Split Titanium Cold Plunge Chiller

Standard Features

- U.L. Listed, EPA Compliant, Low GWP, R454B condensing units comply with latest codes
- Single refrigeration circuit with thermostat control and safeties
- Air cooled, high ambient, vertical discharge, condensers for 10°F to 100°F ambient
- 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).
- Weather proof electrical panel with single point power connection
- Control circuit with component sequenced terminal strip for easy troubleshooting
- One stage of compressor control
- Controller mounted on indoor unit includes electronic thermostat, On/Off switch and low water flow light
- Titanium coaxial heat exchanger(s) for salt water on commercial use
- Externally equalized thermal expansion valve(s) with liquid line solenoid valve, filter drier, sight glass
- Non ferrous water lines with FPT/UNION connections and insulated with 1/2” closed cell insulation
- Water flow safety switch, with red No Flow light, locks out compressors on low flow to evaporator
- Space saving slim stainless steel indoor unit
- Cabinet mounted pressure gauges
- A2L refrigerant leak detection sensor with corresponding compressor shut off
- Warranty: One (1) years limited parts, five (5) years limited compressor warranty
- Systems leak checked, pressure tested, and run tested prior to shipment

Options & Accessories

- Castors for portability
- Condenser coil coating for corrosion protection in coastal areas
- Other voltages and options available upon request
- Factory technician for startup, training & service

Indoor Heat Exchanger

Outdoor Condensing Unit

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1.5 – 7.5 Tons
SPPCTI-Split-R03 Series

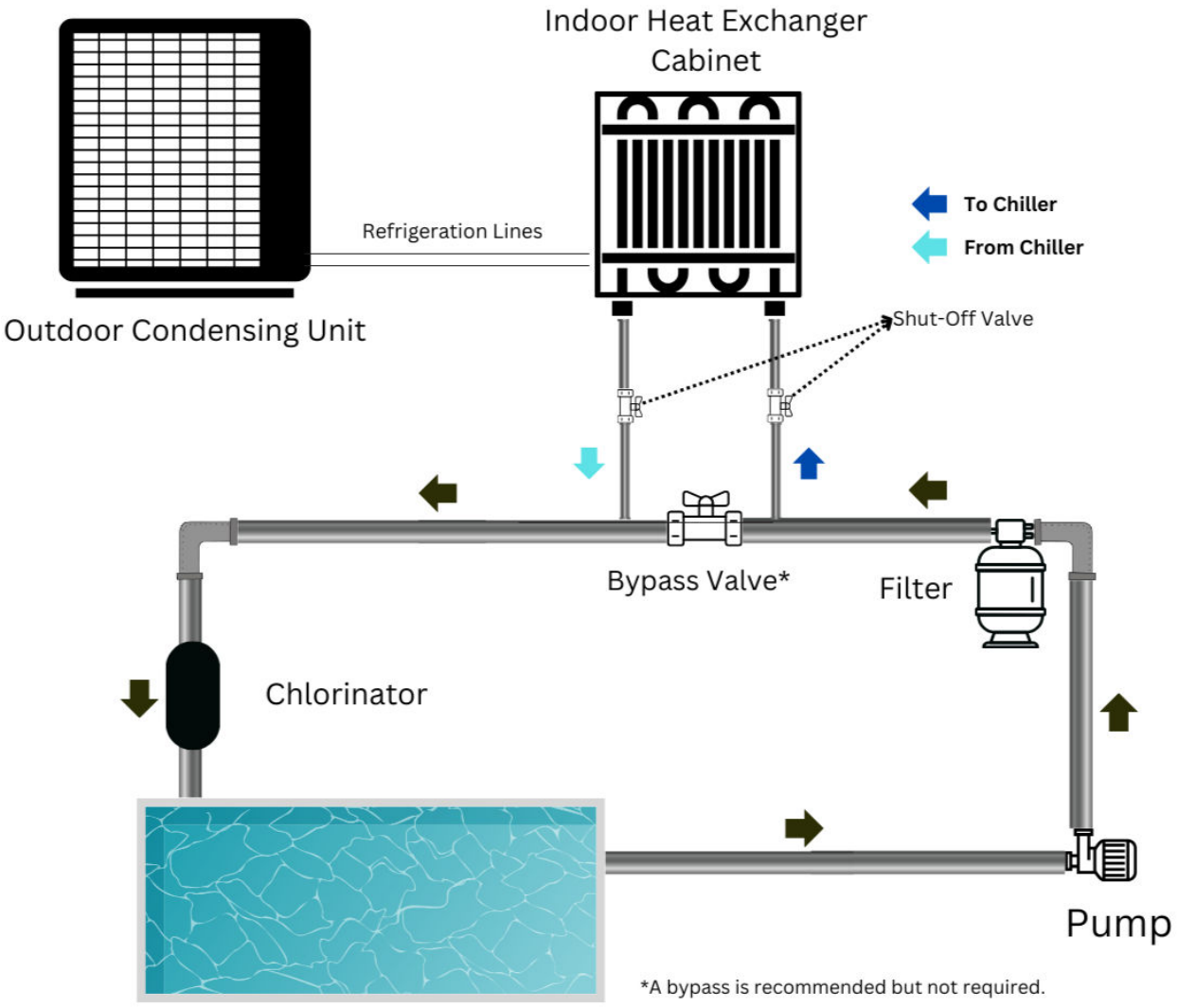
Plunge Pool Chiller Sizing Guide			
Pool Volume (Gallons)	**Chiller Capacity**	**Chiller H.P @ 50F LWT**	**Chiller H.P. @ 50F LWT**
100 to 300	1 Ton	1.0	1.5
300 to 450	1-1/2 Ton	1.5	2.0
450 to 650	2 Ton	2.0	2.5
650 to 950	3 Ton	3.0	3.5
950 to 1,200	4 Ton	4.0	5.0
1,200 to 1,500	5 Ton	5.0	6.0
1,500 to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

