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#### **Login**

Summary of	Aquantia BI PRO 8 - 10 XL DHW Tank	Reg. No.	041-K009-09
Certificate Holder		<u> </u>	
Name	Frigicoll		
Address	Blasco de Garay, 4 6	Zip	08960
City	Sant Just Desvern	Country	Spain
Certification Body	BRE Global Limited		
Subtype title	Aquantia BI PRO 8 - 10 XL DHW Tank		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass of Refrigerant	1.65 kg		
Certification Date	30.03.2021		
Testing basis	Heat Pump Keymark Scheme Rules Rev 08		

# Model: KHP-BI 8 DVR2 + KHPI-BI-10VR2XL

Configure model			
Model name	KHP-BI 8 DVR2 + KHPI-BI-10VR2XL		
Application	Heating + DHW + low temp		
Units	Indoor + 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	8.30 kW	7.50 kW	
El input	1.60 kW	2.36 kW	
СОР	5.20	3.18	

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 indoor	42 dB(A)	42 dB(A)	
Sound power level outdoor	59 dB(A)	59 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	273 %	176 %
Prated	8.12 kW	7.56 kW
SCOP	6.99	4.47
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.57 kW	7.55 kW
COP Tj = +2°C	3.98	2.59
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.22 kW	4.86 kW
COP Tj = +7°C	6.26	3.92
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	2.45 kW	2.32 kW
COP Tj = 12°C	9.02	5.55
Cdh Tj = +12 °C	0.900	0.900



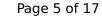


		The database on 25 juli 202
Pdh Tj = Tbiv	5.22 kW	4.86 kW
COP Tj = Tbiv	6.26	3.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.57 kW	7.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.98	2.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.55 kW	0.01 kW
Annual energy consumption Qhe	1569 kWh	2259 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	42 dB(A)	
Sound power level outdoor	59 dB(A)	59 dB(A)	

#### EN 14825





j i i i i i i i i i i i i i i i i i i i	Low temperature	Medium temperature
$\eta_{s}$	170 %	112 %
Prated	6.98 kW	5.78 kW
SCOP	4.32	2.88
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = $-7^{\circ}$ C	4.46 kW	3.86 kW
$COP Tj = -7^{\circ}C$	3.66	2.48
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	2.70 kW	2.21 kW
COP Tj = +2°C	5.20	3.35
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	1.66 kW	1.44 kW
$COPTj = +7^{\circ}C$	6.53	4.11
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.66 kW	1.47 kW
COP Tj = 12°C	7.96	5.92
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	5.69 kW	4.71 kW
COP Tj = Tbiv	2.83	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	2.80 kW
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	2.80 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       1.95       1.22         WTOL       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       2.91 kW       2.99 kW         Annual energy consumption Qhe       3978 kWh       4950 kWh         Pdh Tj = -15°C (if TOL<-20°C)       5.69       4.71         COP Tj = -15°C (if TOL<-20°C)       2.83       1.90         Cdh Tj = -15 °C       0.90       0.90			
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       2.91 kW       2.99 kW         Annual energy consumption Qhe       3978 kWh       4950 kWh         Pdh Tj = -15°C (if TOL<-20°C)	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.95	1.22
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       2.91 kW       2.99 kW         Annual energy consumption Qhe       3978 kWh       4950 kWh         Pdh Tj = -15°C (if TOL<-20°C)	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       2.91 kW       2.99 kW         Annual energy consumption Qhe       3978 kWh       4950 kWh         Pdh Tj = -15°C (if TOL<-20°C)	Poff	14 W	14 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 2.91 kW 2.99 kW  Annual energy consumption Qhe 3978 kWh 4950 kWh  Pdh Tj = -15°C (if TOL<-20°C) 5.69 4.71  COP Tj = -15°C (if TOL<-20°C) 2.83 1.90	РТО	24 W	24 W
Supplementary Heater: Type of energy input  Electricity  Electricity  2.91 kW  2.99 kW  Annual energy consumption Qhe  3978 kWh  Pdh Tj = -15°C (if TOL<-20°C)  5.69  4.71  COP Tj = -15°C (if TOL<-20°C)  2.83  1.90	PSB	14 W	14 W
Supplementary Heater: PSUP 2.91 kW 2.99 kW  Annual energy consumption Qhe 3978 kWh 4950 kWh  Pdh Tj = -15°C (if TOL<-20°C) 5.69 4.71  COP Tj = -15°C (if TOL<-20°C) 2.83 1.90	PCK	o w	o w
Annual energy consumption Qhe $3978 \text{ kWh}$ $4950 \text{ kWh}$ Pdh Tj = -15°C (if TOL<-20°C) $5.69$ $4.71$ COP Tj = -15°C (if TOL<-20°C) $2.83$ $1.90$	Supplementary Heater: Type of energy input	Electricity	Electricity
Pdh Tj = -15°C (if TOL<-20°C)  5.69  4.71  COP Tj = -15°C (if TOL<-20°C)  2.83  1.90	Supplementary Heater: PSUP	2.91 kW	2.99 kW
COP Tj = -15°C (if TOL<-20°C)  2.83  1.90	Annual energy consumption Qhe	3978 kWh	4950 kWh
	Pdh Tj = -15°C (if TOL<-20°C)	5.69	4.71
Cdh Tj = -15 °C 0.90	COP Tj = -15°C (if TOL $<$ -20°C)	2.83	1.90
	Cdh Tj = -15 °C	0.90	0.90

