14511

UATYA140BBAY1
UATYA140BFC2Y1
UATYA140BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA150BBAY1
UATYA150BFC2Y1
UATYA150BFC3Y1

Cooling Capacity and Power Input Table [EN 14511]																										
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil																						
	T DB	T WB		20			40			60			80			100			120			140			160	
[m³/h]	[°C]	[°C]		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI		
26500	24	17		147,6	104,5	37,4	144,3	103,6	40,2	140,3	102,7	43,4	136,1	100,9	47,1	131,5	100,0	51,1								
	40	18		152,4	104,0	37,8	148,8	103,1	40,6	145,1	102,1	43,9	140,5	100,3	47,5	135,6	98,5	51,6								
	26	18		152,5	113,6	37,7	149,0	111,7	40,5	145,1	111,7	43,9	140,3	108,9	47,5	137,3	108,0	51,7								
	27	19		157,2	112,1	38,1	153,5	110,2	40,9	150,6	113,0	44,2	144,9	108,4	48,0	139,3	106,5	52,1								
	28	20		162,1	110,6	38,4	158,2	109,7	41,3	153,7	107,8	44,6	149,1	106,9	48,3	143,6	105,9	52,4								
	30	22		172,5	108,5	38,9	168,3	106,7	42,0	163,5	105,7	45,4	158,4	104,8	49,2	152,8	102,9	53,0								

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air Condition on External Coil		Air Condition on Supply Coil															
	T DB [°C]	T WB [°C]	10		12		14		16		18		20		22		24	
			PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
26500	-15	-16	74,8	33,5	75,0	34,6	75,8	35,9	74,7	36,8	74,9	38,1	74,3	39,4	74,4	40,7	77,1	43,0
	-10	-11	89,0	35,3	87,6	36,4	89,2	37,7	89,7	39,2	89,2	40,6	88,3	42,0	87,4	43,5	87,6	45,1
	-7	-8	97,5	36,0	96,6	37,1	96,5	38,3	93,9	39,6	97,8	41,2	95,0	42,5	96,9	44,1	96,4	45,5
	-3	-4	108,5	36,1	108,4	37,2	105,0	38,3	105,1	39,6	106,1	41,0	108,0	42,4	109,0	43,8	108,1	45,3
	0	-1	116,6	35,5	114,6	36,7	115,0	37,8	116,7	39,1	113,7	40,6	115,8	41,7	113,7	43,4	114,7	44,7
	2	1	123,6	34,8	123,5	36,0	122,8	37,1	123,1	38,3	121,0	39,7	122,1	40,9	122,0	42,4	119,0	44,1
	7	6	138,8	34,7	138,3	35,8	138,0	37,0	136,1	38,2	136,6	39,5	136,4	40,9	136,0	42,4	136,4	44,0
	12	11	150,0	35,3	150,1	36,6	149,7	37,8	147,3	39,0	147,3	40,4	145,3	41,6	146,6	43,4	146,4	44,9

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air Condition on External Coil		Air Condition on Supply Coil															
	T DB [°C]	T WB [°C]	10		12		14		16		18		20		22		24	
			PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
26500	-15	-16	68,0	33,5	68,2	34,6	68,9	35,9	67,9	36,8	68,1	38,1	67,6	39,4	67,6	40,7	70,1	43,0
	-10	-11	80,9	35,3	79,7	36,4	81,1	37,7	81,5	39,2	81,1	40,6	80,3	42,0	79,4	43,5	79,7	45,1
	-7	-8	88,6	36,0	87,8	37,1	87,8	38,3	85,3	39,6	88,9	41,2	86,3	42,5	88,1	44,1	87,7	45,5
	-3	-4	98,7	36,1	98,6	37,2	95,5	38,3	95,6	39,6	96,5	41,0	98,1	42,4	99,1	43,8	98,3	45,3
	0	-1	106,0	35,5	104,2	36,7	104,5	37,8	106,1	39,1	103,4	40,6	105,3	41,7	103,4	43,4	104,3	44,7
	2	1	112,4	34,8	112,3	36,0	111,6	37,1	111,9	38,3	110,0	39,7	111,0	40,9	110,9	42,4	108,2	44,1
	7	6	138,8	34,7	138,3	35,8	138,0	37,0	136,1	38,2	136,6	39,5	136,4	40,9	136,0	42,4	136,4	44,0
	12	11	150,0	35,3	150,1	36,6	149,7	37,8	147,3	39,0	147,3	40,4	145,3	41,6	146,6	43,4	146,4	44,9

Data calculated in accordance with EN 14511

UATYA150BBAY1
UATYA150BFC2Y1
UATYA150BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA160BBAY1
UATYA160BFC2Y1
UATYA160BFC3Y1

Cooling Capacity and Power Input Table (EN 14511)																	
Air Flow [m ³ /h]	Air Condition on Supply Coil		Air conditions on External Coil														
	T DB	TWB	20			40			30			35			40		
	[°C]	[°C]	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
28000	24	17	157,5	110,0	40,3	153,8	109,0	43,0	151,6	111,0	46,2	145,7	107,1	50,0	140,6	105,2	54,3
	40	18	162,1	109,4	40,6	159,2	108,4	43,3	155,9	108,4	46,6	150,7	106,5	50,4	144,9	103,6	54,8
	26	18	162,4	119,5	40,6	158,5	117,5	43,2	154,5	116,6	46,6	149,8	114,6	50,3	144,7	113,7	54,7
	27	19	166,0	116,0	40,8	163,9	117,0	43,6	160,4	116,0	46,9	154,6	114,0	50,7	149,2	113,1	55,2
	28	20	172,4	116,4	41,2	169,7	116,4	43,9	164,6	114,4	47,4	160,3	114,4	51,2	154,4	112,5	55,5
	30	22	184,2	115,2	41,8	180,1	113,2	44,6	174,9	110,3	48,2	169,7	109,3	52,0	163,8	108,3	56,3

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
28000	-15	-16	81,5	36,7	79,6	37,8	81,5	39,2	82,8	40,9	81,0	42,0	81,2	43,6	80,9	45,2	80,3	46,6
	-10	-11	93,8	38,3	98,2	39,9	94,0	41,0	95,0	42,6	94,5	44,9	94,7	45,8	94,5	47,5	95,1	49,3
	-7	-8	105,7	39,1	103,1	40,2	103,5	41,6	103,6	43,1	105,1	44,8	102,9	46,2	103,1	47,9	106,1	49,8
	-3	-4	115,9	39,6	119,6	40,6	114,6	42,0	113,3	43,4	115,9	45,1	115,5	46,6	114,8	48,5	114,8	49,9
	0	-1	124,3	39,0	123,9	40,2	125,8	41,3	125,6	42,7	125,5	44,2	127,3	45,5	125,4	47,2	125,1	48,7
	2	1	134,5	38,3	133,5	39,5	133,1	40,8	132,9	42,1	132,7	43,6	132,3	45,1	131,7	46,8	132,4	48,1
	7	6	149,8	38,2	149,4	39,5	148,7	41,0	147,3	42,0	148,0	43,7	147,5	45,2	146,8	46,7	146,9	48,6
	12	11	161,7	39,1	160,8	40,4	160,1	41,7	159,5	43,1	158,7	44,6	158,4	46,1	157,3	47,8	157,4	49,3

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
[m³/h]	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
28000	-15	-16	74,1	36,7	72,4	37,8	74,1	39,2	75,3	40,9	73,6	42,0	73,9	43,6	73,5	45,2	73,0	46,6
	-10	-11	85,2	38,3	89,3	39,9	85,5	41,0	86,4	42,6	85,9	44,9	86,1	45,8	85,9	47,5	86,5	49,3
	-7	-8	96,1	39,1	93,8	40,2	94,1	41,6	94,2	43,1	95,6	44,8	93,6	46,2	93,8	47,9	96,5	49,8
	-3	-4	105,4	39,6	108,7	40,6	104,2	42,0	103,0	43,4	105,4	45,1	105,0	46,6	104,4	48,5	104,4	49,9
	0	-1	113,0	39,0	112,6	40,2	114,4	41,3	114,2	42,7	114,1	44,2	115,7	45,5	114,0	47,2	113,7	48,7
	2	1	122,3	38,3	121,4	39,5	121,0	40,8	120,8	42,1	120,6	43,6	120,3	45,1	119,7	46,8	120,4	48,1
	7	6	149,8	38,2	149,4	39,5	148,7	41,0	147,3	42,0	148,0	43,7	147,5	45,2	146,8	46,7	146,9	48,6
	12	11	161,7	39,1	160,8	40,4	160,1	41,7	159,5	43,1	158,7	44,6	158,4	46,1	157,3	47,8	157,4	49,3

Data calculated in accordance with EN 14511

UATYA160BBAY1
UATYA160BFC2Y1
UATYA160BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA180BBAY1
UATYA180BFC2Y1
UATYA180BFC3Y1

