



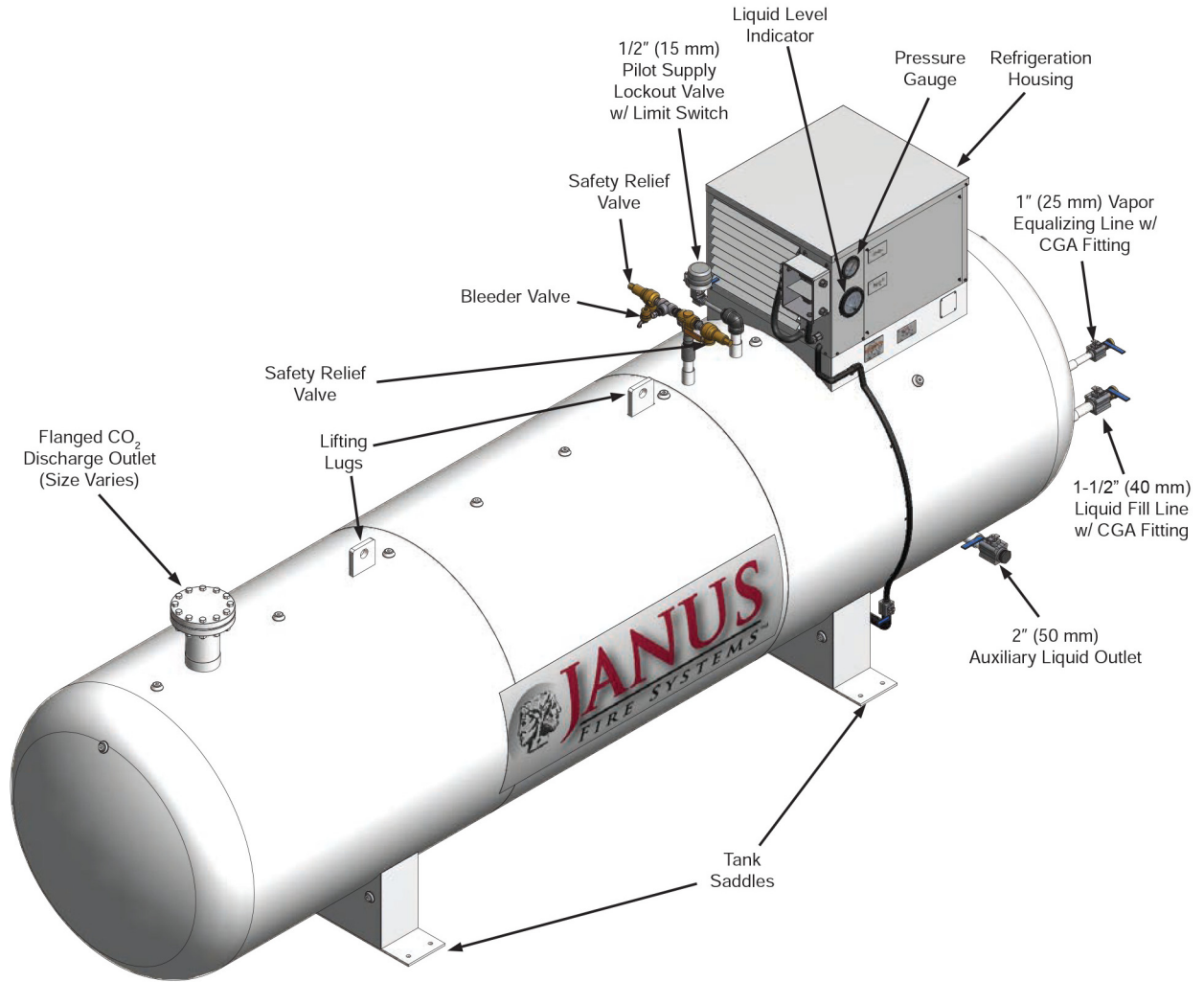
LPCO₂ SYSTEM

REFRIGERATED STORAGE UNITS

Janus Fire Systems® Low Pressure Carbon Dioxide Refrigerated Storage Units are specifically designed to store the carbon dioxide agent supply utilized in the Janus Fire Systems® Low Pressure Carbon Dioxide Fire Extinguishing System. Each storage unit consists of an insulated pressure vessel, outer shell, integrated refrigeration unit, ASME safety relief and bleeder valve(s), and liquid level and pressure gauges. Each unit has appropriately sized piping outlets for filling, discharge of CO₂, and connection of the extinguishing system vapor supply. Janus Fire Systems® Low Pressure Carbon Dioxide Refrigerated Storage Units have capacities that range from 1.25 to 38 tons and are available in horizontal and vertical orientations.

FEATURES

The pressure vessel is built in accordance with Section VIII, Division 1 of the ASME Code for Unfired Pressure Vessels. A 4 in (102 mm) layer of polyurethane acts as insulation between the vessel and the painted steel (14-gauge) outer housing.



