

# CR - CRS - CRU Kc

## REMOTE CONDENSERS WITH AXIAL FANS FOR R410A

CR 34 Kc



Packaged air condensers with axial fans for external installation, especially designed to satisfy many refrigeration and air conditioning applications, so to reduce the overall noise level.

On request, the remote condensers can be provided with a condensing pressure control (option RG), by means of an actuated pressure fan speed controller, providing speed variation with a reduced full load current and allowing their operation down to  $-20^{\circ}\text{C}$ . For lower temperatures down to  $-40^{\circ}\text{C}$ , it is necessary to select option BW.

The following versions are available:

### 1-circuit:

- **CR Kc** standard version (4/6 pole fans),
- **CRS Kc** silenced version (6/8 pole fans),
- **CRU Kc** ultra-silenced version (6/8 pole fans).

### 2-circuits:

- **CR/2 Kc** standard version (4/6 pole fans),
- **CRS/2 Kc** silenced version (6/8 pole fans),
- **CRU/2Kc** Ultra-silenced version (6/8 pole fans).

**Operation limits:** external air temperature from  $+15$  to  $+42^{\circ}\text{C}$ .

### MAIN COMPONENTS

**Casing** built using modular components in warm galvanized steel, powder painted (standard colour: RAL 9002), resistant to corrosive agents up to corrosion class C5. The cuvettes are protected by a safety panel fixed to the structure. All operations necessary for manufacturing components (punching, drilling, bending) are performed prior to painting: maximum protection against rust is thus guaranteed. Mounting elements (screws, threaded inserts, rivets, washers and nuts) are all in stainless steel. The kit for vertical airflow is standard provided.

**Coil** built using copper pipes mechanically expanded on high efficiency aluminium fins separated by 2.1 mm. Tiles are in warm galvanized steel while sides are in aluminium to prevent pipe damage due to thermal expansion. Circuits are designed for counter flow. Manifolds are in copper. Test pressure (with dry air): 30 bars. Test pressure (with dry air) for use with R410a: 45 bars.

**AC Single phase axial fans**, thermally protected, permanently lubricated, statically and dynamically balanced, single speed, class B and F insulation; built-in thermal contact, IP54 protection. Power and sound pressure reference levels (free field conditions) for each fan are declared by the fan manufacturer according to EN13487 standards.

**Electrical main switch** realized in a switchboard box in plastic material resistant to UV rays, box protection class IP55, with cables suitable for outdoor and complete with fans wiring.

### ACCESSORIES

**BW Low temperature operation down to  $-40^{\circ}\text{C}$ :** in order to allow operation down to such external air temperature, we provide a kit of components to be installed close to the remote condenser including: liquid receiver, condensing control valve, non-return valve, safety valve.

**IM Seawood packing:** fumigated seawood case and protection bag with hygroscopic salts, suitable for long sea transports.

**RG Condensing pressure control:** for operation down to  $-20^{\circ}\text{C}$  external air, on the indoor unit we provide a voltage fans speed controller, already factory set.

**RM Condensing coil with pre-painted fins:** superficial treatment of the condensing coils realized in epoxy pre-painted aluminium material.