Cooling Capacity and Power Input Table [EN 14511]																		
Air Flow	Air Condition on Supply Coil			Air conditions on External Coil														
	T DB	T WB		20			40			50			35			40		
	[m³/h]	[°C]	[°C]	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
30500	24	17		175,1	122,7	44,7	171,2	121,7	47,4	167,0	119,6	51,1	162,2	119,6	55,2	155,9	116,5	59,8
	25	18		180,7	122,1	44,9	176,8	120,0	47,8	172,2	119,0	51,6	167,1	118,0	55,6	160,9	114,9	60,4
	26	18		180,4	131,9	45,0	176,5	130,8	47,9	171,9	129,8	51,5	166,9	127,7	55,6	161,3	122,5	60,4
	27	19		186,2	130,2	45,4	182,3	130,2	48,2	177,6	128,1	52,0	173,4	129,2	56,2	165,8	126,1	60,8
	28	20		192,2	129,6	45,7	187,4	127,5	48,7	183,2	127,5	52,5	177,8	126,5	56,6	170,8	124,4	61,3
	30	22		204,7	126,3	46,1	200,0	126,3	49,6	194,4	123,1	53,4	188,9	123,1	57,3	181,2	121,0	62,4

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air Condition on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
30500	-15	-16	88,1	38,6	88,2	39,8	88,3	41,1	88,4	42,8	86,7	43,8	86,8	45,4	88,5	47,5	86,2	48,4
	-10	-11	103,1	40,5	102,9	41,8	103,9	43,4	102,1	44,8	102,4	46,6	105,1	48,4	105,2	50,2	101,3	52,0
	-7	-8	111,4	40,9	110,0	42,3	110,6	43,7	115,1	45,4	115,2	47,0	113,4	48,7	110,1	50,4	105,8	51,9
	-3	-4	122,1	41,3	129,6	42,6	122,1	44,0	122,0	45,5	123,9	47,1	123,0	48,8	122,2	50,5	121,9	52,3
	0	-1	133,5	41,1	136,4	42,2	137,7	43,5	136,4	45,0	134,9	46,6	135,5	48,4	134,2	49,9	133,9	51,7
	2	1	143,0	40,3	142,2	41,6	141,9	43,0	143,4	44,4	141,6	45,8	142,3	47,3	137,9	49,4	138,4	51,0
	7	6	162,1	39,9	162,0	41,3	160,0	42,7	160,3	44,3	159,2	45,5	157,2	47,2	159,1	48,8	156,5	50,5
	12	11	172,7	40,6	172,4	42,0	171,7	43,4	171,0	44,9	170,2	46,6	169,7	48,0	168,9	49,7	168,2	51,4

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m³/h]	Air Condition on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
30500	-15	-16	80,1	38,6	80,2	39,8	80,3	41,1	80,4	42,8	78,8	43,8	78,9	45,4	80,4	47,5	78,4	48,4
	-10	-11	93,7	40,5	93,6	41,8	94,4	43,4	92,9	44,8	93,1	46,6	95,5	48,4	95,6	50,2	92,1	52,0
	-7	-8	101,3	40,9	100,0	42,3	100,5	43,7	104,6	45,4	104,7	47,0	103,1	48,7	100,1	50,4	96,2	51,9
	-3	-4	111,0	41,3	117,8	42,6	111,0	44,0	110,9	45,5	112,6	47,1	111,8	48,8	111,1	50,5	110,8	52,3
	0	-1	121,4	41,1	124,0	42,2	125,2	43,5	124,0	45,0	122,6	46,6	123,2	48,4	122,0	49,9	121,7	51,7
	2	1	130,0	40,3	129,3	41,6	129,0	43,0	130,4	44,4	128,7	45,8	129,4	47,3	125,4	49,4	125,8	51,0
	7	6	162,1	39,9	162,0	41,3	160,0	42,7	160,3	44,3	159,2	45,5	157,2	47,2	159,1	48,8	156,5	50,5
	12	11	172,7	40,6	172,4	42,0	171,7	43,4	171,0	44,9	170,2	46,6	169,7	48,0	168,9	49,7	168,2	51,4

Data calculated in accordance with EN 14511

UATYA180BBAY1
UATYA180BFC2Y1
UATYA180BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the air temperature on supply coil data set

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the air temperature on the outdoor coil data set

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the exhaust air flow, $V_{exhaust}$, and the total air flow on the external coils, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

5 Capacity tables

5 - 1 Cooling/Heating Capacity Tables

UATYA190BBAY1
UATYA190BFC2Y1
UATYA190BFC3Y1

5

Cooling Capacity and Power Input Table (EN 14511)																				
Air Flow [m³/h]	Air Condition on Supply Coil		Air conditions on External Coil																	
	T DB [°C]	T WB [°C]	20			40			30			35			40			40		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
31500	24	17	190,2	134,0	50,4	186,2	131,8	53,5	181,5	130,7	57,3	176,5	129,6	61,8	169,9	127,4	67,0			
	40	18	196,3	133,3	50,8	192,0	131,1	54,0	187,2	130,0	57,9	181,9	127,9	62,3	174,9	125,7	67,6			
	26	18	196,5	143,6	50,8	191,5	140,4	53,7	187,6	141,4	57,7	181,4	138,2	62,3	175,5	139,3	67,8			
	27	19	202,2	141,9	51,3	197,7	140,8	54,5	193,8	140,8	58,6	187,0	136,4	62,9	180,3	136,4	68,3			
	28	20	209,1	141,3	51,7	204,1	139,1	55,1	198,9	136,9	59,1	192,6	135,8	63,7	184,8	132,5	69,0			
	30	22	222,1	138,9	52,7	217,1	136,7	56,2	211,4	134,4	60,3	204,4	132,2	65,1	196,8	131,1	70,3			

PEAK Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
31500	-15	-16	97,9	42,9	99,5	44,3	98,0	45,7	96,6	46,9	99,8	49,1	97,2	50,2	98,6	52,2	98,1	54,1
	-10	-11	114,8	45,0	114,6	46,4	113,3	47,9	112,5	49,4	113,5	51,4	112,8	53,1	111,5	54,7	113,2	57,0
	-7	-8	126,3	45,7	123,0	47,0	125,2	48,7	127,1	50,4	124,4	51,9	125,1	53,9	123,1	55,7	125,0	57,7
	-3	-4	140,9	46,3	136,3	47,5	138,3	49,4	140,7	51,1	141,1	52,6	139,6	54,5	139,7	56,6	139,0	58,6
	0	-1	152,8	46,0	149,5	47,6	147,4	50,0	153,2	50,5	152,9	52,5	148,6	54,4	151,0	55,9	151,0	57,7
	2	1	157,6	45,7	159,1	47,3	160,1	48,6	159,1	50,1	157,3	52,1	155,8	53,8	153,3	55,6	155,4	57,5
	7	6	181,0	45,5	180,3	47,0	180,5	48,6	179,9	50,3	178,3	51,9	177,1	54,2	174,4	55,2	176,8	57,8
	12	11	193,2	46,7	193,4	48,4	191,3	49,6	192,0	51,6	189,8	53,2	190,3	55,4	190,0	57,2	189,3	59,3

INTEGRATED Heating Capacity and Power Input Table (EN 14511)																		
Air Flow [m ³ /h]	Air conditions on External Coil		Air Condition on Supply Coil															
	T DB	TWB	10		12		14		16		18		20		22		24	
	[°C]	[°C]	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI	PC	PI
31500	-15	-16	89,0	42,9	90,5	44,3	89,1	45,7	87,9	46,9	90,7	49,1	88,3	50,2	89,6	52,2	89,2	54,1
	-10	-11	104,4	45,0	104,2	46,4	103,0	47,9	102,3	49,4	103,2	51,4	102,5	53,1	101,4	54,7	102,9	57,0
	-7	-8	114,8	45,7	111,8	47,0	113,8	48,7	115,5	50,4	113,1	51,9	113,7	53,9	111,9	55,7	113,6	57,7
	-3	-4	128,1	46,3	123,9	47,5	125,7	49,4	127,9	51,1	128,3	52,6	126,9	54,5	127,0	56,6	126,4	58,6
	0	-1	138,9	46,0	135,9	47,6	134,0	50,0	139,3	50,5	139,0	52,5	135,1	54,4	137,3	55,9	137,3	57,7
	2	1	143,3	45,7	144,6	47,3	145,5	48,6	144,6	50,1	143,0	52,1	141,6	53,8	139,4	55,6	141,3	57,5
	7	6	181,0	45,5	180,3	47,0	180,5	48,6	179,9	50,3	178,3	51,9	177,1	54,2	174,4	55,2	176,8	57,8
	12	11	193,2	46,7	193,4	48,4	191,3	49,6	192,0	51,6	189,8	53,2	190,3	55,4	190,0	57,2	189,3	59,3

Data calculated in accordance with EN 14511

UATYA190BBAY1
UATYA190BFC2Y1
UATYA190BFC3Y1

Use as input for the tables, the air condition on supply coil and external coil, determined according to the following formulas. If air conditions on the supply coil and external coil are not present in the table, interpolation is required.

