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Summary of	Beretta HYDRO UNIT M 12 14 16 kW	Reg. No.	041-K019-07	
Certificate Holder	'			
Name	Riello S.p.A.			
Address	Via Ing. Pilade Riello 7	Zip	37045	
City	Legnago (VR)	Country	Italy	
Certification Body	BRE Global Limited	BRE Global Limited		
Subtype title	Beretta HYDRO UNIT M 12 14 16 kW			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R32			
Mass of Refrigerant	1.84 kg			
Certification Date	05.11.2021			
Testing basis	Heat Pump Keymark Scheme Rules Rev 08			



Model: HYDRO UNIT M 012

Configure model		
Model name	HYDRO UNIT M 012	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	1x230V 50Hz	

Heating

EN 14511-2				
Low temperature Medium temperature				
Heat output	12.10 kW	11.90 kW		
El input	2.44 kW	3.90 kW		
СОР	4.95	3.05		

EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	256 %	174 %
Prated	11.11 kW	12.51 kW
SCOP	6.53	4.43
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.11 kW	12.08 kW
$COPTj = +2^{\circ}C$	3.59	2.31
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = $+7^{\circ}$ C	7.14 kW	8.04 kW
$COPTj = +7^{\circ}C$	5.87	3.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.56 kW	3.75 kW
COP Tj = 12°C	7.94	5.70
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.14 kW	8.04 kW

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COP Tj = Tbiv	5.87	3.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.11 kW	12.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.59	2.31
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	14 W	14 W
РТО	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.44 kW
Annual energy consumption Qhe	2292 kWh	3776 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{S}	160 %	118 %





11.38 kW	10.32 kW
4.08	3.02
-15 °C	-15 °C
-22 °C	-22 °C
7.05 kW	6.63 kW
3.48	2.63
0.90	0.90
4.68 kW	4.07 kW
4.96	3.60
0.90	0.90
3.14 kW	2.78 kW
6.10	4.54
0.90	0.90
3.57 kW	3.33 kW
7.87	6.25
0.90	0.90
9.28 kW	8.42 kW
2.59	1.84
7.01 kW	4.20 kW
1.98	1.13
65 °C	65 °C
	4.08 -15 °C -22 °C 7.05 kW 3.48 0.90 4.68 kW 4.96 0.90 3.14 kW 6.10 0.90 3.57 kW 7.87 0.90 9.28 kW 2.59 7.01 kW 1.98





Poff	14 W	14 W
РТО	24 W	24 W
PSB	14 W	14 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.37 kW	6.12 kW
Annual energy consumption Qhe	6870 kWh	8419 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.28	8.42
COP Tj = -15°C (if TOL $<$ -20°C)	2.59	1.84
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
Low temperature	Medium temperature	
189 %	135 %	
12.00 kW	11.58 kW	
4.81	3.45	
	Low temperature 189 % 12.00 kW	





-7 °C C -10 °C
C -10 °C
1 kW 10.25 kW
2.01
0.90
kW 6.52 kW
3.44
0.90
kW 4.36 kW
4.59
0.90
kW 3.30 kW
6.05
0.90
1 kW 10.25 kW
2.01
5 kW 9.10 kW
1.79
65 °C
14 W
24 W



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PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.26 kW	2.50 kW
Annual energy consumption Qhe	5152 kWh	6927 kWh

Model: HYDRO UNIT M 014

Configure model		
Model name	HYDRO UNIT M 014	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply 1x230V 50Hz		

Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	14.50 kW	13.80 kW	
El input	3.15 kW	4.68 kW	
СОР	4.60	2.95	

EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	260 %	175 %
Prated	12.11 kW	14.17 kW
SCOP	6.63	4.45
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.04 kW	13.05 kW
COP Tj = +2°C	3.44	2.20
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.78 kW	9.11 kW
COP Tj = +7°C	5.84	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.75 kW	4.09 kW
COP Tj = 12°C	8.25	5.90
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.78 kW	9.11 kW

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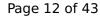