Typical Site Installation



SPPC TI-Split-R03 Series						
General Data						
Model (SPPC****TI-SPLIT-R03)		0151	0201	0301	0401	0501
Nominal Tons Cooling		1.5	2	3	4	5
Refrigerant		R454B	R454B	R454B	R454B	R454B
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)	8.3	12.7	13.5	22.4	23.7
	Locked Rotor Amps (LRA)	45	67	75	126	157
Fan Motor	Quantity	1	1	1	1	1
	Full Load Amps (FLA)	0.75	0.8	0.8	1	1
Total Circuit	Full Load Amps (FLA)	9.05	13.5	14.3	23.4	24.7
	Min Circuit Ampacity (MCA)	11.3	16.9	17.9	29.3	30.9
	Max Overcurr. Protect. (MOP)	15	25	30	50	50
Physical Data						
Outdoor Unit Size (in)	Length (L)	30	34	34	34	36
	Width (W)	30	34	34	34	36
	Height (H)	25	25	25	35	45
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 Unit (Operating)	123	145	195	236	266
	Indoor Unit (Operating)	155	165	175	180	185
	Total Ship	436	467	506	590	647
Air Clearance Required (in)	Sides	12*	12*	12*	12*	12*
	Service	24	24	24	24	24
	Top	60	60	60	60	60
Connection Sizes (in)	Water (TYPE)	1.5 FPT	1.5 FPT	2 UNION	2 UNION	2 UNION
	Refrig. Liquid Line OD	3/8	3/8	3/8	3/8	3/8
	Refrig. Suction Line OD	3/4	3/4	3/4	7/8	7/8
Water Flow Rate (GPM)	Max Flow	40	40	55	55	75
	Min Flow	20	20	25	25	50

*12" one side, 6" minimum other two sides, 24" on service side

- All specs are subject to change without notice
- An A2L Refrigerant is used. Abide by all local codes for A2L refrigerants for both the indoor and outdoor units*
- For split systems or indoor A2L chillers, continuous ventilation to the outside is typically required. If outside ventilation is not feasible, please see “A2L Installation Requirements” for the minimum room size specifications

