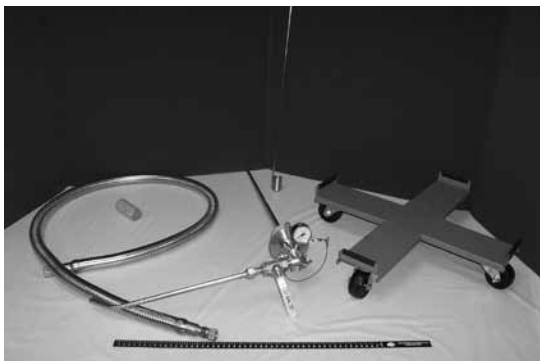


Accessories

4



- LN2 6' Non -Vacuum Transfer Line
- O2 6' Non - Vacuum Transfer Line
- ¼" Phase Separator
- LN2 Dipper
- Measuring Stick
- Small Roller Base (For use with our 10 & 20 liter tanks)
- Large Roller base (For use with our 35 thru 50 liter tanks)
- Small Withdrawal Device (For use with 10D, 20D, 35D)
- Large Withdrawal Device (For use with our 35DX, 50D)

Directors

Director Series Storage Vessels Specifications



Model	D-4000	D-2000C
LN2 Capacity	120 liters	60 liters
Static Hold Time	150 days	83 days
Evaporation Rate (liters/day)	0.80	0.72
Dimensions		
Necktube In.	8.5	8.5
Height In.	38	28
Outside Diameter In.	22	22
Weight		
Empty lb.	71	55
Full lb.	285	163
Racks		
Number	4	4
2 inch high boxes per rack	10	5
Box dimensions In.	5.25 x 5.25	5.25 x 5.25
Ampules per box	100	100
Boxes per vessel	40	20
Capacity		
Ampules in boxes (1.2 or 2.0 ml)	4000	2000

Optional accessories included in picture:

- Rollerbase
- Non-Vac Ln2 Transfer Line
- Model 250 Low-Level Alarm

Liquid Nitrogen Shipping Vessels

4



- Increased capacity
- Lightweight
- Backed by more than 100 man years of cryogenic experience
- Convenient specimen loading/ unloading
- Durable exterior finish
- Greater necktube strength

Model		IC-2VS	IC-4VS	IC-7VS	IC-20VS
LN2 Capacity		2.4 Liters	4.6 Liters	6.1 Liters	6.3 Liters
Static Hold Time - Days		18	33	27	28
Evap. Rate - liters/ day		.13	.14	.23	.22
Dimensions:					
Necktube -	In	2.25	2.25	3.75	3.75
	mm	57	57	95	95
Outside Dia. -	In	8.75	8.75	11.25	15
	mm	222	222	286	380
Height -	In	16.5	20.6	20.6	30
	mm	419	523	523	762
Weight					
Empty -	lb	8	11	15	30
	kg	3.6	5	6.8	13.6
Full -	lb	12.2	20	26	41
	kg	5.5	9	11.8	18.6
Canisters					
Length -	In	5	11	11	11
	mm	127	279	279	279
Inside Dia -	In	1.75	1.75	2.96	2.96
	mm	44	44	75	75
Number		1	1	1	7
Capacity					
.5 cc Straws on canes		55	120	390	2730
.5 cc Straws bulk		165	300	970	6790
Vials 1.2 ml			36	132	924

Model letters denote type of unit and numbers approximate liter capacity; VS – Vapor Shipper
Weights are determined without canisters
Straw capacity based upon: Cane – 10 straws / cane Bulk - two levels in cups and goblets
Static hold time and evaporation rate are nominal.

Dewars



Dewar Specification Sheet

Model	IC-3D	IC-5D	IC-6D	IC-10D	IC-20D	IC-35D	IC-35DX	IC-50D
LN2 Capacity	3.6 Liters	5 Liters	6 Liters	10 Liters	20.5 Liters	35 Liters	35 Liters	50 Liters
Hold Time Days	21	23	30	66	100	140	140	125
Evap. Rate liters/ day	.14	.2	.2	.15	.2	.25	.25	.4
Dimensions:								
Necktube								
In	2.25	2.25	2.25	2.25	2.25	2.25	3.75	3.75
mm	57	57	57	57	57	57	95	95
Outside dia.								
In	8.75	8.75	8.75	11.25	15	18.5	18.5	18.5
mm	220	222	222	286	380	470	470	470
Height								
In	16.5	16.3	16.75	23	24.6	25.1	25.1	30.5
mm	419	414	425	584	625	638	638	775
Weight								
Empty								
lb	6.0	6	6.3	12.5	23	31	31	38
kg	3	3	3	5.6	10	14	14	17
Full								
lb	12	15	17	30.3	60	94	94	127
kg	5	7	8	13.6	27	42	42	58

