

## Capacity Tables

Outdoor unit **HWS-1103H8-E**  
 Hydro unit **HWS-1403XWH\*\*-E**

### Rated heating capacity and power input

Rated condition 1 LWT=35°C dT=5deg	Capacity	kW	11.2
	Power input	kW	2.39
	COP	W/W	4.69
	Rated water flow rate	Liter/min	32.1
Rated condition 2 LWT=45°C dT=5deg	Capacity	kW	11.2
	Power input	kW	3.19
	COP	W/W	3.51
	Rated water flow rate	Liter/min	32.1

\*Rated heating capacity and power input are the data at rated compressor operating frequency

\*Power input does not include water pump power.

\*Heating capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C) RH85%

LWT : leaving water temperature (°C)

dT : Delta temperature (deg)

Leaving water temperature - return water temperature

**Average heating capacity and power input**

Capacity (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	5.65	5.45	5.31	5.18	-	-
	-15	7.39	7.12	6.93	6.76	-	-
	-7	8.76	8.43	8.19	7.99	7.86	-
	-2	9.97	9.57	9.28	9.03	8.87	8.29
	2	11.18	10.49	10.16	9.87	9.68	9.04
	7	15.41	14.82	14.47	14.16	13.81	12.82
	10	16.46	15.82	15.42	15.08	14.96	14.14
	12	17.15	16.49	16.06	15.69	15.58	14.87
	15	18.11	17.41	17.19	17.02	16.62	15.76
	20	20.27	19.49	19.25	19.07	18.81	17.67

Power input (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.59	2.78	2.94	3.08	-	-
	-15	2.89	3.11	3.29	3.46	-	-
	-7	3.23	3.47	3.69	3.89	4.15	-
	-2	3.18	3.42	3.64	3.85	4.11	4.32
	2	3.15	3.38	3.61	3.81	4.07	4.28
	7	3.01	3.24	3.56	3.88	4.22	4.52
	10	3.01	3.23	3.57	3.91	4.27	4.59
	12	3.00	3.23	3.57	3.92	4.30	4.64
	15	3.01	3.24	3.60	3.97	4.36	4.72
	20	3.04	3.27	3.64	4.02	4.43	4.80

COP		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.18	1.96	1.81	1.68	-	-
	-15	2.56	2.29	2.10	1.95	-	-
	-7	2.71	2.43	2.22	2.05	1.89	-
	-2	3.13	2.80	2.55	2.35	2.16	1.92
	2	3.55	3.10	2.82	2.59	2.38	2.11
	7	5.12	4.57	4.06	3.65	3.27	2.84
	10	5.47	4.89	4.32	3.86	3.51	3.08
	12	5.71	5.11	4.49	4.00	3.62	3.21
	15	6.01	5.37	4.77	4.29	3.81	3.34
	20	6.67	5.96	5.29	4.75	4.25	3.68

\*Heating capacity and power input are include defrost cycle data.

\*Heating capacity and power input are shown at maximum compressor operating frequency

\*Power input does not include water pump power.

\*Heating capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C) RH85%

LWT : Leaving water temperature (°C)

**Heating peak capacity and power input**

Capacity (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	6.69	6.41	6.21	6.03	-	-
	-15	7.97	7.64	7.40	7.19	-	-
	-7	10.38	9.96	9.65	9.38	9.10	-
	-2	11.85	11.38	11.05	10.75	10.43	9.64
	2	13.02	12.52	12.16	11.85	11.49	10.62
	7	15.41	14.82	14.47	14.16	13.81	12.82
	10	16.46	15.82	15.42	15.08	14.96	14.14
	12	17.15	16.49	16.06	15.69	15.58	14.87
	15	18.11	17.41	17.19	17.02	16.62	15.76
	20	20.27	19.49	19.25	19.07	18.81	17.67

Power input (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.31	2.48	2.68	2.88	-	-
	-15	2.66	2.86	3.10	3.33	-	-
	-7	2.85	3.07	3.33	3.57	3.86	-
	-2	2.91	3.14	3.41	3.67	3.96	4.20
	2	2.96	3.19	3.47	3.74	4.04	4.29
	7	3.01	3.24	3.56	3.88	4.22	4.52
	10	3.01	3.23	3.57	3.91	4.27	4.59
	12	3.00	3.23	3.57	3.92	4.30	4.64
	15	3.01	3.24	3.60	3.97	4.36	4.72
	20	3.04	3.27	3.64	4.02	4.43	4.80

COP		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.90	2.59	2.31	2.09	-	-
	-15	2.99	2.67	2.38	2.16	-	-
	-7	3.64	3.24	2.90	2.62	2.36	-
	-2	4.07	3.63	3.24	2.93	2.64	2.29
	2	4.41	3.92	3.51	3.17	2.85	2.48
	7	5.12	4.57	4.06	3.65	3.27	2.84
	10	5.47	4.89	4.32	3.86	3.51	3.08
	12	5.71	5.11	4.49	4.00	3.62	3.21
	15	6.01	5.37	4.77	4.29	3.81	3.34
	20	6.67	5.96	5.29	4.75	4.25	3.68

\*Heating capacity and power input are shown peak value during operation.

