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Summary of	AEROTOP M 024 027 032	Reg. No.	ICIM-PDC-000096-00		
Certificate Holder					
Name	ELCO GmbH				
Address	Hohenzollernstrasse 31	Zip	72379		
City	Hechingen	Country	Germany		
Certification Body	ICIM S.p.A.				
Subtype title	AEROTOP M 024 027 032				
Heat Pump Type	Outdoor Air/Water				
Refrigerant	R32				
Mass of Refrigerant	7.9 kg				
Certification Date	30.03.2021				
Testing basis	HP KEYMARK certification scheme rules rev. no. 7				

# **Model: AEROTOP M 024**

Configure model				
Model name	AEROTOP M 024			
Application	Heating (low temp)			
Units	Outdoor			
Climate Zone	n/a			
Reversibility	Yes			
Cooling mode application (optional)	n/a			

General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2				
Low temperature Medium temperature				
Heat output	25.30 kW	4.80 kW		
El input	6.07 kW	1.90 kW		
СОР	4.17	2.53		

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Shatting on the heat transfer medium now	passeu
Complete power supply failure	passed
Defrost test	passed

#### **Average Climate**



EN 12102-1		
Low temperature Medium temperature		
Sound power level outdoor	75 dB(A)	64 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	169 %	129 %
Prated	21.00 kW	7.00 kW
SCOP	4.30	3.30
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	18.30 kW	5.90 kW
COP Tj = -7°C	2.95	2.00
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	11.20 kW	3.70 kW
COP Tj = +2°C	4.10	3.18
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	7.20 kW	2.50 kW
COP Tj = +7°C	5.60	4.52
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	7.10 kW	1.10 kW

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COP Tj = 12°C	6.82	5.09
Cdh Tj = +12 °C	0.90	
Pdh Tj = Tbiv	20.70 kW	5.90 kW
COP Tj = Tbiv	2.73	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.73	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	54 °C	49 °C
Poff	19 W	16 W
РТО	200 W	16 W
PSB	19 W	16 W
PCK	o w	34 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9946 kWh	4202 kWh

CEN heat pump KEYMARK

# **Model: AEROTOP M 027**

Configu	re model
Model name	AEROTOP M 027
Application	Heating (low temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	28.20 kW	6.20 kW	
El input	6.64 kW	2.38 kW	
СОР	4.25	2.61	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Shatting on the heat transfer medium now	passeu
Complete power supply failure	passed
Defrost test	passed

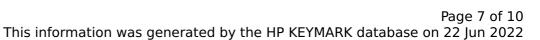
### Average Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	76 dB(A)	64 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	167 %	129 %
Prated	22.00 kW	7.00 kW
SCOP	4.25	3.30
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.10 kW	5.90 kW
COP Tj = -7°C	2.92	2.00
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	11.60 kW	3.70 kW
COP Tj = +2°C	4.00	3.18
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	7.50 kW	2.50 kW
$COP Tj = +7^{\circ}C$	5.65	4.52
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	7.10 kW	1.10 kW
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COP Tj = 12°C	6.82	5.09	
Cdh Tj = +12 °C	0.90		
Pdh Tj = Tbiv	21.60 kW	5.90 kW	
COP Tj = Tbiv	2.70	2.00	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.60 kW	6.60 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.80	
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90	
WTOL	54 °C	49 °C	
Poff	19 W	16 W	
РТО	200 W	16 W	
PSB	19 W	16 W	
PCK	o w	34 W	
Supplementary Heater: Type of energy input	Electricity	Electricity	
Supplementary Heater: PSUP	0.00 kW	0.00 kW	
Annual energy consumption Qhe	10500 kWh	4202 kWh	

# **Model: AEROTOP M 032**

Configure model		
Model name	AEROTOP M 032	
Application	Heating (low temp)	
Units	Outdoor	
Climate Zone	n/a	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2				
Low temperature Medium temperature				
Heat output	32.00 kW	9.40 kW		
El input	7.69 kW	3.30 kW		
СОР	4.16	2.85		

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

#### **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	76 dB(A)	67 dB(A)

	Low temperature	Medium temperature
n <sub>s</sub>	167 %	127 %
Prated	24.00 kW	9.00 kW
SCOP	4.24	3.26
ГЬіν	-10 °C	-7 °C
ГОL	-10 °C	-10 °C
Pdh Tj = -7°C	20.90 kW	7.70 kW
COP Tj = -7°C	2.86	1.98
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	12.70 kW	4.90 kW
COP Tj = +2°C	3.98	3.02
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	8.20 kW	3.20 kW
COP Tj = +7°C	5.75	4.67
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	7.10 kW	1.40 kW

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COP Tj = 12°C	6.82	6.16
Cdh Tj = +12 °C	0.90	
Pdh Tj = Tbiv	23.60 kW	7.70 kW
COP Tj = Tbiv	2.57	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	23.60 kW	7.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.57	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	54 °C	49 °C
Poff	19 W	16 W
PTO	200 W	16 W
PSB	19 W	16 W
PCK	o w	34 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	11514 kWh	5558 kWh