

Portable Storage and Transport Dewars



CL/CLPB Series, CH Series,
CFN/CFL Series



CRYOFAB



CL/CLPB Series

Cryofab's CL series portable liquid cylinders are intended for low-pressure transport and storage of liquid nitrogen, oxygen or argon. The operating premise is for conventional straight liquid dispensing only. The product line size range is from 25 liters to 500 liters. We have, on occasion, fabricated larger capacities. With casters mounted to every model, this unit is ready to roll when you receive it. It's user-friendly design is simple and rugged in construction. Mobility and a variety of sizes make it ideal for inter-lab or plant use.

Included on all standard vessels are a liquid fill/withdrawal valve, vent valve with a full tricock to prevent overfilling, pressure gauge and appropriate relief devices. A feature setting the CL series apart from others is the differential pressure-type liquid level gauge. It's easy to read and reliable.



CL/CLPB 15



CL/CLPB 500

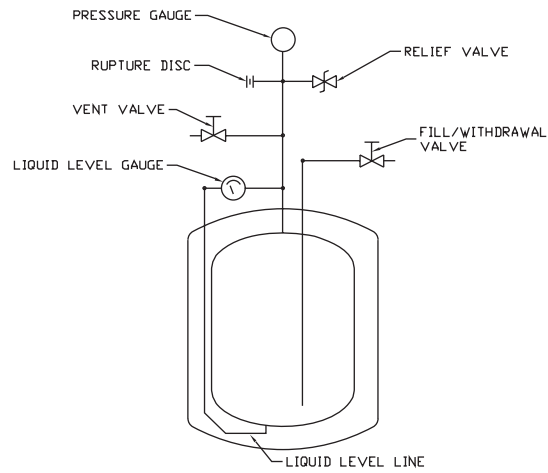
	CL/CLPB 25		CL/CLPB 50		CL/CLPB 80	
Net Capacity	25 liters		50 liters		80 liters	
Gross Capacity	28 liters		55 liters		88 liters	
Outside Diameter	406.4 mm	16 inches	457.2 mm	18 inches	508 mm	20 inches
Height	812.8 mm	32 inches	914.4 mm	36 inches	1092.2 mm	43 inches
Weight (Empty)	28.2 kg	62 lbs	39.5 kg	87 lbs	54.1 kg	119 lbs
Weight (Full)						
LN ₂	51.4 kg	113 lbs	87.2 kg	182 lbs	122.7 kg	270 lbs
LOX	59.5 kg	131 lbs	99.5 kg	219 lbs	149.5 kg	329 lbs
LARG	65 kg	143 lbs	110.5 kg	243 lbs	166.8 kg	367 lbs
N.E.R	1.5 lt/day		1.5 lt/day		1.9 lt/day	
Design Pressure M.A.W.P.	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG
Regulator setting	20* PSIG		20* PSIG		20* PSIG	
Relief valve setting	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG
Secondary relief	345 kPa	50 PSIG	690 kPa	100 PSIG	690 kPa	100 PSIG
Caster size	76.2 mm	3 inches	76.2 mm	3 inches	101.6 mm	4 inches
Level gauge	No		Yes		Yes	
Liquid Fitting	CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare	
Vent Fitting	3/8 NPT		3/8 NPT		3/8 NPT	

*Regulator setting of 20 only applies to CLPB series.

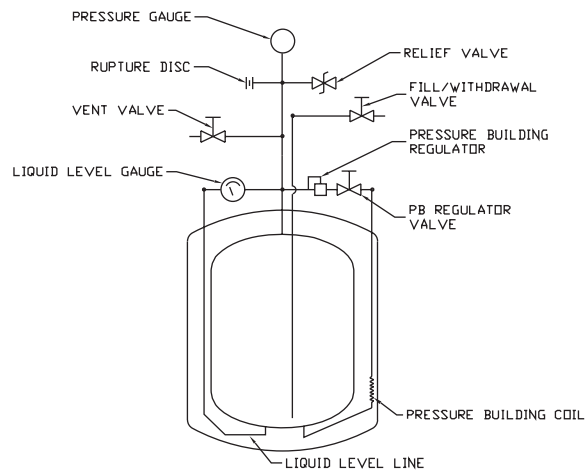
The CLPB series adds a unique option; a self-pressurizing system. Self-pressurizing dewars provide the ultimate in convenience and transfer efficiency. With the turn of a knob, pressure can be maintained for the duration of a transfer, especially if it is a large volume of liquid. This feature is self-contained and completely eliminates the need for any external pressurization attachments and equipment. Each container is equipped with an adjustable regulator to maintain any required pressure from 7 to 25 PSIG.

