

## GLYCOL HEATED CO<sub>2</sub> VAPORIZER

### ENERGY-FREE VAPORIZATION OF LIQUID CARBON DIOXIDE



#### GLYCOL HEATED CO<sub>2</sub> VAPORIZER

Glycol Heated CO<sub>2</sub> Vaporizer is a shell and tube heat exchanger in which circulating glycol gives off its heat to vaporize liquid CO<sub>2</sub>. Because any glycol which requires cooling can be used, an important secondary benefit can be realized in the reduction of the plant refrigeration load.

Completely packaged, the unit includes all controls necessary for fully automatic operation. Any interruption in the water flow or drop in the CO<sub>2</sub> gas temperature or pressure beyond the preset limit will automatically result in the liquid CO<sub>2</sub> being shut off and an alarm is activated to notify operators.

#### SCOPE OF SUPPLY

Fully automatic controls include:

- glycol flow switch
- shut-off valve
- vapor CO<sub>2</sub> temperature switch
- vapor CO<sub>2</sub> pressure switch
- safety valve

Control panel consists of:

- on/off switch
- light indicating the vaporizer is operating
- alarm to alert operator when glycol flow is interrupted
- alarm to alert operator when CO<sub>2</sub> vapor pressure or temperature drops below preset limit

#### VAPORIZER BENEFITS

- Saves Energy - No electricity or steam needed for vaporization duty. CO<sub>2</sub> vaporizing glycol is cooled during processing – actually reduces the plant cooling load.
- Fully Automatic Operation - No freeze-up. If glycol flow is interrupted or CO<sub>2</sub> gas temperature or pressure drops below the preset limit, the liquid CO<sub>2</sub> is shut off and an alarm is sounded.
- Minimum installation costs - Unit is packaged with all necessary controls and valves.
- Low maintenance - No electrical heating element to replace. Very few moving parts.

## DESIGN CODES

- ASME - Designed and constructed to the ASME code requirements. Removable stainless steel tube bundle is constructed with a Maximum Allowable Working Pressure (MAWP) of 350 psig (24.6 kg/cm<sup>2</sup>) or 24 barg. The shell is constructed of stainless steel.
- PED (optional)

### Technical specification:

30% P-Glycol Temperature inlet	32°F (0°C)
30% P-Glycol Temperature outlet	26°F (-3,3°C)
GCO <sub>2</sub> outlet	21°F (-6,1°C)
LCO <sub>2</sub> Temperature inlet	-8°F (-22°C)
LCO <sub>2</sub> Pressure inlet	250 psig (17.2 barg)
Control Voltage – 3 options	110VAC/220VAC/24VDC
Frequency	50/60 Hz
Degree of protection	NEMA12 ≈ IP 55
Connections on CO <sub>2</sub> and water in/outlet	NPT - National Pipe Thread Taper and flange

Type:	Size (vaporizer capacity):	Order number:
GHV, 110VAC SS	500 lbs/hr	P0655-WHV-1000-1
GHV, 220VAC SS	500 lbs/hr	P0655-WHV-1000-2
GHV-, 24VDC SS	500 lbs/hr	P0655-WHV-1000-3
GHV-, 110VAC SS	1000 lbs/hr	P0655-WHV-2000-1
GHV, 220VAC SS	1000 lbs/hr	P0655-WHV-2000-2
GHV, 24VDC SS	1000 lbs/hr	P0655-WHV-2000-3
GHV, 110VAC SS	1500 lbs/hr	P0655-WHV-3000-1
GHV, 220VAC SS	1500 lbs/hr	P0655-WHV-3000-2
GHV, 24VDC SS	1500 lbs/hr	P0655-WHV-3000-3
GHV, 110VAC SS	2000 lbs/hr	P0655-WHV-4000-1
GHV, 220VAC SS	2000 lbs/hr	P0655-WHV-4000-2
GHV, 24VDC SS	2000 lbs/hr	P0655-WHV-4000-3
GHV, 110VAC SS	2500 lbs/hr	P0655-WHV-5000-1
GHV, 220VAC SS	2500 lbs/hr	P0655-WHV-5000-2
GHV, 24VDC SS	2500 lbs/hr	P0655-WHV-5000-3
GHV, 110VAC SS	3000 lbs/hr	P0655-WHV-6000-1
GHV, 220VAC SS	3000 lbs/hr	P0655-WHV-6000-2
GHV, 24VDC SS	3000 lbs/hr	P0655-WHV-6000-3

Note: For each size you can choose the desired control voltage designated on the type number

Model No.	Capacity		Weight		A		B		C		D		E		F		G	
	lb/hr	kg/hr	lbs	kg	ft	mm	ft	mm	ft	mm	in	mm	in	mm	in	mm	in	mm
GHV-500	500	230	230	100	5'-3"	1600	1'-11"	590	3'-4"	1020	3'-10"	1170	1 1/2 *	38	3/4*	19	1 1/2 *	38
GHV-1000	1000	450	400	180	6'-1"	1850	1'-11"	590	3'-4"	1020	4'-4"	1320	1 1/2 *	38	3/4*	19	1 1/2 *	38
GHV-1500	1500	680	460	210	6'-5"	1950	2'-2"	660	3'-4"	1020	4'-10"	1480	2 **	51	1 *	25 1/2	2 *	51
GHV-2000	2000	910	620	280	5'-6"	1680	2'-2"	660	3'-6"	1070	3'-11"	1200	3 **	76	1 *	25 1/2	2 *	51
GHV-2500	2500	1130	660	300	5'-11"	1800	2'-2"	660	3'-6"	1070	4'-6"	1370	3 **	76	1 *	25 1/2	2 *	51
GHV-3000	3000	1360	720	330	6'-7"	2000	2'-2"	660	3'-6"	1070	4'-11"	1500	3 **	76	1 *	25 1/2	2 *	51

\* = Glycol inlet/outlet connections are N.P.T. connections

\*\* = Glycol inlet/outlet connections are 150# R.F. flange connections

## FLOW DIAGRAM



## DIMENSIONS

