

# RWE N Kc Kr

## WATER COOLED CHILLERS WATER CONDENSED FOR INDOOR INSTALLATION EQUIPPED WITH SCROLL COMPRESSORS

Cooling capacity from 54 kW to 476 kW

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R410A



H2O



ERP  
2021



The water cooled chillers of RWE N series are designed for indoor installation and are particularly suitable for small and medium sized air conditioning systems with different applications like multiple dwellings and commercial application, whereas a water ring for heat dissipation is available.

They are all available with 1 or 2 cooling circuits.

The units have been designed to be extremely compact, with anyway an easy access for both ordinary and extraordinary maintenance.

Thanks to their compact dimensions (for the whole range, the width is 750mm) and to the several available options, these units are particularly easy to install also in small spaces, with no building works.

They are completely factory assembled and tested and supplied with refrigerant and non-freezing oil charge.

Therefore, once on site, the units only need to be positioned and electrically and hydraulically connected.

Units CE certified in compliance with the European regulation 2016/2281 ERP 2021.

## COMPONENTS

### STRUCTURE

Strong and compact frame, made of bended and RAL 7035 coloured steel profiles, supporting all the main components, installed at sight.

On request, the compressors can be acoustically isolated by a soundproofing cabinet with standard material (option CF) or by high density fireproof material with increased thickness (option CFU), in order to further reduce unit sound level.

### COMPRESSOR

High-efficiency orbiting spirals Scroll Compressor working with R410A, with low sound level, internal heat protection and installed on rubber vibration dampers.

### EVAPORATOR AND CONDENSER

Of weld-brazed plate type, in AISI 316 stainless steel, with pipes and patented manifold so to reach a high heat exchange coefficient, 1 or 2 circuits. Its design allows a uniform water distribution, compatibly with pressure drops.

The exchanger is provided with large thickness close-cell insulating material. Max working pressure is 10 bar for water side and 42 bar for refrigerant one.

### COOLING CIRCUIT

Composed of mechanical thermostatic expansion valve (electronic type from 2892 model to 4782), dehydrating filter, safety valve on high pressure side, high and low pressure switches.

### ELECTRICAL BOARD

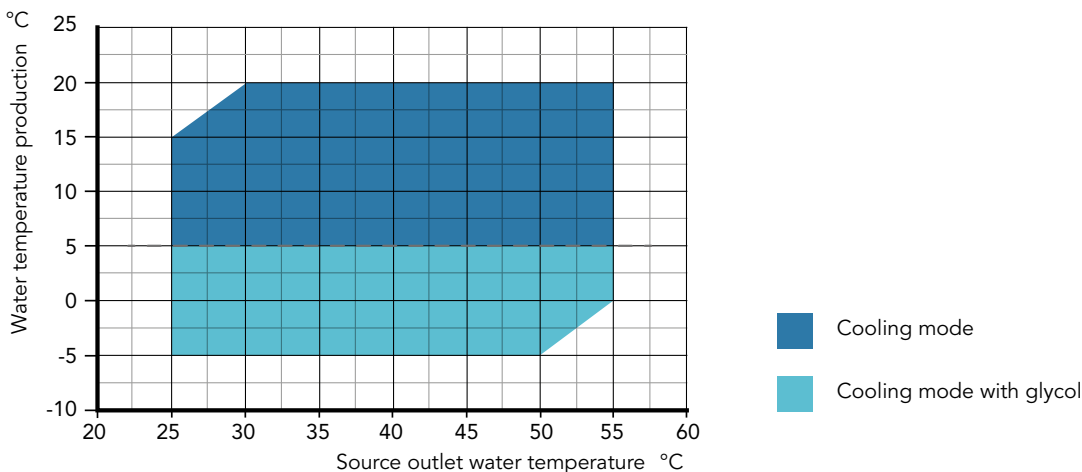
In compliance with 60204-1/IEC 204-1 standard, containing all the components for the managing system and the ones required for motors start, factory connected and tested.

