AMERICANCHILLERS
& Cooling Tower Systems

1.5-5 Tons
CPPCKQ-Split
Quiet Split Series

Commercial Cold Plunge Quiet Chiller

Standard Features

- U.L. Listed, EPA Compliant, Low GWP R454A eco-friendly condensing unit complies with latest codes
- Split chiller; outdoor condensing unit with indoor heat exchanger cabinet (requires a line set to be provided and installed by a refrigeration contractor to connect the two units together).
- Galvanized steel cabinet with high gloss powder coat finish
- Copeland scroll compressor with crankcase heater and freeze stat safety thermostat
- Condensing unit is suitable for outdoor installation with flooded condenser for low ambient operation down to –20°F
- Air cooled, high ambient, horizontal discharge condenser with head pressure control
- Oversized receiver with outlet shutoff valve and pressure safety
- Single point power connection into weather proof electrical panel
- Titanium coaxial tube-in-tube evaporator
- Control circuit with digital, electronic thermostat, compressor anti-short-cycle time delay, water flow safety switch lockout, and high and low refrigeration pressure safety lockout switches.
- Refrigerant leak detection sensor with corresponding compressor shut off
- Liquid line specialties include externally equalized thermal expansion valve with liquid line solenoid valve, filter drier, and sight glass
- Non ferrous water lines wrapped in 1/2” closed cell insulation to minimize condensation
- System is factory leak checked, pressure tested, put under a deep vacuum, charged with refrigerant, and functionally tested prior to shipment
- Warranty: One (1) years limited parts, five (5) years limited compressor warranty

Options & Accessories

- Condenser coil coating for corrosion protection in coastal areas
- Remote temperature control
- Heated & insulated receiver in condensing unit for cold weather operation
- Other voltages and options available; consult the factory
- Factory authorized technician for startup, training & service

Indoor Heat Exchanger Cabinet

Outdoor Condensing Unit

AMERICANCHILLERS
& Cooling Tower Systems

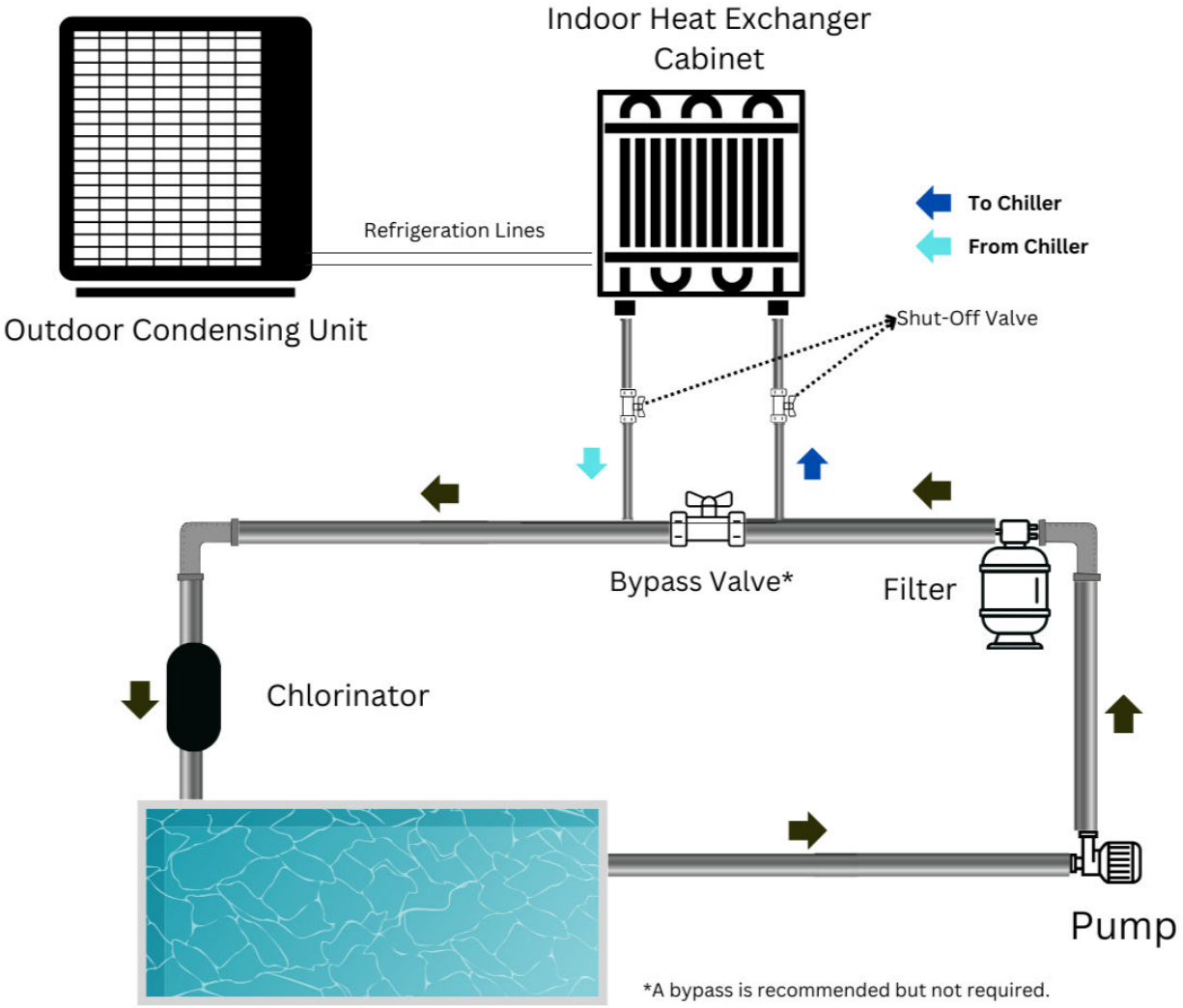
1.5-5 Tons
CPPCKQ-Split
Quiet Split Series

