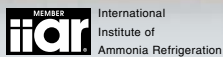




MVI INTERCOOLER PACKAGE

Featuring:
New Matrix LLC Level Control
and RVS Level Probe



Technology for the Future, Available Today!

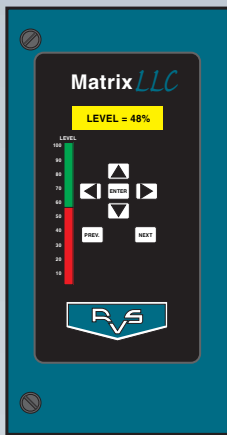


MVI Intercooler Package

The MVI Intercooler Package reduces installation time and cost compared to field fabricated units. At the heart of the package is the Matrix LLC Control Panel which provides total intercooler control. The MVI Intercooler Package is available in a complete range of vessel diameters from 16" to 144", with or without subcooling pipe coils. Major components are maintained in inventory to enable fast, on-time shipments to meet your most demanding requirements.

Matrix LLC Control

The RVS Matrix LLC Panel utilizes the latest in microprocessor technology to provide a total control solution for refrigeration vessel packages. The Matrix LLC is packaged into a UL/cUL listed NEMA 4 steel panel with built-in power transformer, assuring a completely tested and functional unit requiring only a single power connection in the field.



Operator Interface

- Door-mounted (7) button keypad. No need to open enclosure to change settings
- Easy-to-read 16 character alphanumeric display with LED dual color bar graph

Liquid Level Management

- Reads 4-20mA signal from level probe and provides visual readout in digital display and color bar indicator on panel
- High and low level alarms and cutouts
- Two 4-20mA analog outputs for control of proportional feed valve(s)
- Built in transformer for 24VAC or 24VDC power to motorized valve

Communications

- Industry standard protocol MODBUS-RTU over RS-485
- Capable of remote monitoring and control of system parameters



ASME 250 psig Intercooler Vessel with Dual Relief Assembly

- National Board Registration
- Internal vent lines reduce insulation cost and protect against shipping damage
- Stainless steel nameplate bracket and standoff to prevent corrosion

Liquid Level Column

- Level indicating column with RVS Level Probe
- High level shutdown float switch for compressor protection

Proportional Liquid Feed Assembly

- Modulating valve minimizes vessel pressure surges and liquid line hammer
- Backup solenoid valve or UPS (uninterrupted power supply) provides positive shutoff in the event of a power failure

ASME 300 psig Oil Pot with Relief Valve

- Oil pot mounted and piped with all required service valves

Options

- Subcooling Coil
- Conventional on/off solenoid and hand expansion valve liquid feed assemblies (single or dual)
- 1.5kw oil pot heater
- Seismic Design
- Post weld heat treatment
- Radiography of pipe welds



SELECTION PROCEDURE

STEP 1: From Table 1, select a model with capacity equal to or greater than the required capacity at the given high stage compressor suction temperature.

STEP 2: Determine the method of pre-cooling the liquid feed to the low temperature side of the system. The standard method of pre-cooling is to flashcool the liquid directly into the intercooler vessel. This method provides for the most economical equipment and operating cost. An optional method is to pre-cool the liquid utilizing a sub-cooling pipe coil in the intercooler vessel. The sub-cooling pipe coil is required for applications where the liquid is being fed to remote locations. If a coil is required add the suffix 'C' to the model number (i.e., MVI-36-C).

STEP 3: From Table 3a and 3b, select the liquid feed assembly. For flash type intercoolers the liquid feed assembly must be selected for

total high stage capacity requirements less any high temperature evaporator loads which are not fed from the intercooler. For coil type intercoolers the liquid feed assembly must be selected based on the subcooling and booster desuperheat loads only. This load can be closely approximated by multiplying the total booster capacity by 0.25.

STEP 4: Available surge volume is listed in Table 2 for flash and coil type intercoolers. If the intercooler is handling high temperature evaporators and/or low temperature defrost loads consideration must be given to required surge volume.

WHEN ORDERING PLEASE SPECIFY:

Intercooler model number and liquid feed model number. If sub-cooling coil is required add suffix 'C' to intercooler model number. Please include required high stage compressor capacity in tons of refrigeration and saturated suction.

