SUBMITTAL DATA

ASME EXPANSION TANKS

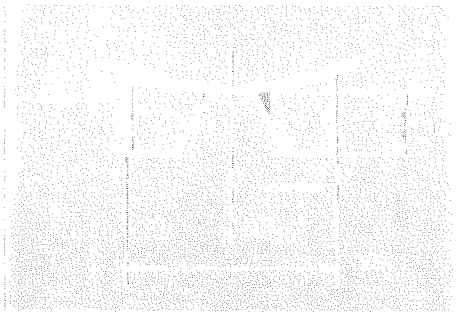
NUMBER
SD 400-3

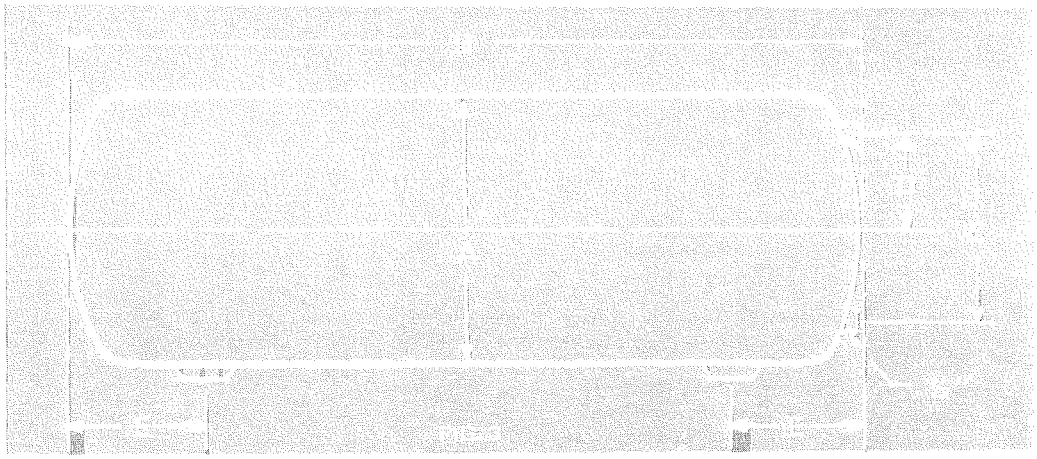
Effective: May 2, 1977
Supersedes: SD 400-3
dated 11/10/72

Taco ASME Tanks are ASME and National Board Stamped.

FINISH: Std. Finish Red Oxide Paint.
OPTIONAL: Hot Dipped Galvanized.
Gauge Glass Tappings — Std. Equipment.

JOB:	
DATE SUBMITTED:	BY:
Location	Size





(OPTIONAL)
SADDLES
(For Horizontal Installation)

Tank Dia.	Fig. No.	A In Inches	Weight In Lbs. Per Pair
20	1	14-5/8	11
24	1	14-5/8	14
30	1	14	19
36	1	15½	21

SIZES & DIMENSIONS FIG. 3

Product No.	Capacity Gals.	A	B	C	D	E	F	Approx. Wht. Lbs.	
								Painted	Galv.
441-2	18	12	39	8	4	7¾	1	50	60
441-4	30	14	48	10	5	8½	1	65	73
441-5	40	14	63	10	5	8½	1	83	93
441-6	60	16	72	12	6	9¼	1	113	127
441-7	80	20	63	16	8	10	1	130	145
441-8	100	20	78	16	8	10	1	162	181
441-9	120	24	65	20	10	11⅛	1	195	215
441-10	135	24	72	20	10	11⅛	1	215	235
441-11	180	30	62¼	22	11	13½	1½	295	318
441-12	220	30	77	22	11	13½	1½	355	383
441-13	240	30	84	22	11	13½	1½	385	415
441-14	310	30	105¾	22	11	13½	1½	480	517
441-15	300	36	71¼	28	14	15	1½	485	515
441-16	400	36	96	28	14	15	1½	634	675
441-17	515	36	120¾	28	14	15	1½	789	840

Specifications

Taco ASME Tanks are constructed to the ASME Code for Unfired Pressure Vessels

Working Pressure ..... 125 PSI
Maximum Recommended Temperature ..... 375 F
Tanks are inspected and labeled by Authorized Insurance and Inspection Service
Gauge Glass Tappings — Standard Equipment