Plunge Pool Chiller Sizing Guide			
Pool Volume (Gallons)	**Chiller Capacity**	**Chiller H.P @ 50F LWT**	**Chiller H.P. @ 40F LWT**
100 to 300	1 Ton	1.0	1.5
300 to 450	1-1/2 Ton	1.5	2.0
450 to 650	2 Ton	2.0	2.5
650 to 950	3 Ton	3.0	3.5
950 to 1,200	4 Ton	4.0	5.0
1,200 to 1,500	5 Ton	5.0	6.0
1,500 to 2,000	6 Ton	6.0	7.0
2,000 to 2,700	7 Ton	7.0	7.5
2,700 to 3,500	10 Ton	10.0	10.0

Consider Upsizing Chiller If…

- Piping runs are long, uninsulated or run under heated floors.
- Filter system adds heat
- Pool is used for long durations or repeatedly with minimum recovery time between usage.
- Pool is used for full body immersion
- Pool is in an outdoor or warm location
- Pool will be turned on/off with limited cool down period (may significantly increase chiller size - consult factory).

Our clients include many professional sports teams like the Oklahoma City Thunder, Denver Nuggets and Chicago Bears plus spa's, cruise ships and residences.



CPPC KQ-SPLIT-R06 Series

General Data

Model (CPPC****KQ-SPLIT-R06)		0151	0201	0301	0401	0501
Nominal Tons Cooling		1.5	2	3	4	5
Refrigerant		R454A	R454A	R454A	R454A	R454A

Electrical Data

Supply Power	Voltage	208-230	208-230	208-230	208-230	208-230
	Phase	1	1	1	1	1
	Frequency (Hz)	60	60	60	60	60
Compressor	Quantity	1	1	1	1	1
	Rated Load Amps (RLA)	12	15.7	23.2	26.1	31.1
	Locked Rotor Amps (LRA)	56	68	112	137	175
Fan Motor	Quantity	1	1	1	2	2
	Full Load Amps (FLA)	1.7	1.7	1.7	1.7	1.7
Total Circuit	Full Load Amps (FLA)	13.7	17.4	24.9	29.5	34.5
	Min Circuit Ampacity (MCA)	17.1	21.8	31.1	36.9	43.1
	Max Overcurr. Protect. (MOP)	25	35	50	60	70

