PRODUCT CATALOG 2023

Residential

Commercial

Celebrating 10 years of expansion

CALEFACTIO 10 YEARS

10 YEARS ALREADY!

Since 2013, Calefactio has come out on top in the hydronic plumbing market and has taken an important place in the hearts of consumers. The company is continually developing and distributing new products across North America.

With such remarkable progress, the two founders, Catherine and Jean-Philippe Pichette, had no choice but to invest in a new head office more suited to the needs of the company, which would improve the quality of life of its employees. The move took place in 2022 and this new space has already allowed the company to improve several of its internal processes in order to better respond to the growing demands.

"We are lucky to be so well surrounded and to be able to count on employees and partners who, like us, want to do things differently to offer a human experience based on trust and collaboration."
– Jean-Philippe Pichette, President

Calefactio's mission has always remained the same: to transform the hydronic plumbing industry in their way, by investing in continual improvement. The goal is not only to offer quality products at affordable prices, but also to make service more accessible and relevant to their customer by anticipating their need.

All solutions offered by Calefactio are designed in Canada. Which means that behind each product there is an idea developed here, that meets a specific need in the market. The products are then created with collaborators all over the world.

"So we can say that our products are imagined, designed and distributed by people from here and we are very proud of it." – Catherine Pichette, Executive Director

We love to do better and differently, and it is because of you that we can do it.

Thank you for being part of the great Calefactio family.


CHUM
CHUM
Centre hospitalier
de l'Université de Montréal

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calefactio

calefactio.com

WELDED AND ROBUST CONSTRUCTION DESIGNED TO WITHSTAND HIGH PRESSURE

The water is in the bladder so there is no contact between steel shell and water which eliminates the risk of rust or corrosion.

The Calefactio's tanks line for heating and potable water are indicated for most common installations, in addition to being compatible with glycol.

Welded steel construction is designed to withstand high pressure loads and adds safety to your installation. Tanks are sturdy and built to last while at the same time they are lightweight, easy to handle and simple to install.

Water is stored in the bladder

Water does not come in contact with the shell of the tank

No rust or corrosion of the shell of the tank

BLADDER EXPANSION TANKS

THE ONE®

UNIQUE & EXCLUSIVE CALEFACTIO

The only device which combines:

- 1 expansion tank
- 1 air separator
- 1 dirt separator

Patented

HEATING

POTABLE

HEATING

Operation

Series HGT and HGTV expansion tanks are available in formats ranging from 2 to 74 gallons, in models mounted in-line or on base. These tanks are formed from a steel shell designed to resist high pressures, which makes your installation even safer.

The EPDM bladder separates air from water while preventing water infiltration and saving space and energy. These devices are suitable for heating and cooling installations and are also compatible with glycol.

Features

- Heating applications
- EPDM bladder
- Maximum temperature: 240°F
- Precharge: 12 PSI
- Maximum operating pressure: 115 PSI
- 2 to 74 gallons

Water never comes in contact with the tank

HGT

- Fixed bladder expansion tank
- MNPT top connection (in-line)

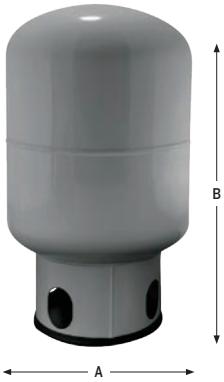
Model#	Volume		Connect.	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
HGT15	2.1	8	½"	7.9	200	13.7	348	5	2
HGT30	4.8	18	½"	10.6	270	16.3	415	9	4
HGT60M	6	23	½"	10.6	270	18.9	480	9.25	4.2
HGT60	8	30	½"	13.8	350	17.9	455	14	6
HGT90	13	50	1"	14.9	380	23.0	585	23	10

HGTV

- Expansion tank with replaceable bladder
- FNPT bottom connection (on base)