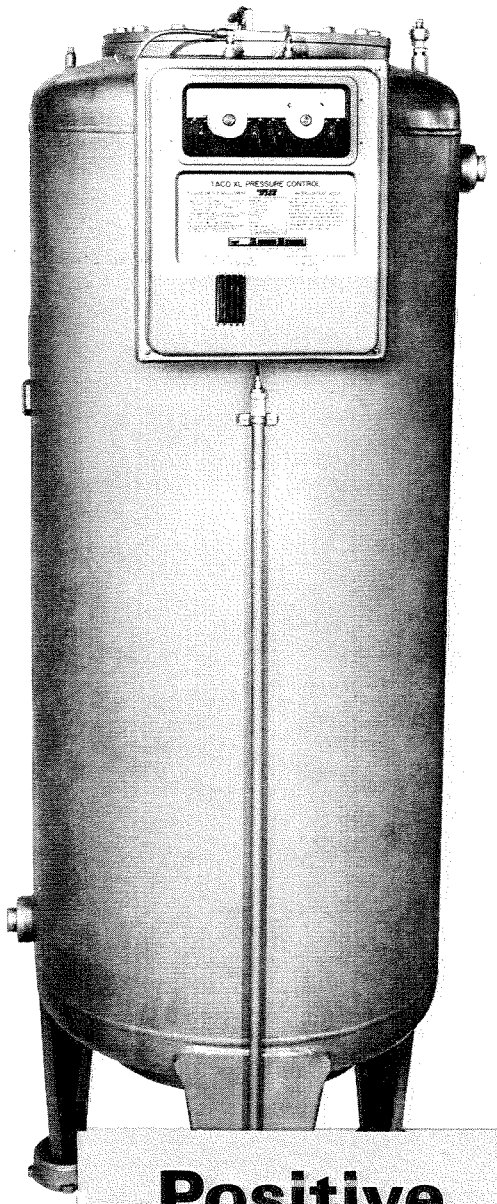
FOR SELECTING SIZE REQUIRED SEE NEXT PAGE

TACO, Inc., 1160 Cranston Street, Cranston, Rhode Island 02920 U.S.A. Tel: (401) 942-8000 Telex: 92-7627
Litho in USA
Taco Heaters of Canada, Ltd., 3090 Lenworth Drive, Mississauga, Ontario Tel: (416) 625-2160 Telex: 06-961179