Physical Data

Outdoor Unit Size (in)	Length (L)	19	19	19	19	19
	Width (W)	48.5	48.5	48.5	48.5	48.5
	Height (H)	29.5	29.5	29.5	52	52
Indoor Unit Size (in)	Length (L)	32	32	30	30	30
	Width (W)	12	12	25	25	25
	Height (H)	24	24	34	34	44
Weight (lb)	Outdoor (Operating)	275	275	285	480	515
	Indoor (Operating)	155	165	175	180	185
	Ship	580	590	610	810	850
Air Clearance Required (in)	Service	24	24	24	24	24
	Air Discharge	29.5	29.5	29.5	52	52
	Air Intake	6	6	6	6	6
Connection Sizes (in)	Water (FPT)	3/4	3/4	1	1	1
	Refrig. Liquid Line OD	3/8	3/8	1/2	1/2	1/2
	Refrig. Suction Line OD	7/8	7/8	7/8	7/8	1-1/8
Sound	dBA	56	56	58	58	59
Flow Rate (GPM)	Maximum Flow Rate	7.5	10	15	20	25
	Minimum Flow Rate	3.6	4.8	7.2	9.6	12

*All specs are subject to change without notice

CPPC KQ-SPLIT-R06 Series

General Data

Model (CPPC****KQ-SPLIT-R06)		0153	0203	0303	0403	0503
Nominal Tons Cooling		1.5	2	3	4	5
Refrigerant		R454A	R454A	R454A	R454A	R454A

Electrical Data

Supply Power	Voltage	208-230	208-230	208-230	208-230	208-230
	Phase	3	3	3	3	3
	Frequency (Hz)	60	60	60	60	60
Compressor	Quantity	1	1	1	1	1
	Rated Load Amps (RLA)	9.7	10.6	15.2	20.5	22.1
	Locked Rotor Amps (LRA)	58	58	93	114	115
Fan Motor	Quantity	1	1	1	2	2
	Full Load Amps (FLA)	1.7	1.7	1.7	1.7	1.7
Total Circuit	Full Load Amps (FLA)	11.4	12.3	16.9	23.9	25.5
	Min Circuit Ampacity (MCA)	14.3	15.4	21.1	29.9	31.9
	Max Overcurr. Protect. (MOP)	20	25	35	45	50

Physical Data

Outdoor Unit Size (in)	Length (L)	19	19	19	19	19
	Width (W)	48.5	48.5	48.5	48.5	48.5
	Height (H)	29.5	29.5	29.5	52	52
Indoor Unit Size (in)	Length (L)	32	32	30	30	30
	Width (W)	12	12	25	25	25
	Height (H)	24	24	34	34	44
Weight (lb)	Outdoor (Operating)	275	275	285	480	515
	Indoor (Operating)	155	165	175	180	185
	Ship	580	590	610	810	850
Air Clearance Required (in)	Service	24	24	24	24	24
	Air Discharge	29.5	29.5	29.5	52	52
	Air Intake	6	6	6	6	6
Connection Sizes (in)	Water (FPT)	3/4	3/4	1	1	1
	Refrig. Liquid Line OD	3/8	3/8	1/2	1/2	1/2
	Refrig. Suction Line OD	7/8	7/8	7/8	7/8	1-1/8
Sound	dBA	56	56	58	58	59
Flow Rate (GPM)	Maximum Flow Rate	7.5	10	15	20	25
	Minimum Flow Rate	3.6	4.8	7.2	9.6	12

*All specs are subject to change without notice

CPPC KQ-SPLIT-R06 Series

General Data

Model (CPPC****KQ-SPLIT-R06)		0304	0404	0504
Nominal Tons Cooling		3	4	5
Refrigerant		R454A	R454A	R454A