DETERMINATION OF AIR TEMPERATURE ON SUPPLY COIL (use as input in the table)

$$T_{in, sup, coil} = T_{indoor} * \left(1 - \frac{x}{100}\right) + T_{outdoor} * \frac{x}{100}$$

Where:

$T_{in, sup, coil}$ is the temperature that has to be used as input for the table of the *air temperature on supply coil data set*

T_{indoor} is the temperature of the indoor ambient

$T_{outdoor}$ is the temperature of the outdoor ambient

For unit with dampers, x is the amount (in %) of the fresh air. As factory default this is set to 30%, therefore the above calculation is:

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$ and $T_{outdoor} = 35^{\circ}\text{C}$)

$$T_{in, sup, coil} = T_{indoor} * 0.7 + T_{outdoor} * 0.3 = 27 * 0.7 + 35 * 0.3 = 29.4^{\circ}\text{C}$$

DETERMINATION OF AIR TEMPERATURE ON THE EXTERNAL COIL (use as input in the table)

For units basic units and two dampers units, the thermodynamic heat recovery on the external coil is not present. For this reason, use:

$$T_{in, ext, coil} = T_{outdoor}$$

For three dampers units, the thermodynamic heat recovery on the external coil is present. For this reason, use:

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right)$$

Where:

$T_{in, ext, coil}$ is the temperature that has to be used as input for the table of the *air temperature on the outdoor coil data set*

T_{indoor} is the temperature of the indoor ambient.

$T_{outdoor}$ is the temperature of the outdoor ambient.

$x_{exhaust}$ is the ratio between the *exhaust air flow*, $V_{exhaust}$, and the *total air flow on the external coils*, V_{axial} :

$$x_{exhaust} = \frac{V_{exhaust}}{V_{axial}} = \frac{x * V_{intake}}{V_{axial}}$$

Where:

x is the amount (in %) of the fresh air. As factory default this is set to 30%

V_{intake} is the return air flow. As factory default, the return air flow is equal to the supply air flow.

(e.g. with $T_{indoor} = 27^{\circ}\text{C}$, $T_{outdoor} = 35^{\circ}\text{C}$, $x = 30\%$, $V_{intake} = 4950 \text{ mc/h}$, $V_{axial} = 11500 \text{ mc/h}$)

$$T_{in, ext, coil} = T_{indoor} * \frac{x_{exhaust}}{100} + T_{outdoor} * \left(1 - \frac{x_{exhaust}}{100}\right) = T_{indoor} * \frac{x * V_{intake}}{V_{axial}} + T_{outdoor} * \left(1 - \frac{x * V_{intake}}{V_{axial}}\right)$$

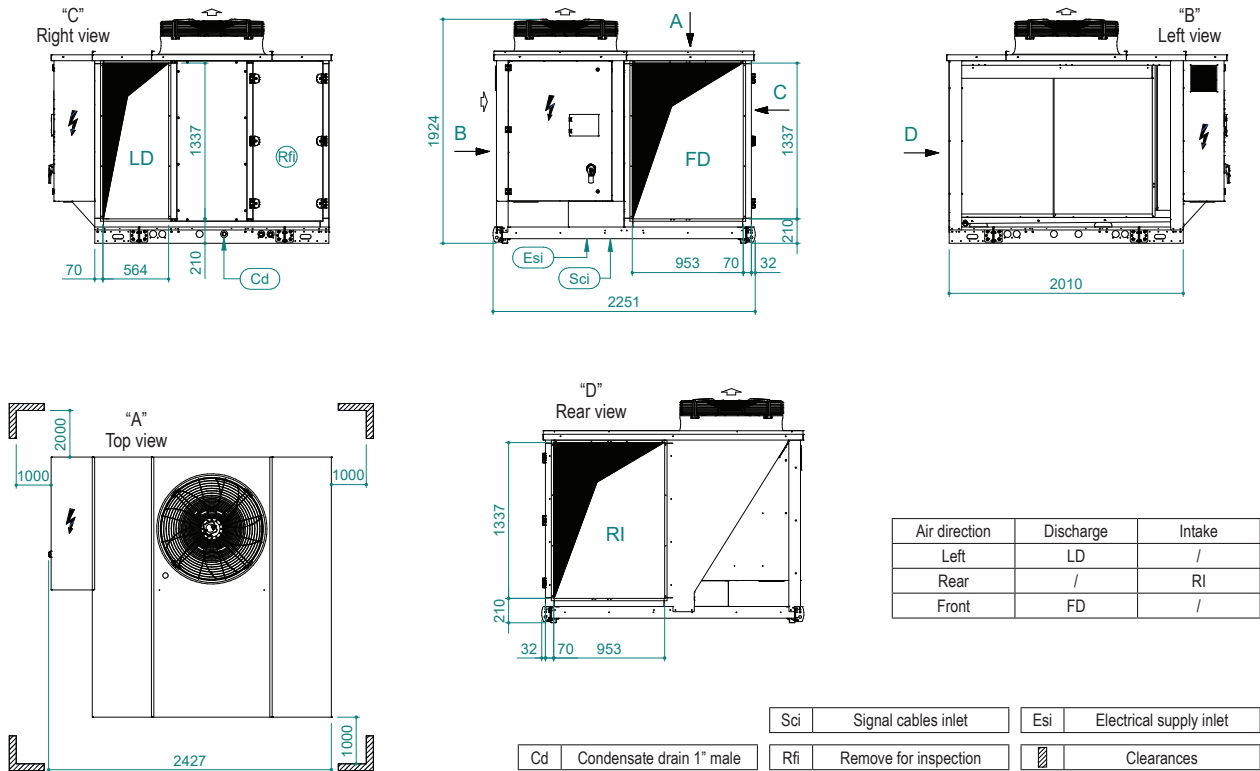
$$= T_{indoor} * \frac{30 * 4950}{11500} + T_{outdoor} * \left(1 - \frac{30 * 4950}{11500}\right) = 27 * 0.129 + 35 * (1 - 0.129) = 33.96^{\circ}\text{C}$$