Typical Low Pressure Carbon Dioxide Storage Unit

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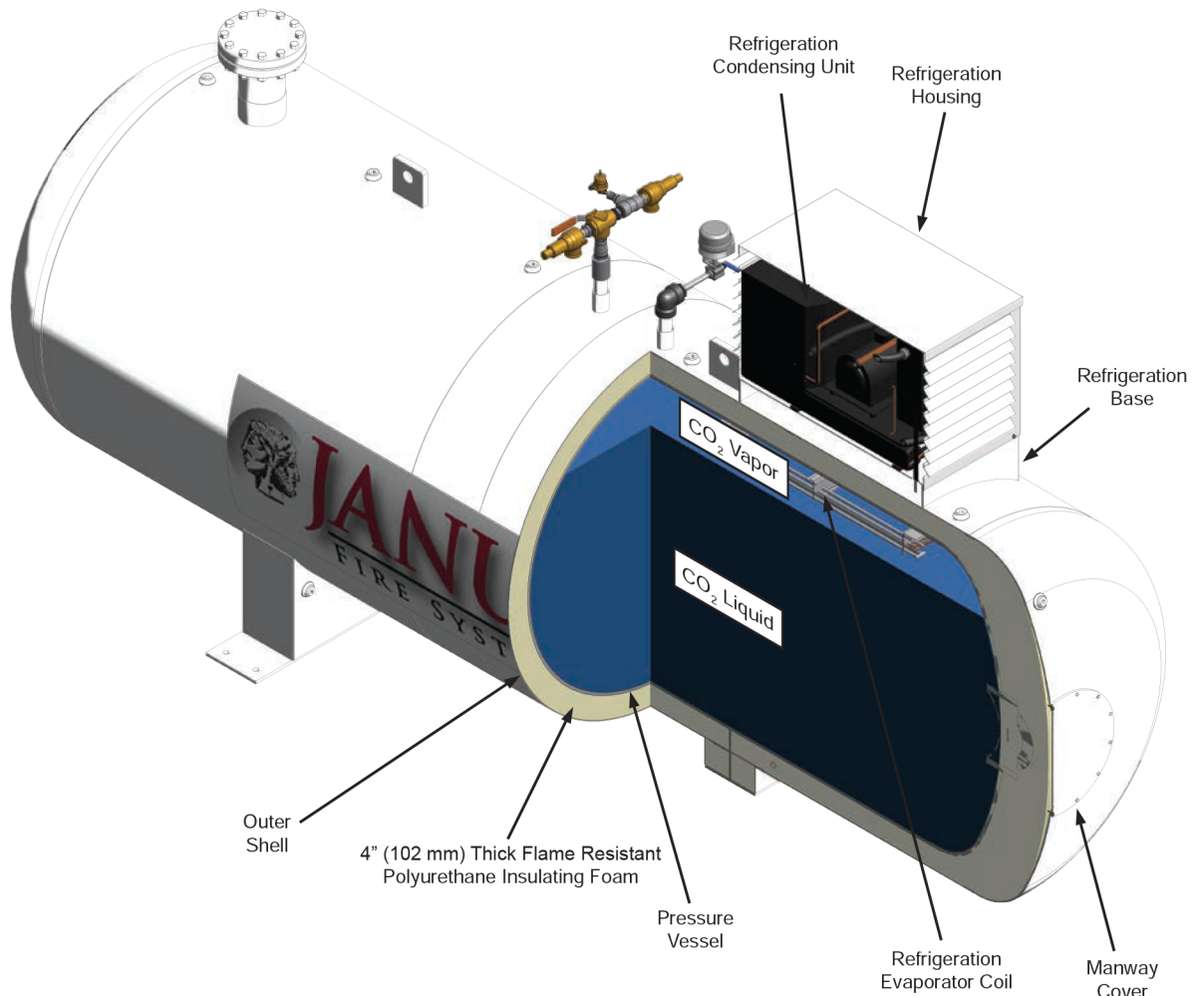


The vessel has an integrated refrigeration system that utilizes CFC-free R-404A refrigerant. A pressure switch monitors the internal pressure of the vessel and controls the refrigeration compressor. The optimal internal pressure is 300 psi (20.7 bar). The refrigeration coils are located in the pressure vessel vapor space to provide the required cooling of the CO₂ vapor. When the CO₂ pressure within the vessel reaches approximately 310 psi (21.4 bar), the pressure switch closes starting the compressor. It continues running, cooling the CO₂ until pressure within the vessel drops to 295 psi (20.3 bar) at which point the pressure switch opens and the compressor stops operating. An optional external tank heater is available to maintain CO₂ pressure in severe low temperatures and is recommended where temperatures are below -10°F (-23.3°C) for seven (7) consecutive days.

Each storage unit is fitted with pressure and liquid level gauges. In the event of power failure, a bleeder valve set at 341 psi (23.5 bar) allows a small amount of vaporous CO₂ to bleed out of the vapor space providing natural cooling of the liquid CO₂ within the vessel. An ASME VIII approved safety valve provides emergency pressure relief should the bleeder valve be unable to maintain the CO₂ pressure and is set to open at 357 psi (24.6 bar).

The standard voltage for 42" storage units is 120V, 1 phase, 60 Hz, while the 54", 78", and vertical storage units are 460V, 3 phase, 60 Hz. Alternative voltage refrigeration systems are available.

