The primary function of an expansion chamber is to protect liquid chemical feed lines from rupturing due to over-pressurization from expanding chemical.

An expansion chamber assembly consists of an empty tank, a rupture disc & holder and a pressure indicator. By rupturing the pre-set disc the chemical is allowed to expand into the tank, lowering the pipeline pressure to a safer level. The pressure indicator will show that the rupture disc has opened and allowed chemical into the expansion tank.

Every section of liquid chemical pipeline that could be sealed between two shutoff points must be fitted with an expansion chamber assembly.

Assembly Includes:

- **Rupture disc & holder**
    Fragmenting or Non-fragmenting
    Union holder or Flange holder
- **Pressure indication**
    Diaphragm protected switch or gauge
    with switch
- **Expansion tank**
    660 in^3 volume (DOT rated)
    990 in^3 volume (DOT rated)
    715 in^3 volume (ASME rated)

Basic Specifications

All piping is 1" Sch.80 seamless carbon steel A-106, grade B and fittings are 3000 pound forged steel A-105.

The rupture disc and its holder (union type or flange type) are ASME certified.

A pressure switch shall be used to provide an alarm contact signal in the event that the disc should rupture.
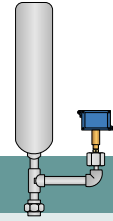
The assembly uses either a DOT or an ASME expansion chamber. The volume of this chamber must be no less then 20% of the overall volume of piping it is to protect.
Note: According to the Chlorine Institute, Inc. Pamphlet 6, both DOT and ASME type expansion chambers are both acceptable.

600 Emlen Way, Telford, PA 18969 ● Telephone: (215) 799-0980 ● Fax: (215) 799-0984
US Toll Free: (888) 38-HYDRO ● www.hydroinstruments.com ● sales@hydroinstruments.com

Bulletin EXP (Expansion Chamber Assemblies) Rev. 1/28/2021

Expansion Chamber Assembly Ordering Information

Expansion Chamber Assembly build options.

Model No.	EXP- A - B - C	
Position	**Feature**	**Description**
A. Rupture Disc Assembly	1	**RDH-100** 1" FPT union type holder & **RD-400** Silver rupture disc (400 PSI) w/ vacuum support (Rupture disc & holder by Fike and are ASME certified)
	2	**RDH-100** 1" FPT union type holder & **RD-338** Silver rupture disc (338 PSI) non-fragmenting w/ vacuum support (Rupture disc & holder by Fike and are ASME certified)
	3	**RDH-200** 1" FPT flange holder & **RD-300** Tantalum rupture disc (300 PSI) non-fragmenting w/ vacuum support (Rupture disc & holder by Continental and are ASME certified)
B. Pressure Switch	1	**PSL-UECL2-EW** adjustable pressure switch (25-65 PSI), Tantalum diaphragm protector (600 PSI overpressure, 1,000 PSI proof pressure)
	2	**DPGS-A-EW** pressure gauge, 4" dial (0-1,000 PSI) w/ adjustable switch, Tantalum diaphragm protector
	3	**DPGS-V12-EW** digital pressure gauge (0-600 PSI) w/ adjustable switch
C. Expansion Chamber	1	**CHM-660-DOT** expansion chamber, 660in^3 volume (DOT3AA 2015 rated) Note: 660in^3 chamber will protect 350 ft. of 1" pipe -or- 622 ft. of 3/4" pipe.
	2	**CHM-995-DOT** expansion chamber, 995in^3 volume (DOT3AA 2015 rated) Note: 995in^3 chamber will protect 527 ft. of 1" pipe -or- 938 ft. of 3/4" pipe.
	4	**CHM-715-ASME** expansion chamber, 715in^3 volume (ASME rated) Note: 715in^3 chamber will protect 378 ft. of 1" pipe -or– 673 ft. of 3/4" pipe.

NOTES:

1. ASME rated expansion chambers are not kept in stock and will increase lead time.
2. According to The Chlorine Institute, Inc. pamphlet 6, both DOT and ASME expansion chambers are acceptable.

INSTALLATION:

No less than one (1) expansion chamber assembly, one (1) pressure relief assembly and one (1) electrically actuated pressure reducing valve must be ordered and installed with each vaporizer. Additional expansion chamber assemblies may be required.