\*Heating capacity and power input are shown at maximum compressor operating frequency

\*Power input does not include water pump power.

TO : Outdoor temperature (DB°C) RH85%

LWT : Leaving water temperature (°C)

## Capacity Tables

**Outdoor unit** HWS-1103H8-E  
**Hydro unit** HWS-1403XWH\*\*-E

### Rated cooling capacity and power input

Rated condition 1 LWT=7°C dT=5deg	Capacity	kW	10.0
	Power input	kW	3.52
	EER	W/W	2.84
	Rated water flow rate	Liter/min	28.7
Rated condition 2 LWT=18°C dT=5deg	Capacity	kW	10.0
	Power input	kW	2.14
	EER	W/W	4.67
	Rated water flow rate	Liter/min	28.7

\*Rated cooling capacity and power input are the data at rated compressor operating frequency

\*Power input does not include water pump power.

\*Cooling capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C)

LWT : Leaving water temperature (°C)

dT : Delta temperature (deg)

Return water temperature - leaving water temperature

## Cooling capacity and power input

Capacity (kW)		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	10.09	11.06	12.03	12.67	13.63
	27	10.40	11.40	12.40	13.06	14.05
	30	10.02	10.98	11.95	12.58	13.54
	35	9.37	10.27	11.17	11.77	12.66
	40	8.66	9.50	10.33	10.88	11.57
	43	8.24	9.03	9.82	10.35	10.91

Power input (kW)		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	2.04	2.07	2.10	2.12	2.14
	27	2.67	2.71	2.75	2.77	2.80
	30	2.80	2.84	2.88	2.91	2.94
	35	3.00	3.05	3.10	3.12	3.15
	40	3.32	3.37	3.42	3.45	3.47
	43	3.51	3.56	3.62	3.64	3.66

COP		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	4.94	5.34	5.72	5.98	6.37
	27	3.89	4.20	4.50	4.71	5.02
	30	3.58	3.86	4.14	4.33	4.61
	35	3.12	3.37	3.61	3.77	4.02
	40	2.61	2.82	3.02	3.16	3.34
	43	2.35	2.53	2.72	2.84	2.98

\*Cooling capacity and power input are the data at rated compressor operating frequency of rated condition

\*Power input does not include water pump power.

\*Cooling capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C)

LWT : Leaving water temperature (°C)

## Capacity Tables

**Outdoor unit HWS-1403H8-E**

**Hydro unit HWS-1403XWH\*\*-E**

### Rated heating capacity and power input

Rated condition 1 LWT=35°C dT=5deg	Capacity	kW	14.0
	Power input	kW	3.21
	COP	W/W	4.36
	Rated water flow rate	Liter/min	40.1
Rated condition 2 LWT=45°C dT=5deg	Capacity	kW	14.0
	Power input	kW	4.12
	COP	W/W	3.40
	Rated water flow rate	Liter/min	40.1

\*Rated heating capacity and power input are the data at rated compressor operating frequency

\*Power input does not include water pump power.

\*Heating capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C) RH85%

LWT : leaving water temperature (°C)

dT : Delta temperature (deg)

Leaving water temperature - return water temperature

## Average heating capacity and power input

Capacity (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	5.90	5.69	5.54	5.40	-	-
	-15	7.71	7.43	7.24	7.06	-	-
	-7	9.14	8.80	8.55	8.34	8.20	-
	-2	10.41	9.99	9.69	9.43	9.26	8.66
	2	11.67	10.95	10.60	10.30	10.10	9.44
	7	16.71	16.12	15.66	15.34	14.93	13.83
	10	17.87	17.38	16.86	16.52	16.18	15.25
	12	18.64	18.12	17.56	17.24	17.01	16.04
	15	19.67	19.13	18.66	18.44	18.15	17.01
	20	21.72	21.20	20.84	20.66	20.34	19.07

