

Page 1 of 22

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#### **Login**

Summary of	SWCV 162 Inverter	Reg. No.	041-K001-14	
Certificate Holder				
Name	ait-deutschland GmbH			
Address	Industriestr. 3	Zip	95359	
City	Kasendorf	Country	Germany	
Certification Body	BRE Global Limited			
Subtype title	SWCV 162 Inverter			
Heat Pump Type	Brine/Water			
Refrigerant	R407c			
Mass of Refrigerant	2.2 kg			
Certification Date	12.05.2017			
Testing basis	HP Keymark Scheme Transition Rules			



# **Model: SWCV 162(H)(K)3**

Configure model		
Model name	SWCV 162(H)(K)3	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	9.42 kW	9.06 kW	
El input	1.91 kW	1.88 kW	
СОР	4.92	3.22	

## Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	197 %	151 %	
Prated	15.90 kW	16.00 kW	
SCOP	5.12	3.98	
Tbiv	2 °C	2 °C	
TOL	2 °C	2 °C	
Pdh Tj = +2°C	15.90 kW	15.40 kW	
COP Tj = +2°C	3.89	2.80	
Cdh Tj = +2 °C	1.00	1.00	
Pdh Tj = +7°C	10.40 kW	10.40 kW	
$COP Tj = +7^{\circ}C$	4.93	3.61	
Cdh Tj = +7 °C	1.00	1.00	
Pdh Tj = 12°C	5.80 kW	5.50 kW	
COP Tj = 12°C	6.05	4.92	
Cdh Tj = +12 °C	0.97	0.97	
Pdh Tj = Tbiv	15.90 kW	15.40 kW	





COP Tj = Tbiv       3.89       2.80         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       15.90 kW       15.40 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       3.89       2.80         Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       1.00       1.00         WTOL       65 °C       65 °C         Poff       2 W       2 W         PTO       20 W       20 W         PSB       7 W       7 W         PCK       30 W       30 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       0.00 kW       0.00 kW			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	3.89	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
WTOL 65 °C 65 °C  Poff 2 W 2 W  PTO 20 W 7 W  PSB 7 W 7 W  PCK 30 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.89	2.80
Poff 2 W 2 W  PTO 20 W 20 W  PSB 7 W 7 W  PCK 30 W 30 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
PTO 20 W 20 W  PSB 7 W 7 W  PCK 30 W 30 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	65 °C	65 °C
PSB 7 W 7 W  PCK 30 W 30 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	2 W	2 W
PCK 30 W 30 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	20 W	20 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	7 W	7 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	30 W	30 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Appual operay consumption Obe 4150 kWh 5365 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
Affilial energy consumption one 4130 kWii 3303 kWii	Annual energy consumption Qhe	4150 kWh	5365 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	210 %	160 %





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Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.80 kW	9.80 kW
$COP Tj = -7^{\circ}C$	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.70 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.10	5.00
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	5.70 kW	5.60 kW
COP Tj = 12°C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
	-	•



WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 kWh

# **Average Climate**

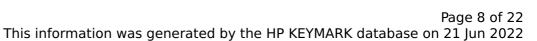
EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C





Pdh Tj = $-7^{\circ}$ C	14.20 kW	14.20 kW
$COP Tj = -7^{\circ}C$	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = $+2$ °C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.70 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.06	4.90
Cdh Tj = $+7$ °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W





PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 kWh

# Model: WZSV 162(H)(K)3M

Configure model		
Model name	WZSV 162(H)(K)3M	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

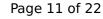
EN 14511-2				
Low temperature Medium temperature				
Heat output	9.42 kW	9.06 kW		
El input	1.91 kW	1.88 kW		
СОР	4.92	3.22		

## Warmer Climate



EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	197 %	151 %
Prated	15.90 kW	16.00 kW
SCOP	5.12	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	15.90 kW	15.40 kW
COP Tj = +2°C	3.89	2.80
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.40 kW	10.40 kW
COP Tj = +7°C	4.93	3.61
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	6.05	4.92
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW



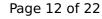


3.89	2.80
15.90 kW	15.40 kW
3.89	2.80
1.00	1.00
65 °C	65 °C
2 W	2 W
20 W	20 W
7 W	7 W
30 W	30 W
Electricity	Electricity
0.00 kW	0.00 kW
4150 kWh	5365 kWh
	15.90 kW  3.89  1.00  65 °C  2 W  20 W  7 W  30 W  Electricity  0.00 kW

### Colder Climate

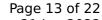
EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_s$	210 %	160 %





Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.80 kW	9.80 kW
$COPTj = -7^{\circ}C$	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = $+2$ °C	6.00 kW	6.00 kW
$COPTj = +2^{\circ}C$	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.70 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.10	5.00
Cdh Tj = $+7$ °C	0.97	0.97
Pdh Tj = 12°C	5.70 kW	5.60 kW
COP Tj = 12°C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00



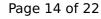


WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 kWh

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{S}$	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C





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Pdh Tj = -7°C	14.20 kW	14.20 kW
COP Tj = -7°C	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.70 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.06	4.90
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W
	•	



#### Page 15 of 22

#### This information was generated by the HP KEYMARK database on 21 Jun 2022

PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 kWh



# **Model: PWZSV 162H3S**

Configure model		
Model name	PWZSV 162H3S	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply 3x400V 50Hz		

# Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

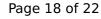
EN 14511-2			
Low temperature Medium temperature			
Heat output	9.42 kW	9.06 kW	
El input	1.91 kW	1.88 kW	
СОР	4.92	3.22	

## Warmer Climate



EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	197 %	151 %
Prated	15.90 kW	16.00 kW
SCOP	5.12	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.90 kW	15.40 kW
COP Tj = +2°C	3.89	2.80
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.40 kW	10.40 kW
$COP Tj = +7^{\circ}C$	4.93	3.61
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	6.05	4.92
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW



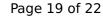


COP Tj = Tbiv	3.89	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.89	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4150 kWh	5365 kWh

### Colder Climate

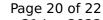
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	44 dB(A)	44 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	210 %	160 %





Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.80 kW	9.80 kW
$COPTj = -7^{\circ}C$	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = $+2$ °C	6.00 kW	6.00 kW
COP Tj = +2°C	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7$ °C	5.70 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.10	5.00
Cdh Tj = $+7$ °C	0.97	0.97
Pdh Tj = 12°C	5.70 kW	5.60 kW
COP Tj = 12°C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00



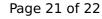


WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{S}$	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C





Pdh Tj = $-7$ °C	14.20 kW	14.20 kW
$COPTj = -7^{\circ}C$	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = $+2$ °C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.70 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.06	4.90
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
РТО	20 W	20 W
PSB	7 W	7 W



### Page 22 of 22

#### This information was generated by the HP KEYMARK database on 21 Jun 2022

PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 kWh