**RR Copper/copper condensing coils:** special execution of the condensing coils with copper pipe and fins.

## REMOTE CONDENSERS WITH AXIAL FANS FOR CLOSE CONTROL UNITS WITH R410A

### Technical data - CR Standard - 1-circuit version

CR Kc		9	12	19	22	29	34	47	55	64	73	97	114	137	183
<b>Heating rejection</b>															
Power	kW	7,5	10,0	17,1	20,3	26,7	32,1	42,8	51,4	59,9	68,5	91,0	107,0	128,4	171,2
<b>Axial fans</b>															
Quantity	n.	1	1	1	1	3	2	2	2	4	4	4	3	3	4
Rotation speed	rpm	1'400	1'400	1'300	1'300	1'400	1'300	1'300	1'300	1'300	1'300	1'300	860	860	860
Air flow	m <sup>3</sup> /h	2'300	5'000	5'900	5'500	6'900	11'800	11'000	9'800	23'600	23'600	20'800	30'300	29'400	39'200
Motor input power	kW	0,13	0,13	0,49	0,49	0,39	0,98	0,98	0,98	1,96	1,96	1,96	1,8	1,8	2,4
Input current	A	0,58	0,58	2,1	2,1	1,74	4,2	4,2	4,2	8,4	8,4	8,4	7,86	7,86	10,48
Diameter	mm	350	350	450	450	350	450	450	450	450	450	450	630	630	630
<b>Sound pressure level</b>															
Sound pressure at 10 m	dB(A)	39	39	41	41	45	44	44	44	47	47	47	43	43	44
<b>Dimensions</b>															
Length	mm	857	857	1.092	1.092	1.792	1.792	1.792	1.792	1.792	1.792	1.792	4.232	4.232	5.425
Width	mm	670	670	670	670	670	670	670	670	670	670	670	670	800	800
Height	mm	555	555	755	755	555	755	755	755	1'454	1'454	1'454	1.230	1.230	1.230
Length (vertical air flow)	mm	857	857	1.092	1.092	1.792	1.792	1.792	1.792	1.792	1.792	1.792	4.232	4.232	5.425
Width (vertical air flow)	mm	575	575	775	775	575	775	775	775	1'474	1'474	1'474	1'250	1'250	1'250
Height (vertical air flow)	mm	795	795	795	795	795	795	795	795	795	795	795	1'270	1'270	1'270
Transport weight	kg	15	17	31	34	41	56	62	74	115	115	140	200	225	305
IN/OUT connections	∅	18 / 16	18 / 16	18 / 16	18 / 16	18 / 16	18 / 16	22 / 18	22 / 18	22 / 18	22 / 18	28 / 22	42 / 35	54 / 42	54 / 42
<b>Electrical power supply</b>															
Electrical power supply	V/ph/Hz	230 / 1 / 50 + T													
<b>REMARKS</b>															
- Selected for external air temperature of 35°C.															
- Sound pressure level measured at 10 m in open field (ISO 3744).															

### Technical data - CRS Silenced - 1-circuit version

CRS Kc		8	14	18	23	30	34	46	55	73	97	114	137	183	
<b>Heating rejection</b>															
Power	kW	7,5	12,8	17,1	20,3	26,7	32,1	42,8	51,4	68,5	90,9	107,0	128,4	171,2	
<b>Axial fans</b>															
Quantity	n.	1	1	1	1	2	2	2	4	4	2	3	4	4	
Rotation speed	rpm	945	900	900	915	900	900	915	900	900	860	670	670	670	
Air flow	m <sup>3</sup> /h	1'400	4'000	3'700	4'100	8'000	7'400	8'200	16'000	14'800	19'600	22'500	31'200	28'000	
Motor input power	kW	0,065	0,19	0,19	0,27	0,38	0,38	0,54	0,76	0,76	1,2	1,02	1,36	1,36	
Input current	A	0,31	0,86	0,86	1,18	1,72	1,72	2,36	3,44	3,44	5,24	5,16	6,88	6,88	
Diameter	mm	350	450	900	500	450	450	500	450	450	630	630	630	630	
<b>Sound pressure level</b>															
Sound pressure at 10 m	dB(A)	29	34	34	35	37	37	38	40	40	41	38	39	39	
<b>Dimensions</b>															
Length	mm	857	1092	1092	1092	1.792	1.792	1.792	1.792	1.792	3.030	4.232	5.425	5.425	
Width	mm	670	670	670	670	670	670	670	670	670	670	670	800	800	
Height	mm	555	755	755	755	755	755	755	1.454	1.454	1.230	1.230	1.230	1.230	
Length (vertical air flow)	mm	857	1.092	1.092	1.092	1.792	1.792	1.792	1.792	1.792	3.030	4.232	5.425	5.425	
Width (vertical air flow)	mm	575	775	775	775	775	775	775	1.474	1.474	1.250	1.250	1.250	1.250	
Height (vertical air flow)	mm	795	795	795	795	795	795	795	795	795	1.270	1.270	1.270	1.270	
Transport weight	kg	17	31	34	44	56	62	82	115	125	155	225	265	380	
IN/OUT connections	∅	18 / 16	18 / 16	18 / 16	18 / 16	18 / 16	22 / 18	22 / 18	22 / 18	28 / 22	42 / 35	54 / 42	42 / 35	54 / 42	
<b>Electrical power supply</b>															
Electrical power supply	V/ph/Hz	230 / 1 / 50 + T													
<b>REMARKS</b>															
- Selected for external air temperature of 35°C.															
- Sound pressure level measured at 10 m in open field (ISO 3744).															