Power input (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.86	3.01	3.18	3.33	-	-
	-15	3.19	3.36	3.56	3.74	-	-
	-7	3.56	3.76	3.99	4.20	4.49	-
	-2	3.50	3.70	3.94	4.16	4.44	4.67
	2	3.45	3.66	3.90	4.12	4.40	4.62
	7	3.49	3.77	4.10	4.42	4.76	5.05
	10	3.49	3.76	4.11	4.45	4.81	5.12
	12	3.49	3.75	4.12	4.47	4.85	5.18
	15	3.51	3.77	4.15	4.52	4.92	5.27
	20	3.54	3.80	4.19	4.58	4.99	5.36

COP		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.06	1.89	1.74	1.62	-	-
	-15	2.42	2.21	2.03	1.89	-	-
	-7	2.57	2.34	2.14	1.98	1.83	-
	-2	2.97	2.70	2.46	2.27	2.09	1.86
	2	3.38	2.99	2.72	2.50	2.30	2.04
	7	4.79	4.28	3.82	3.47	3.14	2.74
	10	5.12	4.62	4.10	3.71	3.36	2.98
	12	5.34	4.83	4.27	3.85	3.51	3.10
	15	5.60	5.08	4.50	4.08	3.69	3.23
	20	6.13	5.57	4.97	4.51	4.07	3.56

\*Heating capacity and power input are include defrost cycle data.

\*Heating capacity and power input are shown at maximum compressor operating frequency

\*Power input does not include water pump power.

\*Heating capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C) RH85%

LWT : Leaving water temperature (°C)

**Heating peak capacity and power input**

Capacity (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	7.28	6.98	6.75	6.56	-	-
	-15	8.66	8.31	8.05	7.82	-	-
	-7	11.29	10.83	10.50	10.20	9.90	-
	-2	12.89	12.38	12.01	11.69	11.34	10.48
	2	14.17	13.62	13.23	12.89	12.50	11.55
	7	16.71	16.12	15.66	15.34	14.93	13.83
	10	17.87	17.38	16.86	16.52	16.18	15.25
	12	18.64	18.12	17.56	17.24	17.01	16.04
	15	19.67	19.13	18.66	18.44	18.15	17.01
	20	21.72	21.20	20.84	20.66	20.34	19.07

Power input (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.68	2.88	3.12	3.35	-	-
	-15	3.10	3.33	3.61	3.88	-	-
	-7	3.32	3.57	3.87	4.16	4.49	-
	-2	3.38	3.65	3.96	4.26	4.60	4.89
	2	3.44	3.71	4.03	4.35	4.69	4.99
	7	3.49	3.77	4.10	4.42	4.76	5.05
	10	3.49	3.76	4.11	4.45	4.81	5.12
	12	3.49	3.75	4.11	4.47	4.85	5.18
	15	3.51	3.77	4.15	4.52	4.92	5.27
	20	3.54	3.80	4.19	4.58	4.99	5.36

COP		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.71	2.42	2.16	1.96	-	-
	-15	2.80	2.49	2.23	2.02	-	-
	-7	3.40	3.03	2.71	2.45	2.21	-
	-2	3.81	3.39	3.03	2.74	2.47	2.14
	2	4.12	3.67	3.28	2.96	2.66	2.32
	7	4.79	4.28	3.82	3.47	3.14	2.74
	10	5.12	4.62	4.10	3.71	3.36	2.98
	12	5.34	4.83	4.27	3.86	3.51	3.10
	15	5.60	5.08	4.50	4.08	3.69	3.23
	20	6.13	5.57	4.97	4.51	4.07	3.56

\*Heating capacity and power input are shown peak value during operation.

\*Heating capacity and power input are shown at maximum compressor operating frequency

\*Power input does not include water pump power.

TO : Outdoor temperature (DB°C) RH85%

LWT : Leaving water temperature (°C)

## Capacity Tables

**Outdoor unit** HWS-1403H8-E  
**Hydro unit** HWS-1403XWH\*\*-E

### Rated cooling capacity and power input

Rated condition 1 LWT=7°C dT=5deg	Capacity	kW	11.0
	Power input	kW	4.08
	EER	W/W	2.70
	Rated water flow rate	Liter/min	31.5
Rated condition 2 LWT=18°C dT=5deg	Capacity	kW	11.0
	Power input	kW	2.43
	EER	W/W	4.53
	Rated water flow rate	Liter/min	31.5

\*Rated cooling capacity and power input are the data at rated compressor operating frequency

\*Power input does not include water pump power.