Electrical Data

Supply Power	Voltage	460	460	460
	Phase	3	3	3
	Frequency (Hz)	60	60	60
Compressor	Quantity	1	1	1
	Rated Load Amps (RLA)	6.9	9.4	9.6
	Locked Rotor Amps (LRA)	48	58	63
Fan Motor	Quantity	1	2	2
	Full Load Amps (FLA)	0.9	0.9	0.9
Total Circuit	Full Load Amps (FLA)	7.8	11.2	11.4
	Min Circuit Ampacity (MCA)	9.8	14.0	14.3
	Max Overcurr. Protect. (MOP)	15	20	20

Physical Data

Outdoor Unit Size (in)	Length (L)	19	19	19
	Width (W)	48.5	48.5	48.5
	Height (H)	29.5	52	52
Indoor Unit Size (in)	Length (L)	30	30	30
	Width (W)	25	25	25
	Height (H)	34	34	44
Weight (lb)	Outdoor (Operating)	285	480	515
	Indoor (Operating)	175	180	185
	Ship	610	810	850
Air Clearance Required (in)	Service	24	24	24
	Air Discharge	29.5	52	52
	Air Intake	6	6	6
Connection Sizes (in)	Water (FPT)	1	1	1
	Refrig. Liquid Line OD	1/2	1/2	1/2
	Refrig. Suction Line OD	7/8	7/8	1-1/8
Sound	dBA	58	58	59
Flow Rate (GPM)	Maximum Flow Rate	15	20	25
	Minimum Flow Rate	7.2	9.6	12

*All specs are subject to change without notice

CPPC - KQ Refrigerant Line Sizing R454A (35°F SST)

Nominal Capacity per stage (BTU/h)	Single Stage Model	Dual Stage Model*	Equivalent Length	0-25'	26-50'	51-75'	76-100'	101-125'	126-150'
			Estimated Linear Length (ft)	0-20'	21-40'	41-60'	61-80'	81-100'	101-120'
18,000	015	030	Liquid Line (in - OD)	3/8	3/8	3/8	3/8	3/8	1/2
			Suction Line (in - OD)	5/8	7/8	7/8	7/8	7/8	7/8
			Base Unit Charge (lb)	14	14	14	14	14	14
			Line Set Additional Charge required (lb)	0.0	0.0	0.0	0.0	0.0	1.3
			Estimated Total System Charge (lb)	14.0	14.0	14.0	14.0	14.0	15.3
24,000	020	040	Liquid Line (in - OD)	3/8	3/8	3/8	1/2	1/2	1/2
			Suction Line (in - OD)	7/8	7/8	7/8	7/8	7/8	7/8
			Base Unit Charge (lb)	14	14	14	14	14	14
			Line Set Additional Charge required (lb)	0.0	0.0	0.0	0.0	0.2	2.1
			Estimated Total System Charge (lb)	14.0	14.0	14.0	14.0	14.2	16.1
36,000	030	060	Liquid Line (in - OD)	3/8	1/2	1/2	1/2	1/2	1/2
			Suction Line (in - OD)	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8
			Base Unit Charge (lb)	14	14	14	14	14	14
			Line Set Additional Charge required (lb)	0.0	0.0	0.0	0.6	2.7	4.7
			Estimated Total System Charge (lb)	14.0	14.0	14.0	14.6	16.7	18.7
48,000	040	080	Liquid Line (in - OD)	1/2	1/2	1/2	1/2	1/2	5/8
			Suction Line (in - OD)	7/8	7/8	1-1/8	1-1/8	1-1/8	1-1/8
			Base Unit Charge (lb)	22	22	22	22	22	22
			Line Set Additional Charge required (lb)	0.0	0.0	0.0	0.0	0.0	4.6
			Estimated Total System Charge (lb)	22.0	22.0	22.0	22.0	22.0	26.6
54,000	050	100	Liquid Line (in - OD)	1/2	1/2	1/2	1/2	1/2	5/8
			Suction Line (in - OD)	7/8	7/8	1-1/8	1-1/8	1-1/8	1-3/8
			Base Unit Charge (lb)	22	22	22	22	22	22
			Line Set Additional Charge required (lb)	0.0	0.0	0.0	0.0	0.0	6.3
			Estimated Total System Charge (lb)	22.0	22.0	22.0	22.0	22.0	28.3
66,000	060	120	Liquid Line (in - OD)	1/2	1/2	5/8	5/8	5/8	5/8
			Suction Line (in - OD)	7/8	1-1/8	1-1/8	1-3/8	1-3/8	1-3/8
			Base Unit Charge (lb)	22	22	22	22	22	22
			Line Set Additional Charge required (lb)	0.0	0.0	0.0	2.0	5.3	8.5
			Estimated Total System Charge (lb)	22.0	22.0	22.0	24.0	27.3	30.5

