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Summary of	YKF C 5 7 9kW	Reg. No.	041-K017-10
Certificate Holder			
Name	Johnson Controls Industries		
Address	14 Rue de Bel Air	Zip	44470
City	Carquefou	Country	France
Certification Body	BRE Global Limited		
Subtype title	YKF C 5 7 9kW		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass of Refrigerant	1.25 kg		
Certification Date	04.08.2022		
Testing basis	Heat Pump Keymark Scheme Rules Rev 09		

## Model: YKF05CNC

Configure model	
Model name	YKF05CNC
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	6.5 kW	6.3 kW
El input	1.23 kW	1.97 kW
COP	5.3	3.2

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

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<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level outdoor	60 dB(A)	60 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	268.2 %	170.9 %
Prated	6.24 kW	6.17 kW
SCOP	6.78	4.35
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.69 kW	6.17 kW
COP Tj = +2°C	4.31	2.77
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	4.01 kW	3.97 kW
COP Tj = +7°C	6.39	3.9
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	2.07 kW	2.06 kW
COP Tj = 12°C	8.71	5.28
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	4.01 kW	3.97 kW

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COP Tj = Tbiv	6.39	3.9
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.69 kW	6.17 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.31	2.77
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	20 W	20 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.55 kW	0 kW
Annual energy consumption Qhe	1229 kWh	1895 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level outdoor	60 dB(A)	60 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	173.4 %	113.12 %
Prated	6.13 kW	5.22 kW

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SCOP	4.41	2.9
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.11 kW	3.21 kW
COP Tj = -7°C	3.76	2.6
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	2.38 kW	2.03 kW
COP Tj = +2°C	5.33	3.18
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	1.66 kW	1.56 kW
COP Tj = +7°C	5.78	4.5
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	1.87 kW	1.44 kW
COP Tj = 12°C	9.12	5.83
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	5 kW	4.25 kW
COP Tj = Tbiv	3.02	2
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.21 kW	3.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.32
WTOL	65 °C	65 °C
Poff	13 W	13 W

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PTO	20 W	20 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.92 kW	1.98 kW
Annual energy consumption Q <sub>he</sub>	3425 kWh	4428 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL<-20°C)	5	4.25
COP T <sub>j</sub> = -15°C (if TOL<-20°C)	3.02	2
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.9	0.9

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level outdoor	60 dB(A)	60 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	201.8 %	140.72 %
Prated	6.52 kW	6.36 kW
SCOP	5.12	3.59
T <sub>biv</sub>	-7 °C	-7 °C

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TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.77 kW	5.62 kW
COP Tj = -7°C	3.43	2.36
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	3.74 kW	3.52 kW
COP Tj = +2°C	5.04	3.7
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	2.32 kW	2.2 kW
COP Tj = +7°C	6.06	4.21
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	1.87 kW	1.31 kW
COP Tj = 12°C	9.12	4.96
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	5.77 kW	5.62 kW
COP Tj = Tbiv	3.43	2.36
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.52 kW	6.04 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3	2.02
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	20 W	20 W
PSB	13 W	13 W

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PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0.32 kW
Annual energy consumption Q <sub>he</sub>	2631 kWh	3655 kWh

## Model: YKF07CNC

Configure model	
Model name	YKF07CNC
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	8.40 kW	8.20 kW
El input	1.66 kW	2.60 kW
COP	5.05	3.15

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

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	274.74 %	185.3 %
Prated	8.06 kW	8.10 kW
SCOP	6.94	4.71
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.23 kW	7.80 kW
COP Tj = +2°C	4.04	2.68
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.18 kW	5.22 kW
COP Tj = +7°C	6.35	4.07
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.46 kW	2.36 kW
COP Tj = 12°C	9.30	6.07
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	5.18 kW	5.22 kW

This information was generated by the HP KEYMARK database on 4 Aug 2022

COP Tj = Tbiv	6.35	4.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.23 kW	7.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.04	2.68
WTOL	65.00 °C	65.00 °C
Poff	13.00 W	13.00 W
PTO	20.00 W	20.00 W
PSB	13.00 W	13.00 W
PCK	0.00 W	0.00 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.84 kW	0.32 kW
Annual energy consumption Qhe	1551 kWh	2303 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	174.6 %	117.73 %
Prated	7.51 kW	6.06 kW

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SCOP	4.44	3.02
Tbiv	-15.00 °C	-15.00 °C
TOL	-22.00 °C	-22.00 °C
Pdh Tj = -7°C	4.42 kW	3.95 kW
COP Tj = -7°C	3.67	2.75
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	2.99 kW	2.25 kW
COP Tj = +2°C	5.50	3.30
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.03 kW	1.56 kW
COP Tj = +7°C	6.69	4.50
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.87 kW	1.44 kW
COP Tj = 12°C	9.12	5.83
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	6.12 kW	4.94 kW
COP Tj = Tbiv	2.70	2.08
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.78 kW	3.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.16	1.32
WTOL	65.00 °C	65.00 °C
Poff	13.00 W	13.00 W