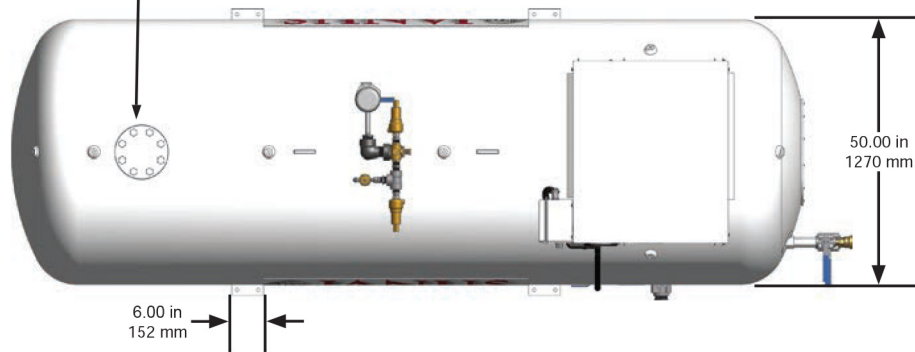
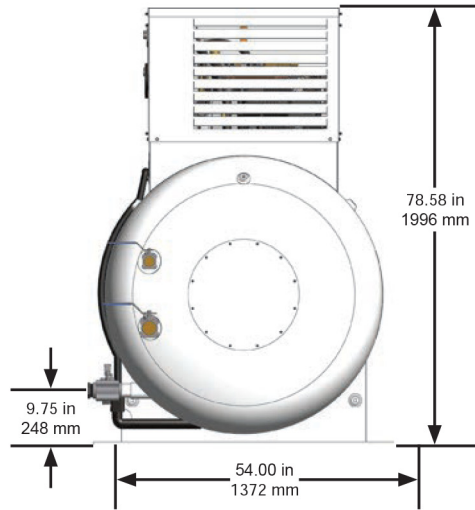
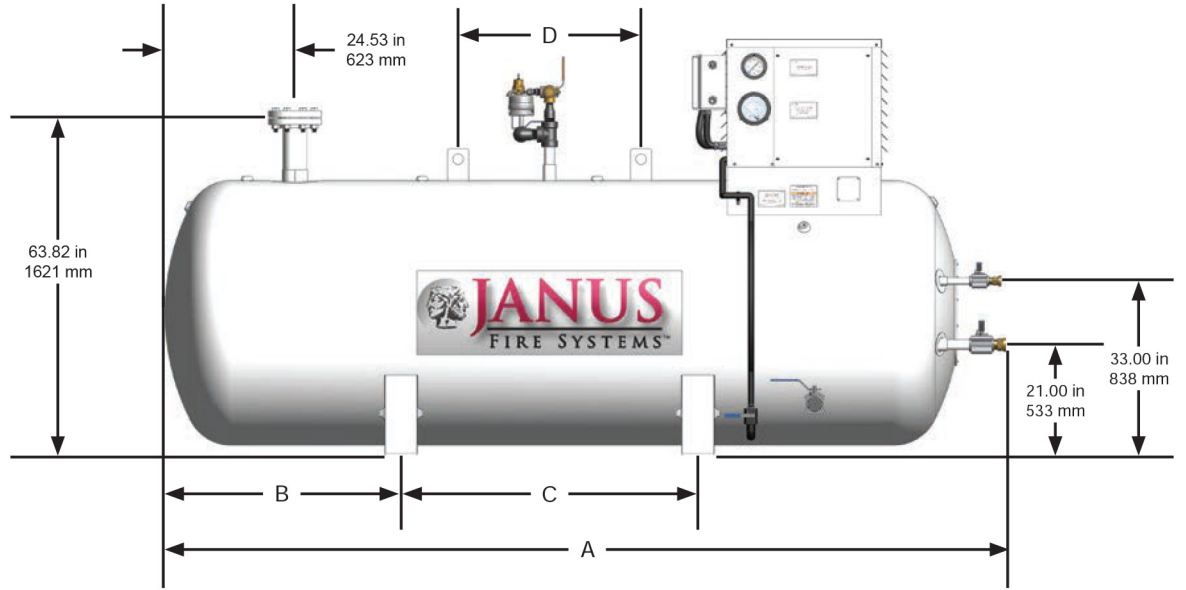
Optional dual refrigeration units are available. Each refrigeration unit for this option is designed to operate as a standalone system with individual refrigeration compressors, controls, and coils. The refrigeration controls operate both refrigeration units independently to enable the units to cycle separately. The refrigeration system has a separate pressure control switch set at approximately 315 psi (21.7 bar) rise to operate both units simultaneously should a high ambient condition require additional cooling capacity.



Typical Low Pressure Carbon Dioxide Storage Unit Interior View

42" LPCO₂ Storage Unit

JANUS
FIRE SYSTEMS®



Nominal Tank Capacity	P/N	Dimensions								Empty Weight	
		A		B		C		D		lb	kg
		in	mm	in	mm	in	mm	in	mm		
1.25 ton	19354	85.0	2159	17.5	445	36.0	914	N/A ¹	N/A ¹	3025	1372
2.75 ton	19355	158.7	4030	44.5	1131	56.0	1422	34.5	876	4950	2245

¹ 1.25-Ton Storage Unit does not have lifting lugs.