\*Cooling capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C)

LWT : Leaving water temperature (°C)

dT : Delta temperature (deg)

Return water temperature - leaving water temperature

**Cooling capacity and power input**

Capacity (kW)		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	11.10	12.13	13.15	13.85	14.89
	27	11.64	12.72	13.79	14.52	15.61
	30	11.22	12.26	13.29	13.99	15.05
	35	10.49	11.46	12.43	13.09	14.07
	40	9.83	10.74	11.65	12.14	12.93
	43	9.44	10.31	11.19	11.58	12.24

Power input (kW)		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	2.39	2.43	2.48	2.51	2.55
	27	3.11	3.17	3.24	3.27	3.32
	30	3.26	3.33	3.39	3.43	3.48
	35	3.50	3.57	3.64	3.68	3.74
	40	3.88	3.96	4.03	4.04	4.08
	43	4.11	4.19	4.27	4.27	4.29

COP		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	4.65	4.98	5.30	5.52	5.85
	27	3.74	4.01	4.26	4.44	4.70
	30	3.44	3.68	3.92	4.08	4.32
	35	3.00	3.21	3.42	3.56	3.77
	40	2.53	2.72	2.89	3.00	3.17
	43	2.30	2.46	2.62	2.71	2.86

\*Cooling capacity and power input are the data at rated compressor operating frequency of rated conditio

\*Power input does not include water pump power.

\*Cooling capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C)

LWT : Leaving water temperature (°C)

## Capacity Tables

**Outdoor unit HWS-1603H8-E**

**Hydro unit HWS-1403XWH\*\*-E**

### Rated heating capacity and power input

Rated condition 1 LWT=35°C dT=5deg	Capacity	kW	16.0
	Power input	kW	3.72
	COP	W/W	4.30
	Rated water flow rate	Liter/min	45.7
Rated condition 2 LWT=45°C dT=5deg	Capacity	kW	16.0
	Power input	kW	4.88
	COP	W/W	3.28
	Rated water flow rate	Liter/min	45.7

\*Rated heating capacity and power input are the data at rated compressor operating frequency

\*Power input does not include water pump power.

\*Heating capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C) RH85%

LWT : leaving water temperature (°C)

dT : Delta temperature (deg)

Leaving water temperature - return water temperature

**Average heating capacity and power input**

Capacity (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	6.17	5.95	5.79	5.65	-	-
	-15	8.07	7.77	7.57	7.38	-	-
	-7	9.56	9.20	8.94	8.72	8.58	-
	-2	10.88	10.45	10.14	9.86	9.68	9.05
	2	12.21	11.45	11.09	10.77	10.57	9.87
	7	17.71	17.03	16.54	16.11	15.63	14.44
	10	18.90	18.18	17.64	17.29	16.94	15.92
	12	19.69	18.95	18.42	18.03	17.72	16.91
	15	20.93	20.11	19.66	19.37	19.00	17.93
	20	23.44	22.40	22.02	21.70	21.29	19.90

Power input (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	3.05	3.20	3.38	3.54	-	-
	-15	3.40	3.58	3.79	3.98	-	-
	-7	3.79	4.00	4.25	4.48	4.78	-
	-2	3.73	3.94	4.20	4.43	4.73	4.97
	2	3.68	3.89	4.15	4.39	4.68	4.92
	7	3.75	4.05	4.41	4.76	5.12	5.43
	10	3.75	4.05	4.42	4.79	5.18	5.51
	12	3.76	4.04	4.43	4.81	5.22	5.57
	15	3.78	4.06	4.46	4.86	5.29	5.67
	20	3.81	4.09	4.51	4.93	5.37	5.77

COP		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.02	1.86	1.71	1.60	-	-
	-15	2.37	2.17	2.00	1.85	-	-
	-7	2.52	2.30	2.10	1.95	1.79	-
	-2	2.92	2.65	2.42	2.23	2.05	1.82
	2	3.32	2.94	2.67	2.45	2.26	2.00
	7	4.72	4.20	3.75	3.39	3.05	2.66
	10	5.03	4.49	3.99	3.61	3.27	2.89
	12	5.24	4.69	4.16	3.75	3.40	3.04
	15	5.54	4.96	4.41	3.98	3.59	3.16
	20	6.14	5.47	4.88	4.40	3.96	3.45

\*Heating capacity and power input are include defrost cycle data.

\*Heating capacity and power input are shown at maximum compressor operating frequency

\*Power input does not include water pump power.

