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#### This information was generated by the HP KEYMARK database on 23 Jun 2022

#### **Login**

Summary of	HPS.Z 12-16kW/400 V	Reg. No.	011-1W0439		
Certificate Holder					
Name	Kospel SP. z o.o.	Kospel SP. z o.o.			
Address	ul. Olchowa 1	ul. Olchowa 1 Zip 75-136			
City	Koszalin	Country	Poland		
Certification Body	DIN CERTCO Gesellschaft für K	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH			
Subtype title	HPS.Z 12-16kW/400 V	HPS.Z 12-16kW/400 V			
Heat Pump Type	Outdoor Air/Water	Outdoor Air/Water			
Refrigerant	R410A	R410A			
Mass of Refrigerant	2.5 kg				
Certification Date	15.12.2021	15.12.2021			
Testing basis	HP KEYMARK certification scheme rules rev. 9				



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## **Model: HPSO-12/400 + HPSI-9**

Configure model		
Model name	HPSO-12/400 + HPSI-9	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	n/a	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

#### Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	11.50 kW	9.72 kW
El input	2.58 kW	3.65 kW
СОР	4.45	2.66

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

## Average Climate



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EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	64 dB(A)	64 dB(A)	

EN 14825			
		Low temperature	Medium temperature
Pdesignh	8.80 kW		
$\eta_{s}$	156 %	110 %	
Prated	9.00 kW	8.79 kW	
SCOP	3.98	2.83	
Tbiv	-7 °C	-7 °C	
TOL	-20 °C	-20 °C	
Pdh Tj = -7°C	7.98 kW	7.70 kW	
COP Tj = -7°C	2.87	1.93	
Cdh Tj = -7 °C	0.99	0.99	
Pdh Tj = +2°C	5.63 kW	5.17 kW	
$COPTj = +2^{\circ}C$	3.90	3.50	
Cdh Tj = +2 °C	0.99	0.99	
Pdh Tj = +7°C	5.78 kW	8.52 kW	
$COP Tj = +7^{\circ}C$	4.86	3.66	

