

HEAT PUMPS

DX / AIR-WATER



Wide range of heat pumps with various applications

Mark Climate Technology also has the energy-efficient TOSHIBA heat pumps in its program. These DX heat pumps are fully compatible with the Mark AIRSTREAM heat recovery units and the Mark air handling units. The heat pumps are also available separately.

Applications:

- Combination with DX battery in an air handling unit for cooling and / or heating.
- Combination with DX air curtains.

Benefits:

- High energy efficiency, distinctive partial load efficiencies and therefore high S(easonal)COPs
- A high and highly valued reliability.
- Inverter controlled Twin-Rotary compressor technology with individual control, low starting currents and a very large control range.
- Technical support

AIR-WATER HEAT PUMPS

Also available are Air-Water heat pumps, which are still able to heat with the nominal capacity at an outside temperature of up to -15 °C.

DX HEAT PUMPS

Type		RAV-GM30IATP	RAV-GM40IATP	RAV-GM56IATP	RAV-GM80IATP
Nominal cooling capacity	kW	2,5	3,6	5,0	6,7
Nominal heating capacity	kW	3,4	4,0	5,3	7,7
Cool power range	kW	0,9 - 3,0	0,9 - 4,0	1,5 - 5,6	1,5 - 8,0
Heat power range	kW	0,8 - 4,5	0,8 - 5,0	1,5 - 6,3	1,5 - 9,0
SEER		5,94	5,76	6,34	5,81
SCOP		5,48	5,08	5,29	4,79
Heating capacity at -10°C	kW	2,92	3,25	4,09	5,85
Electrical connection	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
Insurance value	A	16	16	16	16
Air quantity	m³/h	1.800	2.200	2.400	2.700
Power condenser fan	W	43	43	43	43
Sound pressure level cooling / heating	dB(A)	38/39	41/42	40/42	42/46
Cooling / heating sound power	dB(A)	61/62	64/65	63/65	65/69
Dimensions H x W x D	mm	550x780x290	550x780x290	550x780x290	550x780x290
Weight	kg	33	39	40	44
Minimum outdoor temperature cooling / heating	°C	-15/ -15	-15/ -15	-15/ -15	-15/ -15
Refrigeration connection	flare	1/4" x 3/8"	1/4" x 1/2"	1/4" x 1/2"	3/8" x 5/8"
Cooling pipe length max.	m	15/20*	15/20*	20/30*	20/30*
Maximum height difference	m	10	10	30	30
Refrigerant content R32	kg	0,63	0,9	0,9	1,3
Extra refrigerant	g/m	20	20	20	20
Article number		0699500	0699501	0699502	0699503
Price	€	1.439	1.656	2.174	2.691

*With extra refrigerant charge

Type		RAV-GM90IATP	RAV-GM110IATP	RAV-GM140IATP	RAV-GP160IAT8
Nominal cooling capacity	kW	8,0	9,5	12,0	14,0
Nominal heating capacity	kW	9,0	11,2	13,0	16,0
Cool power range	kW	1,9 - 8,8	3,0 - 11,2	3,0 - 13,2	2,6 - 16
Heat power range	kW	1,6 - 9,9	3,0 - 13,0	3,0 - 16,0	2,4 - 19,0
SEER		7,0	6,15	5,71	6,72 (EER)
SCOP		5,22	4,71	4,69	4,82 (COP)
Heating capacity at -10°C	kW	6,43	8,45	10,40	13,14
Electrical connection	V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3-N/50
Insurance value	A	16	20	25	3 x 16
Air quantity	m³/h	2.900	4.080	4.200	6.180
Power condenser fan	W	45	100	100	2 x 100
Sound pressure level cooling / heating	dB(A)	43/47	47/51	47/51	45/47
Cooling / heating sound power	dB(A)	68/72	70/74	70/74	68/70
Dimensions H x W x D	mm	630x800x300	890x900x320	890x900x320	1.340x900x320
Weight	kg	47	68	68	95
Minimum outdoor temperature cooling / heating	°C	-15/ -15	-15/ -15	-15/ -15	-15/ -20
Refrigeration connection	flare	3/8" x 5/8"	3/8" x 5/8"	3/8" x 5/8"	3/8" x 5/8"
Cooling pipe length max.	m	30/50*	30/50*	30/50*	30/75*
Maximum height difference	m	30	30	30	30
Refrigerant content R32	kg	2,0 (R32)	2,1 (R32)	2,1 (R32)	2,6 (R410A)
Extra refrigerant	g/m	20	40	40	40
Article number		0699507	0699504	0699505	0699506
Price	€	2.900	3.685	4.192	6.200

