

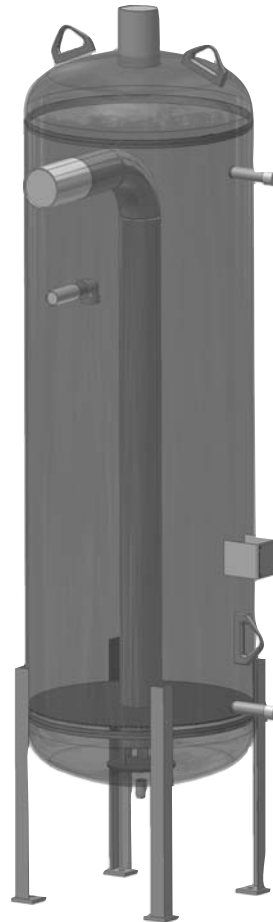


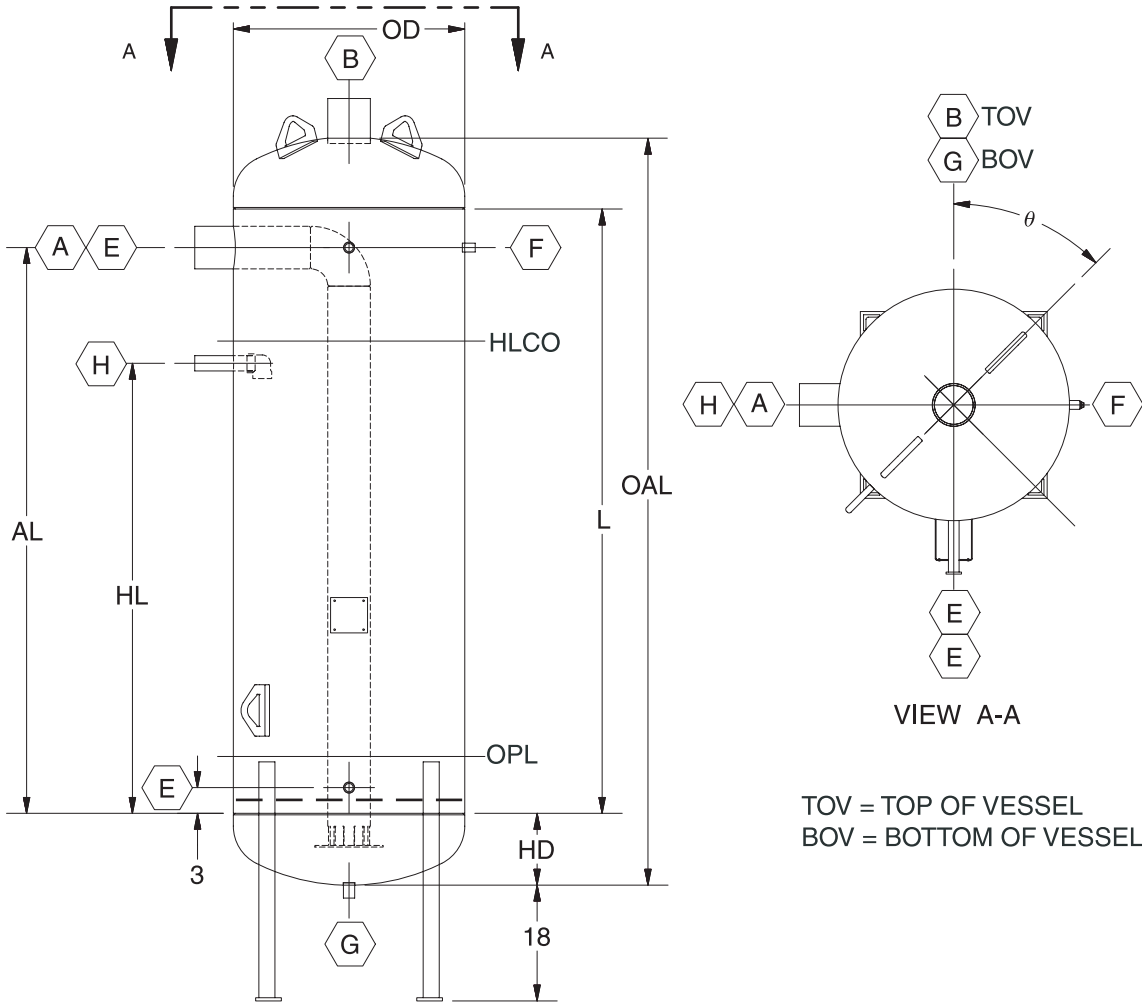
Form E120-600 SED (FEB 2007)