6 Dimensional drawings

6 - 1 Dimensional Drawings

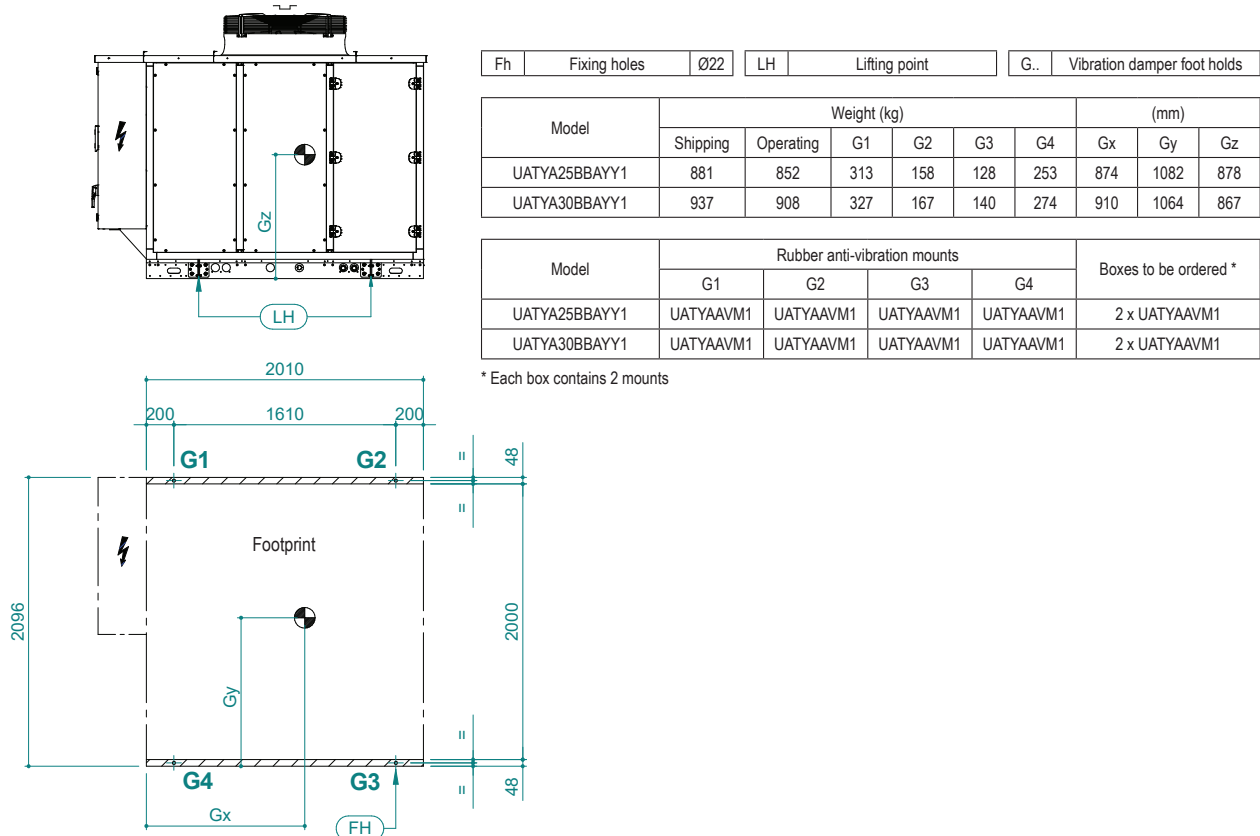
6

UATYA20-30BBAY1



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UATYA20-30BBAY1

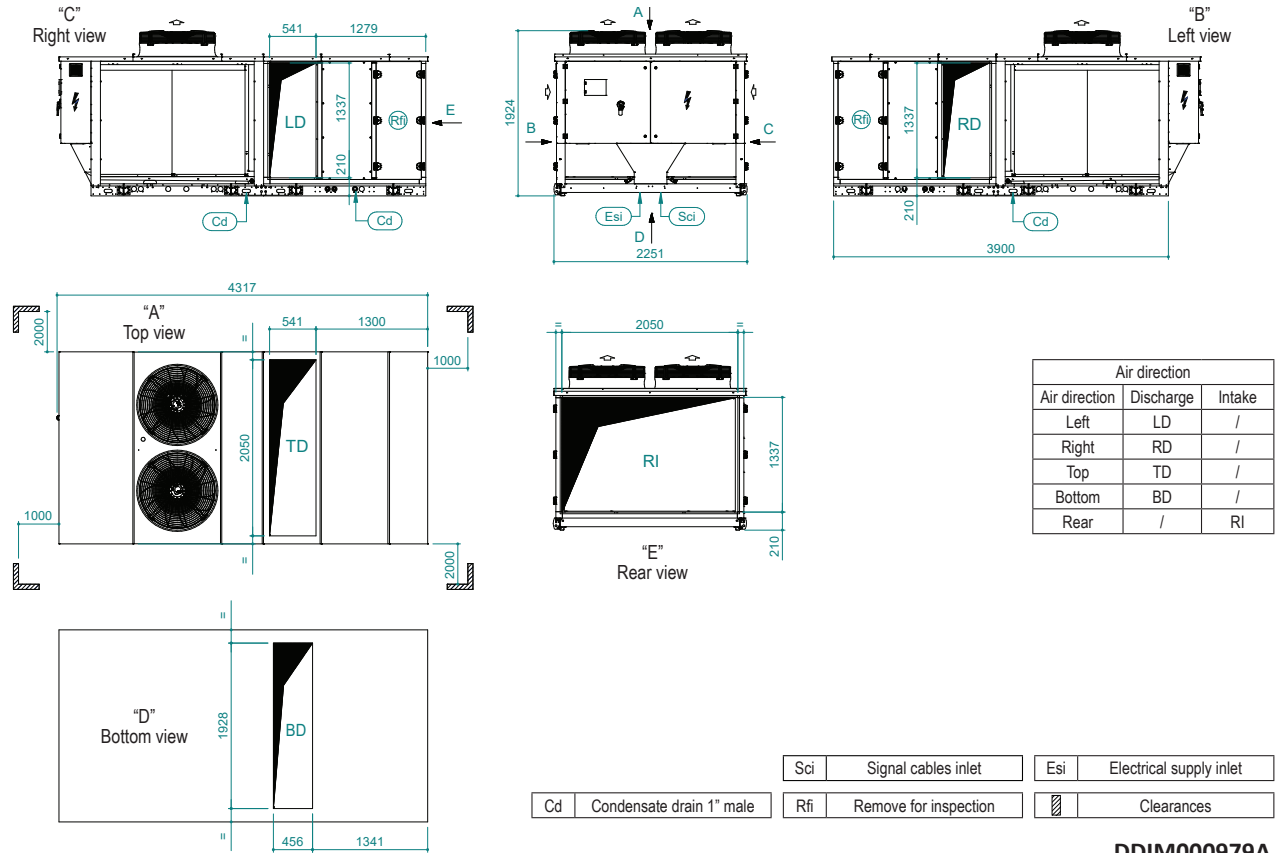


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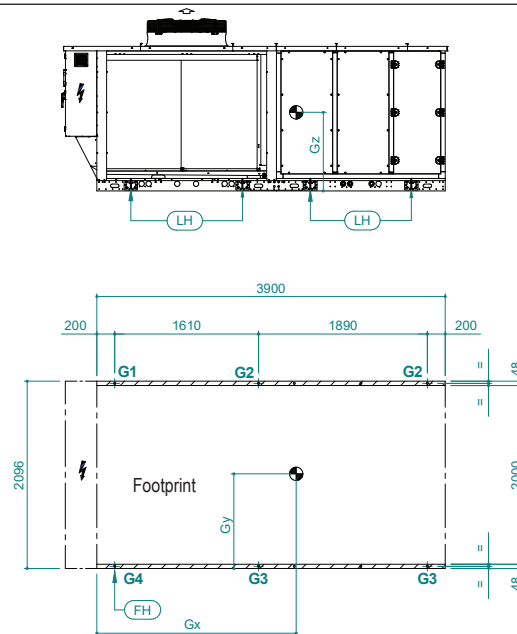
6 Dimensional drawings

6 - 1 Dimensional Drawings

UATYA60-70BBAY1



UATYA60-70BBAY1



Model	Weight (kg)			(mm)						
	Shipping	Operating	G1	G2	G3	G4	Gx	Gy	Gz	
UATYA60BBAYY1	1590	1551	383	207	196	362	1816	1084	852	
UATYA70BBAYY1	1690	1651	440	213	193	399	1707	1109	820	

Model	Rubber anti-vibration mounts				Boxes to be ordered *
	G1	G2	G3	G4	
UATYA60BBAYY1	UATYA60AVM2	UATYA60AVM1	UATYA60AVM1	UATYA60AVM2	2 x UATYA60AVM1 + 1 x UATYA60AVM2
UATYA70BBAYY1	UATYA70AVM2	UATYA70AVM1	UATYA70AVM1	UATYA70AVM2	2 x UATYA70AVM1 + 1 x UATYA70AVM2

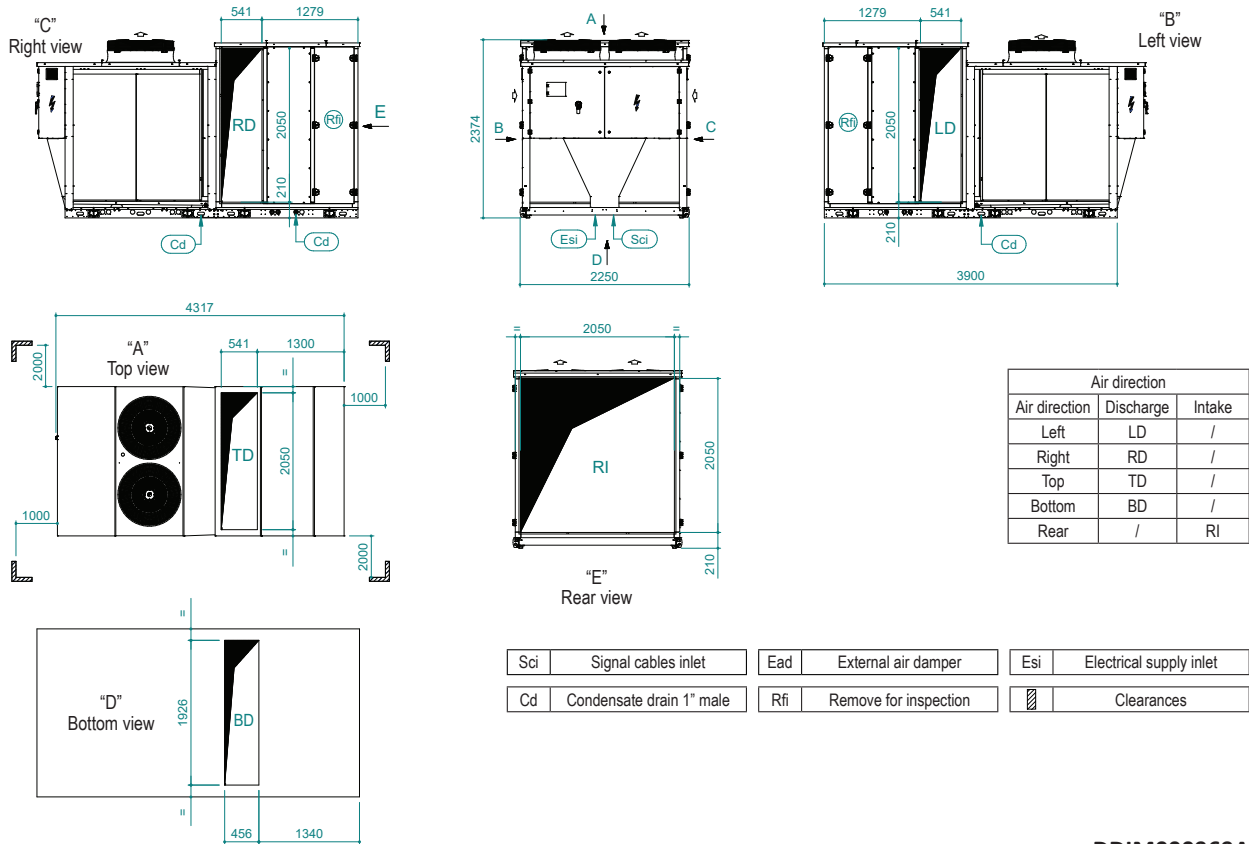
* Each box contains 2 mounts

DDIM000979A

6 Dimensional drawings

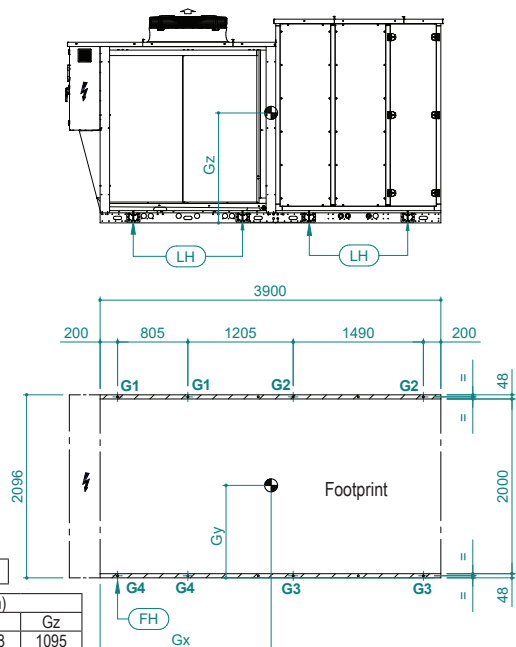
6 - 1 Dimensional Drawings

UATYA80-120BBAY1



DDIM000969A

UATYA80-120BBAY1



Fh	Fixing holes	Ø22	LH	Lifting point	G..	Vibration damper foot holds			
Model	Weight (kg)					(mm)			
	Shipping	Operating	G1	G2	G3	G4	Gx	Gy	Gz
UATYA80BBAYY1	1837	1798	282	189	172	256	1792	1108	1095
UATYA90BBAYY1	1895	1856	300	200	171	257	1775	1145	1071
UATYA100BBAYY1	1961	1922	314	205	175	267	1757	1147	1071
UATYA110BBAYY1	2047	2008	326	225	185	268	1778	1166	1064
UATYA120BBAYY1	2057	2018	336	215	179	279	1727	1161	1050