*With extra refrigerant charge

DX HEAT PUMPS

Type		RAV-GP561ATP	RAV-GP801ATP	RAV-GP1101AT	RAV-GP1401AT
Nominal cooling capacity	kW	5,0	7,1	10,0	12,5
Nominal heating capacity	kW	5,6	8,0	11,2	14,0
Cool power range	kW	1,2 - 5,6	1,9 - 8,0	3,1 - 12,0	3,1 - 14,0
Heat power range	kW	0,9 - 8,1	1,3 - 11,3	2,6 - 13,0	2,6 - 16,5
SEER		7,61	8,8	8,65	8,15
SCOP		5,54	6,48	5,87	5,79
Heating capacity at -10°C	kW	4,79	6,84	9,89	12,17
Electrical connection	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
Insurance value	A	16	16	25	25
Air quantity	m³/h	2.250	3.180	6.960	6.960
Power condenser fan	W	43	60	2 x 100	2 x 100
Sound pressure level cooling / heating	dB(A)	40/42	40/42	43/44	44/45
Cooling / heating sound power	dB(A)	63/65	63/65	66/67	67/68
Dimensions H x W x D	mm	630x799x299	1.050x1.010x370	1.550x1.010x370	1.550x1.010x370
Weight	kg	45	74	104	104
Minimum outdoor temperature cooling / heating	°C	-15/ -27	-15/ -27	-15/ -27	-15/ -27
Refrigeration connection	flare	1/4" x 1/2"	3/8" x 5/8"	3/8" x 5/8"	3/8" x 5/8"
Cooling pipe length max.	m	20/50*	30/50*	30/75*	30/75*
Maximum height difference	m	30	30	30	30
Refrigerant content R32	kg	1,35	1,9	3,1	3,1
Extra refrigerant	g/m	20	40	40	40
Article number		0699512	0699513	0699514	0699515
Price	€	3.177	3.954	5.506	6.075

*With extra refrigerant charge

Type		RAV-GM1101AT8P	RAV-GM1401AT8P	RAV-GM1601AT8P	RAV-GM2241AT8	RAV-GM2801AT8
Nominal cooling capacity	kW	9,5	12,0	14,0	20,0	23,5
Nominal heating capacity	kW	11,2	12,8	16,0	22,4	27,0
Cool power range	kW	3,0 - 11,2	3,0 - 13,2	3,0 - 16,0	4,6 - 22,4	4,6 - 27,0
Heat power range	kW	3,0 - 13,0	3,0 - 16,0	3,0 - 18,0	4,6 - 25,0	4,6 - 31,5
SEER		6,15	5,71	6,3	6,53	6,21
SCOP		4,71	4,69	4,71	4,41	4,67
Heating capacity at -10°C	kW	8,45	10,4	11,7	16,95	21,57
Electrical connection	V/ph/Hz	400/3-N/50	400/3-N/50	400/3-N/50	400/3-N/50	400/3-N/50
Insurance value	A	3x10	3x10	3x16	3 x 20	3 x 25
Air quantity	m³/h	4.080	4.200	6.900	9150	10.890
Power condenser fan	W	2x100	2x100	2x100	2 x 100	2 x 100
Sound pressure level cooling / heating	dB(A)	47/51	47/51	45/47	53/53	55/57
Cooling / heating sound power	dB(A)	70/74	70/74	70/72	76/76	78/80
Dimensions H x W x D	mm	890x900x320	890x900x320	1.340x900x320	1.550x1.010x370	1.550x1.010x370
Weight	kg	69	69	94	142	142
Minimum outdoor temperature cooling / heating	°C	-15/ -15	-15/ -15	-15/ -15	-15/ -27	-15/ -27
Refrigeration connection	flare	3/8" x 5/8"	3/8" x 5/8"	3/8" x 5/8"	1/2" x 1 1/8"	1/2" x 1 1/8"
Cooling pipe length max.	m	30/50*	30/50*	30/50*	30/60*	30/60*
Maximum height difference	m	30	30	30	30	30
Refrigerant content R32	kg	2,1	2,1	2,4	5	5
Extra refrigerant	g/m	40	40	40	80	80
Article number		0699520	0699521	0699522	0699527	0699528
Price	€	3.685	4.192	5.890	9.895	11.126