SPECIFICATIONS - ENGINEERING DATA - DIMENSIONS

File: EQUIPMENT MANUAL - Section 120
Replaces: E120-600 SED (NOV 2003)
Dist: 1, 1a, 1b, 1c, 4, 4b, 4c

VERTICAL INTERCOOLERS





TOV = TOP OF VESSEL
BOV = BOTTOM OF VESSEL

NOTES:

1. All dimensions and nozzle nominal pipe sizes are given in inches unless noted otherwise.
2. Operating charge at OPL is based on ammonia @ +0°F refrigerant temperature.
3. Nozzle connections are supplied as pipe stubs unless otherwise specified as a coupling (Cplg).
4. Couplings are ASME B16.11 Class 3000 "full" couplings.
5. **Nozzles are sized for R-717 and should not be used with other refrigerants (e.g. R-22 & R-507).**
6. Use minimum 6-inch standoff on nameplate bracket.
7. All dimensions are subject to change; please consult factory for certified drawings.
8. Vessels are built in accordance with ASME Boiler & Pressure Vessel Code, Section VIII, Division 1.
9. Legs are equally spaced. On vessels 30-inch OD and smaller, theta is 0 degrees. Theta is 45 degrees on all others.
10. OPL & HLCO dimensions are measured from the outside bottom of the vessel.

Key to Nozzle/Coupling Locations:

A	Booster Inlet (Stub)	OD	Outside Diameter
B	Gas Outlet (Stub)	L	Shell Length
E	Level Column (Stub)	OAL	Vessel Overall Length
F	Relief (Coupling)	HD	Head Depth
G	Drain (Coupling)	OPL	Operating Level
H	Liquid Makeup (Stub)	HLCO	High Level Cutout

Figure 1. Data and Dimensions

VERTICAL INTERCOOLER CAPACITIES – R-717

MODEL NUMBER	OPERATING TEMPERATURE				
	0°F	10°F	20°F	30°F	40°F
VI-12-84	22.4	25.1	27.9	30.8	34.0
VI-16-84	36.2	40.5	45.1	49.8	54.8
VI-20-86	57.7	64.5	71.7	79.3	87.4
VI-24-88	84.2	94.1	105.0	116.0	128.0
VI-30-113	134.0	150.0	167.0	185.0	203.0
VI-36-116	194.0	216.0	241.0	266.0	293.0
VI-42-119	265.0	296.0	330.0	364.0	401.0
VI-48-122	344.0	385.0	428.0	473.0	521.0
VI-54-125	438.0	489.0	544.0	601.0	662.0
VI-60-128	542.0	606.0	674.0	745.0	821.0
VI-72-134	780.0	872.0	969.0	1,071.0	1,180.0
VI-84-140	1,060.0	1,185.0	1,318.0	1,458.0	1,605.0
VI-96-146	1,391.0	1,555.0	1,730.0	1,913.0	2,106.0

Capacities given are high stage tons of refrigeration using Ammonia (R-717).

Capacities based on +95°F liquid feed temperature.

Capacities are at the Intercooler and include low stage load, booster heat of compression, and side loads if any.

Mass flow rate to low stage load is reduced by liquid makeup to intercooler.