## REMOTE CONDENSERS WITH AXIAL FANS FOR CLOSE CONTROL UNITS WITH R410A

### Technical data - CRU Ultrasilenced - 1-circuit version

CRU Kc		11	14	17	22	29	34	46	55	64	73	92
Heating rejection												
Power	kW	10,7	12,8	16,1	20,3	27,5	32,1	42,8	51,4	60,0	68,5	85,7
Axial fans												
Quantity	n.	1	1	1	2	2	2	4	4	2	2	2
Rotation speed	rpm	720	720	665	720	665	665	720	720	670	670	670
Air flow	m <sup>3</sup> /h	3'000	2'800	3'700	6'000	6'400	5'800	12'000	11'200	15'600	15'000	14'000
Motor input power	kW	0,12	0,12	0,13	0,24	0,26	0,26	0,48	0,48	0,68	0,68	0,68
Input current	A	0,53	0,53	0,59	1,06	1,18	1,18	2,12	2,12	3,44	3,44	3,44
Diameter	mm	450	450	500	450	500	500	450	450	630	630	630
Sound pressure level												
Sound pressure at 10 m	dB(A)	30	30	29	34	32	32	37	37	36	36	36
Dimensions												
Length	mm	1.092	1.092	1.092	1.792	1.792	1.792	1.792	1.792	3.030	3.030	3.030
Width	mm	670	670	670	670	670	670	670	670	800	800	800
Height	mm	755	755	755	755	755	755	1.454	1.454	1.230	1.230	1.230
Length (vertical air flow)	mm	1.092	1.092	1.092	1.092	1.092	1.092	1.792	1.792	3.030	3.030	3.030
Width (vertical air flow)	mm	775	775	775	775	775	775	1.474	1.474	1.250	1.250	1.250
Height (vertical air flow)	mm	795	795	795	795	795	795	795	795	1.270	1.270	1.270
Transport weight	kg	31	34	44	56	76	82	115	125	140	155	195
IN/OUT connections	∅	18 / 16	18 / 16	18 / 16	18 / 16	22 / 18	22 / 18	22 / 18	28 / 22	28 / 22	42 / 35	42 / 35
Electrical power supply												
Electrical power supply	V/ph/Hz	230 / 1 / 50 + T										
REMARKS												
- Selected for external air temperature of 35°C.												
- Sound pressure level measured at 10 m in open field (ISO 3744).												

### Technical data - CR/2 Standard - 2-circuits version

CR Kc		40/2	50/2	70/2	80/2	101/2	120/2	143/2	183/2	229/2	
Heating rejection											
Power	kW	37,4	47,1	65,3	74,9	94,2	112,4	133,8	171,2	214	
Axial fans											
Quantity	n.	2	2	4	4	4	3	3	4	4	
Rotation speed	rpm	1'300	1'300	1'300	1'300	1'300	860	860	860	860	
Air flow	m <sup>3</sup> /h	11'000	10'400	23'600	22'000	20'800	29'400	28'500	39'200	36'800	
Motor input power	kW	0,98	0,98	1,96	1,96	1,96	1,8	1,8	2,4	2,4	
Input current	A	4,2	4,2	8,4	8,4	8,4	7,86	7,86	10,48	10,48	
Diameter	mm	450	450	450	450	450	630	630	630	630	
Sound pressure level											
Sound pressure at 10 m	dB(A)	44	44	47	47	47	43	43	44	44	
Dimensions											
Length	mm	1.792	1.792	1.792	1.792	1.792	4.232	4.232	5.425	5.425	
Width	mm	670	670	670	670	670	800	800	800	800	
Height	mm	755	755	1.454	1.454	1.454	1.230	1.230	1.230	1.230	
Length (vertical air flow)	mm	1.792	1.792	1.792	1.792	1.792	4.232	4.232	5.425	5.425	
Width (vertical air flow)	mm	775	775	1.474	1.474	1.474	1.250	1.250	1.250	1.250	
Height (vertical air flow)	mm	795	795	795	795	795	1.270	1.270	1.270	1.270	
Transport weight	kg	62	68	115	125	140	225	255	305	380	
IN/OUT connections	∅	2x22 / 2x18					2x42 / 2x35				
Electrical power supply											
Electrical power supply	V/ph/Hz	230 / 1 / 50 + T									
REMARKS											
- Selected for external air temperature of 35°C.											
- Sound pressure level measured at 10 m in open field (ISO 3744).											