54" LPCO₂ Storage Unit

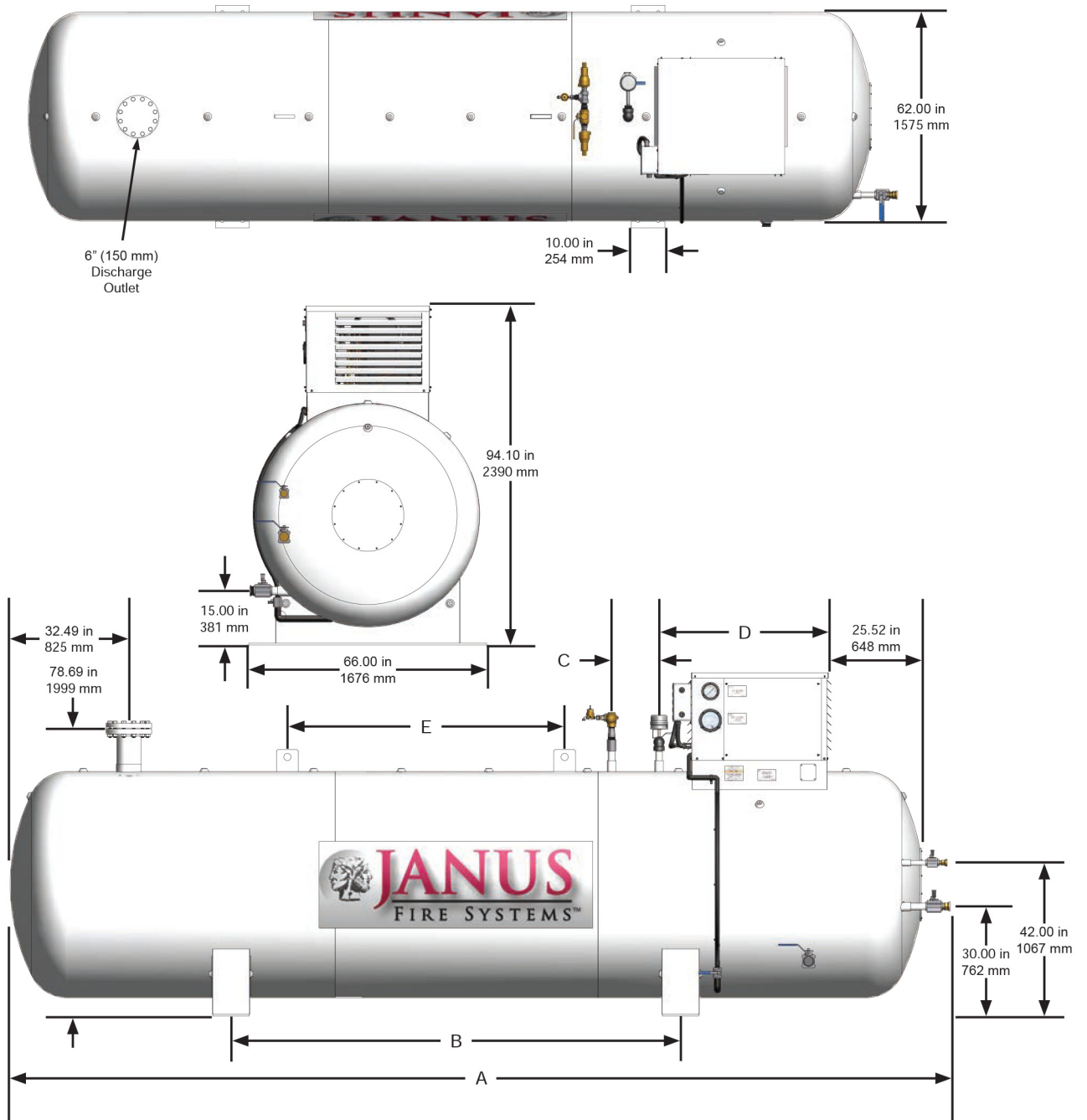