Refrigerators



4

Model	IC-3R	IC-6R	IC-10R	IC-20R	IC-20RX	IC-35R	IC-35RX	IC-38RX/6	IC-38RX/10	IC-50RX	ARCTIC 22R	ARCTIC 22RX
LN2 Capacity	3.5 Liters	6 Liters	10 Liters	20 Liters	20 Liters	35 Liters	35 Liters	38 Liters	38 Liters	50 Liters	22 Liters	22 Liters
Hold Time, Days	21	30	100	205	105	291	180	135	135	125	146	146
Evap. Rate - Liters/ day	.13	.2	.10	.10	.19	.12	.19	.28	.28	.4	.15	.15
Work Time - Days/Weeks	13/2	18 / 3	62 / 9	128 / 18	65 / 9	182 / 26	112 / 16	84 / 12	84 / 12	78 / 11	120/16	120/ 16
Dimensions												
Necktube- In	2.25	2.25	2.25	2.25	3.75	2.25	3.75	5.0	5.0	3.75	2.62	2.62
mm	57	57	57	57	95	57	95	127	127	95	66	66
Outside Dia. In	8.75	8.75	11.25	15.0	15.0	19	19	19	19	19	15	15
mm	220	220	286	380	380	483	483	483	483	483	380	380
Height - In	16.5	18.5	23	25	25	25	25	27.6	27.6	30.5	26	26
mm	419	432	584	630	630	630	630	691	691	775	660	660
Weight												
Empty - lb	6.5	7.7	19.5	24	24	29	29	32	32	38	25	25
kg	3	3.5	8.8	10	10	13	13	14.5	14.5	17	11	11
Full - lb	11.5	14	37.3	60	60	90	90	99.7	99.7	127	64	64
kg	5	6	16.9	26	26	40	40	44.9	44.9	58	29	29
Canisters												
Length, In	5	5	11	11	11	11	11	11	11	N/A	11	11
Inside Dia.- In	1.75	1.75	1.75	1.75	2.96	1.75	2.96	4.1	2.96	N/A	2.0	2.0
mm	44	44	44	44	75	44	75	104	75	N/A	51	51
Number	6	6	6	6	6	6	6	6	10	6	3	6
Capacity												
.5 cc Straws on canes	330	330	660	660	2340	660	2340	4680	3900	2340	500	1000
.5 cc Straws Bulk	990	990	1800	1800	5820	1800	5820	10320	9700	5820	1360	2720
Vial 1.2 ml	-	-	216	216	792	216	792	1584	1320	768*	-	-

Straw capacity on canes: 10 Straws / cane for 11" canisters
5 Straws / cane for 5" canisters

Bulk: Two level goblets for 11"; one level for 5"

Vial capacity on canes: 6 vials / cane

* with square canisters, 2 1/4 x 2 1/4 x 1 7/8 high box; 8 box / rack (768 - 1/2 x 1/2 x 1 7/8 compartments)

Series 8636 Whisper Valve®

silenced cryogenic safety relief valve



Description

The Whisper Valve is a silenced safety device for use with cryogenic containers.

The valve solves the problem of the loud noise, over 100 dB, associated with the activation of the relief valve in cryogenic containers containing nitrogen, argon or carbon dioxide. Many users of gas in cryogenic containers complain to their suppliers that the loud activation noise scares their employees and causes work disruptions and results in damaged product.

The Whisper Valve is easily installed on the vent valve of any cryogenic container and silently relieves the container pressure slightly below the normally installed relief valve. Whisper Valve reduces the relief of gas pressure to a noise level of 40-50 dB under normal conditions. For reference the average library noise level is 40 dB.

The Whisper Valve also reduces the gas losses of your cryogenic container to average of less than 48 cubic feet over 24 hours.

Whisper Valves are available in four settings, 22, 230 psig, 350 psig, and 500 psig. Other settings available on request.

Features

- Reduces cryogenic relief valve blow-off noise to 40-50 dB.
- Easily installs on any cryogenic argon, oxygen, or nitrogen container.
- Available in four ranges to prevent most container noisy blow-offs.
- Reduces gas losses to less than 48 cubic feet per 24 hours.
- Convenient wall mount kit available.
- Standard CGA 295 inlet connection for nitrogen.
- CGA 440 inlet connection for oxygen.

Ordering Information

Model Number	Description
8636-22	Whisper valve for cryogenic containers with 22 psig relief setting
8636-230	Whisper Valve for cryogenic containers with 230 or 235 psig relief setting
8636-350	Whisper Valve for cryogenic containers with 350 psig relief setting
8636-500	Whisper Valve for cryogenic containers with 500 psig relief setting
8636-KIT	Wall mount bracket, panel mount nut, and six-foot hose with CGA 295
8636-02-22	Whisper valve for cryogenic containers of oxygen with 22 psig relief setting
8636-02-230	Whisper valve for cryogenic containers of oxygen with 230 or 235 psig relief setting
8636-02-350	Whisper valve for cryogenic containers of oxygen with 350 psig relief setting
8636-02-500	Whisper valve for cryogenic containers of oxygen with 500 psig relief setting
8636-02-KIT	Wall mount bracket, panel mount nut, and six-foot hose with CGA 440