Model	Rubber anti-vibration mounts				Boxes to be ordered *
	G1	G2	G3	G4	
UATYA80BBAYY1	UATYA1VM1	UATYA1VM1	UATYA1VM1	UATYA1VM1	4 x UATYA1VM1
UATYA90BBAYY1	UATYA1VM1	UATYA1VM1	UATYA1VM1	UATYA1VM1	4 x UATYA1VM1
UATYA100BBAYY1	UATYA1VM1	UATYA1VM1	UATYA1VM1	UATYA1VM1	4 x UATYA1VM1
UATYA110BBAYY1	UATYA1VM1	UATYA1VM1	UATYA1VM1	UATYA1VM1	4 x UATYA1VM1
UATYA120BBAYY1	UATYA1VM1	UATYA1VM1	UATYA1VM1	UATYA1VM1	4 x UATYA1VM1

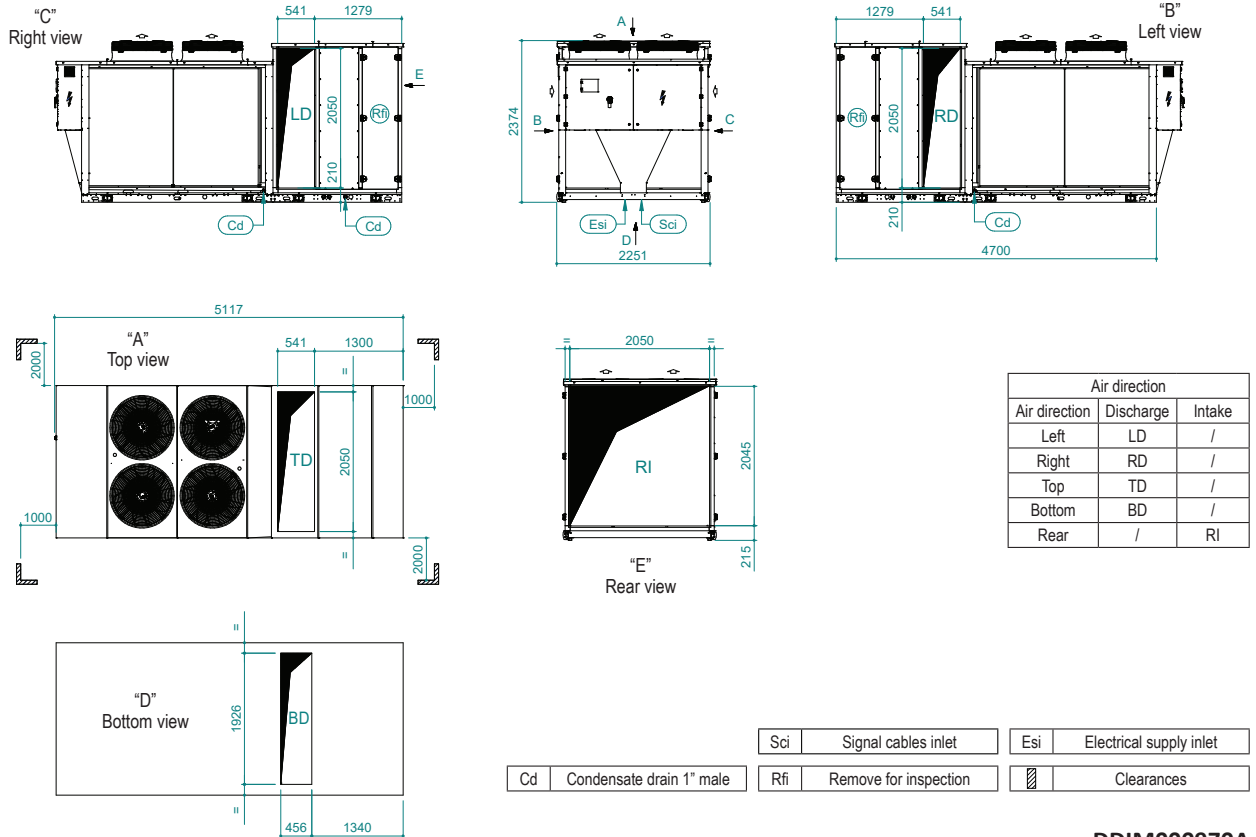
* Each box contains 2 mount

DDIM000969A

6 Dimensional drawings

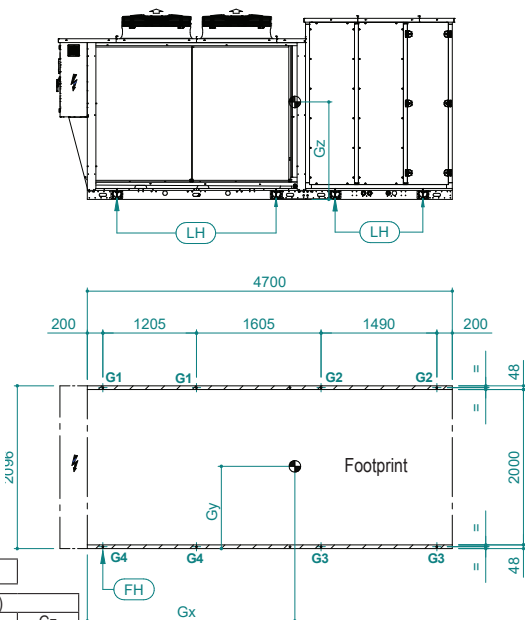
6 - 1 Dimensional Drawings

UATYA140-190BBAY1



DDIM000970A

UATYA140-190BBAY1



Fh	Fixing holes	Ø22	LH	Lifting point	G..	Vibration damper foot holds
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Model	Weight (kg)		(mm)						
	Shipping	Operating	G1	G2	G3	G4	Gx	Gy	Gz
UATYA140BBAYY1	2498	2454	353	256	260	358	2278	1039	1087
UATYA150BBAYY1	2506	2462	357	255	258	361	2264	1041	1087
UATYA160BBAYY1	2548	2504	363	259	262	368	2257	1040	1082
UATYA180BBAYY1	2602	2558	377	266	263	373	2242	1054	1088
UATYA190BBAYY1	2680	2636	380	276	278	384	2261	1043	1036

Model	Rubber anti-vibration mounts				Boxes to be ordered *
	G1	G2	G3	G4	
UATYA140BBAYY1	UATYA140BBAYY1	UATYA140BBAYY1	UATYA140BBAYY1	UATYA140BBAYY1	2 x UATYA140BBAYY1 + 2 x UATYA140BBAYY1
UATYA150BBAYY1	UATYA150BBAYY1	UATYA150BBAYY1	UATYA150BBAYY1	UATYA150BBAYY1	2 x UATYA150BBAYY1 + 2 x UATYA150BBAYY1
UATYA160BBAYY1	UATYA160BBAYY1	UATYA160BBAYY1	UATYA160BBAYY1	UATYA160BBAYY1	2 x UATYA160BBAYY1 + 2 x UATYA160BBAYY1
UATYA180BBAYY1	UATYA180BBAYY1	UATYA180BBAYY1	UATYA180BBAYY1	UATYA180BBAYY1	2 x UATYA180BBAYY1 + 2 x UATYA180BBAYY1
UATYA190BBAYY1	UATYA190BBAYY1	UATYA190BBAYY1	UATYA190BBAYY1	UATYA190BBAYY1	2 x UATYA190BBAYY1 + 2 x UATYA190BBAYY1