PTO	20.00 W	20.00 W
PSB	13.00 W	13.00 W
PCK	0.00 W	0.00 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.72 kW	2.82 kW
Annual energy consumption Q <sub>he</sub>	4166 kWh	4948 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL<-20°C)	6.12	4.94
COP T <sub>j</sub> = -15°C (if TOL<-20°C)	2.70	2.08
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.90	0.90

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	203.99 %	143.64 %
Prated	7.90 kW	7.25 kW
SCOP	5.17	3.67
T <sub>biv</sub>	-7 °C	-7 °C

This information was generated by the HP KEYMARK database on 4 Aug 2022

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.99 kW	6.42 kW
COP Tj = -7°C	3.29	2.31
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.51 kW	4.03 kW
COP Tj = +2°C	4.99	3.76
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.81 kW	2.56 kW
COP Tj = +7°C	6.72	4.48
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.87 kW	1.31 kW
COP Tj = 12°C	9.12	4.96
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	6.99 kW	6.42 kW
COP Tj = Tbiv	3.29	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.46 kW	6.85 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.87	1.98
WTOL	65.00 °C	65.00 °C
Poff	13.00 W	13.00 W
PTO	20.00 W	20.00 W
PSB	13.00 W	13.00 W

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PCK	0.00 W	0.00 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.44 kW	0.40 kW
Annual energy consumption Q <sub>he</sub>	3155 kWh	4088 kWh

## Model: YKF09CNC

Configure model	
Model name	YKF09CNC
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	10 kW	9.4 kW
El input	2.13 kW	3.03 kW
COP	4.7	3.1

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

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

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	279.05 %	193.4 %
Prated	9.04 kW	9.03 kW
SCOP	7.05	4.91
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.29 kW	8.42 kW
COP Tj = +2°C	3.85	2.68
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	5.81 kW	5.81 kW
COP Tj = +7°C	6.24	4.16
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	2.67 kW	2.74 kW
COP Tj = 12°C	9.63	6.64
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	5.81 kW	5.81 kW

This information was generated by the HP KEYMARK database on 4 Aug 2022

COP Tj = Tbiv	6.24	4.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.29 kW	8.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.85	2.68
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	20 W	20 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.75 kW	0.61 kW
Annual energy consumption Qhe	1714 kWh	2458 kWh

## Colder Climate

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

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	174.6 %	122.4 %
Prated	8.27 kW	7.21 kW

This information was generated by the HP KEYMARK database on 4 Aug 2022

SCOP	4.44	3.14
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.42 kW	4.59 kW
COP Tj = -7°C	3.72	2.72
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	3.14 kW	2.82 kW
COP Tj = +2°C	5.56	3.6
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	2.16 kW	1.76 kW
COP Tj = +7°C	6.55	4.84
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	1.87 kW	1.44 kW
COP Tj = 12°C	9.12	5.83
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	6.75 kW	5.88 kW
COP Tj = Tbiv	2.59	2.1
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.08 kW	3.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.01	1.32
WTOL	65 °C	65 °C
Poff	13 W	13 W

PTO	20 W	20 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.19 kW	3.97 kW
Annual energy consumption Q <sub>he</sub>	4591 kWh	5665 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL<-20°C)	6.75	5.88
COP T <sub>j</sub> = -15°C (if TOL<-20°C)	2.59	2.1
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.9	0.9

## Average Climate

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

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	201.91 %	145.47 %
Prated	9.06 kW	8.16 kW
SCOP	5.12	3.71
T <sub>biv</sub>	-7 °C	-7 °C

This information was generated by the HP KEYMARK database on 4 Aug 2022

TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.02 kW	7.21 kW
COP Tj = -7°C	3.09	2.24
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	5.06 kW	4.56 kW
COP Tj = +2°C	4.92	3.86
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	3.22 kW	2.84 kW
COP Tj = +7°C	7.03	4.58
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	1.87 kW	1.31 kW
COP Tj = 12°C	9.12	4.96
Cdh Tj = +12 °C	0.9	0.9
Pdh Tj = Tbiv	8.02 kW	7.21 kW
COP Tj = Tbiv	3.09	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.88 kW	7.01 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.87	1.97
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	20 W	20 W
PSB	13 W	13 W

This information was generated by the HP KEYMARK database on 4 Aug 2022

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.18 kW	1.14 kW
Annual energy consumption Q <sub>he</sub>	3654 kWh	4539 kWh