Keeping with the theme of meeting customer requirements, Cryofab offers some additional options even to this standard product line.

- Top vertical withdrawal
- Gravity feed ports
- Dedicated solenoid ports
- Outboard casters
- Locking casters
- Separate fill or withdrawal valves
- Removable manifold
- Electric heaters
- Ability to customize manifold for integration with instrumentation
- DOT 4L certification
- ASME certified



CL



CL-PB

CL/CLPB 110		CL/CLPB 160		CL/CLPB 240		CL/CLPB 500	
110 liters		160 liters		240 liters		500 liters	
121 liters		176 liters		248 liters		550 liters	
508 mm	20 inches	558.8 mm	22 inches	1600.2 mm	24 inches	812.8 mm	32 inches
1295.4 mm	51 inches	1422.4 mm	56 inches	1498.6 mm	63 inches	1828.8 mm	72 inches
80.5 kg	177 lbs	86.8 kg	191 lbs	115.5 kg	254 lbs	303.6 kg	668 lbs
171.4 kg	377 lbs	218.2 kg	480 lbs	311.8 kg	686 lbs	755.7 kg	1666 lbs
208.2 kg	458 lbs	271.8 kg	598 lbs	391.8 kg	862 lbs	879.5 kg	1935 lbs
232.3 kg	511 lbs	306.8 kg	675 lbs	444.5 kg	978 lbs	989.1 kg	2176 lbs
2 lt/day		2.2 lt/day		2.8 lt/day		5 lt/day	
172.5 kPa 25 PSIG		172.5 kPa 25 PSIG		172.5 kPa 25 PSIG		172.5 kPa 25 PSIG	
20* PSIG		20* PSIG		20* PSIG		20* PSIG	
151.8 kPa 22 PSIG		151.8 kPa 22 PSIG		151.8 kPa 22 PSIG		151.8 kPa 22 PSIG	
690 kPa 100 PSIG		690 kPa 100 PSIG		690 kPa 100 PSIG		690 kPa 100 PSIG	
101.6 mm 4 inches		101.6 mm 4 inches		101.6 mm 4 inches		127 mm 5 inches	
Yes		Yes		Yes		Yes	
CGA 295 1/2" 45° Male Flare 3/8 NPT		CGA 295 1/2" 45° Male Flare 3/8 NPT		CGA 295 1/2" 45° Male Flare 3/8 NPT		CGA 295 1/2" 45° Male Flare 3/8 NPT	

CL/CLPB Series - Optional Equipment



Top Vertical Withdrawal



Gravity Feed Port



Removable Manifold



Additional Fill or Withdrawal Port



Dedicated Solenoid Port



Outboard Wheel Casters



Wing Nut
Locking Casters



Pedal
Locking Casters



Electric Pressure Builder

CFN/CFL Series

The absolute back-to-basics container without bells and whistles is a throwback to the days of simple fabrication and uncomplicated operation. Assembled using all steel materials, this container is a double-walled, vacuum insulated dewar. The design criteria for this product line is to supply a robust container for transportation and atmospheric storage of liquefied gases in smaller capacities. Sizes range from 25 liters to 200 liters.



CFN 50



CFN/CFL Series



CFN Model

A narrow neck opening helps to keep the loss rates to a minimum. The top neck termination is a KF flange for discharge device attachment for liquid disbursement. This container is not meant for long hold time storage but as an alternative to liquid supply in a lab or plant operation. Equipped with a discharge device and casters, liquid cryogenics can be available on demand. Two stainless steel handles are welded to the top head for convenience and a dust cap is supplied for neck protection.



CFL Model

The CFL is a mirror image of the CFN with the added option of an increased neck diameter. The standard neck opening is 1.5" o.d. with a KF flange for discharge device attachment. The neck diameter for this model can be increased up to 8" for non-standard requirements. Common uses for this model are dipping and experimentation without the need to transfer liquids.

CFN Series – Optional Equipment



CMC Discharge Device

Simple in configuration, the standard device consists of a withdrawal valve, vent valve, pressure gauge and relief device. Attachment is with a flange assembly and clamp.



