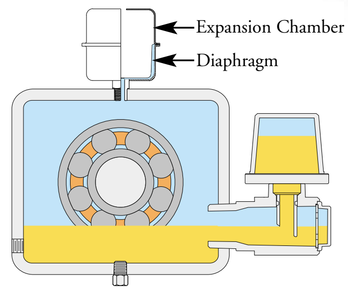
Equalizer™ Expansion Chambers

APPLICATIONS:

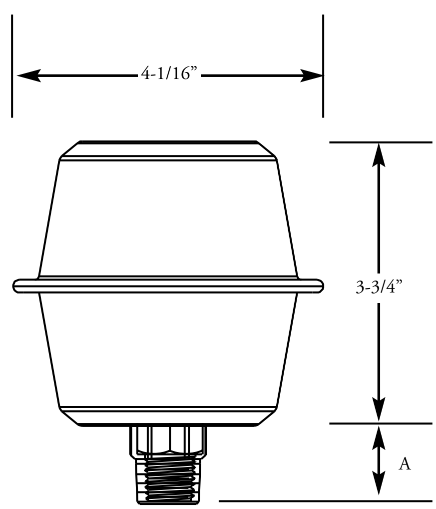
Equalizer Expansion Chambers are designed to prevent pressure increase in closed systems. A rolling diaphragm provides a variable volume, that when properly sized, maintains oil housing pressure at or near zero PSI. The reduced pressure will extend seal life and help prevent leakage. Expansion chambers also protect the integrity of closed systems by preventing the exchange of air from the chamber to the surrounding atmosphere. A choice of thread sizes offers flexibility to the user.

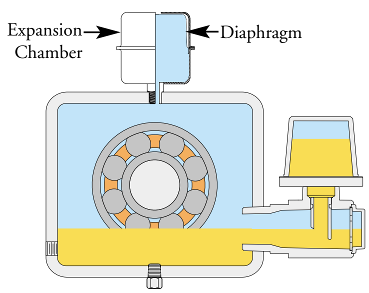
FEATURES:

- Made from corrosion resistant stainless steel.
- Controlled housing pressure extends seal life.
- Prevents contamination ingression to help lubricants stay cleaner for longer life and improved performance.
- Full 25 cubic inch air expansion capability
- Maintenance free operation



Expansion chamber at normal temperature.





Expansion chamber at higher temperature.

SELECTION CHART

Model No.	Connection (NPT)	Capacity*	Dim.(A) (in.)
31815	3/8	25 cu. in.	7/8
31816	1/2	25 cu. in.	1
31817	3/4	25 cu. in.	1-1/4

SPECIFICATIONS

Body	Stainless Steel
Diaphragm	Viton®
Maximum Operating Temperature	350°F

* For application assistance on calculating required capacities, please contact Trico or visit our web site for an online worksheet at www.tricomfg.com/size-expand-worksheet.asp

Selection of an Expansion Chamber

DETERMINE TOTAL AIR EXPANSION

To determine the correct expansion chamber size required for your application, obtain the following data and follow the steps listed below. Please visit our website for assistance on calculating required capacities at www.tricomfg.com/size-expand-worksheet.asp

1. The amount of oil, in ounces, normally in the bearing housing. _________ oz.
2. Multiply above answer by 1.804 to obtain _________ in^3 (oil volume). Place this value into the table below **STEPS A** & **B** in^3 (oil volume).
3. The temperature range of the bearing housing. High _________°F Low _________°F. Place High & Low temperature in **STEP C**. Subtract the low from the high and place in **STEP A** (high-low temp).
4. Complete **STEP A**. Multiply oil volume by temperature difference and coefficient of expansion. (NOTE: .0004 is coefficient of expansion for most turbine oils). Place answer in **STEP D**, in^3 (oil expansion).
5. The total volume of the bearing housing. Many customers may not know this. Contact your pump manufacturer for this information. _________ oz. (total volume).
6. Multiply answer from above by 1.804 to obtain _________ in^3 (sump volume). Place this value into the table **STEP B** in^3 (sump volume).
7. Complete **STEP B**, subtract in^3 (oil volume) from in^3 (sump volume) to get in^3 (air volume) and place answer in both places in **STEP C**, in^3 (air volume).
8. Follow instructions in **STEP C** to get in^3 (air expansion). Place answer into **STEP D** in^3 (air expansion).
9. Complete **STEP D** by adding to get in^3 (total expansion), with this information you can select the correct size expansion chamber for your application.

BEFORE STARTING, OBTAIN THE FOLLOWING DATA:

1	**Amount of Oil in Housing (oz.)**

2	**Temp. Range of Housing (°F)**
High	
Low	

3	**Total Volume in Housing (oz.)**

STEP A	Multiply the volume of oil with the temperature span to get oil expansion. ______ in^3 (oil volume) X ______ °F (high-low temp) X .0004 = ______ in^3 (oil expansion)
STEP B	Subtract the oil volume from the sump volume to get air volume. ______ in^3 (sump volume) - ______ in^3 (oil volume) = ______ in^3 (air volume)
STEP C	Determine the absolute temperature range for air, divide high temp + 460 by low temp + 460. Multiply (air volume) with temperature factor. Then subtract the (air volume) to get the air expansion for the maximum change in temperature. ______ in^3 (air volume) x $\frac{(\text{\_\_\_\_\_\_ high temp} + 460)}{(\text{\_\_\_\_\_\_ low temp} + 460)}$ - ______ in^3 (air volume) = ______ in^3 (air expansion)
STEP D	Add (oil expansion) with (air expansion) to get total expansion. ______ in^3 (oil expansion) + ______ in^3 (air expansion) = ______ in^3 (total expansion)