Made up of: structure suitable for containing power and managing devices, electronic card equipped with keyboard and 3 digit display integrated in the microprocessor for displaying all different functions, main switch, transformer for auxiliaries, automatic switches, contactors for compressors protection and managing, contacts for cumulative alarms and remote ON/OFF, spring type terminal board, interfacing pre-arrangement for BMS management.

### MICROPROCESSOR

Electronic unit management Microprocessor easily accessible, equipped with compressor hour counter and display installed on the external panel.

## OPERATING RANGE



## ACCESSORIES

RWE N KC		511	611	771	891	1022	1222	1542
Amperometer	<b>A</b>	o	o	o	o	o	o	o
Electrical power supply different than standard	<b>AE</b>	o	o	o	o	o	o	o
Soundproofed compressors cabinet with standard material	<b>CF</b>	o	o	o	o	o	o	o
Compressor inrush counter	<b>CS</b>	o	o	o	o	o	o	o
Crankcase heater	<b>EHC</b>	o	o	o	o	o	o	o
Watch card	<b>IG</b>	o	o	o	o	o	o	o
RS 485 Serial interface	<b>IH</b>	o	o	o	o	o	o	o
Serial Interface RS 485 with advanced microprocessor	<b>IH+MP</b>	o	o	o	o	o	o	o
Seawood packing	<b>IM</b>	o	o	o	o	o	o	o
Wooden platform packing	<b>IR</b>	o	o	o	o	o	o	o
Phase monitor	<b>MF</b>	o	o	o	o	o	o	o
Advanced microprocessor	<b>MP</b>	o	o	o	o	o	o	o
High and low pressure gauges	<b>MT</b>	o	o	o	o	o	o	o
Rubber-type vibration dampers	<b>PA</b>	o	o	o	o	o	o	o
Safety water flow switch	<b>PF</b>	o	o	o	o	o	o	o
Remote display	<b>PQ</b>	o	o	o	o	o	o	o
Remote terminal with advanced microprocessor	<b>PQ+MP</b>	o	o	o	o	o	o	o
Anti-freeze heater on evaporator	<b>RA</b>	o	o	o	o	o	o	o
Shut-off valve on compressors discharge side	<b>RD</b>	o	o	o	o	o	o	o
Power factor correction system $\cos\phi \geq 0,9$	<b>RF</b>	o	o	o	o	o	o	o
Shut-off valve on compressors suction side	<b>RH</b>	o	o	o	o	o	o	o
Compressor overload relays	<b>RL</b>	o	o	o	o	o	o	o
Electronic soft starter	<b>SF</b>	o	o	o	o	o	o	o
Electronic thermostatic valve	<b>TE</b>	o	o	o	o	o	o	o
Voltmeter	<b>V</b>	o	o	o	o	o	o	o
Brine Version	<b>VB</b>	o	o	o	o	o	o	o
Solenoid valve	<b>VS</b>	o	o	o	o	o	o	o
Partial heat recovery	<b>RP</b>	o	o	o	o	o	o	o
Total heat recovery	<b>RT</b>	o	o	o	o	o	o	o

• Standard, o Optional, -- Not available

RWE N KC		1782	2382	2892	3812	4182	4782
Amperometer	A	o	o	o	o	o	o
Electrical power supply different than standard	AE	o	o	o	o	o	o
Soundproofed compressors cabinet with standard material	CF	o	o	o	o	o	o
Compressor inrush counter	CS	o	o	o	o	o	o
Crankcase heater	EHC	o	o	o	o	o	o
Watch card	IG	o	o	o	o	o	o
RS 485 Serial interface	IH	o	o	o	o	o	o
Serial Interface RS 485 with advanced microprocessor	IH+MP	o	o	o	o	o	o
Seawood packing	IM	o	o	o	o	o	o
Wooden platform packing	IR	o	o	o	o	o	o
Phase monitor	MF	o	o	o	o	o	o
Advanced microprocessor	MP	o	o	o	o	o	o
High and low pressure gauges	MT	o	o	o	o	o	o
Rubber-type vibration dampers	PA	o	o	o	o	o	o
Safety water flow switch	PF	o	o	o	o	o	o
Remote display	PQ	o	o	o	o	o	o
Remote terminal with advanced microprocessor	PQ+MP	o	o	o	o	o	o
Anti-freeze heater on evaporator	RA	o	o	o	o	o	o
Shut-off valve on compressors discharge side	RD	o	o	o	o	o	o
Power factor correction system cosfi ≥0,9	RF	o	o	o	o	o	o
Shut-off valve on compressors suction side	RH	o	o	o	o	o	o
Compressor overload relays	RL	o	o	o	o	o	o
Electronic soft starter	SF	o	o	o	o	o	o
Electronic thermostatic valve	TE	o	o	•	•	•	•
Voltmeter	V	o	o	o	o	o	o
Brine Version	VB	o	o	o	o	o	o
Solenoid valve	VS	o	o	o	o	o	o
Partial heat recovery	RP	o	o	o	o	o	o
Total heat recovery	RT	o	o	o	o	o	o

