

Re-Designed HL-120 and HL-190

The MDS 119 as we have come to know will shortly be a model of the past. It will be entirely replaced with a newly designed HL-120. This new model will have the same O.D. as the HL-190. The plumbing has also been redesigned and the HL-120 and the HL-190 will be interchangeable. Although the tank O.D. and plumbing is the same, the difference is in the length of the two. The newly designed models feature 1" nom. fill valves, dual fill valves, road relief valves and exterior pressure builder coils. It utilizes the Cyl Tell level indicators so you can choose which capacity mode you require.



The HL-300 will also feature the same plumbing as the HL-120/190.



OUTLINE AND DIMENSION HL-120/190 SS 100 MAWP

INNER VESSEL DESIGN DATA			
Model:	HL-120 / 190		
MAWP:	PSIG 100		
DESIGN PRESSURE:	bar/g 6.89		
CODE COMPLIANCE:	ASME SECTION VIII DIVISION 1		
DESIGN TEMPERATURE:	°F -320° TO 100°		
MATERIAL OF CONSTRUCTION:	SA-240 304 STAINLESS STEEL		
OUTER VESSEL DATA			
CODE COMPLIANCE:	FULL VACUUM PER CGA-341		
DESIGN TEMPERATURE:	°F -29° TO 300°		
MATERIAL OF CONSTRUCTION:	SAS CARBON STEEL		
INSULATION TYPE:	VACUUM AND MULTILAYER INSULATION		
EVAUATION CONNECTION:	1-1/4" PUMP OUT PORT		
VACUUM GAUGE CONNECTION:	CAPPED		

WEIGHTS AND SHIPPING DATA			
Model:	HL-120		
MAWP:	PSIG 100		
WEIGHT EMPTY:	bar/g 6.89		
	POUNDS 1,100		
	KILOGRAMS 499		
OXYGEN FULL:	POUNDS 2,100		
	KILOGRAMS 953		
NITROGEN FULL:	POUNDS 1,800		
	KILOGRAMS 816		
ARGON FULL:	POUNDS 2,400		
	KILOGRAMS 1,089		
SHIPPING DIMENSIONS:	IN-CH 44-3/4 X 42 X 56-1/4		
	MM 1,135 X 1,067 X 1,429		

SLOT SPACE			
Model:	DM "A" REF	DM "B" REF	DM "C" REF
HL-120	15-1/4(383)	5-5/8(143)	56-1/2(1435)
HL-190	24-1/4(618)	10(254)	70(1778)

SEE DETAIL A

DETAIL A
SCALE 1/4"

CAPACITIES	
MODEL:	HL-120
GROSS GALLONS:	123
NET GALLONS:	466
LITERS:	111
COIL D1 LITERS:	420
COIL D1 LITERS:	616
OXYGEN:	400
NITROGEN:	300
ARGON:	400

CAPACITIES	
MODEL:	HL-190
GROSS GALLONS:	198
NET GALLONS:	751
LITERS:	179
COIL D1 LITERS:	676
COIL D1 LITERS:	21,000
OXYGEN:	600
NITROGEN:	500
ARGON:	600

GAS EQUIVALENT AT 1 ATM AND 70°F/1 ATM AND 0°C

OXYGEN	NITROGEN	ARGON
SCF 400	SCF 300	SCF 400
MM3 600	MM3 500	MM3 600

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FORM C-11826511

YOU Wanted to know....

Turntable won't turn (Customer inquired with a freezer problem)

Q: The tray in our most recently purchased storage tank/freezer no longer turns. This was noticed recently with no known cause. What do we need to do to get it moving again?

A: The most likely culprit is ice. However, it is unlikely for units with liquid already in it that was working to "suddenly" freeze. If it was allowed to run out of liquid, and liquid was reintroduced without it being completely thawed and dried out, it is very likely to freeze. Most similar incidents are caused this way. For example, a unit is set up and put through validation. On completion of validation, the freezer is not needed immediately for storage, so they shut it off to "conserve" liquid and power. Later, after it has run out of liquid and warmed up, they are ready to use it for storage, so they start it up again without drying it out. It will freeze. The fix is to warm it up and dry it out.

Customer with an XLC-1520HE (97 vintage) wants to liquid store samples.

Q: How can I get controller to monitor level to that height?

A: The distance from the bottom of the turn tray to the bottom of the freezer on the 1520HE is approximately 9". This means that the total liquid level that may be achieved in the unit is $27.5'' - 9'' = 18.5''$ (the maximum allowable liquid level on the TEC 2000 then is 27.5", with a high level alarm setting of 28"). It is possible to alter the offset value of the TEC 2000 to achieve higher levels, but doing so will cause the level display to be incorrect by the amount that the offset level is changed. For example, in this case, you would like for the liquid level to increase to $23'' - 18.5'' = 4.5''$. So your will want to increase the offset level by a factor of 4.5" Use caution when doing this, as **THE OFFSET VALUE SHOULD NEVER EXCEED 5.5**. Doing so will cause the liquid level to exceed the measurement capabilities of the TEC 2000 and will cause an overfilling condition. In a liquid full situation, I recommend that a 4" interval be maintained between fill settings and alarms. This will prevent false alarms when inventory is added or removed from the freezer. The values I recommend that will achieve the maximum SAFE level are as follows:

Offset:	-5.5"
High-level alarm:	28"
High-level fill stop:	24"
Low level fill	20"
Low level alarm	16"

The above setting will not quite achieve the high level settings that you desire, but it will be very close, and the freezer should operate normally with minimum chance of false alarms. You can adjust the above settings lightly to meet your needs, but doing so may hinder the performance of the freezer. Again, do not exceed -5.5" on the offset level. Finally, keep in mind that if you alter these settings, the value displayed on the TEC 2000 will no longer be accurate

Remember that this only applies to MDC controllers on freezers manufactured between 1996 and July of 2003. Today's version has a high alarm limit of 48" and 47.5" for the high level fill point.

Upcoming Show Dates:

World Dairy Expo
Madison WI
Sept 30 - Oct 4th

ASRM (American Society of Reproductive Medicine)
San Antonio TX
Oct 11-16,2003

ASH (American Society of Hematology)
San Diego CA
Dec 5-9, 2003

Bio-Medical Customer and Technical Service

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For copies of past Tech Tips or for more information on maintaining your nitrogen storage dewars please contact Jim Bachman at (952) 641-6115, Fax (800) 232-9683.