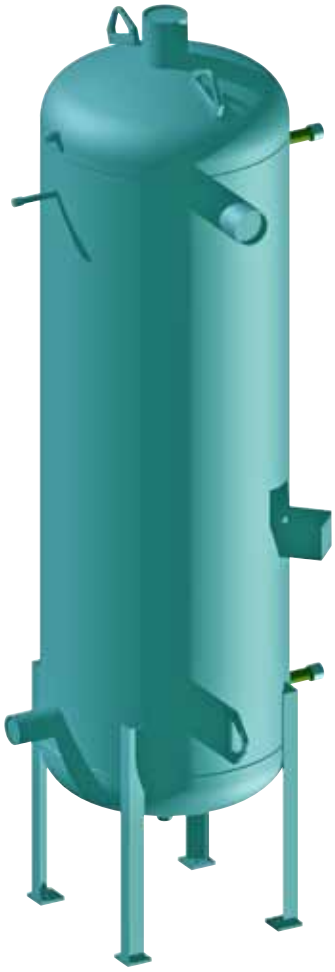
Frick®
BY JOHNSON CONTROLS

Form 120-360 SED (SEP 2010)
SPECIFICATIONS - ENGINEERING DATA - DIMENSIONS

File: EQUIPMENT MANUAL - Section 120
Replaces: NOTHING (New Information)
Dist: 1, 1a, 1b, 1c, 4, 4b, 4c

VERTICAL FLASH ECONOMIZERS



DESCRIPTION

Flash Economizers provide an intermediate pressure level in a refrigeration system for liquid and flash gas separation. The saturated liquid from this vessel produces less flash gas at the evaporator improving system efficiency and reduced operating cost.

FEATURES

- Designed, Fabricated and Certified to the ASME BPV Code and Manufacturer's Data Report registered with the National Board
- 250 psi standard design pressure (300 psi on 24 inch and smaller)
- Post weld heat treatment
- High quality, corrosion resistant, long lasting epoxy paint
- Customizable nozzle orientation, elevation and size, etc. via Coolware™
- Shipped fully sealed and pressurized with a nominal nitrogen charge to maintain cleanliness and protect internal surfaces

Options:

- Post weld heat treatment deduct
- Higher design pressures for nonammonia applications
- Ship loose level column with level eyes and level probe
- Dual stamping for temperature applications below -20°F
- Corrosion allowance