5.84	3.89
12.04 kW	13.05 kW
3.44	2.20
65 °C	65 °C
14 W	14 W
24 W	24 W
14 W	14 W
o w	o w
Electricity	Electricity
0.07 kW	1.13 kW
2457 kWh	4258 kWh
	12.04 kW 3.44 65 °C 14 W 24 W 14 W 0 W Electricity 0.07 kW

Colder Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	65 dB(A)	65 dB(A)	

$\begin{array}{ c c c c c c }\hline & & Low \ temperature & Medium \ temperatu \\ \hline & & & & \\ \hline & & & & \\ \hline & & & & \\ \hline & & & &$	EN 14825		
η _s 160 % 119 %		Low temperature	Medium temperature
	η_{s}	160 %	119 %





This information was gener	ated by the HERETMA	TRE database on 25 juli 202.
Prated	12.64 kW	10.97 kW
SCOP	4.07	3.05
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.97 kW	6.89 kW
COP Tj = -7°C	3.44	2.66
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2^{\circ}$ C	5.05 kW	4.32 kW
COP Tj = +2°C	4.92	3.66
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	3.16 kW	3.06 kW
$COP Tj = +7^{\circ}C$	6.11	4.72
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.58 kW	3.33 kW
COP Tj = 12°C	7.82	6.25
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.31 kW	8.95 kW
COP Tj = Tbiv	2.53	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.57 kW	4.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.92	1.13
WTOL	65 °C	65 °C
WIOL	05 C	05 C



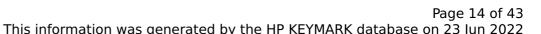


Poff	14 W	14 W
РТО	24 W	24 W
PSB	14 W	14 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.07 kW	6.77 kW
Annual energy consumption Qhe	7667 kWh	8866 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.31	8.95
COP Tj = -15°C (if TOL $<$ -20°C)	2.53	1.79
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	186 %	136 %
Prated	13.73 kW	12.08 kW
SCOP	4.72	3.47





This information was gener	ated by the HP KEYMA	RK database on 23 Jun 202
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.14 kW	10.69 kW
COP Tj = -7 °C	2.79	2.01
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	7.95 kW	6.86 kW
COP Tj = +2°C	4.52	3.43
Cdh Tj = $+2$ °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	5.20 kW	4.64 kW
$COPTj = +7^{\circ}C$	6.68	4.66
Cdh Tj = $+7$ °C	0.90	0.90
Pdh Tj = 12°C	3.76 kW	3.32 kW
COP Tj = 12°C	8.52	6.13
Cdh Tj = $+12$ °C	0.90	0.90
Pdh Tj = Tbiv	12.14 kW	10.69 kW
COP Tj = Tbiv	2.79	2.01
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL $<$ Tdesignh	11.48 kW	9.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.76
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W



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PSB	14 W	14 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.23 kW	2.91 kW
Annual energy consumption Qhe	6012 kWh	7202 kWh

Model: HYDRO UNIT M 016

Configure model		
Model name HYDRO UNIT M 016		
Application	Heating (medium temp)	
Units Outdoor		
Climate Zone Colder Climate + Warmer Climate		
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply 1x230V 50Hz		

Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	15.90 kW	16.00 kW	
El input	3.53 kW	5.61 kW	
СОР	4.50	2.85	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	68 dB(A)	68 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	249 %	176 %
Prated	13.09 kW	14.17 kW
SCOP	6.33	4.48
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.09 kW	13.38 kW
$COP Tj = +2^{\circ}C$	3.35	2.29
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.42 kW	9.11 kW
COP Tj = +7°C	5.36	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.88 kW	4.06 kW
COP Tj = 12°C	8.11	5.86
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.42 kW	9.11 kW