Flanged Neck Termination

Custom machined for experiments and application integration.



Outboard Casters

A removable dolly or welded casters can be supplied for ease of movement and portability.



Larger Necks

Allow for devices and experiments to be done inside the container without the need of liquid transfer.

	CFN/CFL 25		CFN/CFL 50		CFN/CFL 100		CFN/CFL 200	
Net Capacity	25 liters		50 liters		100 liters		200 liters	
Gross Capacity	28 liters		55 liters		110 liters		220 liters	
Outer Diameter	406.4 mm	16 inches	457.2 mm	18 inches	508 mm	20 inches	609.6 mm	24 inches
Height	711.2 mm	28 inches	838.2 mm	33 inches	1092.2 mm	43 inches	1219.2 mm	48 inches
Neck Dia. CFN	19.05 mm	3/4 inches	19.05 mm	3/4 inches	25.4 mm	1 inches	25.4 mm	1 inches
Neck Dia. CFL	38.1 mm	1 1/2 inches	38.1 mm	1 1/2 inches	38.1 mm	1 1/2 inches	38.1 mm	1 1/2 inches
Weight (Empty)	16.36 kg	36 lbs	27.7 kg	61 lbs	55 kg	121 lbs	100 kg	220 lbs
Weight (Full)								
LN ₂	36.8 kg	81 lbs	68.2 kg	150 lbs	135 kg	299 lbs	261.8 kg	576 lbs
LOX	45 kg	99 lbs	85 kg	187 lbs	169.5 kg	373 lbs	329.1 kg	724 lbs
Larg	50.5 kg	111 lbs	95.9 kg	211 lbs	191.4 kg	421 lbs	381.8 kg	840 lbs
Depth	546.1 mm	21 1/2 inches	673.1 mm	26 1/2 inches	901.7 mm	35 1/2 inches	1079.5 mm	42 1/2 inches
M.A.W.P.	69 kPa	10 PSIG	69 kPa	10 PSIG	69 kPa	10 PSIG	69 kPa	10 PSIG
Static Loss Rate CFN	.65 lt/day		.70 lt/day		1.2 lt/day		1.2 lt/day	
Static Loss Rate CFL	.87 lt/day		1.2 lt/day		1.3 lt/day		1.35 lt/day	



CH Series

The CH series horizontal vessel is intended for low-pressure transport and storage of liquid nitrogen, oxygen and argon. The horizontal configuration allows for large volumes of liquid to be portable and accessible at conveniently lower heights. This vessel was originally designed for interaction with LN₂ liquefiers due to the low profile. Because it is mounted on casters as a standard feature, movement within lab or plant operations is made simple and easy.

A unique support system is used in order to insure strength and durability without sacrificing thermal efficiency. The lowest possible heat leak is the driving force for the design of this product. Loss rates on this model have historically been lower than industrial products normally available. All vessels are fabricated with a stainless steel inner and outer jacket up to 1000 liters. At this threshold, a carbon steel painted jacket is also available up to 2000 liters.

The standard configuration is supplied with casters for mobility, 2" bottom clearance for a lower profile and a 1.5" o.d. neck opening located center top with a flanged termination. Two handles welded to the side heads as well as lifting lugs round out the offerings. Maximum allowable working pressure for this vessel is 25 PSIG. It is not a DOT or ASME certified fabrication.

Sizes range from 300 liters to 2000 liters. The configuration of this vessel can vary significantly when options are added.

Available options

- **Top-mounted removable plumbing:** The manifold is totally removable leaving access to the neck opening and inner vessel. The disconnect mechanism is a flanged assembly which is detachable without the use of tools. Included on the manifold are the liquid fill/withdrawal valve, vent valve, pressure gauge and two relief devices.
- **Differential Pressure Liquid Level Gauge:** This device is more accurate than a float, requires less maintenance and has better reliability.
- **Self-pressurizing system:** A built-in vaporizer supplies on demand pressure for large volume transfers or pressure maintainability for instrumentation. Standard units come with a regulator factory set at 20 PSIG and a shut off valve for a vessel at rest.
- **Front-mounted plumbing:** For applications where top-mounted plumbing causes height issues. The plumbing location gives the unit an even lower profile with a height reduction of 7".