• Standard, o Optional, -- Not available

## ACCESSORIES

RWE N Kr

RWE N KR		511	611	771	891	1022	1222	1542
Amperometer	<b>A</b>	o	o	o	o	o	o	o
Electrical power supply different than standard	<b>AE</b>	o	o	o	o	o	o	o
Soundproofed compressors cabinet with standard material	<b>CF</b>	o	o	o	o	o	o	o
Compressor inrush counter	<b>CS</b>	o	o	o	o	o	o	o
Crankcase heater	<b>EHC</b>	o	o	o	o	o	o	o
Watch card	<b>IG</b>	o	o	o	o	o	o	o
RS 485 Serial interface	<b>IH</b>	o	o	o	o	o	o	o
Serial Interface RS 485 with advanced microprocessor	<b>IH+MP</b>	o	o	o	o	o	o	o
Seawood packing	<b>IM</b>	o	o	o	o	o	o	o
Wooden platform packing	<b>IR</b>	o	o	o	o	o	o	o
Phase monitor	<b>MF</b>	o	o	o	o	o	o	o
Advanced microprocessor	<b>MP</b>	o	o	o	o	o	o	o
High and low pressure gauges	<b>MT</b>	o	o	o	o	o	o	o
Rubber-type vibration dampers	<b>PA</b>	o	o	o	o	o	o	o
Safety water flow switch	<b>PF</b>	o	o	o	o	o	o	o
Remote display	<b>PQ</b>	o	o	o	o	o	o	o
Remote terminal with advanced microprocessor	<b>PQ+MP</b>	o	o	o	o	o	o	o
Anti-freeze heater on evaporator	<b>RA</b>	o	o	o	o	o	o	o
Shut-off valve on compressors discharge side	<b>RD</b>	o	o	o	o	o	o	o
Power factor correction system cosφ ≥0,9	<b>RF</b>	o	o	o	o	o	o	o
Shut-off valve on compressors suction side	<b>RH</b>	o	o	o	o	o	o	o
Compressor overload relays	<b>RL</b>	o	o	o	o	o	o	o
Electronic soft starter	<b>SF</b>	o	o	o	o	o	o	o
Electronic thermostatic valve	<b>TE</b>	o	o	o	o	o	o	o
Voltmeter	<b>V</b>	o	o	o	o	o	o	o
Brine Version	<b>VB</b>	o	o	o	o	o	o	o
Solenoid valve	<b>VS</b>	o	o	o	o	o	o	o
Partial heat recovery	<b>RP</b>	o	o	o	o	o	o	o
Total heat recovery	<b>RT</b>	o	o	o	o	o	o	o