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COP Tj = Tbiv 5.36 3.89 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 13.09 kW 13.38 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 3.35 2.29 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 65 °C 65 °C Poff 14 W 14 W PTO 24 W 24 W PSB 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW Annual energy consumption Qhe 2781 kWh 4231 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh WTOL 65 °C 65 °C Poff 14 W PTO 24 W 24 W PSB 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	COP Tj = Tbiv	5.36	3.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh WTOL 65 °C 65 °C Poff 14 W 14 W PTO 24 W 24 W PSB 14 W 14 W PCK 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.09 kW	13.38 kW
WTOL 65 °C 65 °C Poff 14 W 14 W PTO 24 W 24 W PSB 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.29
Poff 14 W 14 W PTO 24 W 24 W PSB 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
PTO 24 W 24 W PSB 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	WTOL	65 °C	65 °C
PSB 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	Poff	14 W	14 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	PTO	24 W	24 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.79 kW	PSB	14 W	14 W
Supplementary Heater: PSUP 0.00 kW 0.79 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 2781 kWh 4231 kWh	Supplementary Heater: PSUP	0.00 kW	0.79 kW
	Annual energy consumption Qhe	2781 kWh	4231 kWh

Colder Climate

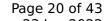
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	158 %	122 %





13.76 kW 4.02 -15 °C -22 °C	11.79 kW 3.12 -15 °C -22 °C
-15 °C -22 °C	-15 °C
-22 °C	
	-22 °C
0.21 1/1/	
8.31 kW	7.64 kW
3.37	2.65
0.90	0.90
5.27 kW	4.43 kW
4.86	3.79
0.90	0.90
3.62 kW	2.98 kW
6.49	4.81
0.90	0.90
3.35 kW	3.43 kW
7.40	6.29
0.90	0.90
11.22 kW	9.62 kW
2.43	1.86
8.89 kW	5.22 kW
1.97	1.23
65 °C	65 °C
	0.90 5.27 kW 4.86 0.90 3.62 kW 6.49 0.90 3.35 kW 7.40 0.90 11.22 kW 2.43 8.89 kW



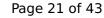


Poff	14 W	14 W
РТО	24 W	24 W
PSB	14 W	14 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.87 kW	6.57 kW
Annual energy consumption Qhe	8431 kWh	9309 kWh
Pdh Tj = -15°C (if TOL<-20°C)	11.22	9.62
COP Tj = -15°C (if TOL $<$ -20°C)	2.43	1.86
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825		
Low temperature	Medium temperature	
182 %	133 %	
15.21 kW	13.02 kW	
4.62	3.41	
	Low temperature 182 % 15.21 kW	





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Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.45 kW	11.52 kW
$COP Tj = -7^{\circ}C$	2.72	1.99
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	8.57 kW	7.18 kW
COPTj = +2°C	4.41	3.34
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.70 kW	4.68 kW
$COPTj = +7^{\circ}C$	6.56	4.61
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.78 kW	3.32 kW
COP Tj = 12°C	8.51	6.07
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	13.45 kW	11.52 kW
COP Tj = Tbiv	2.72	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.52 kW	10.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.48	1.80
WTOL	65 °C	65 °C
Poff	14 W	14 W
РТО	24 W	24 W
	-	·



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PSB	14 W	14 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.68 kW	2.67 kW
Annual energy consumption Qhe	6804 kWh	7895 kWh



Model: HYDRO UNIT M 012T

Configure model		
Model name	HYDRO UNIT M 012T	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	12.10 kW	11.90 kW	
El input	2.44 kW	3.90 kW	
СОР	4.95	3.05	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	256 %	174 %
Prated	11.11 kW	12.51 kW
SCOP	6.53	4.42
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.11 kW	12.08 kW
COP Tj = +2°C	3.59	2.31
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.14 kW	8.04 kW
COP Tj = +7°C	5.87	3.86
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.56 kW	3.75 kW
COP Tj = 12°C	7.94	5.70
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.14 kW	8.04 kW

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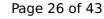


COP Tj = Tbiv	5.87	3.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.11 kW	12.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.59	2.31
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	20 W	20 W
РТО	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.44 kW
Annual energy consumption Qhe	2296 kWh	3780 kWh

Colder Climate

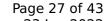
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{S}	160 %	118 %