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	42 dB(A)	
Sound power level outdoor	59 dB(A)	59 dB(A)	

EN 14825		
	Low temperature	Medium temperature





ins mornation was gener	acea by the in Reinn	int database on 25 jun 2021
$\eta_s$	205 %	132 %
Prated	8.12 kW	6.60 kW
SCOP	5.21	3.36
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.19 kW	5.84 kW
$COP Tj = -7^{\circ}C$	3.35	2.16
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.65 kW	3.76 kW
COP Tj = +2°C	5.09	3.30
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.90 kW	2.43 kW
$COPTj = +7^{\circ}C$	6.82	4.34
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.63 kW	1.40 kW
COP Tj = 12°C	8.35	5.33
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	7.19 kW	5.84 kW
COP Tj = Tbiv	3.35	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.45 kW	4.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.04	1.84





WTOL 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

1.68 kW

3223 kWh

1.69 kW

4056 kWh

### Domestic Hot Water (DHW)

#### Warmer Climate

Supplementary Heater: PSUP

Annual energy consumption Qhe

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	171 %	
СОР	4.18	
Heating up time	1:51 h:min	
Standby power input	22.0 W	
Reference hot water temperature	48.0 °C	
Mixed water at 40°C	275 I	

### Colder Climate



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	111 %	
СОР	2.72	
Heating up time	2:18 h:min	
Standby power input	24.0 W	
Reference hot water temperature	48.0 °C	
Mixed water at 40°C	275 I	

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	137 %	
СОР	3.36	
Heating up time	2:02 h:min	
Standby power input	24.0 W	
Reference hot water temperature	48.0 °C	
Mixed water at 40°C	275 I	



# Model: KHP-BI 10 DVR2 + KHPI-BI-10VR2XL

Configure model		
Model name	KHP-BI 10 DVR2 + KHPI-BI-10VR2XL	
Application	Heating + DHW + low temp	
Units	Indoor + 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	10.00 kW	9.50 kW	
El input	2.00 kW	3.06 kW	
СОР	5.00	3.10	

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 indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	279 %	180 %
Prated	8.58 kW	8.63 kW
SCOP	7.12	4.58
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	8.44 kW	8.06 kW
COP Tj = +2°C	3.84	2.59
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	5.52 kW	5.55 kW
$COPTj = +7^{\circ}C$	6.18	4.10
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.62 kW	2.53 kW
COP Tj = 12°C	9.04	5.82
Cdh Tj = +12 °C	0.90	0.90