* Each box contains 2 mount

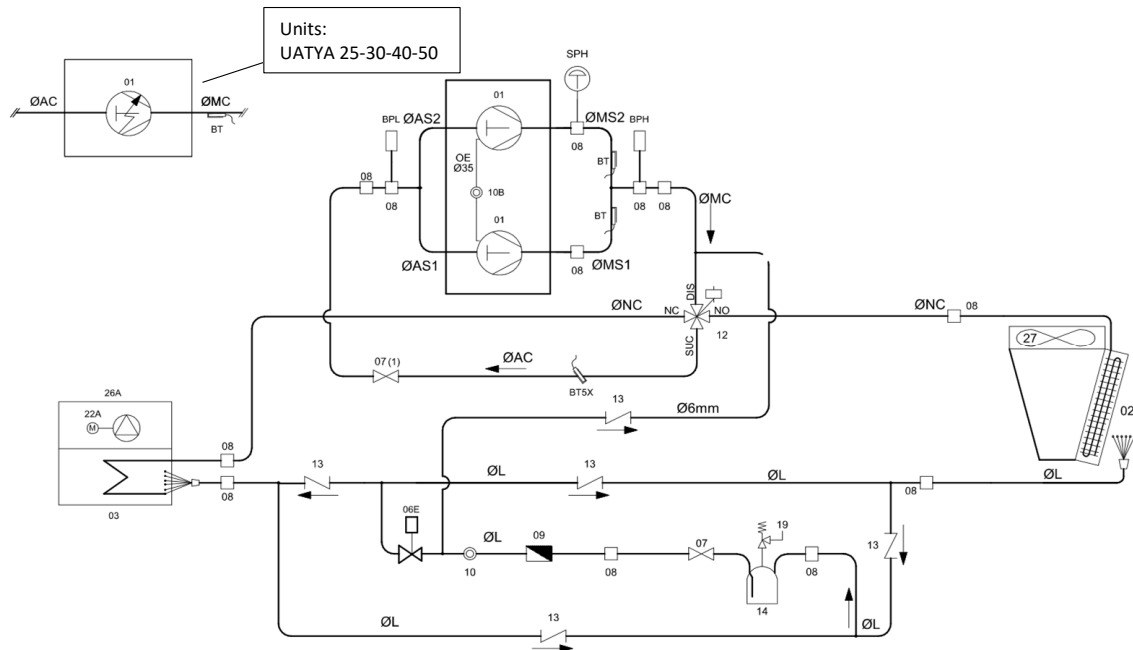
DDIM000970A

7 Piping diagrams

7 - 1 Piping Diagrams

UATYA25-50BBAY1
UATYA140-190BBAY1
UATYA25-50BFC2Y1
UATYA140-190BFC2Y1
UATYA25-50BFC3Y1
UATYA140-190BFC3Y1

Unit size	N° circuit	AS1	AS2	AC	MS1	MS2	MC	NC	L
UATYA25B***Y1	1	-	-	18	-	-	16	18	12
UATYA30B***Y1	1	-	-	22	-	-	18	22	16
UATYA40B***Y1	1	-	-	22	-	-	18	22	16
UATYA50B***Y1	1	-	-	28	-	-	22	28	18
UATYA140B***Y1	2	35	35	35	22	22	28	35	18
UATYA150B***Y1	2	35	35	35	22	22	28	35	18
UATYA160B***Y1	2	35	35	35	22	22	28	35	18
UATYA180B***Y1	2	35	35	42	22	22	28	35	22
UATYA190B***Y1	2	42	35	42	28	22	28	35	22

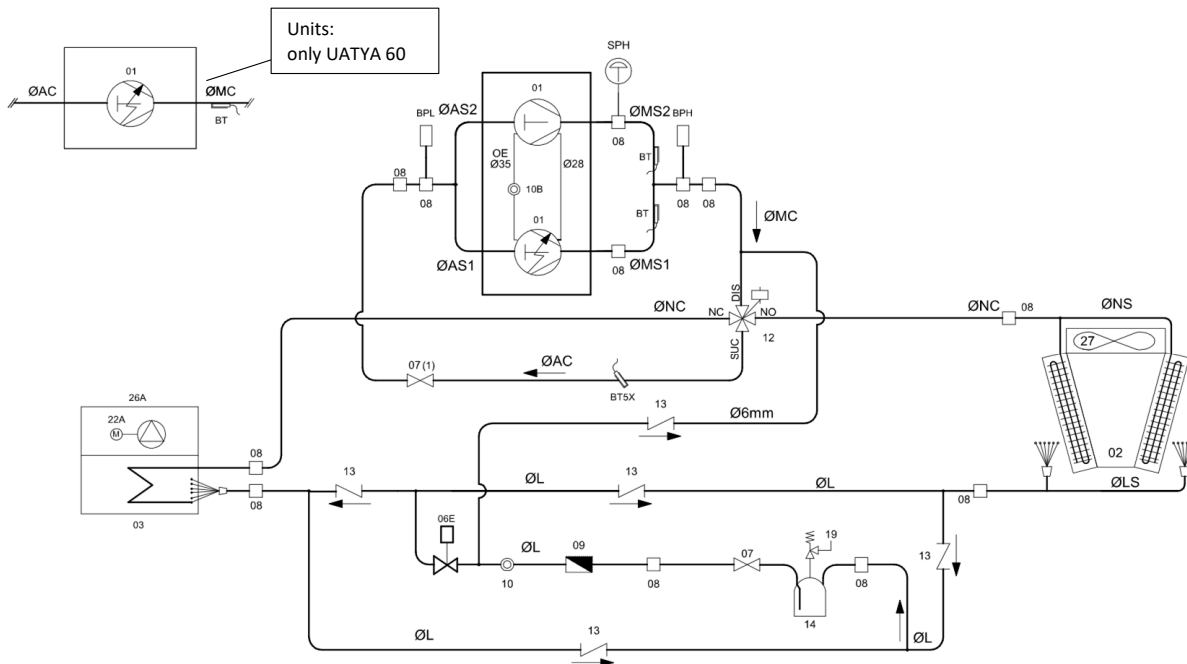


7 Piping diagrams

7 - 1 Piping Diagrams

UATYA60-120BBAY1
UATYA60-120BFC2Y1
UATYA60-120BFC3Y1

Unit size	N° circuit	AS1	AS2	AC	MS1	MS2	MC	NC	NS	L	LS
UATYA60B***Y1	1	-	-	28	-	-	22	28	18	18	16
UATYA70B***Y1	1	28	28	35	22	22	22	28	18	18	16
UATYA80B***Y1	1	28	28	35	22	22	22	28	22	18	16
UATYA90B***Y1	1	28	35	35	22	22	28	35	22	22	18
UATYA100B***Y1	1	28	35	42	22	22	28	35	28	22	18
UATYA110B***Y1	1	28	42	42	22	28	28	35	28	22	18
UATYA1200B***Y1	1	28	42	42	22	28	28	35	28	22	18



(1) Only in unit with ØAC larger or equal to 35mm

DFRI000229A

8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

UATYA-BBAY1

UATYA-BFC2Y1

UATYA-BFC3Y1

All wiring diagrams can be downloaded from the Daikin Europe Portal (my.daikin.eu) or your local country portal.

9 Sound data

9 - 1 Sound Level Data

9

UATYA-BBAY1
UATYA-BFC2Y1
UATYA-BFC3Y1

MODEL	Octave Bands [dB]																TOT dB(A)	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp		
UATYA25	87	69	84	66	79	60	75	57	72	54	68	50	64	46	55	37	82	64
UATYA30	88	69	85	66	80	61	79	61	79	60	78	60	76	58	70	52	84	66
UATYA40	85	66	82	63	83	64	77	59	81	63	80	62	79	60	65	47	87	68
UATYA50	88	69	85	66	79	61	80	61	80	62	81	62	77	59	73	54	86	67
UATYA60	91	71	88	68	83	64	81	61	82	62	81	62	83	64	75	55	89	69
UATYA70	92	72	89	69	85	66	81	61	82	63	81	62	79	60	67	48	88	68
UATYA80	97	77	94	74	88	69	84	64	85	65	82	62	89	69	77	57	93	73
UATYA90	97	77	94	74	85	65	83	63	83	63	82	62	79	59	73	53	89	69
UATYA100	97	77	94	74	85	66	83	63	84	64	82	63	83	63	75	55	90	70
UATYA110	97	77	94	74	86	66	83	63	84	64	84	64	84	64	75	55	90	71
UATYA120	97	77	94	74	88	68	85	65	87	67	86	66	90	70	79	59	94	74
UATYA140	100	80	97	77	87	67	84	64	84	63	79	59	77	56	68	48	89	68
UATYA150	100	80	97	77	88	67	84	64	83	63	79	59	77	56	68	47	89	68
UATYA160	100	80	97	77	88	67	85	64	84	63	80	60	77	57	69	49	89	69
UATYA180	100	80	97	77	88	67	85	64	84	64	81	61	78	57	71	50	89	69
UATYA190	100	80	97	77	88	67	85	65	84	64	84	64	78	58	70	50	90	70

Lw: Sound power level in free field calculated according to standard ISO 3744. Values refer only to the base unit version

Lp: Average sound pressure level, at 1 meter from the unit, in free field on a reflective surface. Not binding value derived from the sound power level

10 Fan characteristics

10 - 1 Fan Characteristics

UATYA25-80BBAY1

UATYA25-80BFC2Y1

UATYA25-80BFC3Y1

		UATYA25			UATYA30			UATYA40			UATYA50			UATYA60			UATYA70			UATYA80		
		MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*
DECLARED AIR FLOW	[mc/h]	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
SUPPLY FAN (for version UATYA***BBAY1 / UATYA***BFC2Y1 / UATYA***BFC3Y1)																						
Available Pressure																						
50	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
100	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
150	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
200	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
250	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14062	11600	14500	15950
300	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	13742	11600	14500	15950
RETURN FAN (only for version UATYA***BFC3Y1)																						
Available Pressure																						
50	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
100	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
150	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
200	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
250	Pa	3600	4500	4950	4640	5800	6380	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14300	11600	14500	15950
300	Pa	3600	4500	4950	4640	5800	6211	6000	7500	8250	7200	9000	9900	8800	11000	12100	10400	13000	14221	11600	14500	15950

* The maximum airflow is related to the available pressure required. Check the table below to get the maximum airflow for the different available pressures.

