July 2020

RegO ® Field Topics

Minimum Required Rate of Discharge for LP-Gas Pressure Relief Valves Used with ASME Containers

Field Topics are intended to provide useful information to the network of authorized LP-Gas and Anhydrous Ammonia distributors regarding the proper use of RegO® products. **Warning Bulletins** covering many of the hazards involved are available from RegO for more detailed information. These bulletins can be found in our **L-500, L-102 and NH3-102** catalogs. Neither the Field Topic or the Warning Bulletins are intended to conflict with federal, state, or local ordinances and/or regulations, which should be observed at all times. This information also is not intended to be a substitute for or to supplement any training in the safe handling and use of propane and related equipment, as required by any applicable law. By providing this material, ECI assumes no responsibility for providing any such training. Only individuals properly trained in the safe handling and use of propane and related equipment should be permitted to do so, and by providing this information, ECI does not assume responsibility for providing such training.

For more information on LP Gas system requirements, refer to Liquefied Petroleum Gas Code (NFPA 58), National Fuel Gas Code (NFPA 54), National Propane Gas Association Safety Handbook, the RegO LP-Gas Serviceman's Manual L-545, RegO catalogs L-500/L-102/NH3-102, ANSI K61.1 Safety Requirements for Storage and Handling of Anhydrous Ammonia, as well as any applicable local codes and ordinances.

Required Rate of Discharge for LP-Gas Pressure Relief Valves Used on ASME Containers

During the selection process of RegO Pressure Relief Valves, the RegO L-500 “Chart A” is commonly referred to for adequate Flow Rates (according to the square footage of the containers – up to 2,000 square feet). This chart is referenced from NFPA-58, 1986 edition. For installations greater than 2,000 square feet, the below calculation should be referenced.

$$\text{Flow Rate SCFM Air} = 53.632 \times A^{0.82}$$

Example:

A= Total outside surface area of container in square feet

The current NFPA-58, 2020 edition, Appendix E, gives the calculation to determine the proper SCFM Air.

RegO has designed an additonal table for SCFM air capacities in excess of 4,000 SCFM Air to be referenced according to the above calculation.

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Surface Area Sq. Ft.	Flow Rate SCFM Air	Surface Area Sq. Ft.	Flow Rate SCFM Air	Surface Area Sq. Ft.	Flow Rate SCFM Air	Surface Area Sq. Ft.	Flow Rate SCFM Air	Surface Area Sq. Ft.	Flow Rate SCFM Air
20 or less	626	**150**	3,265	**360**	6,693	**1,500**	21,568	**2,800**	35,983
25	751	**155**	3,353	**370**	6,845	**1,550**	22,156	**2,850**	36,509
30	872	**160**	3,442	**380**	6,996	**1,600**	22,741	**2,900**	37,033
35	990	**165**	3,530	**390**	7,147	**1,650**	23,322	**2,950**	37,556
40	1,104	**170**	3,617	**400**	7,296	**1,700**	23,900	**3,000**	38,077
45	1,216	**175**	3,704	**450**	8,036	**1,750**	24,475	**3,050**	38,597
50	1,326	**180**	3,791	**500**	8,762	**1,800**	25,047	**3,100**	39,115
55	1,434	**185**	3,877	**550**	9,474	**1,850**	25,616	**3,150**	39,631
60	1,540	**190**	3,963	**600**	10,174	**1,900**	26,182	**3,200**	40,146
65	1,644	**195**	4,048	**650**	10,865	**1,950**	26,746	**3,250**	40,660
70	1,747	**200**	4,133	**700**	11,545	**2,000**	27,307	**3,300**	41,172
75	1,849	**210**	4,302	**750**	12,217	**2,050**	27,865	**3,350**	41,683
80	1,950	**220**	4,469	**800**	12,881	**2,100**	28,421	**3,400**	42,193
85	2,049	**230**	4,635	**850**	13,538	**2,150**	28,975	**3,450**	42,701
90	2,147	**240**	4,800	**900**	14,187	**2,200**	29,526	**3,500**	43,208
95	2,245	**250**	4,963	**950**	14,831	**2,250**	30,076	**3,550**	43,713
100	2,341	**260**	5,125	**1,000**	15,468	**2,300**	30,623	**3,600**	44,217
105	2,437	**270**	5,286	**1,050**	16,099	**2,350**	31,167	**3,650**	44,720
110	2,531	**280**	5,446	**1,100**	16,725	**2,400**	31,710	**3,700**	45,222
115	2,625	**290**	5,605	**1,150**	17,346	**2,450**	32,251	**3,750**	45,722
120	2,719	**300**	5,763	**1,200**	17,962	**2,500**	32,790	**3,800**	46,222
125	2,811	**310**	5,920	**1,250**	18,573	**2,550**	33,326	**3,850**	46,720
130	2,903	**320**	6,076	**1,300**	19,180	**2,600**	33,861	**3,900**	47,217
135	2,994	**330**	6,232	**1,350**	19,783	**2,650**	34,394	**3,950**	47,713
140	3,085	**340**	6,386	**1,400**	20,382	**2,700**	34,925	**4,000**	48207
145	3,175	**350**	6,540	**1,450**	20,977	**2,750**	35,455	**4,050**	48701

For more information on RegO® products and recommendation on future RegO ® Field topics please contact below:

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