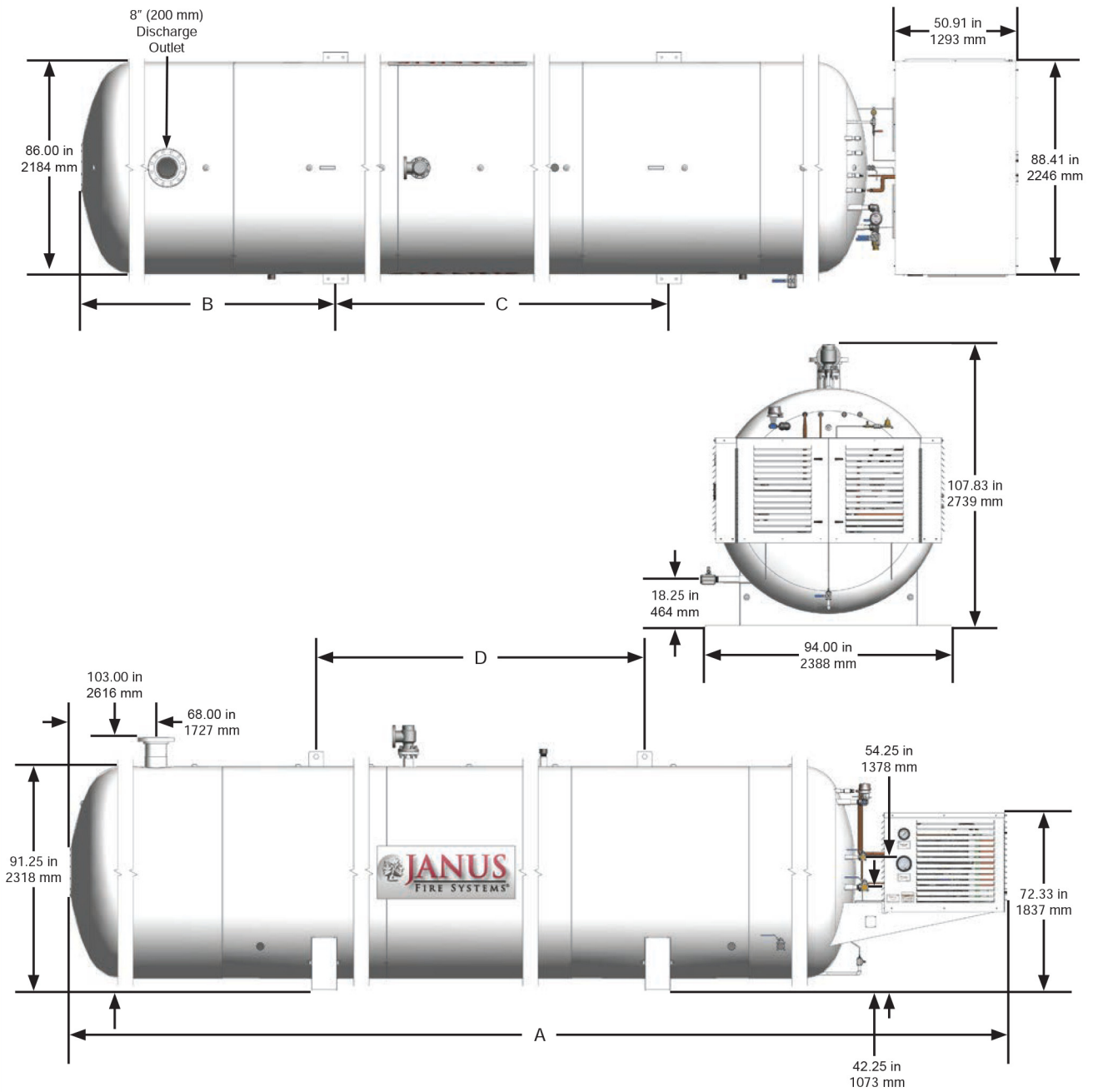