This information was generated by the HF RETMARK database on 23 Juli 202			
Prated	11.38 kW	10.32 kW	
SCOP	4.08	3.02	
Tbiv	-15 °C	-15 °C	
TOL	-22 °C	-22 °C	
Pdh Tj = -7°C	7.05 kW	6.63 kW	
$COPTj = -7^{\circ}C$	3.48	2.63	
Cdh Tj = -7 °C	0.90	0.90	
Pdh Tj = +2°C	4.68 kW	4.07 kW	
$COPTj = +2^{\circ}C$	4.96	3.60	
Cdh Tj = +2 °C	0.90	0.90	
Pdh Tj = $+7^{\circ}$ C	3.14 kW	2.78 kW	
$COP Tj = +7^{\circ}C$	6.10	4.54	
Cdh Tj = +7 °C	0.90	0.90	
Pdh Tj = 12°C	3.57 kW	3.33 kW	
COP Tj = 12°C	7.87	6.25	
Cdh Tj = +12 °C	0.90	0.90	
Pdh Tj = Tbiv	9.28 kW	8.42 kW	
COP Tj = Tbiv	2.59	1.84	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.01 kW	4.20 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.98	1.13	
WTOL	65 °C	65 °C	
	+	!	





Poff	14 W	14 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.37 kW	6.12 kW
Annual energy consumption Qhe	6871 kWh	8420 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.28	8.42
COP Tj = -15°C (if TOL $<$ -20°C)	2.59	1.84
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
Low temperature	Medium temperature	
189 %	135 %	
12.00 kW	11.58 kW	
4.81	3.45	
	Low temperature 189 % 12.00 kW	





3		in the did tabase on 25 juin 202
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.61 kW	10.25 kW
$COP Tj = -7^{\circ}C$	2.88	2.01
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	6.69 kW	6.52 kW
COPTj = +2°C	4.65	3.44
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	4.44 kW	4.36 kW
$COPTj = +7^{\circ}C$	6.62	4.59
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.74 kW	3.30 kW
COP Tj = 12°C	8.47	6.05
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.61 kW	10.25 kW
COP Tj = Tbiv	2.88	2.01
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.75 kW	9.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.77	1.79
WTOL	65 °C	65 °C
Poff	20 W	20 W
РТО	30 W	30 W
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PSB	20 W	20 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.26 kW	2.50 kW
Annual energy consumption Qhe	5153 kWh	6928 kWh

Model: HYDRO UNIT M 014T

Configure model		
Model name	HYDRO UNIT M 014T	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	14.50 kW	13.80 kW	
El input	3.15 kW	4.68 kW	
СОР	4.60	2.95	

EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	260 %	175 %
Prated	12.11 kW	14.17 kW
SCOP	6.63	4.44
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.04 kW	13.05 kW
COP Tj = +2°C	3.44	2.20
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.78 kW	9.11 kW
COP Tj = +7°C	5.84	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.75 kW	4.09 kW
COP Tj = 12°C	8.25	5.90
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.78 kW	9.11 kW

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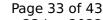


COP Tj = Tbiv	5.84	3.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.04 kW	13.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.44	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.07 kW	1.13 kW
Annual energy consumption Qhe	2462 kWh	4262 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	160 %	119 %
	I	





Prated	12.64 kW	10.97 kW
SCOP	4.06	3.05
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.97 kW	6.89 kW
COP Tj = -7°C	3.44	2.66
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	5.05 kW	4.32 kW
COP Tj = +2°C	4.92	3.66
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	3.16 kW	3.06 kW
$COP Tj = +7^{\circ}C$	6.11	4.72
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.58 kW	3.33 kW
COP Tj = 12°C	7.82	6.25
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.31 kW	8.95 kW
COP Tj = Tbiv	2.53	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.57 kW	4.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.92	1.13
WTOL	65 °C	65 °C



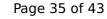


Poff	20 W	20 W
РТО	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.07 kW	6.77 kW
Annual energy consumption Qhe	7667 kWh	8867 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.31	8.95
COP Tj = -15°C (if TOL $<$ -20°C)	2.53	1.79
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1				
Low temperature Medium temperature				
Sound power level outdoor	65 dB(A)	65 dB(A)		

EN 14825		
	Low temperature	Medium temperature
η_{s}	186 %	136 %
Prated	13.73 kW	12.08 kW
SCOP	4.72	3.47