SPPC TI-Split-R03 Series					
General Data					
Model (SPPC****TI-SPLIT-R03)		0303	0403	0503	0753
Nominal Tons Cooling		3	4	5	7.5
Refrigerant		R454B	R454B	R454B	R454B
Electrical Data					
Supply Power	Voltage	208-230	208-230	208-230	208-230
	Phase	3	3	3	3
	Frequency (Hz)	60	60	60	60
Compressor	Quantity	1	1	1	1
	Rated Load Amps (RLA)	9	12	16	26.6
	Locked Rotor Amps (LRA)	70	123	156.4	191
Fan Motor	Quantity	1	1	1	2
	Full Load Amps (FLA)	0.8	1	1	1.5
Total Circuit	Full Load Amps (FLA)	9.8	13	17	29.6
	Min Circuit Ampacity (MCA)	12.3	16.3	21.3	37.0
	Max Overcurr. Protect. (MOP)	20	25	35	60
Physical Data					
Outdoor Unit Size (in)	Length (L)	34	34	36	59.3
	Width (W)	34	34	36	46
	Height (H)	25	35	45	42.5
Indoor Unit Size (in)	Length (L)	30	30	30	30
	Width (W)	25	25	25	25
	Height (H)	34	34	44	44
Weight (lb)	Outdoor Unit (Operating)	195	236	266	555
	Indoor Unit (Operating)	175	180	185	200
	Total Ship	506	590	647	905
Air Clearance Required (in)	Sides	12*	12*	12*	39**
	Service	24	24	24	42
	Top	60	60	60	60
Connection Sizes (in)	Water (TYPE)	2 UNION	2 UNION	2 UNION	2 UNION
	Refrig. Liquid Line OD	3/8	3/8	3/8	1/2
	Refrig. Suction Line OD	3/4	7/8	7/8	1-1/8
Water Flow Rate (GPM)	Max Flow	55	50	75	75
	Min Flow	25	25	50	50

*12” one side, 6” minimum other two sides, 24” on service side
**39” one side, 18” minimum other two sides of coil

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SPPC TI-Split-R03 Series					
General Data					
Model (SPPC****TI-SPLIT-R03)		0304	0404	0504	0754
Nominal Tons Cooling		3	4	5	7.5
Refrigerant		R454B	R454B	R454B	R454B
Electrical Data					
Supply Power	Voltage	460	460	460	460
	Phase	3	3	3	3
	Frequency (Hz)	60	60	60	60
Compressor	Quantity	1	1	1	1
	Rated Load Amps (RLA)	9	6.3	7.1	11.6
	Locked Rotor Amps (LRA)	70	60	69	95
Fan Motor	Quantity	1	1	1	2
	Full Load Amps (FLA)	0.5	0.8	0.8	0.8
Total Circuit	Full Load Amps (FLA)	9.5	7.1	7.9	13.2
	Min Circuit Ampacity (MCA)	11.9	8.9	9.9	16.5
	Max Overcurr. Protect. (MOP)	20	15	15	25
Physical Data					
Outdoor Unit Size (in)	Length (L)	34	34	36	59-1/4
	Width (W)	34	34	36	46
	Height (H)	25	35	45	42-1/2
Indoor Unit Size (in)	Length (L)	30	30	30	30
	Width (W)	25	25	25	25
	Height (H)	34	34	44	44
Weight (lb)	Outdoor Unit (Operating)	195	236	266	555
	Indoor Unit (Operating)	175	180	185	200
	Total Ship	506	590	647	905
Air Clearance Required (in)	Sides	12*	12*	12*	39**
	Service	24	24	24	42
	Top	60	60	60	60
Connection Sizes (in)	Water (TYPE)	2 UNION	2 UNION	2 UNION	2 UNION
	Refrig. Liquid Line OD	3/8	3/8	3/8	1/2
	Refrig. Suction Line OD	3/4	7/8	7/8	1-1/8
Water Flow Rate (GPM)	Max Flow	55	55	75	75
	Min Flow	25	25	50	50

*12" one side, 6" minimum other two sides, 24" on service side
**39" one side, 18" minimum other two sides of coil

- All specs are subject to change without notice
- An A2L Refrigerant is used. Abide by all local codes for A2L refrigerants for both the indoor and outdoor units*
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Recommended Refrigerant Line Sizing Chart R454B (RH Series)