## REMOTE CONDENSERS WITH AXIAL FANS FOR CLOSE CONTROL UNITS WITH R410A

### Technical data - CRS/2 Silenced - 2-circuits version

CRS Kc		40/2	60/2	70/2	80/2	101/2	120/2	143/2	183/2
<b>Heating rejection</b>									
Power	kW	37,4	55,6	65,3	74,9	94,2	112,3	133,8	171,2
<b>Axial fans</b>									
Quantity	n.	2	4	4	2	2	3	4	4
Rotation speed	rpm	915	900	900	860	860	670	670	670
Air flow	m <sup>3</sup> /h	8'200	16'000	14'800	20'200	19'000	22'500	30'000	28'000
Motor input power	kW	0,54	0,76	0,76	1,2	1,2	1,02	1,36	1,36
Input current	A	2,36	3,44	3,44	5,24	5,24	5,16	6,88	6,88
Diameter	mm	500	450	630	630	630	630	630	630
<b>Sound pressure level</b>									
Sound pressure at 10 m	dB(A)	38	40	40	41	41	38	39	39
<b>Dimensions</b>									
Length	mm	1.792	1.792	1.792	3.030	3.030	4.232	5.425	5.425
Width	mm	670	670	670	800	800	800	800	800
Height	mm	755	1.454	1.454	1.230	1.230	1.230	1.230	1.230
Length (vertical air flow)	mm	1.792	1.792	1.792	3.030	3.030	4.232	5.425	5.425
Width (vertical air flow)	mm	775	1.474	1.474	1.250	1.250	1.250	1.250	1.250
Height (vertical air flow)	mm	795	795	795	1.270	1.270	1.270	1.270	1.270
Transport weight	kg	82	115	125	140	175	225	305	380
IN/OUT connections	∅	2x22 / 2x18				2x42 / 2x35			
<b>Electrical power supply</b>									
Electrical power supply	V/ph/Hz	230 / 1 / 50 + T							
<b>REMARKS</b>									
- Selected for external air temperature of 35°C.									
- Sound pressure level measured at 10 m in open field (ISO 3744).									

### Technical data - CRU/2 Ultrasilenced - 2-circuits version

CRU Kc		40/2	46/2	60/2	70/2	80/2	100/2
<b>Heating rejection</b>							
Power	kW	37,4	42,8	56	65,4	74,9	93,5
<b>Axial fans</b>							
Quantity	n.	1	1	2	2	2	3
Rotation speed	rpm	670	670	670	670	670	670
Air flow	m <sup>3</sup> /h	7'500	7'000	15'600	15'000	14'400	23'400
Motor input power	kW	0,34	0,34	0,68	0,68	0,68	1,02
Input current	A	1,72	1,72	3,44	3,44	3,44	5,16
Diameter	mm	630	630	630	630	630	630
<b>Sound pressure level</b>							
Sound pressure at 10 m	dB(A)	33	33	36	36	36	38
<b>Dimensions</b>							
Length	mm	1.824	1.824	3.030	3.030	3.030	4.232
Width	mm	800	800	800	800	800	800
Height	mm	1.230	1.230	1.230	1.230	1.230	1.230
Length (vertical air flow)	mm	1.824	1.824	3.030	3.030	3.030	4.232
Width (vertical air flow)	mm	1.250	1.250	1.250	1.250	1.250	1.250
Height (vertical air flow)	mm	1.270	1.270	1.270	1.270	1.270	1.270
Transport weight	kg	88	115	140	155	175	200
IN/OUT connections	∅	2x22 / 2x18				2x28 / 2x22	
<b>Electrical power supply</b>							
Electrical power supply	V/ph/Hz	230 / 1 / 50 + T					
<b>REMARKS</b>							
- Selected for external air temperature of 35°C.							
- Sound pressure level measured at 10 m in open field (ISO 3744).							