UATYA90-120BBAY1

UATYA90-120BFC2Y1

UATYA90-120BFC3Y1

DECLARED AIR FLOW	[mc/h]	UATYA90			UATYA100			UATYA110			UATYA120		
		MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*
		13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
SUPPLY FAN (for version UATYA***BBAY1 / UATYA***BFC2Y1 / UATYA***BFC3Y1)													
Available Pressure													
50	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
100	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
150	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
200	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
250	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
300	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
RETURN FAN (only for version UATYA***BFC3Y1)													
Available Pressure													
50	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
100	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
150	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
200	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
250	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760
300	Pa	13200	16500	18150	14400	18000	19800	15840	19800	21780	17280	21600	23760

* The maximum airflow is related to the available pressure required. Check the table below to get the maximum airflow for the different available pressures.

10 Fan characteristics

10 - 1 Fan Characteristics

10

UATYA140-190BBAY1
UATYA140-190BFC2Y1
UATYA140-190BFC3Y1

		UATYA140			UATYA150			UATYA160			UATYA180			UATYA190		
		MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*	MIN	NOMINAL	MAX*
DECLARED AIR FLOW	[mc/h]	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075

SUPPLY FAN (for version UATYA***BBAY1 / UATYA***BFC2Y1 / UATYA***BFC3Y1)

Available Pressure																
50	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
100	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
150	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
200	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
250	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
300	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	30500	25200	31500	31500

RETURN FAN (only for version UATYA***BFC3Y1)

Available Pressure																
50	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
100	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30800	24400	30500	32940	25200	31500	33075
150	Pa	20000	25000	27500	21200	26500	29150	22400	28000	30792	24400	30500	32940	25200	31500	33075
200	Pa	20000	25000	27500	21200	26500	29150	22400	28000	29911	24400	30500	32940	25200	31500	33075
250	Pa	20000	25000	26738	21200	26500	29138	22400	28000	29138	24400	30500	32940	25200	31500	33075
300	Pa	20000	25000	25690	21200	26500	28442	22400	28000	28442	24400	30500	32940	25200	31500	33036

* The maximum airflow is related to the available pressure required. Check the table below to get the maximum airflow for the different available pressures.

11 Operation range

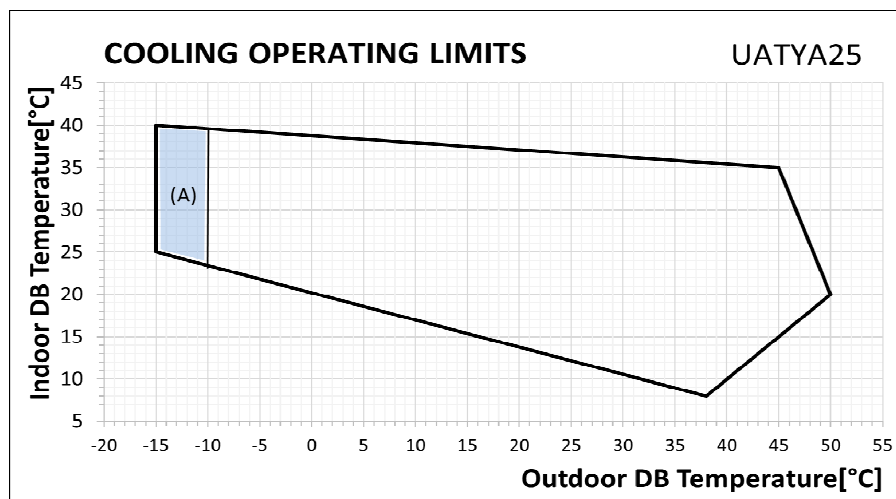
11 - 1 Operation Range

UATYA25BBAY1

UATYA25BFC2Y1

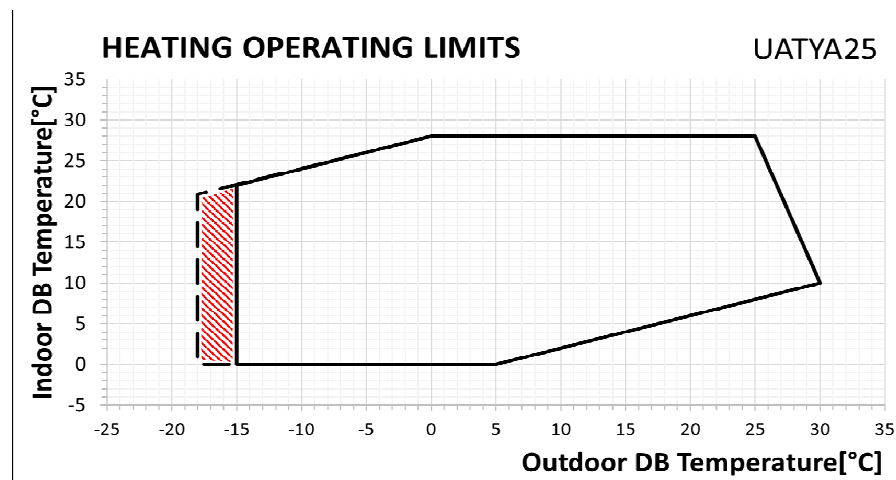
UATYA25BFC3Y1

11



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the condensing coil (dry bulb).

Indoor DB Temperature [°C]: Indoor air temperature that strikes the evaporating coil (dry bulb).



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the evaporating coil (dry bulb).

Indoor DB Temperature [°C]: Indoor air temperature that strikes the condensing coil (dry bulb).



Performances and operation guaranteed.



Operation guaranteed (COOLING OPERATION). The cooling capacity can be reduced up to 5% compared to the maximum achievable at full speed.



Performances and operation guaranteed with EC axial fans.



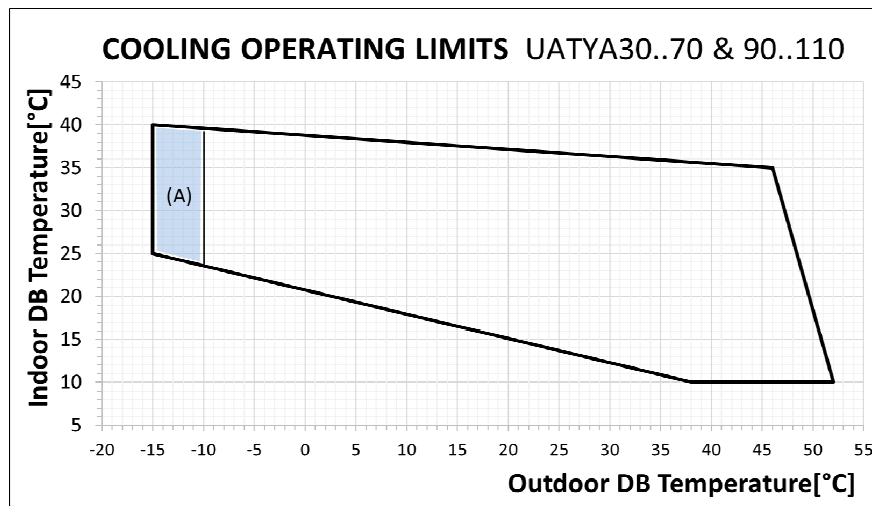
Operation guaranteed (HEATING OPERATION).

11 Operation range

11 - 1 Operation Range

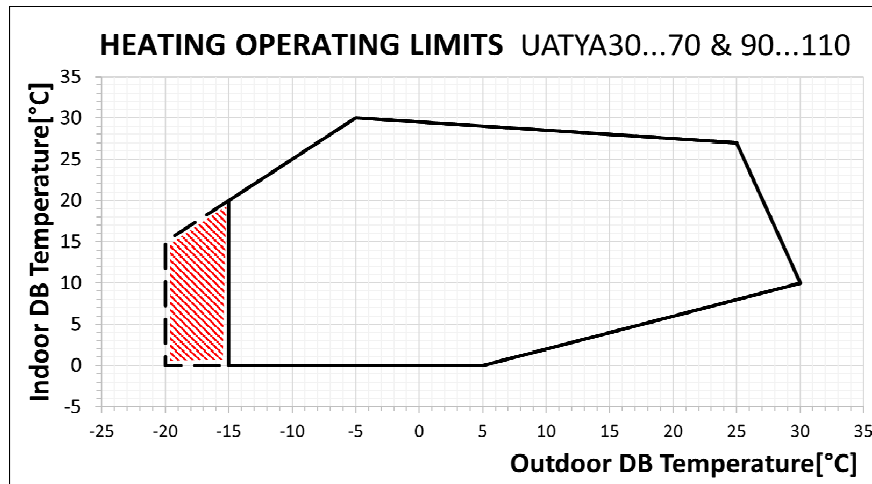
11

UATYA30-70BBAY1
UATYA90-110BBAY1
UATYA30-70BFC2Y1
UATYA90-110BFC2Y1
UATYA30-70BFC3Y1
UATYA90-110BFC3Y1



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the condensing coil (dry bulb).