Single Stage Models	Equivalent Length (ft)	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'
015	Liquid Line (in - OD)	3/8	3/8	3/8	3/8	3/8	3/8
	Max lift (ft)	25	50	75	100	117	115
	Suction Line (in - OD)	3/4	3/4	3/4	3/4	3/4	3/4
	Base Unit Charge (lb)	6.1	6.1	6.1	6.1	6.1	6.1
	Line Set Additional Charge required (lb)	0.2	0.9	1.7	2.4	3.2	3.9
	Estimated Total System Charge (lb)	6.3	7.0	7.8	8.5	9.3	10.0
020	Liquid Line (in - OD)	3/8	3/8	3/8	3/8	3/8	3/8
	Max lift (ft)	25	50	75	100	109	106
	Suction Line (in - OD)	3/4	3/4	3/4	3/4	3/4	3/4
	Base Unit Charge (lb)	7.0	7.0	7.0	7.0	7.0	7.0
	Line Set Additional Charge required (lb)	0.2	0.9	1.7	2.4	3.2	3.9
	Estimated Total System Charge (lb)	7.2	7.9	8.7	9.4	10.2	10.9
030	Liquid Line (in - OD)	3/8	3/8	3/8	3/8	3/8	3/8
	Max lift (ft)	25	50	75	97	91	85
	Suction Line (in - OD)	7/8	7/8	7/8	7/8	7/8	7/8
	Base Unit Charge (lb)	7.3	7.3	7.3	7.3	7.3	7.3
	Line Set Additional Charge required (lb)	0.2	0.9	1.7	2.4	3.2	3.9
	Estimated Total System Charge (lb)	7.4	8.2	8.9	9.7	10.4	11.2
040	Liquid Line (in - OD)	3/8	3/8	3/8	3/8	3/8	3/8
	Max lift (ft)	25	50	75	78	68	57
	Suction Line (in - OD)	7/8	7/8	7/8	7/8	7/8	7/8
	Base Unit Charge (lb)	8.9	8.9	8.9	8.9	8.9	8.9
	Line Set Additional Charge required (lb)	0.2	0.9	1.7	2.4	3.2	3.9
	Estimated Total System Charge (lb)	9.1	9.8	10.6	11.3	12.1	12.8
050	Liquid Line (in - OD)	3/8	3/8	3/8	3/8	3/8	3/8
	Max lift (ft)	25	50	70	54	38	22
	Suction Line (in - OD)	7/8	7/8	7/8	7/8	7/8	7/8
	Base Unit Charge (lb)	12.0	12.0	12.0	12.0	12.0	12.0
	Line Set Additional Charge required (lb)	0.2	0.9	1.7	2.4	3.2	3.9
	Estimated Total System Charge (lb)	12.2	12.9	13.7	14.4	15.2	15.9

Recommended Refrigerant Line Sizing Chart R454B (CA Series)

Model	Equivalent Length (ft)	0-37'	38-74'	75-112'	113-149'	150-187'
	Estimated Linear Length (ft)	0-25'	26-50'	51-75'	76-100'	101-125'
075	Liquid Line (in - OD)	1/2	1/2	1/2	1/2	1/2
	Max lift (ft)	25	50	62	59	66
	Suction Line (in - OD)	1-1/8	1-1/8	1-1/8	1-1/8	1-3/8
	Base Unit Charge (lb)	15.5	15.5	15.5	15.5	15.5
	Line Set Additional Charge required (lb)	0.0	1.7	3.4	5.2	7.5
	Estimated Total System Charge (lb)	15.5	17.2	18.9	20.7	23.0

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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. **Mechanical 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 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 or tested without replacing the full unit

American Chillers has supported thousands of contractors across the U.S. and Canada over the past 20 years with technical guidance on cold plunge chiller installations. Our engineers and technicians provide expert support from site planning through long-term operation. While contractors are responsible for local code compliance and approvals, we're a reliable resource for interpreting A2L requirements and supporting safe system integration.

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

*Ventilated space as per UL 60335 is either open to outside air or has adequate mechanical / forced ventilation.

- ***Refrigerant charge*** = Total releasable charge in system into indoor environment
- ***Ceiling Height*** = Assumed height of room of 8'
- ***Amin*** = Minimum square footage in a room where refrigerant lines or indoor HX assembly are installed. This minimum square footage is designed so that the full refrigerant charge could be released but still stay below the 25% lower flammability limit (LFL) set by UL-60335-2-40.