

Design Change Notification

Date: December 15, 2020

Document #: DCN-136 Relief valve change on Perma-Cyl 5500VHP MicroBulk Storage Systems

Subject: Starting November 1, 2020 Chart changed from a Herose relief valve with a 10.5mm internal orifice to a Herose relief valve with a 7mm internal orifice used on Perma-Cyl 5500 VHP cryogenic vessels.

Background: Due to changes in CGA S-1.3, Chart switched to a Herose relief valve with a smaller internal orifice. The new CGA revision changed the way pressure drop through the safety circuit is calculated. This change provides stronger guidance on sizing and selection of pressure relief devices than previous versions did, specifically regarding the effects of inlet and outlet piping during a relieving event. The change in orifice size provides a more appropriately sized relief valve that prevents the possibility of chatter. Chatter can have a negative impact on the overall life expectancy of any relief valve. Though the orifice of this replacement relief valve is smaller, it still meets the primary system capacity requirements while eliminating the possibility for chatter.

Products Affected: All GEN3 Perma-Cyl 5500VHPs and GEN 2 Perma-Cyl 5500VHPs with the high flow fill plumbing option.

Part Number	Plumbing Option
21407828	OPT PERMA-CYL 5500VHP 450-07 (GEN3)
21419528	OPT PERMA-CYL 5500VHP 300-07 (GEN 3)
21419529	OPT PERMA-CYL 5500VHP 125-07 (GEN 3)
21151429	OPT PERMA-CYL 5500VHP HIGH FLOW FILL (GEN 2)

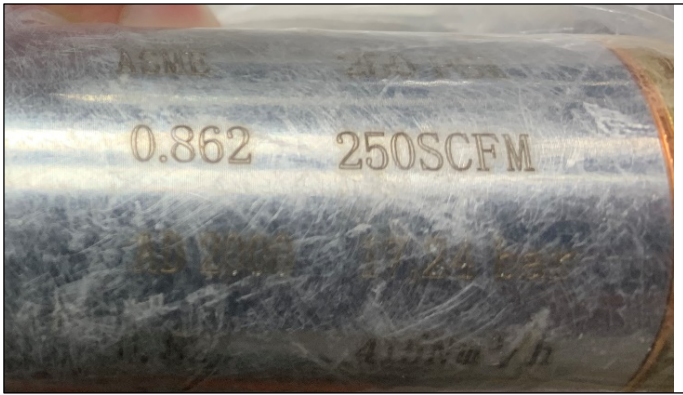
NOTE: Tanks in the field are not immediately impacted by the code revision, as they meet the previous flow calculations. If a relief valve requires replacement, a relief valve with a 7mm orifice should be used.

Description:

Old P/N	New Chart P/N and Description	Herose P/N
11556346	21475892 - RV BRZ 3/4MPTX1FPT 500PSIG	06388-0706-6040
20772742	21475891 - RV BRZ 3/4MPTX1FPT 350PSIG	06388-0706-6040
11494835	21475890 - RV BRZ 3/4MPTX1FPT 250PSIG	06388-0706-6040

NOTE: There is no obvious visual difference in the relief valves. Reference the discharge coefficient etched on the top SS portion of the relief valve to distinguish between a relief valve with a 7mm orifice and 10.5mm orifice. 7mm orifice - .862 coefficient and 10.5mm orifice - 1.517 coefficient

Pictures:



Contact: If you have questions or concerns relative to this action, please contact your Chart Customer Service Representative at (800) 400-4683. Thank you for depending on Chart to provide high product quality and service.