Indoor DB Temperature [°C]: Indoor air temperature that strikes the evaporating coil (dry bulb).



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the evaporating coil (dry bulb).

Indoor DB Temperature [°C]: Indoor air temperature that strikes the condensing coil (dry bulb).



Performances and operation guaranteed.



Operation guaranteed (COOLING OPERATION). The cooling capacity can be reduced up to 5% compared to the maximum achievable at full speed.



Performances and operation guaranteed with EC axial fans.



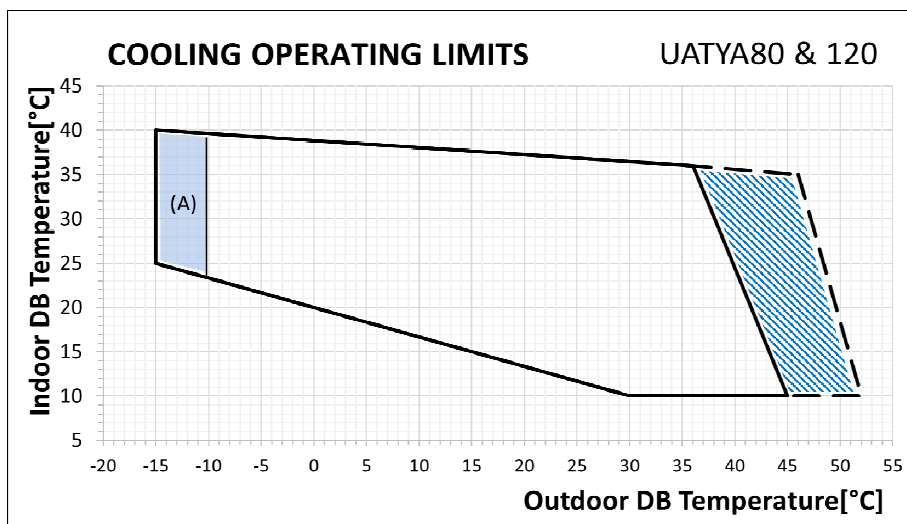
Operation guaranteed (HEATING OPERATION).

11 Operation range

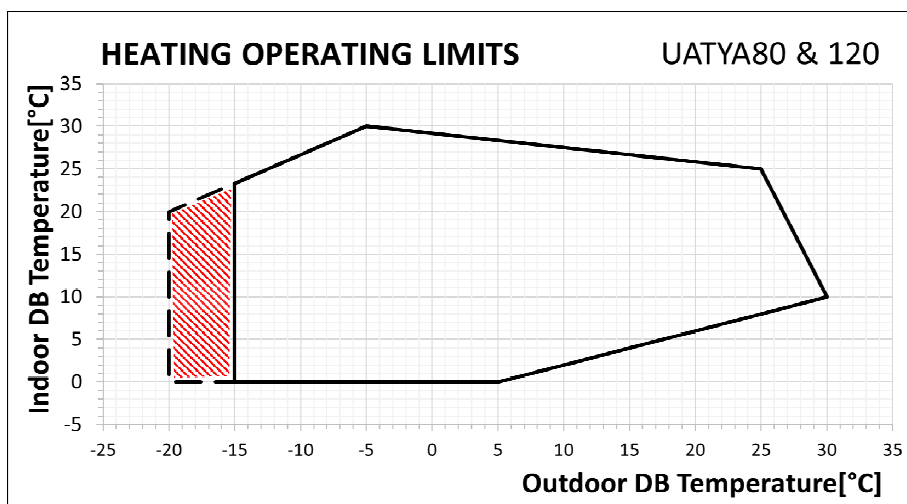
11 - 1 Operation Range

UATYA80BBAY1
UATYA120BBAY1
UATYA80BFC2Y1
UATYA120BFC2Y1
UATYA80BFC3Y1
UATYA120BFC3Y1

11



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the condensing coil (dry bulb).
Indoor DB Temperature [°C]: Indoor air temperature that strikes the evaporating coil (dry bulb).



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the evaporating coil (dry bulb).
Indoor DB Temperature [°C]: Indoor air temperature that strikes the condensing coil (dry bulb).



Performances and operation guaranteed.



Operation guaranteed (COOLING OPERATION). The cooling capacity can be reduced up to 5% compared to the maximum achievable at full speed.



Performances and operation guaranteed with EC axial fans.



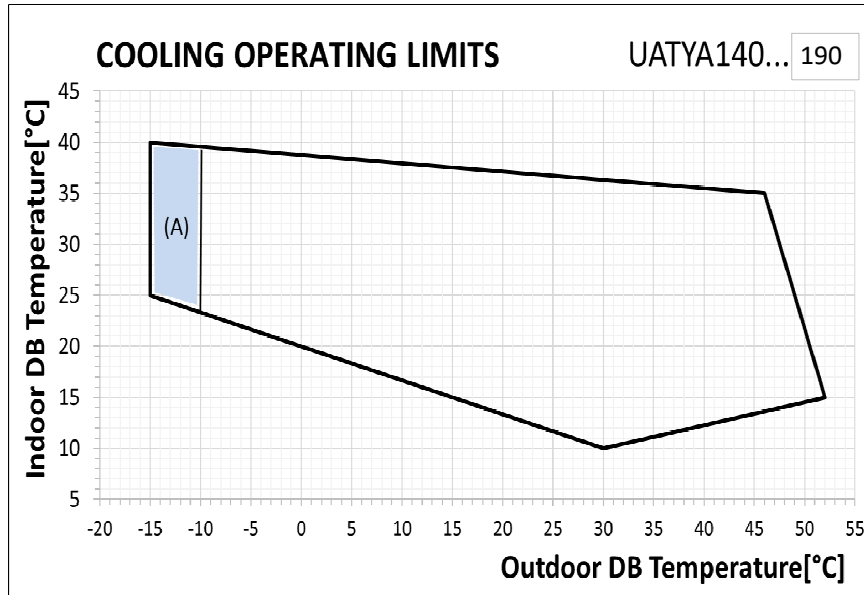
Operation guaranteed (HEATING OPERATION).

11 Operation range

11 - 1 Operation Range

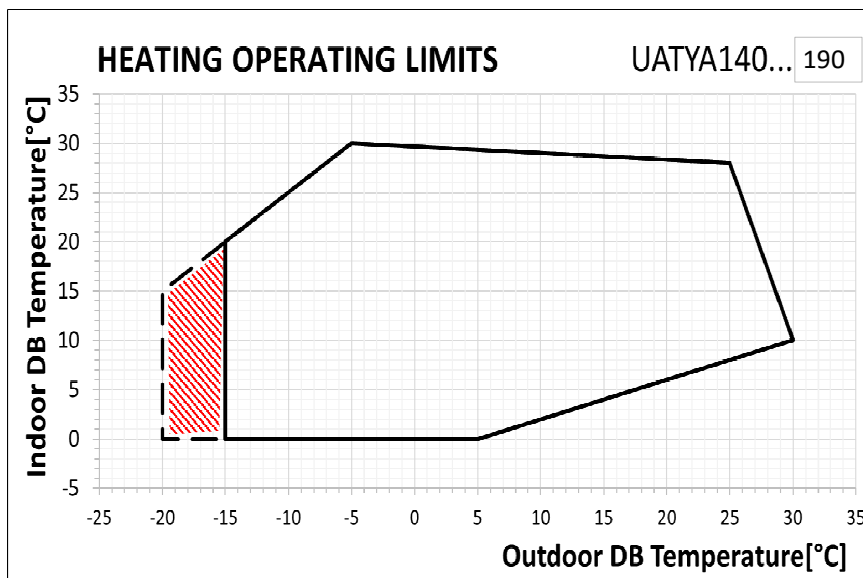
UATYA140-190BBAY1
UATYA140-190BFC2Y1
UATYA140-190BFC3Y1

11



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the condensing coil (dry bulb).

Indoor DB Temperature [°C]: Indoor air temperature that strikes the evaporating coil (dry bulb).



Outdoor DB Temperature [°C]: Outdoor air temperature that strikes the evaporating coil (dry bulb).

Indoor DB Temperature [°C]: Indoor air temperature that strikes the condensing coil (dry bulb).



Performances and operation guaranteed.



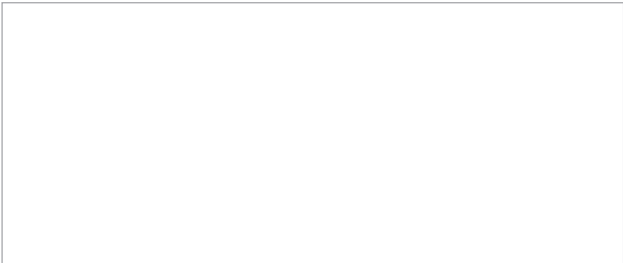
Operation guaranteed (COOLING OPERATION). The cooling capacity can be reduced up to 5% compared to the maximum achievable at full speed.



Performances and operation guaranteed with EC axial fans.



Operation guaranteed (HEATING OPERATION).



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