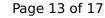


Pdh Tj = Tbiv       5.52 kW       5.55 kW         COP Tj = Tbiv       6.18       4.10         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       8.44 kW       8.16 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       3.84       2.61         WTOL       65 °C       65 °C         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       0.14 kW       0.48 kW         Annual energy consumption Qhe       1628 kWh       2516 kWh			
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	5.52 kW	5.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	6.18	4.10
WTOL 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 0.14 kW 0.48 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.44 kW	8.16 kW
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 0.14 kW 0.48 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.84	2.61
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 0.14 kW 0.48 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 0.14 kW 0.48 kW	Poff	14 W	14 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.14 kW 0.48 kW	РТО	24 W	24 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.14 kW 0.48 kW	PSB	14 W	14 W
Supplementary Heater: PSUP 0.14 kW 0.48 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 1628 kWh 2516 kWh	Supplementary Heater: PSUP	0.14 kW	0.48 kW
	Annual energy consumption Qhe	1628 kWh	2516 kWh

#### Colder Climate

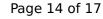
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	42 dB(A)	
Sound power level outdoor	60 dB(A)	60 dB(A)	

EN 14825		
	Low temperature	Medium temperature





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$\eta_{s}$	170 %	116 %
Prated	7.75 kW	6.71 kW
SCOP	4.32	2.99
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = $-7^{\circ}$ C	4.83 kW	4.27 kW
COP Tj = -7°C	3.60	2.54
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	2.94 kW	2.57 kW
$COPTj = +2^{\circ}C$	5.26	3.51
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	1.92 kW	1.66 kW
$COPTj = +7^{\circ}C$	7.08	4.37
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.66 kW	1.48 kW
COP Tj = 12°C	7.96	5.96
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	6.32 kW	5.48 kW
COP Tj = Tbiv	2.64	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.63 kW	2.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.97	1.22

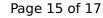




WTOL	65 °C	65 °C
Poff	14 W	14 W
РТО	24 W	24 W
PSB	14 W	14 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.13 kW	3.91 kW
Annual energy consumption Qhe	4424 kWh	5540 kWh
Pdh Tj = -15°C (if TOL<-20°C)	6.32	5.48
COP Tj = -15°C (if TOL $<$ -20°C)	2.64	2.00
Cdh Tj = -15 °C	0.90	0.90

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	42 dB(A)	
Sound power level outdoor	60 dB(A)	60 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_s$	205 %	137 %





Prated	9.17 kW	7.67 kW
SCOP	5.19	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.11 kW	6.78 kW
$COP Tj = -7^{\circ}C$	3.23	2.24
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	5.18 kW	4.29 kW
COP Tj = +2°C	5.01	3.42
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	3.32 kW	2.77 kW
$COPTj = +7^{\circ}C$	7.08	4.52
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.65 kW	1.58 kW
COP Tj = 12°C	8.58	5.68
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	8.11 kW	6.78 kW
COP Tj = Tbiv	3.23	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.40 kW	5.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.96	1.83
WTOL	65 °C	65 °C



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Poff	14 W	14 W
РТО	24 W	24 W
PSB	14 W	14 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.76 kW	2.28 kW

3647 kWh

4539 kWh

## Domestic Hot Water (DHW)

Annual energy consumption Qhe

#### Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	171 %	
СОР	4.18	
Heating up time	1:51 h:min	
Standby power input	22.0 W	
Reference hot water temperature	48.0 °C	
Mixed water at 40°C	275 I	

### Colder Climate



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	111 %	
СОР	2.72	
Heating up time	2:18 h:min	
Standby power input	24.0 W	
Reference hot water temperature	48.0 °C	
Mixed water at 40°C	275 I	

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	137 %	
СОР	3.36	
Heating up time	2:02 h:min	
Standby power input	24.0 W	
Reference hot water temperature	48.0 °C	
Mixed water at 40°C	275 I	