Figure 2.1 Storage Unit Dimensions

Nominal Tank Capacity	P/N	Dimensions										Empty Weight	
		A		B		C		D		E		lb	kg
		in	mm	in	mm	in	mm	in	mm	in	mm		
4 ton	19356	146.2	3714	60.0	1524	8.0	203	51.5	1308	24.0	610	7250	3289
6 ton	19357	200.9	5103	69.5	1765	13.0	330	54.5	1384	63.5	1613	9000	4082
8 ton	19358	258.0	6554	123.3	3131	13.0	330	46.4	1179	76.0	1930	10750	4876
10 ton	19359	309.2	7852	156.3	3969	13.0	330	46.3	1176	116.5	2959	12500	5670
12 ton	19360	370.0	9397	221.8	5635	36.0	915	95.0	2413	178.1	4523	14000	6350



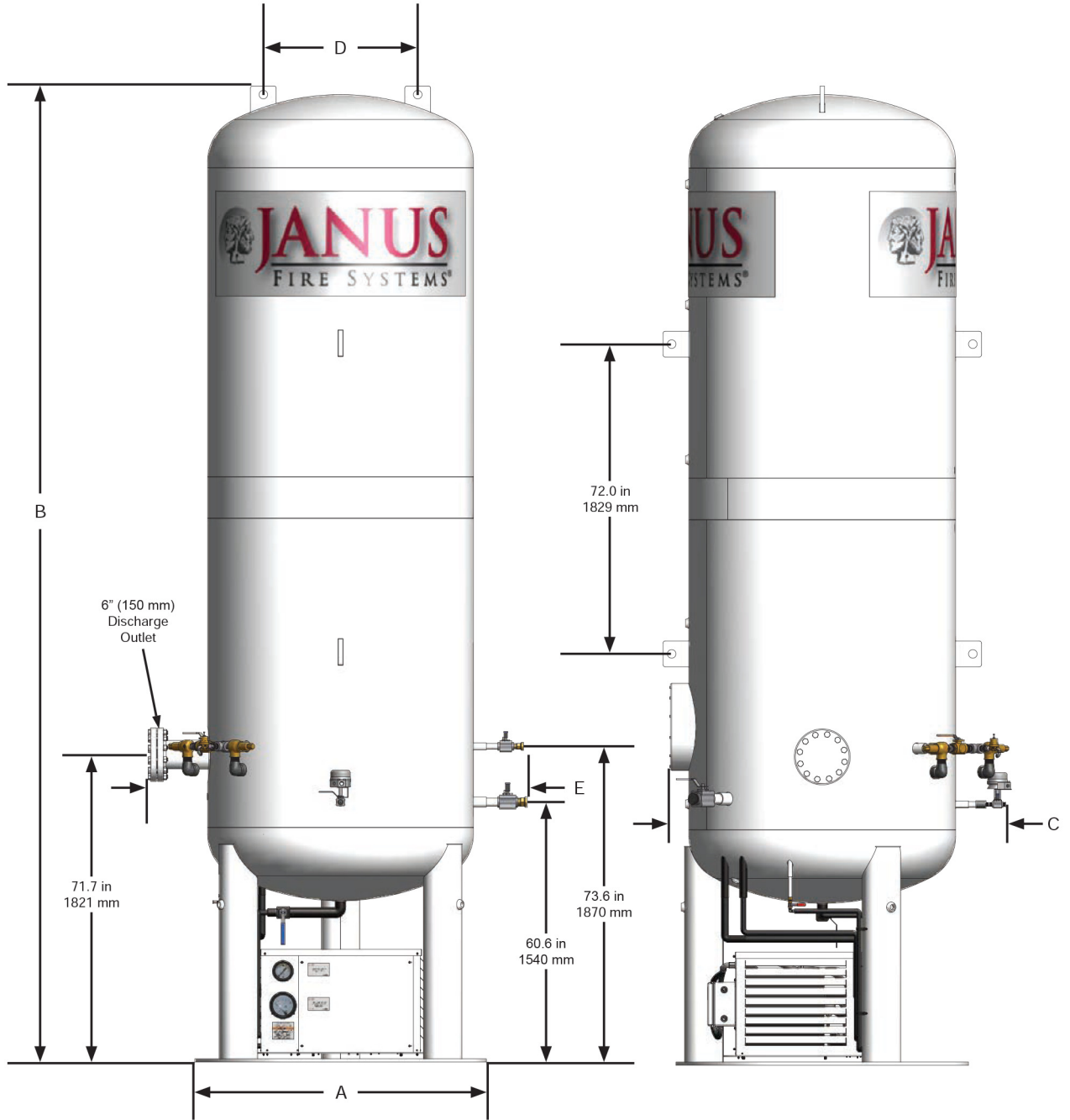
78" LPCO₂ Storage Unit



Nominal Tank Capacity	P/N	Dimensions								Empty Weight	
		A		B		C		D		lb	kg
		in	mm	in	mm	in	mm	in	mm		
17 ton	19361	312.88	7947	63.05	1602	125.00	3175	123.00	3124	20000	9072
24 ton	19362	402.91	10234	95.04	2414	151.00	3835	149.00	3785	26800	12156
31 ton	19363	495.88	12595	117.05	2973	200.00	5080	198.00	5029	33650	15263
38 ton	19364	584.50	14846	136.37	3464	254.00	6452	252.00	6401	40500	18370



Vertical LPCO₂ Storage Unit

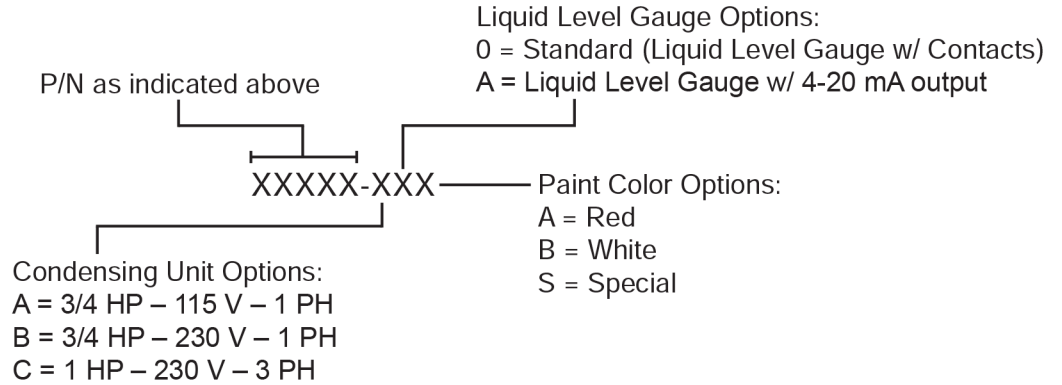


Nominal Tank Capacity	P/N	Dimensions										Empty Weight	
		A		B		C		D		E		lb	kg
		in	mm	in	mm	in	mm	in	mm	in	mm		
6 ton	19366	68.0	1727	227.6	5782	81.0	2057	36.0	914	88.4	2245	10000	4536
14 ton	19367	92.0	2337	238.4	6056	105.0	2667	60.0	1524	112.4	2855	16000	7257
30 ton	19368	92.0	2337	428.1	10874	105.0	2667	60.0	1524	112.4	2855	30500	13835



Ordering Information (42" Low Pressure Carbon Dioxide Storage Units)		
P/N	Tank Size	Description (see below for options)
19354	1.25 ton	Storage Unit, LPCO ₂ , 42"
19355	2.75 ton	Storage Unit, LPCO ₂ , 42"

Ordering Instructions: Specify the LPCO₂ Storage Unit P/N followed by a dash and the appropriate three digit option code as illustrated below.