	, -	
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.14 kW	10.69 kW
COP Tj = -7°C	2.79	2.01
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	7.95 kW	6.86 kW
COP Tj = +2°C	4.52	3.43
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	5.20 kW	4.64 kW
$COPTj = +7^{\circ}C$	6.68	4.66
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.76 kW	3.32 kW
COP Tj = 12°C	8.52	6.13
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	12.14 kW	10.69 kW
COP Tj = Tbiv	2.79	2.01
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.48 kW	9.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.76
WTOL	65 °C	65 °C
Poff	20 W	20 W
РТО	30 W	30 W



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PSB	20 W	20 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.23 kW	2.91 kW
Annual energy consumption Qhe	6013 kWh	7203 kWh

Model: HYDRO UNIT M 016T

Configure model		
Model name	HYDRO UNIT M 016T	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2				
Low temperature Medium temperature				
Heat output	15.90 kW	16.00 kW		
El input	3.53 kW	5.61 kW		
СОР	4.50	2.85		

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1				
Low temperature Medium temperature				
Sound power level outdoor	68 dB(A)	68 dB(A)		

EN 14825		
	Low temperature	Medium temperature
η_{s}	248 %	176 %
Prated	13.09 kW	14.17 kW
SCOP	6.33	4.47
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.09 kW	13.38 kW
$COP Tj = +2^{\circ}C$	3.35	2.29
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.42 kW	9.11 kW
$COP Tj = +7^{\circ}C$	5.36	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.88 kW	4.06 kW
COP Tj = 12°C	8.11	5.86
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.42 kW	9.11 kW

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COP Tj = Tbiv	5.36	3.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.09 kW	13.38 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.29
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	20 W	20 W
РТО	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.79 kW
Annual energy consumption Qhe	2786 kWh	4236 kWh

Colder Climate

EN 12102-1				
Low temperature Medium temperature				
Sound power level outdoor	68 dB(A)	68 dB(A)		

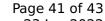
EN 14825		
	Low temperature	Medium temperature
η_{s}	158 %	122 %





This information was generated by the HP KEYMARK database on 23 jun 2022			
Prated	13.76 kW	11.79 kW	
SCOP	4.02	3.12	
Tbiv	-15 °C	-15 °C	
TOL	-22 °C	-22 °C	
Pdh Tj = -7°C	8.31 kW	7.64 kW	
$COP Tj = -7^{\circ}C$	3.37	2.65	
Cdh Tj = -7 °C	0.90	0.90	
Pdh Tj = +2°C	5.27 kW	4.43 kW	
COP Tj = +2°C	4.86	3.79	
Cdh Tj = +2 °C	0.90	0.90	
Pdh Tj = +7°C	3.62 kW	2.98 kW	
$COP Tj = +7^{\circ}C$	6.49	4.81	
Cdh Tj = +7 °C	0.90	0.90	
Pdh Tj = 12°C	3.35 kW	3.43 kW	
COP Tj = 12°C	7.40	6.29	
Cdh Tj = +12 °C	0.90	0.90	
Pdh Tj = Tbiv	11.22 kW	9.62 kW	
COP Tj = Tbiv	2.43	1.86	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.89 kW	5.22 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.97	1.23	
WTOL	65 °C	65 °C	
	•	•	

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20 W	20 W
30 W	30 W
20 W	20 W
o w	0 W
Electricity	Electricity
4.87 kW	6.57 kW
8431 kWh	9310 kWh
11.22	9.62
2.43	1.86
0.90	0.90
	30 W 20 W 0 W Electricity 4.87 kW 8431 kWh 11.22 2.43

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	68 dB(A)	68 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	182 %	133 %
Prated	15.21 kW	13.02 kW
SCOP	4.62	3.41





Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7 °C	13.45 kW	11.52 kW
COP Tj = -7 °C	2.72	1.99
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	8.57 kW	7.18 kW
$COP Tj = +2^{\circ}C$	4.41	3.34
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7$ °C	5.70 kW	4.68 kW
$COPTj = +7^{\circ}C$	6.56	4.61
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.78 kW	3.32 kW
COP Tj = 12°C	8.51	6.07
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	13.45 kW	11.52 kW
COP Tj = Tbiv	2.72	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.52 kW	10.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.48	1.80
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W



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PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.68 kW	2.67 kW
Annual energy consumption Qhe	6805 kWh	7896 kWh