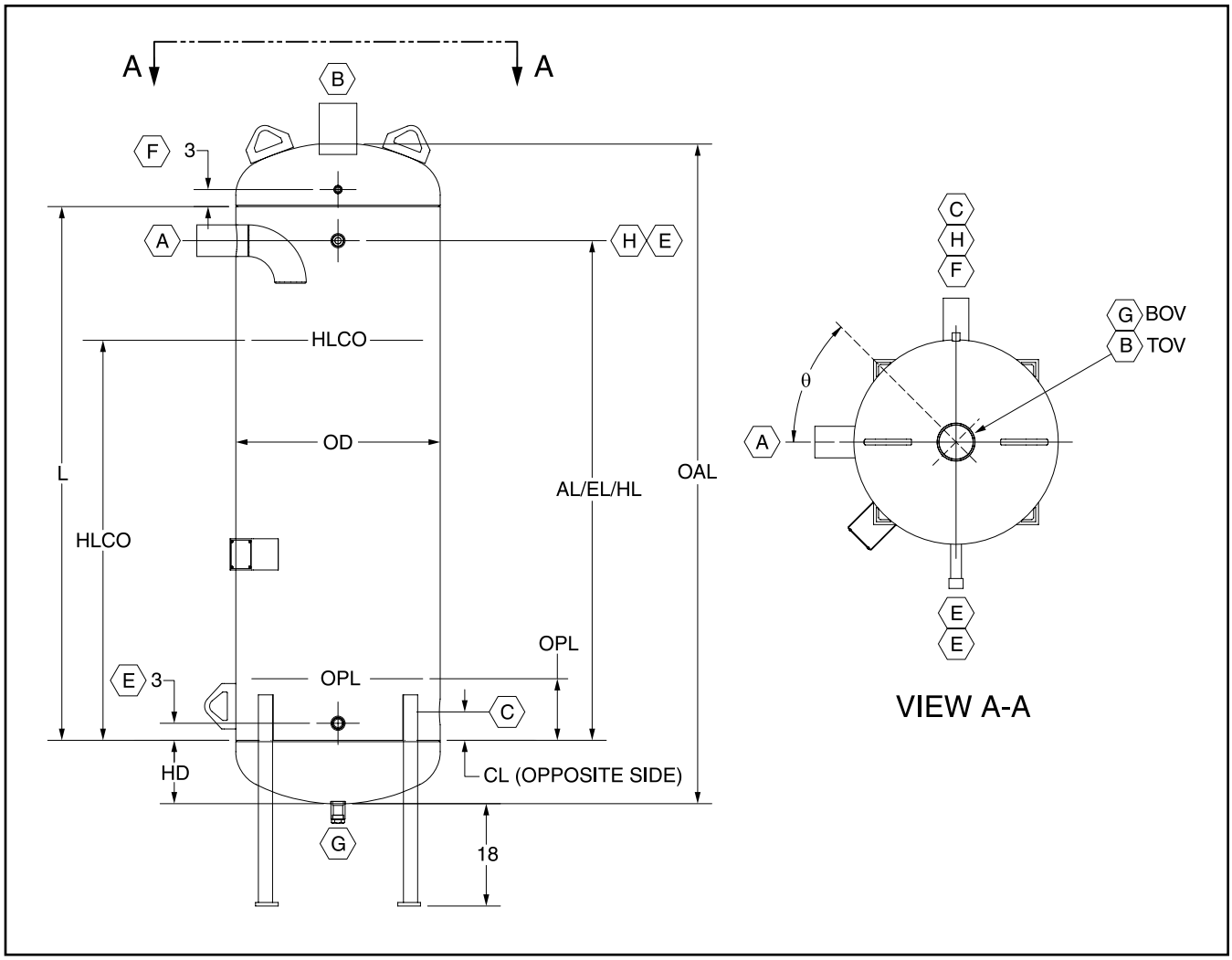
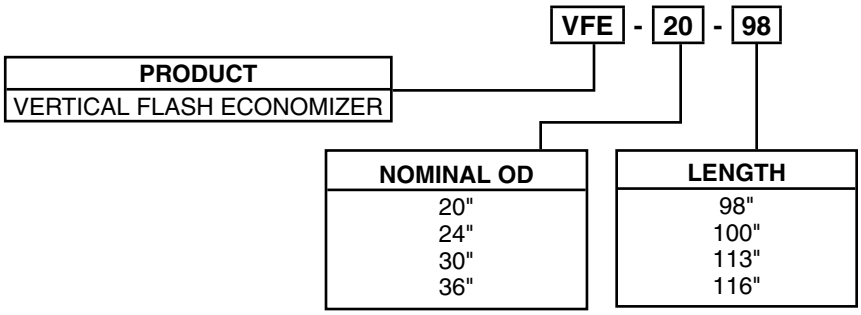


Figure 1 - Data and Dimensions

Key to Nozzle/Coupling Descriptions:			
A - Liquid Makeup	F - Relief (Coupling)	HLCO - High Level Cutout	OPL - Operating Level
B - Gas Outlet	G - Drain	L - Shell Length	
C - Liquid Outlet	H - Oil Pot Vent	OAL - Overall Length	
E - Level Column	HD - Head Depth	OD - Outside Diameter	

NOMENCLATURE



VERTICAL FLASH ECONOMIZER CAPACITIES R-717 (1)

Model Number	Operating Temperature				
	0°F	10°F	20°F	30°F	40°F
VFE-20-98	72.2	80.8	89.8	99.3	109.0
VFE-24-100	105.0	118.0	131.0	145.0	160.0
VFE-30-113	167.0	187.0	207.0	229.0	252.0
VFE-36-116	242.0	271.0	301.0	333.0	367.0

1. Capacities are given in tons of refrigeration, (R-717)
2. Capacities based on +95°F liquid feed temperature.

DIMENSIONAL DATA

Model Number	MAWP	OD	OAL	HD	L	Number of Legs 18"H	Uninsulated Dry Wt. (lbm)	R-717 Operating Charge (lbm)	Surge Vol. (cu-ft)	Theta θ
VFE-20-98	300	20	98 3/16	7 3/16	84	3	800	62.8	7.58	0°
VFE-24-100	300	24	100 1/4	8 3/16	84	3	1,000	98.5	11.3	0°
VFE-30-113	250	30	113 1/4	9 11/16	94	3	1,400	180.0	21.8	0°
VFE-36-116	250	36	116 3/16	11 3/16	94	4	1,700	296.4	31.6	45°

Model Number	Nozzle / Coupling NPS (3) (4) (5)							AL	CL	EL	HL	OPL	HLCO
	A	B	C	E	F	G	H						
VFE-20-98	3	4	3	1¼	1/2	1	3/4	74	4	74	74	11	56
VFE-24-100	4	4	3	1¼	1/2	1	3/4	74	4	74	74	12	58
VFE-30-113	4	5	4	1½	3/4	1½	3/4	88	5	88	88	14	70
VFE-36-116	5	6	4	1½	3/4	1½	3/4	88	5	88	88	16	72

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 RT.
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-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.

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