• Standard, o Optional, -- Not available

RWE N KR		1782	2382	2892	3812	4182	4782
Amperometer	A	o	o	o	o	o	o
Electrical power supply different than standard	AE	o	o	o	o	o	o
Soundproofed compressors cabinet with standard material	CF	o	o	o	o	o	o
Compressor inrush counter	CS	o	o	o	o	o	o
Crankcase heater	EHC	o	o	o	o	o	o
Watch card	IG	o	o	o	o	o	o
RS 485 Serial interface	IH	o	o	o	o	o	o
Serial Interface RS 485 with advanced microprocessor	IH+MP	o	o	o	o	o	o
Seawood packing	IM	o	o	o	o	o	o
Wooden platform packing	IR	o	o	o	o	o	o
Phase monitor	MF	o	o	o	o	o	o
Advanced microprocessor	MP	o	o	o	o	o	o
High and low pressure gauges	MT	o	o	o	o	o	o
Rubber-type vibration dampers	PA	o	o	o	o	o	o
Safety water flow switch	PF	o	o	o	o	o	o
Remote display	PQ	o	o	o	o	o	o
Remote terminal with advanced microprocessor	PQ+MP	o	o	o	o	o	o
Anti-freeze heater on evaporator	RA	o	o	o	o	o	o
Shut-off valve on compressors discharge side	RD	o	o	o	o	o	o
Power factor correction system cosfi ≥0,9	RF	o	o	o	o	o	o
Shut-off valve on compressors suction side	RH	o	o	o	o	o	o
Compressor overload relays	RL	o	o	o	o	o	o
Electronic soft starter	SF	o	o	o	o	o	o
Electronic thermostatic valve	TE	o	o	•	•	•	•
Voltmeter	V	o	o	o	o	o	o
Brine Version	VB	o	o	o	o	o	o
Solenoid valve	VS	o	o	o	o	o	o
Partial heat recovery	RP	o	o	o	o	o	o
Total heat recovery	RT	o	o	o	o	o	o

• Standard, o Optional, -- Not available

## TECHNICAL DATA

RWE N Kc		511	611	771	891	1022	1222	1542
Cooling capacity	kW	54,4	62,0	81,4	92,9	108,2	121,8	162,8
Total input power	kW	11,7	13,8	16,9	20,3	23,9	27,3	36,2
Nominal input current	A	24,0	28,1	31,4	39,9	47,6	56,7	68,7
EER	W/W	4,65	4,49	4,82	4,58	4,53	4,46	4,50
SEER (EN14825)	W/W	5,33	5,32	5,21	5,27	5,80	5,40	5,52
Circuits	n°	1	1	1	1	2	2	2
Compressors	n°	2	2	2	2	4	4	4
<b>Refrigerant data R410A</b>								
Refrigerant charge	kg	4	4	5	6	10	10	13
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088	2088
Equivalent CO <sub>2</sub> charge	t	8,4	8,4	10,4	12,5	20,8	20,8	27,1
<b>Condenser <sup>(1)</sup></b>								
Quantity	n°	1	1	1	1	1	1	1
Flow rate	m <sup>3</sup> /h	10,9	12,5	16,2	18,7	21,9	24,8	33,0
Total input current	kW	33,4	42,5	40,9	30,7	22,2	27,7	31,5
<b>Evaporator <sup>(2)</sup></b>								
Quantity	n°	1	1	1	1	1	1	1
Water flow	m <sup>3</sup> /h	8,9	10,2	13,3	15,3	17,8	20,0	26,8
Pressure drop	kPa	33,1	41,7	37,2	47,0	26,8	33,1	32,7
<b>Weight</b>								
Transport weight	kg	428	443	459	612	630	678	743
Operating weight	kg	436	451	470	624	648	696	767
<b>Dimensions</b>								
Length	mm	1500	1500	1500	1500	2500	2500	2500
Width	mm	750	750	750	750	750	750	750
Height	mm	1600	1600	1800	1800	1800	1800	1800
<b>Sound data</b>								
Total LWA <sup>(3)</sup>	dB(A)	74	77	79	80	75	77	78
Total SPL 10m <sup>(4)</sup>	dB(A)	42,5	45,5	47,4	48,4	43,3	45,3	46,3
<b>Power supply</b>								
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>General electrical data</b>								
Maximum input power	[kW]	19,4	23,2	29,5	33,9	41,2	46,4	60,0
Maximum input current	[A]	36,4	43,2	62,0	68,0	75,6	86,4	118,0
Inrush current	[A]	146,2	160,6	171,0	208,0	193,0	203,8	258,0

(1) Fluid: Water - In/out Temperature: 30/35°C

(2) Fluid: Water - In/out Temperature: 12/7°C

(3) Sound power level in accordance with ISO 3744.