DIMENSIONAL DATA

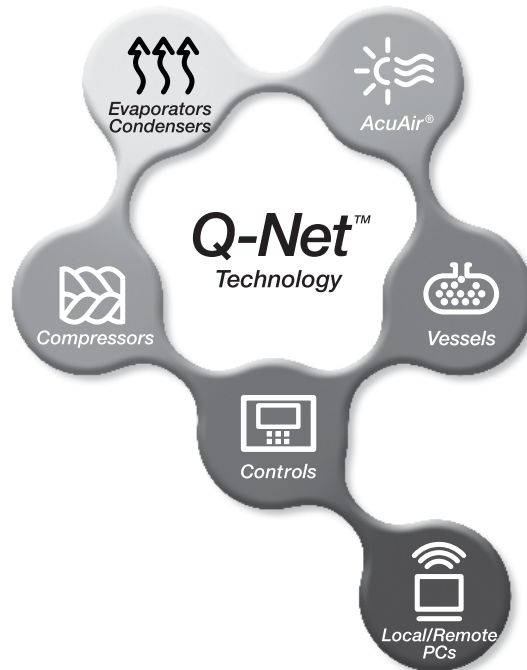
MODEL NUMBER	MAWP	OD	OAL	HD	L	LEGS QTY	Uninsulated Dry Wt (lbm)	R-717 (2) Operating Charge (lbm)	Surge Vol. (cu-ft)	θ
VI-12-84	300	12 $\frac{3}{4}$	84	6	72	3	500	20.6	3.47	0
VI-16-84	300	16	84 $\frac{1}{4}$	6 $\frac{1}{8}$	72	3	400	34.3	5.79	0
VI-20-86	300	20	86 $\frac{3}{8}$	7 $\frac{3}{16}$	72	3	700	57.2	8.76	0
VI-24-88	300	24	88 $\frac{3}{8}$	8 $\frac{3}{16}$	72	3	900	90.2	12.78	0
VI-30-113	250	30	113 $\frac{3}{8}$	9 $\frac{1}{16}$	94	3	1,400	158.8	28.39	0
VI-36-116	250	36	116 $\frac{3}{8}$	11 $\frac{3}{16}$	94	4	1,700	254.1	37.84	45
VI-42-119	250	42	119 $\frac{3}{8}$	12 $\frac{1}{16}$	94	4	2,000	379.9	51.82	45
VI-48-122	250	48	122 $\frac{1}{2}$	14 $\frac{1}{4}$	94	4	3,000	533.0	65.26	45
VI-54-125	250	54	125 $\frac{1}{2}$	15 $\frac{3}{4}$	94	4	3,500	730.6	82.99	45
VI-60-128	250	60	128 $\frac{1}{2}$	17 $\frac{1}{4}$	94	4	4,000	970.8	102.84	45
VI-72-134	250	72	134 $\frac{5}{8}$	20 $\frac{5}{16}$	94	4	6,200	1,580.3	143.33	45
VI-84-140	250	84	140 $\frac{3}{4}$	23 $\frac{3}{8}$	94	4	9,100	2,399.3	194.89	45
VI-96-146	250	96	146 $\frac{3}{4}$	26 $\frac{3}{8}$	94	4	10,800	3,483.9	247.59	45

MODEL NUMBER	Nozzle/ Coupling NPS (see footnotes 3, 4, 5)						AL	HL	OPL	HLCO
	A	B	E	F	G	H				
VI-12-84	2 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$	1/2	1	1	68	56	9	62
VI-16-84	3	3	1 $\frac{1}{4}$	1/2	1	1 $\frac{1}{4}$	68	56	9 $\frac{3}{16}$	62 $\frac{3}{16}$
VI-20-86	4	4	1 $\frac{1}{4}$	1/2	1	1 $\frac{1}{4}$	67	55	10 $\frac{3}{16}$	62 $\frac{3}{16}$
VI-24-88	4	4	1 $\frac{1}{4}$	3/4	1	1 $\frac{1}{2}$	67	55	11 $\frac{3}{16}$	63 $\frac{3}{16}$
VI-30-113	5	5	1 $\frac{1}{2}$	3/4	1	2	88	76	12 $\frac{1}{16}$	85 $\frac{1}{16}$
VI-36-116	6	6	1 $\frac{1}{2}$	3/4	1	2	88	70	14 $\frac{3}{16}$	81 $\frac{3}{16}$
VI-42-119	6	6	1 $\frac{1}{2}$	3/4	1	2 $\frac{1}{2}$	88	70	15 $\frac{1}{16}$	82 $\frac{1}{16}$
VI-48-122	8	8	1 $\frac{1}{2}$	3/4	1	2 $\frac{1}{2}$	86	68	17 $\frac{1}{4}$	82 $\frac{1}{4}$
VI-54-125	8	8	1 $\frac{1}{2}$	3/4	1	3	86	68	18 $\frac{3}{4}$	83 $\frac{3}{4}$
VI-60-128	8	8	1 $\frac{1}{2}$	3/4	1	3	86	68	20 $\frac{1}{4}$	85 $\frac{1}{4}$
VI-72-134	10	10	1 $\frac{1}{2}$	1	1	4	84	66	23 $\frac{5}{16}$	86 $\frac{5}{16}$
VI-84-140	10	10	1 $\frac{1}{2}$	1	1	4	84	66	26 $\frac{3}{8}$	89 $\frac{3}{8}$
VI-96-146	12	12	1 $\frac{1}{2}$	1	1	4	82	64	29 $\frac{3}{8}$	90 $\frac{3}{8}$

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