Table 1 MVI INTERCOOLER CAPACITIES

MODEL NO.	Tons of Refrigeration R-717			
	High Stage Suction Temperature (F)			
	+30°F	+20°F	+10°F	0°F
MVI-16	56	51	45	40
MVI-20	89	81	70	65
MVI-24	130	118	105	94
MVI-30	205	185	165	149
MVI-36	290	268	240	210
MVI-42	400	365	320	290
MVI-48	520	478	420	380
MVI-54	660	605	540	480
MVI-60	810	740	670	675
MVI-72	1180	1080	970	860
MVI-84	1600	1460	1320	1170
MVI-96	2100	1920	1730	1530
MVI-108	2660	2430	2190	1940
MVI-120	3280	2990	2700	2390
MVI-144	4730	4310	3800	3440

Table 2 SURGE VOLUME, WEIGHT, OPERATING CHARGE

MODEL NO.	Vertical Flash Intercooler Package			MODEL NO.	Vertical Coil Type Intercooler Package		
	Surge Volume Cubic Feet (Ft³)	Shipping Weight Lbs. (Approx.)	Operating Charge Lbs. of NH3		Surge Volume Cubic Feet (Ft³)	Shipping Weight Lbs. (Approx.)	Operating Charge Lbs. of NH3
MVI-16	3.2	800	101	MVI-16-C	2.6	920	125
MVI-20	6	1,100	165	MVI-20-C	5.2	1280	195
MVI-24	9.5	1,400	247	MVI-24-C	8.5	1,720	280
MVI-30	15	1,700	397	MVI-30-C	13	2,250	466
MVI-36	22	2,400	603	MVI-36-C	17	3,240	792
MVI-42	48	3,200	837	MVI-42-C	38	4,320	1190
MVI-48	63	3,800	1160	MVI-48-C	53	5,270	1530
MVI-54	77	5,000	1520	MVI-54-C	65	6,520	1960
MVI-60	95	5,800	1970	MVI-60-C	80	7,680	2520
MVI-72	129	8,800	2820	MVI-72-C	108	13,900	3600
MVI-84	170	11,500	4380	MVI-84-C	141	14,800	5420
MVI-96	201	14,500	6030	MVI-96-C	159	18,800	7550
MVI-108	228	18,200	8070	MVI-108-C	169	23,700	10200
MVI-120	281	27,200	10450	MVI-120-C	202	33,900	13300
MVI-144	311	38,000	16570	MVI-144-C	197	47,500	20700

Table 3A SINGLE FEED ASSEMBLY - MOTORIZED VALVE

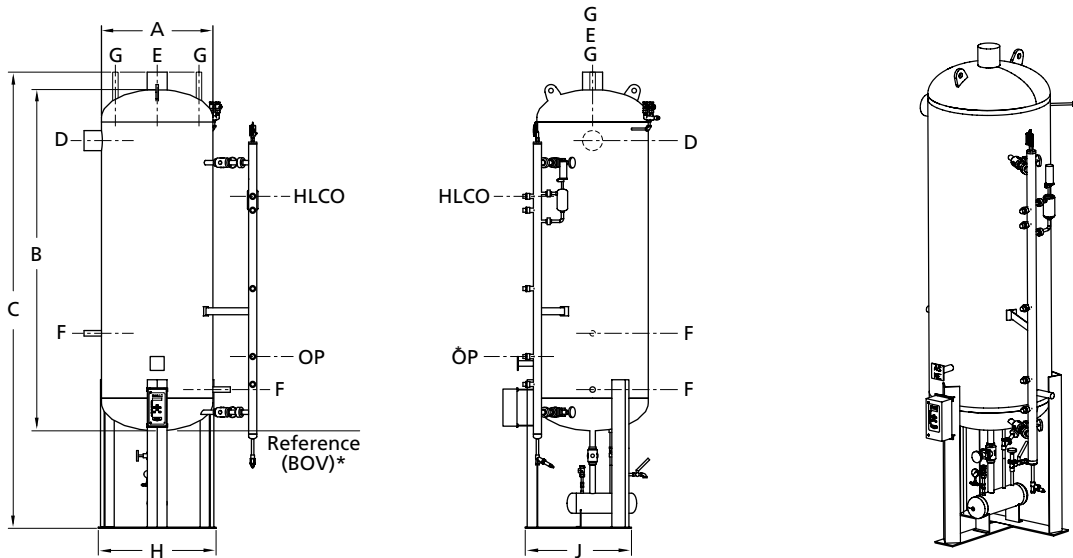
MODEL NO.	VALVE SIZE	LINE SIZE	TR
PLF075	3/4"	1"	165
PLF100	1"	1-1/4"	290
PLF125	1-1/4"	1-1/2"	415
PLF150	1-1/2"	2"	910
PLF200	2"	2-1/2"	1210
PLF300	3"	4"	2640

Sealed motor Liquid Feed Assembly (assembled) including motorized proportional feed valve, solenoid valve (120 Volt) with strainer and flanges, (2) globe isolation valves, and angle bypass valve.