*With extra refrigerant charge

AIR-WATER HEAT PUMPS

Type		HWS-P805HR	HWS-PI105HR	HWS-P805H8R	HWS-PI105H8R	HWS-PI405H8R	
heating	Nominal heating capacity*	kW	8,0	11,2	8,0	11,2	14,0
	Power consumption*	kW	1,68	2,29	1,71	2,33	3,15
	Water outlet temperature	°C	20-60	20-60	20-60	20-60	20-60
	Heating capacity -7 °C/-15 °C	kW	11,92 / 9,37	12,79 / 11,23	10,82 / 8,18	11,62 / 9,26	13,44 / 10,7
	COP		4,76	4,88	4,68	4,80	4,44
cooling	Nominal cooling capacity*	kW	6,0	10,0	6,0	10,0	11,0
	Power consumption*	kW	1,64	3,33	1,64	3,33	3,9
	Water outlet temperature	°C	7-25	7-25	7-25	7-25	7-25
	Annual energy consumption heating	kWh	5.881	5.523	5.372	5.476	6.588
	Energy label heating		A+++	A+++	A+++	A+++	A+++
	SCOP		4,01	4,48	4,31	4,43	4,43
	Fuse	A	20	25	3 x 16	3 x 16	3 x 16
	Electrical connection	V/ph/Hz	230/1/50	230/1/50	400/3-N/50	400/3-N/50	400/3-N/50
	Compressor type		DC Twin Rotary	DC Twin Rotary	DC Twin Rotary	DC Twin Rotary	DC Twin Rotary
	Connections (gas-fluid)	flare	5/8" x 3/8"	5/8" x 3/8"	5/8" x 3/8"	5/8" x 3/8"	5/8" x 3/8"
	Sound pressure level **	dB(A)	47	47	47	48	49
	Dimensions (H x W x D)	mm	1.340x900x320	1.340x900x320	1.340x900x320	1.340x900x320	1.340x900x320
	Weight	kg	92	92	94	94	94
Minimum outdoor temperature cooling / heating	°C	10/-25	10/-25	10/-25	10/-25	10/-25	
Minimum pipe length	m	5	5	5	5	5	
Maximum pipe length	m	30	30	30	30	30	
Maximum height difference	m	30	30	30	30	30	
Pipe length without refill	m	30	30	30	30	30	
Refrigerant		R410A	R410A	R410A	R410A	R410A	
Article number		0699550	0699551	0699555	0699556	0699557	
Price	€	9.814	10.709	10.285	11.240	12.163	

* These capacities apply under the following conditions and are in accordance with standard EN14511:

Heating: hot water outlet temperature: 35°C (ΔT 5°C), outside temperature: 7°C DB / 6 °C WB.

Cooling: cold water outlet temperature: 7°C (ΔT 5°C), outside temperature: 35°C DB.

** The sound pressure level is specified at 2 m distance in free field conditions.