(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

\* Units only available for the non-EU market

RWE N Kc		1782	2382	2892	3812	4182*	4782*
Cooling capacity	kW	198,5	244,7	314,0	393,8	429,5	475,7
Total input power	kW	43,3	52,7	69,8	89,4	103,0	114
Nominal input current	A	78,3	98,4	121,7	154,1	171,9	190,3
EER	W/W	4,58	4,64	4,50	4,40	4,17	4,17
SEER (EN14825)	W/W	5,47	5,75	5,49	5,35	4,90	4,82
Circuits	n°	2	2	2	2	2	2
Compressors	n°	4	4	4	4	4	4
<b>Refrigerant data R410A</b>							
Refrigerant charge	kg	15	23	25	35	34	40
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088
Equivalent CO <sub>2</sub> charge	t	31,3	40,0	52,2	73,1	71,0	83,5
<b>Condenser <sup>(1)</sup></b>							
Quantity	n°	1	1	1	1	1	1
Flow rate	m <sup>3</sup> /h	40,0	49,2	63,3	79,8	87,6	97,0
Total input current	kW	38,2	30,6	47,7	48,5	78,4	73,5
<b>Evaporator <sup>(2)</sup></b>							
Quantity	n°	1	1	1	1	1	1
Water flow	m <sup>3</sup> /h	32,6	40,1	51,4	64,5	70,4	77,9
Pressure drop	kPa	30,6	35,1	42,1	49,2	92,6	86,6
<b>Weight</b>							
Transport weight	kg	847	931	1193	1317	1596	1710
Operating weight	kg	876	973	1238	1383	1676	1810
<b>Dimensions</b>							
Length	mm	3000	3000	3000	3000	3000	3000
Width	mm	750	850	850	850	850	850
Height	mm	1800	2030	2030	2030	2030	2030
<b>Sound data</b>							
Total LWA <sup>(3)</sup>	dB(A)	85	88	85	88	88	95
Total SPL 10m <sup>(4)</sup>	dB(A)	53,2	56,2	53,2	56,2	56,2	63,2
<b>Power supply</b>							
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>General electrical data</b>							
Maximum input power	[kW]	70,9	85,7	114	142	162	180
Maximum input current	[A]	138,4	165,2	207,2	262,4	296	330,4
Inrush current	[A]	341	404,1	451,8	587,8	621,4	655,8

(1) Fluid: Water - In/out Temperature: 30/35°C  
(2) Fluid: Water - In/out Temperature: 12/7°C  
(3) Sound power level in accordance with ISO 3744.

(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744  
\* Units only available for the non-EU market



RWE N Kr		511	611	771	891	1022	1222	1542
Cooling capacity	kW	22,0	61,9	83,9	88,7	111,0	123,0	160,0
Total input power	kW	11,2	12,7	16,6	18,8	22,8	26,3	34,3
Nominal input current	A	24,3	26,3	31,8	37,6	47,1	53,7	68,2
EER	W/W	4,91	4,87	5,05	4,72	4,87	4,68	4,66
SEER (EN14825)	W/W	6,12	5,95	6,08	5,60	6,37	6,04	6,01
Circuits	n°	1	1	1	1	2	2	2
Compressors	n°	2	2	2	2	4	4	4
<b>Refrigerant data R454B</b>								
Refrigerant charge	kg	5	5	8	8	10	12	16
Global warming potential (GWP)	-	466	466	466	466	466	466	466
Equivalent CO <sub>2</sub> charge	t	2,3	2,3	3,7	3,7	4,7	5,6	7,5
<b>Condenser <sup>(1)</sup></b>								
Quantity	n°	1	1	1	1	1	1	1
Flow rate	m <sup>3</sup> /h	11,41	12,85	17,31	18,50	23,03	25,83	33,50
Pressure drop	kPa	21,4	26,5	26,6	30,0	16,1	19,8	23,4
<b>Evaporator <sup>(2)</sup></b>								
Quantity	n°	1	1	1	1	1	1	1
Water flow	m <sup>3</sup> /h	9,47	10,66	14,45	15,28	19,02	21,24	27,54
Pressure drop	kPa	20,7	25,6	33,4	36,9	11,1	20,8	21,5
<b>Weight</b>								
Transport weight	kg	429	432	455	462	715	758	799
Operating weight	kg	441	444	470	478	732	782	829
<b>Dimensions</b>								
Length	mm	1500	1500	1500	1500	2500	2500	2500
Width	mm	750	750	750	750	750	750	750
Height	mm	1600	1600	1800	1800	1800	1800	1800
<b>Sound data</b>								
Total LWA <sup>(3)</sup>	dB(A)	77	78	79	81	79	81	83
Total SPL 10m <sup>(4)</sup>	dB(A)	46	47	47	49	47	50	51
<b>Power supply</b>								
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>General electrical data</b>								
Maximum input power	[kW]	19,6	22,8	29,0	32,6	40,3	45,6	58,6
Maximum input current	[A]	35,4	39,4	48,8	56,4	69,8	78,8	101,0
Inrush current	[A]	106	162	182	225	192	201	269