\*Heating capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C) RH85%

LWT : Leaving water temperature (°C)

**Heating peak capacity and power input**

Capacity (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	7.69	7.37	7.13	6.93	-	-
	-15	9.15	8.78	8.50	8.26	-	-
	-7	11.92	11.44	11.09	10.78	10.46	-
	-2	13.61	13.08	12.69	12.35	11.98	11.07
	2	14.97	14.39	13.98	13.61	13.21	12.20
	7	17.71	17.03	16.54	16.11	15.63	14.44
	10	18.90	18.18	17.64	17.29	16.94	15.92
	12	19.69	18.95	18.42	18.03	17.72	16.91
	15	20.93	20.11	19.66	19.37	19.00	17.93
	20	23.44	22.40	22.02	21.70	21.29	19.90

Power input (kW)		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.89	3.10	3.36	3.60	-	-
	-15	3.33	3.58	3.88	4.17	-	-
	-7	3.57	3.84	4.16	4.47	4.83	-
	-2	3.64	3.92	4.26	4.59	4.95	5.26
	2	3.70	3.99	4.34	4.68	5.05	5.37
	7	3.75	4.05	4.41	4.76	5.12	5.43
	10	3.75	4.05	4.42	4.79	5.18	5.51
	12	3.75	4.04	4.43	4.81	5.22	5.57
	15	3.78	4.06	4.46	4.86	5.29	5.67
	20	3.81	4.09	4.51	4.93	5.37	5.77

COP		LWT(°C)					
		30	35	40	45	50	55
TO (°C)	-20	2.67	2.38	2.13	1.92	-	-
	-15	2.75	2.45	2.19	1.98	-	-
	-7	3.34	2.98	2.66	2.41	2.17	-
	-2	3.74	3.33	2.98	2.69	2.42	2.10
	2	4.05	3.60	3.22	2.91	2.62	2.27
	7	4.72	4.20	3.75	3.39	3.05	2.66
	10	5.03	4.49	3.99	3.61	3.27	2.89
	12	5.24	4.69	4.16	3.75	3.40	3.04
	15	5.54	4.96	4.41	3.98	3.59	3.16
	20	6.14	5.47	4.88	4.40	3.96	3.45

\*Heating capacity and power input are shown peak value during operation.

\*Heating capacity and power input are shown at maximum compressor operating frequency

\*Power input does not include water pump power.

TO : Outdoor temperature (DB°C) RH85%

LWT : Leaving water temperature (°C)

## Capacity Tables

Outdoor unit **HWS-1603H8-E**  
 Hydro unit **HWS-1403XWH\*\*-E**

### Rated cooling capacity and power input

Rated condition 1 LWT=7°C dT=5deg	Capacity	kW	13.0
	Power input	kW	4.80
	EER	W/W	2.71
	Rated water flow rate	Liter/min	37.2
Rated condition 2 LWT=18°C dT=5deg	Capacity	kW	13.0
	Power input	kW	3.08
	EER	W/W	4.22
	Rated water flow rate	Liter/min	37.2

\*Rated cooling capacity and power input are the data at rated compressor operating frequency

\*Power input does not include water pump power.

\*Cooling capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C)

LWT : Leaving water temperature (°C)

dT : Delta temperature (deg)

Return water temperature - leaving water temperature

## Cooling capacity and power input

Capacity (kW)		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	12.88	14.10	15.29	16.49	17.68
	27	13.44	14.72	15.96	17.20	18.45
	30	12.95	14.18	15.38	16.58	17.77
	35	12.11	13.26	14.38	15.05	16.20
	40	10.87	11.90	13.08	13.87	14.75
	43	10.11	11.14	12.29	13.09	14.07

Power input (kW)		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	3.12	3.21	3.28	3.31	3.35
	27	3.93	4.04	4.13	4.22	4.31
	30	4.12	4.23	4.33	4.42	4.51
	35	4.42	4.55	4.65	4.70	4.80
	40	4.74	4.86	4.98	5.05	5.16
	43	4.93	5.09	5.24	5.31	5.47

COP		LWT(°C)				
		7	10	13	15	18
TO (°C)	20	4.13	4.40	4.67	4.98	5.28
	27	3.42	3.65	3.87	4.08	4.28
	30	3.14	3.35	3.55	3.75	3.94
	35	2.74	2.92	3.10	3.20	3.38
	40	2.30	2.45	2.63	2.75	2.86
	43	2.05	2.19	2.35	2.47	2.57

\*Cooling capacity and power input are the data at rated compressor operating frequency of rated condition

\*Power input does not include water pump power.

\*Cooling capacity and power input are measured in accordance with EN14511.

TO : Outdoor temperature (DB°C)

LWT : Leaving water temperature (°C)