Note:

All condensing units operate at both 50Hz and 60Hz. However, operating at 50Hz reduces the refrigeration capacity to 83%

Examples:

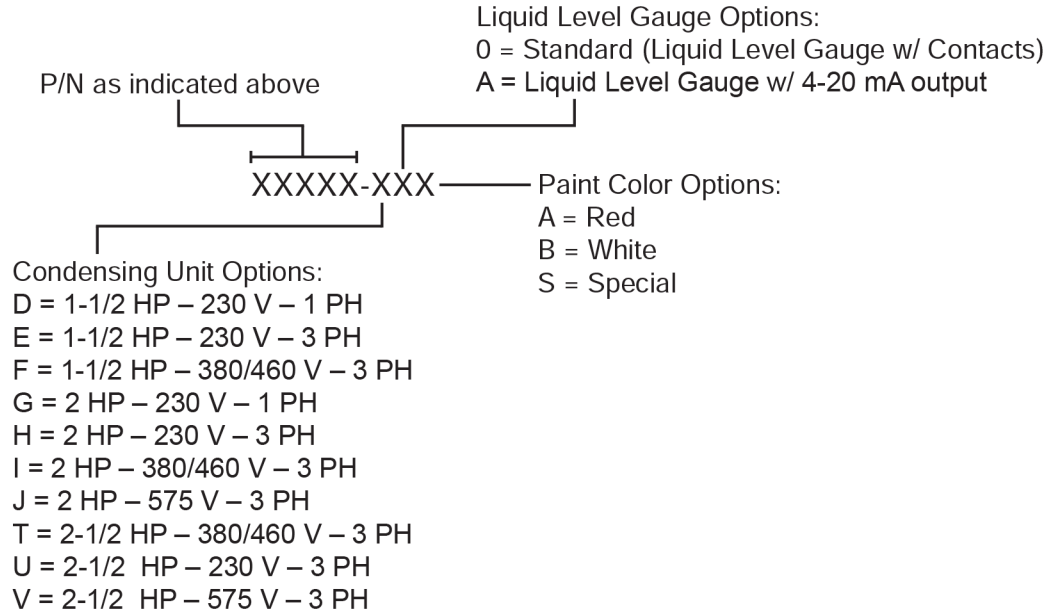
19354-C0B – Storage Unit, LPCO₂, 42", 1.25 ton, 230 V, 3 PH, 1 HP, Standard LLG, White

19355-AAB – Storage Unit, LPCO₂, 42", 1.25 ton, 115 V, 1 PH, 3/4 HP, LLG w/ 4-20 mA output, White



Ordering Information (54" Low Pressure Carbon Dioxide Storage Units)		
P/N	Tank Size	Description (see below for options)
19356	4 ton	Storage Unit, LPCO ₂ , 54"
19357	6 ton	Storage Unit, LPCO ₂ , 54"
19358	8 ton	Storage Unit, LPCO ₂ , 54"
19359	10 ton	Storage Unit, LPCO ₂ , 54"
19360	12 ton	Storage Unit, LPCO ₂ , 54"

Ordering Instructions: Specify the LPCO₂ Storage Unit P/N followed by a dash and the appropriate three digit option code as illustrated below.



Notes:

1-1/2 Horse Power Condensing Units are standard for 4 and 6-Ton Storage Units.

2 Horse Power Condensing Units are standard for 8 and 10-Ton Storage Units.

2-1/2 Horse Power Condensing Units are standard for 12-Ton Storage Units.

All condensing units operate at both 50Hz and 60Hz. However, operating at 50Hz reduces the refrigeration capacity to 83%

Examples:

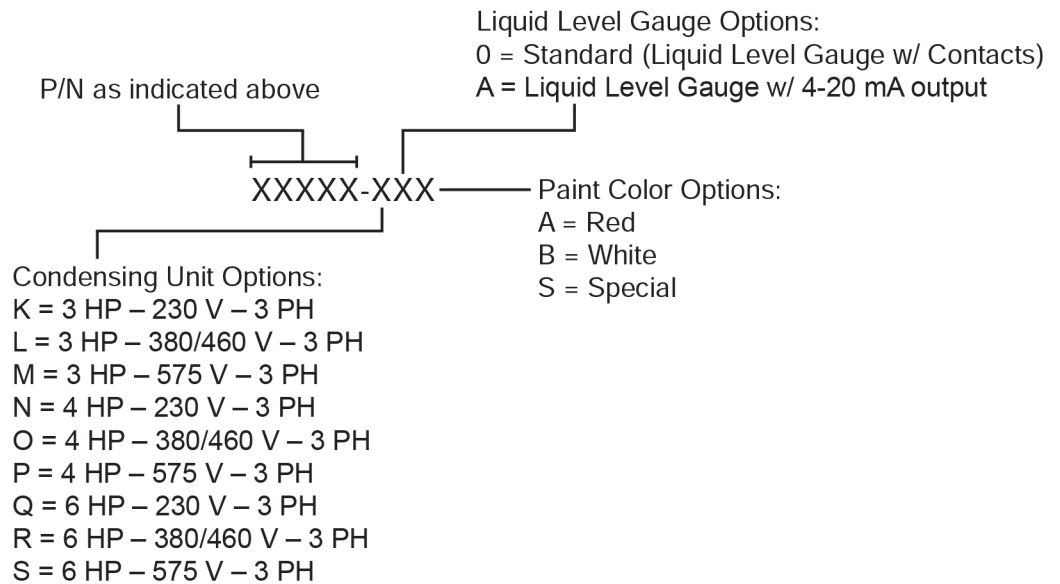
19357-D0B – Storage Unit, LPCO₂, 54", 6 ton, 230 V, 1 PH, 1-1/2 HP, Standard LLG, White