	CH 300		CH 400		CH 500		CH 600	
Net Capacity	300 liters		400 liters		500 liters		600 liters	
Gross Capacity	330 liters		440 liters		550 liters		660 liters	
Outside Diameter	711.2 mm	28 inches	711.2 mm	28 inches	812.8 mm	32 inches	812.8 mm	32 inches
Overall Height*	889 mm	35 inches	889 mm	35 inches	990.6 mm	39 inches	990.6 mm	39 inches
Overall Length	1473.2 mm	58 inches	1828.8 mm	72 inches	1778 mm	70 inches	2082.8 mm	82 inches
Empty Weight	152.2 kg	335 lbs	204.6 kg	450 lbs	261.4 kg	575 lbs	316.8 kg	697 lbs
Weight Full								
LN ₂	388.9 kg	854 lbs	500.9 kg	1102 lbs	634.1 kg	1395 lbs	755.9 kg	1663 lbs
LOX	488.6 kg	1075 lbs	635 kg	1397 lbs	801.8 kg	1764 lbs	956.8 kg	2105 lbs
LARG	554.5 kg	1220 lbs	722.7 kg	1590 lbs	911.6 kg	2005 lbs	1088.6 kg	2395 lbs
N.E.R.	2%/day		1.5%/day		1.5%/day		1.25%/day	
M.A.W.P.	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG
Safety Relief	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG
Secondary Relief	241kPa	35 PSIG	241kPa	35 PSIG	241kPa	35 PSIG	241kPa	35 PSIG
Pressure Builder	20 PSIG		20 PSIG		20 PSIG		20 PSIG	
Caster Size	101.6 mm	4 inches	101.6 mm	4 inches	127 mm	5 inches	127 mm	5 inches
Liquid Fitting	CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare	
Vent Fitting	3/8 NPT		3/8 NPT		3/8 NPT		3/8 NPT	

*Height measurement is without a welded or removable manifold.

• **Extra access port, top-mounted:**

Located on the top of the unit with a flanged termination this accessibility is an added convenience. It can serve as an additional fill or withdrawal port along with supplying accessibility to the inner vessel without disturbance of the working manifold.

• **Skid mounting:** An alternative to casters, a means of mounting vessels in trucks or on concrete slabs.

• **Bottom drain, trapped with valve:**

A gravity withdrawal option and an additional way to access liquid.



CH 800		CH 1000		CH 1500		CH 2000	
800 liters		1000 liters		1500 liters		2000 liters	
880 liters		1100 liters		1650 liters		2200 liters	
914.4 mm	36 inches	1016 mm	40 inches	1117.6 mm	44 inches	1117.6 mm	48 inches
1092.2 mm	43 inches	1193.8 mm	47 inches	1320.8 mm	52 inches	1447.8 mm	57 inches
2108.2 mm	83 inches	2108.2 mm	83 inches	2590.8 mm	102 inches	2844.8 mm	112 inches
368.2 kg	810 lbs	522.7 kg	1150 lbs	727.3 kg	1600 lbs	1090.9 kg	2400 lbs
1015.5 kg	2234 lbs	1331.8 kg	2930 lbs	1940.9 kg	4270 lbs	2618.2 kg	5760 lbs
1283.6 kg	2824 lbs	1666.8 kg	3667 lbs	2443.6 kg	5376 lbs	3379.1 kg	7434 lbs
1459.1 kg	3210 lbs	1886.4 kg	4150 lbs	2772.7 kg	6100 lbs	3818.2 kg	8400 lbs
1.25%/day		1.00%/day		1.00%/day		1.00%/day	
172.5 kPa	25 PSIG	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG	172.5 kPa	25 PSIG
151.8 kPa	22 PSIG	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG	151.8 kPa	22 PSIG
241kPa	35 PSIG	241kPa	35 PSIG	241kPa	35 PSIG	241kPa	35 PSIG
20 PSIG		20 PSIG		20 PSIG		20 PSIG	
152.4 mm	6 inches	152.4 mm	6 inches	203.2 mm	8 inches	203.2 mm	8 inches
CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare		CGA 295 1/2" 45° Male Flare	
3/8 NPT		3/8 NPT		3/8 NPT		3/8 NPT	

CH Series - Optional Equipment



Removable Manifold



Extra Access Port



Self-Pressurizing System



Differential Pressure Liquid Level Gauge



Front-Mounted Plumbing



Top-Mounted Plumbing



Skid Mounting



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