XL Series Pressure Control

Effective: February, 1971
Supersedes: NEW

CATALOG
400-3

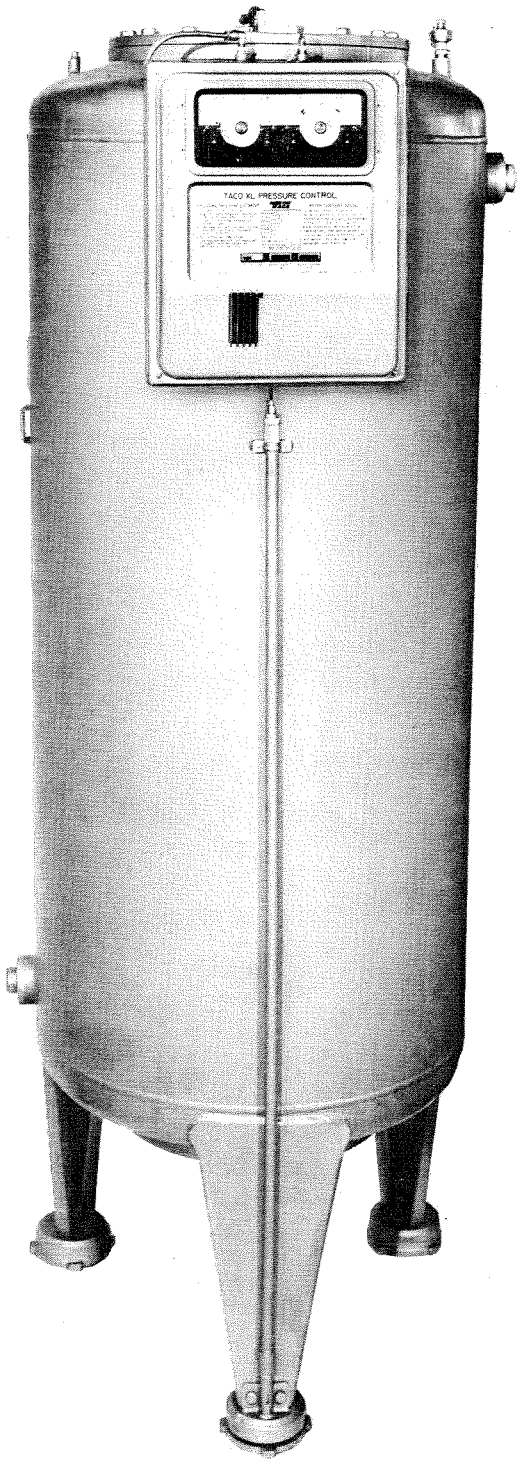


Positive System Pressure Control from Taco

TACO, INC.
CRANSTON, RHODE ISLAND 02920

TACO (CANADA) LTD.
MISSISSAUGA, ONTARIO, CANADA

EFFICIENCY ENGINEERED PRODUCTS



POSITIVE SYSTEM PRESSURE CONTROL

Smallest Possible Size Expansion Tank
Since the only volume in the XL Pressure Control is the actual system expansion volume plus a 10% safety factor, the tank is the smallest that can be provided for a given system.
In one high rise installation only 145 gallons of expansion volume required a conventional expansion tank volume of 2630 gallons. The XL Tank supplied was an XL-3 with a volume of 235 gallons. The area required for the XL Tank was 22 sq. ft. as compared to an area of 105 sq. ft. for the conventional tank.

Low Installation Cost
No costly structural arrangement is required since the tank is self supporting. A minimum amount of piping is required since the XL Pressure Control is normally installed in the mechanical room.

Size Remains Constant
Once the XL Pressure Control is selected, it can be placed anywhere in the building without recalculating the size.

Lower Required Operating Pressures
Lower operating pressures are acheived with the XL Pressure control because excess pressure is not required to allow the use of a conventional tank of reasonable size. In many cases, this will not only reduce the cost of other system components but may save the salary of a licensed attendant.

Absolute System Pressure Control
The XL Pressure Control maintains operating pressures within a total of 7 psi of design pressure.

Reduced Corrosion
Since the system water is separated from the air by a field replaceable flexible rubber tube, the tank will not corrode and corrosion in the system may be materially reduced.

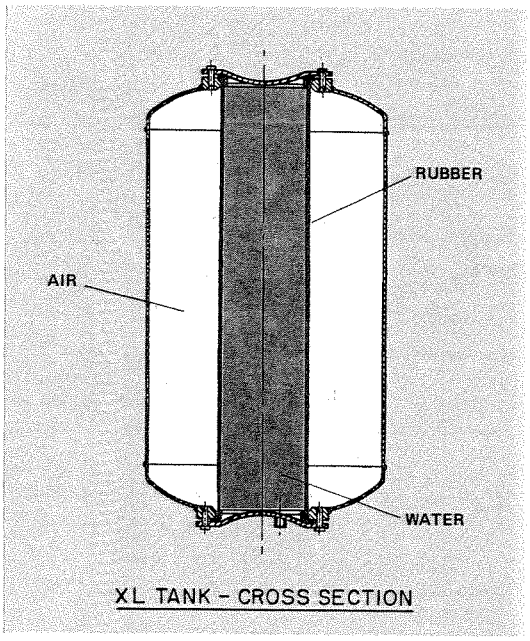
System Isolation
Where codes prohibit a direct connection between the potable water supply and the heating system, the XL Pressure Control can actuate a motor starter for a boiler feed pump separated from the potable water supply.
Where there is no such code, the XL Pressure Control actuates a feed valve automatically when additional system water is required.

Alarms
Remote alarms may be actuated by the XL Pressure Control if the system water content becomes too high or too low.

Safe Visible Signals
High and low level warning lights are standard equipment. No hazardous gauge glass is required.
A light built into the on-off switch indicates the on position. The bulbs are neon and rated over 50,000 hours.

No Shutdown During Season
If a tube should rupture, the only loss is the separation of the air from the water. The XL Pressure Control may be used and will function properly until such time as it is convenient to shutdown the system and replace the tube.

Proven Record
The XL Pressure Control System has been in use in Europe since 1966. At the beginning of 1970, over 4,500 installations were in operation.



XL TANK - CROSS SECTION

How Does It Work?

Basic Package

The basic system consists of a closed tank and a power package available in normally used electrical characteristics containing an oilless compressor, pressure and water content gauges and a solenoid valve. The tanks are designed for 140 psig. The size of the tank is essentially equivalent to the expansion volume of the system, regardless of the location of the tank. For hot water systems, an auxilliary tank is also a part of the package.

Operation

The size of the expansion tank is reduced to the absolute minimum by expelling and replacing the air cushion. Only a very small quantity of air compressed to the desired pressure is required to reliably pressurize a hydronic system. The compressor in the power package pumps air into the tank when the system water temperature is at its lowest and the solenoid valve allows the air to escape from the tank when the system water temperature increases.