*Dual stage models have 2 condensing units and require (2) sets of line sets

Legend	
Equivalent Length	Equivalent tubing length, including effects of refrigeration specialties devices
Estimated Linear Length	Linear tubing length, feet (actual linear length will vary based on site conditions)
Max Lift	Maximum liquid lift (indoor unit ABOVE outdoor unit only), at maximum permitted LL pressure drop: - Linear Length Less than 75 ft (23 m): Minimum 2.0°F subcooling entering TXV - Linear Length Greater than 75 ft (23m): Minimum 0.5°F subcooling entering
Base Unit Charge (lb)	Outdoor unit base refrigerant charge. Factory charged to this level.
Line Set Additional Charge required (lb)	Additional refrigerant charge based on line set length. To be charged by contractor & noted on outdoor unit.
Estimated Total System Charge (lb)	Estimated total required refrigerant charge
Notes	For applications with equivalent length greater than 150 ft (57 m) and/or linear length greater than 120 ft, contact American Chillers. *Follow all standard refrigeration practices for piping layout. For more details please see Installation and Maintenance Manual.

A2L Installation Requirements

R-454B, R454A and R32 are classified by **UL 60335-2-40** and **ASHRAE 34** as **mildly flammable A2L refrigerant**s. According to the UL standard, mitigation is required when the amount of refrigerant used indoors could lead to concentrations that exceed **25% of the Lower Flammability Limit (LFL)** in the event of a leak.

Mitigation can be handled in one of the following ways:

1. **Adequate Room Volume**: The mechanical room must be large enough (Amin) that a full refrigerant leak would not exceed the safety threshold. This option requires no fans or detection equipment, provided sufficient room volume.
2. M**echanical Ventilation:** If the space is not large enough, continuous mechanical ventilation to the outdoors can be used to safely dilute any potential refrigerant leaks. The ventilation system must meet minimum airflow levels (Qmin) based on the refrigerant charge.

In many states and local codes, a **Refrigerant Detection System (RDS)** is required, especially when ventilation is not continuous or when isolation valves are not used. American Chillers provides an integrated RDS that includes:

- A refrigerant sensor installed near the indoor evaporator
- A controller that automatically shuts down the compressor and closes the liquid line valve if refrigerant levels exceed a safe threshold
- A lockout feature that prevents restart until the refrigerant level returns to normal
- Field-replaceable components that can be serviced/tested without replacing full unit

Releasable Refrigerant Charge (lbs)	Minimum Area (ft^2) for an *Unventilated Space*			Minimum Air Flow (CFM) for a *Ventilated space**		
	R454B (ft^2)	R454A (ft^2)	R32 (ft^2)	R454B (CFM)	R454A (CFM)	R32 (CFM)
4	62	69	65	132	137	130
6	93	103	98	198	206	195
8	123	137	130	264	275	261
10	154	172	163	330	344	326
12	185	206	195	396	412	391
16	247	275	260	528	550	521
18	278	309	293	594	619	586
22	340	378	358	726	756	717
26	401	446	423	858	893	847
30	463	515	488	990	1031	977
35	540	601	570	1155	1203	1140
40	617	687	651	1320	1375	1303
45	694	773	732	1485	1546	1466
50	772	859	814	1650	1718	1629
55	849	944	895	1815	1890	1792