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Cdh Tj = +7 °C       0.99       0.99         Pdh Tj = 12°C       14.35 kW       6.41 kW         COP Tj = 12°C       6.08       4.84         Cdh Tj = +12 °C       0.99       0.99         Pdh Tj = Tbiv       7.98 kW       7.70 kW         COP Tj = Tbiv       2.87       1.93         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL <       7.54 kW       6.94 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL <       2.80       1.75         Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL <       0.99       0.99         WTOL       55 °C       55 °C         Poff       15 W       15 W         PTO       0 W       0 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       1.48 kW       1.85 kW         Annual energy consumption Qhe       4696 kWh       6362 kWh	Time innermation was g		
COP Tj = 12°C 6.08 4.84  Cdh Tj = +12 °C 0.99 0.99  Pdh Tj = Tbiv 7.98 kW 7.70 kW  COP Tj = Tbiv 2.87 1.93  Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < 7.54 kW 6.94 kW  COP Tj = TOL or COP Tj = Tdesignh if TOL < 2.80 1.75  Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < 0.99 0.99  WTOL 55 °C 55 °C  Poff 15 W 15 W  PTO 0 W 0 W  PSB 0 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater  Supplementary Heater: PSUP 1.48 kW 1.85 kW  Annual energy consumption Qhe 4696 6362 kWh	Cdh Tj = +7 °C	0.99	0.99
Cdh Tj = +12 °C       0.99       0.99         Pdh Tj = Tbiv       7.98 kW       7.70 kW         COP Tj = Tbiv       2.87       1.93         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL        7.54 kW       6.94 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL        2.80       1.75         Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL        0.99       0.99         WTOL       55 °C       55 °C         Poff       15 W       15 W         PTO       0 W       0 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       1.48 kW       1.85 kW         Backup Heater       0.00 kW         Annual energy consumption Qhe       4696       6362 kWh	Pdh Tj = 12°C	14.35 kW	6.41 kW
Pdh Tj = Tbiv       7.98 kW       7.70 kW         COP Tj = Tbiv       2.87       1.93         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL        7.54 kW       6.94 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL        2.80       1.75         Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL        0.99       0.99         WTOL       55 °C       55 °C         Poff       15 W       15 W         PTO       0 W       0 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       1.48 kW       1.85 kW         Backup Heater       0.00 kW         Annual energy consumption Qhe       4696       6362 kWh	COP Tj = 12°C	6.08	4.84
COP Tj = Tbiv       2.87       1.93         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL        7.54 kW       6.94 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL <	Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL        7.54 kW       6.94 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL        2.80       1.75         Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL        0.99       0.99         WTOL       55 °C       55 °C         Poff       15 W       15 W         PTO       0 W       0 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       1.48 kW       1.85 kW         Backup Heater       0.00 kW         Annual energy consumption Qhe       4696       6362 kWh	Pdh Tj = Tbiv	7.98 kW	7.70 kW
Tdesignh       2.80       1.75         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.87	1.93
Tdesignh       0.99       0.99         Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL        0.99       0.99         WTOL       55 °C       55 °C         Poff       15 W       15 W         PTO       0 W       0 W         PSB       0 W       0 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       1.48 kW       1.85 kW         Backup Heater       0.00 kW         Annual energy consumption Qhe       4696       6362 kWh		7.54 kW	6.94 kW
Tdesignh  WTOL  55 °C  55 °C  Poff  15 W  15 W  PTO  0 W  0 W  PSB  0 W  0 W  PCK  0 W  0 W  Supplementary Heater: Type of energy input  Electricity  Electricity  Supplementary Heater: PSUP  1.48 kW  1.85 kW  Backup Heater  0.00 kW  Annual energy consumption Qhe  4696  6362 kWh		2.80	1.75
Poff 15 W 15 W  PTO 0 W 0 W  PSB 0 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.48 kW 1.85 kW  Backup Heater 0.00 kW  Annual energy consumption Qhe 4696 6362 kWh		0.99	0.99
PTO 0 W 0 W  PSB 0 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.48 kW 1.85 kW  Backup Heater 0.00 kW  Annual energy consumption Qhe 4696 6362 kWh	WTOL	55 °C	55 °C
PSB 0 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.48 kW 1.85 kW  Backup Heater 0.00 kW  Annual energy consumption Qhe 4696 6362 kWh	Poff	15 W	15 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.48 kW 1.85 kW  Backup Heater 0.00 kW  Annual energy consumption Qhe 4696 6362 kWh	РТО	0 W	0 W
Supplementary Heater: Type of energy input  Electricity  Electricity  1.48 kW  1.85 kW  Backup Heater  0.00 kW  Annual energy consumption Qhe  4696  6362 kWh	PSB	0 W	0 W
Supplementary Heater: PSUP  1.48 kW  1.85 kW  Backup Heater  0.00 kW  Annual energy consumption Qhe  4696  6362 kWh	PCK	0 W	0 W
Backup Heater 0.00 kW  Annual energy consumption Qhe 4696 6362 kWh	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 4696 6362 kWh	Supplementary Heater: PSUP	1.48 kW	1.85 kW
	Backup Heater	0.00 kW	
	Annual energy consumption Qhe		6362 kWh



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# **Model: HPSO-16/400 + HPSI-9**

Configure model		
Model name	HPSO-16/400 + HPSI-9	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	n/a	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

#### Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	15.74 kW	12.67 kW
El input	3.60 kW	4.95 kW
СОР	4.37	2.62

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

## Average Climate



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	EN 12102-1	
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN	EN 14825		
		Low temperature	Medium temperature
Pdesignh	10.80 kW		-
$\eta_{s}$	151 %	111 %	
Prated	12.80 kW	10.83 kW	
SCOP	3.85	2.85	
Tbiv	-7 °C	-4 °C	
TOL	-20 °C	-20 °C	
Pdh Tj = -7°C	11.33 kW	9.20 kW	
COP Tj = -7°C	2.46	1.89	
Cdh Tj = -7 °C	0.99	0.99	
Pdh Tj = +2°C	7.16 kW	6.61 kW	
COP Tj = +2°C	3.70	2.77	
Cdh Tj = +2 °C	0.99	0.99	
Pdh Tj = $+7$ °C	5.98 kW	5.08 kW	
$COPTj = +7^{\circ}C$	5.17	3.74	

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	,	,
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.17 kW	6.41 kW
COP Tj = 12°C	6.92	4.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	11.33 kW	8.33 kW
COP Tj = Tbiv	2.46	2.06
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.68 kW	9.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.41	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
РТО	o w	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.12 kW	1.32 kW
Backup Heater	0.00 kW	
Annual energy consumption Qhe	26449 kWh	22384 kWh