The standard expansion tank and pre-charged diaphram tank operate with the same quantity of air at all times which accounts for their significantly larger sizes.

In order to prevent constant cycling of the compressor and solenoid valve, a difference between minimum and maximum pressure is required. The differential of the XL Pressure Control is 7 psi which is constant and nonadjustable, but can be set at any point over the full range of the scale. Normally the XL Pressure Control will handle a burner cycle without requiring either the compressor or the solenoid to operate. Therefore the compressor will normally operate only 15 minutes per day.

Power Package

Although the tank portion of the XL Pressure Control is a 140 psi ASME Tank, for purpose of economy two power packages are offered. One with a maximum of 85 psig using a single stage oilless compressor and one with a maximum of 125 psig using a two stage oilless compressor.

STANDARD ACCESSORY EQUIPMENT

Motor Operated System Fill Valve

The motor operated valve must be used in place of Pressure Reducing Valves when automatic filling of the system is required. Since there is no relationship between water content and system pressure in a system using the XL Pressure Control, pressure reducing valves cannot be used. Water logging of the XL Tank will not occur due to loss of air as is the case with other types of expansion tanks.

Auxilliary Tanks

Auxilliary tanks with a volume equal to 20% of the XL Tank are furnished on heating systems to compensate for burner cycling and assure maximum tube life.

Visible Indicators

High and low water level alarm lights; On-off lights; Pressure Indicator.

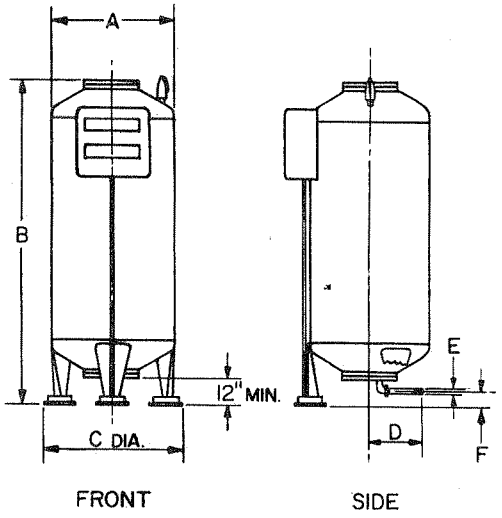
Remote Circuits

Circuitry is furnished in the power package to allow wiring to remote alarms, the motor operated fill valve or to a motor starter on a feed pump.

Sizing and Selection

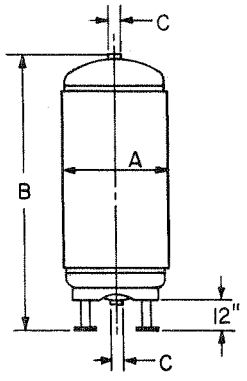
The selection of the proper XL Tank for use in a given system is no more invloved than that for selecting any expansion tank. Your local Taco, Inc. representative will be happy to assist you. Technical Manual 400-3-2 also gives complete information on sizing.

DIMENSIONS AND WEIGHTS



Type	Volume Gals.	Weight Lbs. Approx.	A	B	C	D	E	F
XL-1	95	530	22"	80"	26½"	10¼"	1"	11"
XL-2	140	710	26	83¼	30½	10¼	1	10¼
XL-3	235	1045	32	92¼	37¾	15	1¼	13
XL-4	410	1275	42	91½	47¾	15	1¼	10¼
XL-5	830	2530	54	109	59¾	15	2	9¾

XL TANK



Volume Gals.	Weight Lbs. Approx.	A	B	C
24	63	12"	64"	1"
30	65	14	60	1
60	113	16	84	1¼
100	162	20	90	1¼
180	295	30	74¼	2

AUXILIARY TANK

Compressor Units

LOW PRESSURE					
	XL-1	XL-2	XL-3	XL-4	XL-5
Required	1	1	1	1	2
Motor HP	3/4	3/4	3/4	3/4	1 1/2
HIGH PRESSURE					
Required	1	1	2	2	4
Motor HP	3/4	3/4	1 1/2	1 1/2	2 - 1 1/2

All motors are available in 115/230/60 1 phase or 230/460/60/3 phase and are equipped with automatic reset thermal overload protection. They are selected for high starting torque and rated continuous duty. The ball bearings are permanently lubricated and the motor compressor assemblies are rubber mounted to reduce vibration transmission.

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