19358-JAB – Storage Unit, LPCO₂, 54", 8 ton, 575 V, 3 PH, 2 HP, LLG w/ 4-20 mA output, White



Ordering Information (78" Low Pressure Carbon Dioxide Storage Units)		
P/N	Tank Size	Description (see below for options)
19361	17 ton	Storage Unit, LPCO ₂ , 78"
19362	24 ton	Storage Unit, LPCO ₂ , 78"
19363	31 ton	Storage Unit, LPCO ₂ , 78"
19364	38 ton	Storage Unit, LPCO ₂ , 78"

Ordering Instructions: Specify the LPCO₂ Storage Unit P/N followed by a dash and the appropriate three digit option code as illustrated below.



Notes:

3 Horse Power Condensing Units are standard for 17 and 24-Ton Storage Units.
 4 Horse Power Condensing Units are standard for 31 and 38-Ton Storage Units.
 All condensing units operate at both 50Hz and 60Hz. However, operating at 50Hz reduces the refrigeration capacity to 83%

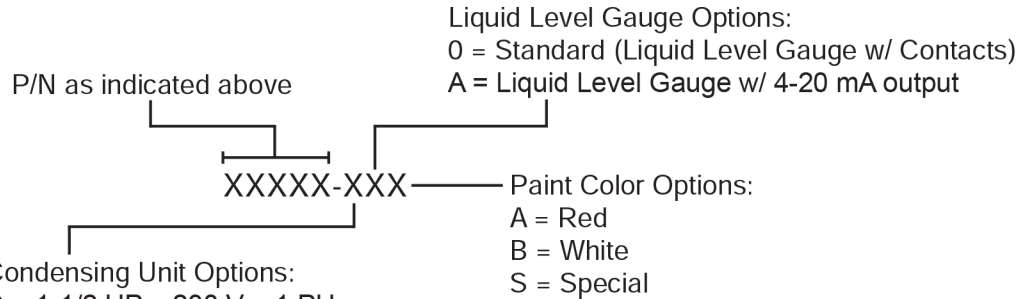
Examples:

19361-K0B – Storage Unit, LPCO₂, 78", 17 ton, 230 V, 3 PH, 3 HP, Standard LLG, White
 19364-OAB – Storage Unit, LPCO₂, 78", 28 ton, 575 V, 3 PH, 4 HP, LLG w/ 4-20 mA output, White



Ordering Information (Vertical Low Pressure Carbon Dioxide Storage Units)		
P/N	Tank Size	Description (see below for options)
19366	6 ton	Storage Unit, LPCO2, Vertical
19367	14 ton	Storage Unit, LPCO2, Vertical
19368	30 ton	Storage Unit, LPCO2, Vertical

Ordering Instructions: Specify the LPCO₂ Storage Unit P/N followed by a dash and the appropriate three digit option code as illustrated below.



- Condensing Unit Options:
- D = 1-1/2 HP – 230 V – 1 PH
 - E = 1-1/2 HP – 230 V – 3 PH
 - F = 1-1/2 HP – 380/460 V – 3 PH
 - G = 2 HP – 230 V – 1 PH
 - H = 2 HP – 230 V – 3 PH
 - I = 2 HP – 380/460 V – 3 PH
 - J = 2 HP – 575 V – 3 PH
 - K = 3 HP – 230 V – 3 PH
 - L = 3 HP – 380/460 V – 3 PH
 - M = 3 HP – 575 V – 3 PH
 - N = 4 HP – 230 V – 3 PH
 - O = 4 HP – 380/460 V – 3 PH
 - P = 4 HP – 575 V – 3 PH
 - Q = 6 HP – 230 V – 3 PH
 - R = 6 HP – 380/460 V – 3 PH
 - S = 6 HP – 575 V – 3 PH

Notes:

1-1/2 Horse Power Condensing Units are standard for 6-Ton Storage Units.
 3 Horse Power Condensing Units are standard for 14-Ton Storage Units.
 4 Horse Power Condensing Units are standard for 30-Ton Storage Units.
 All condensing units operate at both 50Hz and 60Hz. However, operating at 50Hz reduces the refrigeration capacity to 83%

Example:

19366-D0B – Storage Unit, LPCO2, Vert, 6 ton, 230 V, 1 PH, 1-1/2 HP, Standard LLG, White

The seller makes no warranties, express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose, except as expressly stated in the seller's sales contract or sales acknowledgment form. Every attempt is made to keep our product information up-to-date and accurate. All specific applications cannot be covered, nor can all requirements be anticipated. All specifications are subject to change without notice.