Table 3B DUAL FEED ASSEMBLY - MOTORIZED VALVE

MODEL NO.	VALVE SIZE	LINE SIZE	TR
PLF200/200	2" - 2"	2-1/2"	2420
PLF125/300	1-1/4" - 3"	1-1/2" - 4"	3055
PLF150/300	1-1/2" - 3"	2" - 4"	3550
PLF200/300	2" - 3"	2-1/2" - 4"	3850
PLF300/300	3" - 3"	4" - 4"	5280

Two sealed motor Liquid Feed Assemblies (assembled) including (2) motorized proportional feed valves, (2) solenoid valves (120 Volt) with strainers and flanges, (4) globe isolation valves, and angle bypass valve.



VERTICAL INTERCOOLER PACKAGE

WITH OPTIONAL SUBCOOLING COIL

MODEL NUMBER	A Vessel Diameter	B Vessel Length	C Overall Height	D Booster Discharge	E Dry Gas Outlet	F Liquid In/Out	OP* Operating Level	HLCO* High Level Cutout
MVI-16	16	96	145-1/2	3	3	1-1/4	24	54
MVI-20	20	108	157-1/2	3	3	1-1/4	25	60
MVI-24	24	112-1/2	161-1/2	4	4	1-1/4	26	64
MVI-30	30	115	164-1/2	5	5	1-1/4	27	65
MVI-36	36	118	169-1/2	6	6	1-1/2	29	68
MVI-42	42	144	193-1/2	6	6	2	30	92
MVI-48	48	147	196-1/2	8	8	2	32	95
MVI-54	54	150	199-1/2	8	8	2	33	91
MVI-60	60	153	202-1/2	8	8	2-1/2	35	93
MVI-72	72	159	208-1/2	10	10	3	36	91
MVI-84	84	165	214-1/2	10	10	3	41	94
MVI-96	96	171	220-1/2	12	12	4	44	92
MVI-108	108	177	226-1/2	12	12	4	47	90
MVI-120	120	183	232-1/2	14	14	4	50	93
MVI-144	144	195	244-1/2	16	16	5	56	89

G Coil In/Out	OP* Operating Level	HLCO* High Level Cutout
3/4	30	54
3/4	30	60
1	30	64
1-1/4	32	65
1-1/2	38	68
1-1/2	42	92
1-1/2	42	95
2	42	91
2	44	93
3	45	91
3	50	94
4	54	92
4	58	90
4	62	93
5	68	89

*Dimensions from bottom of vessel (BOV) reference line.

All dimensions are given in inches and are for reference only. Consult factory for certified drawing.

Refrigeration Valves & Systems Corporation

A wholly owned subsidiary of EVAPCO, Inc.

1520 Crosswind Dr. ■ Bryan, TX 77808 USA

PHONE: 979-778-0095 ■ FAX: 979-778-0030 ■ E-MAIL: rvs@rvscorp.com

EVAPCO, Inc. — World Headquarters & Research/Development Center

EVAPCO, Inc. • P.O. Box 1300 • Westminster, MD 21158 USA

PHONE: 410-756-2600 • FAX: 410-756-6450 • E-MAIL: marketing@evapco.com

EVAPCO North America

EVAPCO, Inc.
 North American Headquarters
 P.O. Box 1300
 Westminster, MD 21158 USA
 Phone: 410-756-2600
 Fax: 410-756-6450
 E-mail: marketing@evapco.com

EVAPCO Europe

EVAPCO Europe, N.V.
 European Headquarters
 Industrieterrein Oost 4010
 3700 Tongeren, Belgium
 Phone: (32) 12-395029
 Fax: (32) 12-238527
 E-mail: evapco.europe@evapco.be

EVAPCO Asia/Pacific

EVAPCO Asia/Pacific Headquarters
 Evapco (Shanghai) Refrigeration
 Equipment Co., Ltd.
 1688 Jinshi Road, Baoshan District
 Shanghai 200949, P.R. China
 Phone: (86) 21-6687-7786
 Fax: (86) 21-6687-7008
 E-mail: marketing@evapcochina.com

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