(1) Fluid: Water - In/out Temperature: 30/35°C

(2) Fluid: Water - In/out Temperature: 12/7°C

(3) Sound power level in accordance with ISO 3744.

(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

\* Units only available for the non-EU market

RWE N Kr		1782	2382	2892	3812	4182*	4782*
Cooling capacity	kW	177,0	234,0	301,0	383,0	419,0	467,0
Total input power	kW	38,9	51,4	67,6	83,4	91,1	103,0
Nominal input current	A	77,2	96,8	116,0	150,0	159,0	183,0
EER	W/W	4,55	4,55	4,45	4,59	4,60	4,53
SEER (EN14825)	W/W	5,66	5,78	5,74	5,83	8,78	5,68
Circuits	n°	2	2	2	2	2	2
Compressors	n°	4	4	4	4	4	4
<b>Refrigerant data R454B</b>							
Refrigerant charge	kg	16	22	31	43	48	48
Global warming potential (GWP)	-	466	466	466	466	466	466
Equivalent CO <sub>2</sub> charge	t	7,5	10,3	14,4	20,0	22,4	22,4
<b>Condenser <sup>(1)</sup></b>							
Quantity	n°	1	1	1	1	1	1
Flow rate	m <sup>3</sup> /h	37,15	49,10	63,44	80,21	87,76	98,03
Pressure drop	kPa	28,2	31,9	34,9	38,1	36,0	43,9
<b>Evaporator <sup>(2)</sup></b>							
Quantity	n°	1	1	1	1	1	1
Water flow	m <sup>3</sup> /h	30,43	40,42	51,77	65,80	72,05	80,35
Pressure drop	kPa	25,7	33,0	39,5	37,8	44,5	54,2
<b>Weight</b>							
Transport weight	kg	833	983	1254	1403	1581	1615
Operating weight	kg	863	1023	1311	1483	1669	1704
<b>Dimensions</b>							
Length	mm	3000	3000	3000	3000	3000	3000
Width	mm	750	850	850	850	850	850
Height	mm	1800	2030	2030	2030	2030	2030
<b>Sound data</b>							
Total LWA <sup>(3)</sup>	dB(A)	84	87	92	94	95	97
Total SPL 10m <sup>(4)</sup>	dB(A)	52	55	60	62	63	65
<b>Power supply</b>							
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>General electrical data</b>							
Maximum input power	[kW]	65,2	92,6	109,0	150,0	159,0	180,0
Maximum input current	[A]	113,0	180,0	215,0	336,0	325,0	424,0
Inrush current	[A]	282	378	452	574	563	662

(1) Fluid: Water - In/out Temperature: 30/35°C

(2) Fluid: Water - In/out Temperature: 12/7°C

(3) Sound power level in accordance with ISO 3744.

(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

\* Units only available for the non-EU market