Model#	Volume		Connect.	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
HGTV30	13	50	1"	14.9	380	25.3	645	25	12
HGTV40	21	80	1"	17.7	450	26.7	680	29	13
HGTV60	26	100	1"	17.7	450	30.1	765	35	16
HGTV90	40	150	1¼"	19.7	500	41.1	1045	49	22
HGTV110	57	215	1¼"	19.7	500	52.1	1325	77	35
HGTV150	74	280	1¼"	19.7	500	63.1	1605	102	46

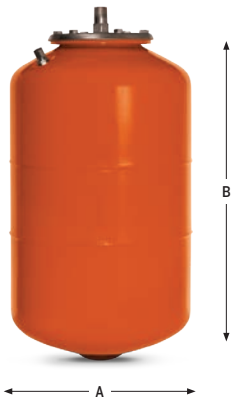
*See the Calefactio engineering department.



HIGH TEMPERATURE

Features

- Compatible with glycol
- EPDM bladder
- Epoxy coating
- Welded steel shell
- Temperature max.: 315°F and up*
- Precharge: 25 PSI
- Max. operation pressure: 150 PSI



#HTS30 Model

Volume		Connect.	A		B		Weight	
gal	L		in	mm	in	mm	lb	kg
6.6	25	½"	10.6	270	21	533	12	5.4

*See the Calefactio engineering department.

SERVICE KIT

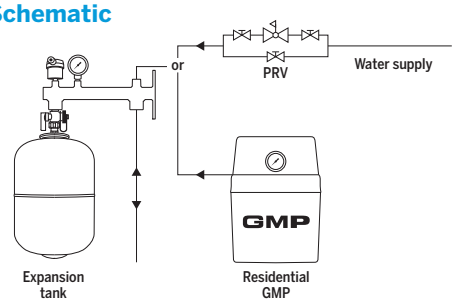
SERVICE KIT FOR HEATING SYSTEM

Advantages

- Simplifies purchasing by providing all necessary items in one box
- Safe, practical and easy access installation
- Provides an overview of the state of the system

Model#	Content	Weight	
		lb	kg
SERVICEKIT15	HGT15 + HGSC-MULTI + R8818 + HGSV12 + GAGE0-30BOTTOM	10	4.6
SERVICEKIT30	HGT30 + HGSC-MULTI + R8818 + HGSV12 + GAGE0-30BOTTOM	12	5.5
SERVICEKIT60M	HGT60M + HGSC-MULTI + R8818 + HGSV12 + GAGE0-30BOTTOM	15	6.8
SERVICEKIT60	HGT60 + HGSC-MULTI + R8818 + HGSV12 + GAGE0-30BOTTOM	16	7.3

Installation Schematic



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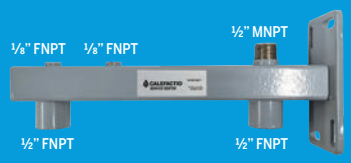


Service Center
Steel frame

Model#	Length	Height	Width	Weight	
				lb	kg
HGSC-MULTI	10¾"	4½"	2⅜"	2.8	1.27

Pressure Gauge
⅛"MNPT • 0-30 PSI

Model#	Weight	
	lb	kg
GAGE0-30BOTTOM	0.22	0.1

Automatic Vent
⅛"MNPT

Model#	Weight	
	lb	kg
R8818	0.24	0.11

Service Valve
½"FNPT

Model#	Weight	
	lb	kg
HGSV12	0.66	0.3

Expansion Tank
½" Connection

Model#	Volume		Weight	
	gal	L	lb	kg
HGT15	2.1	8	5	2
HGT30	4.8	18	9	4
HGT60M	6	23	9.25	4.2
HGT60	8	30	14	6

Optional

Connection Hose
Braided hose 72"
½"FNPT × ½"MNPT

Model#	Weight	
	lb	kg
BH72	1.32	0.6

MASTER KIT JUNIOR

SERVICE KIT FOR HEATING SYSTEM

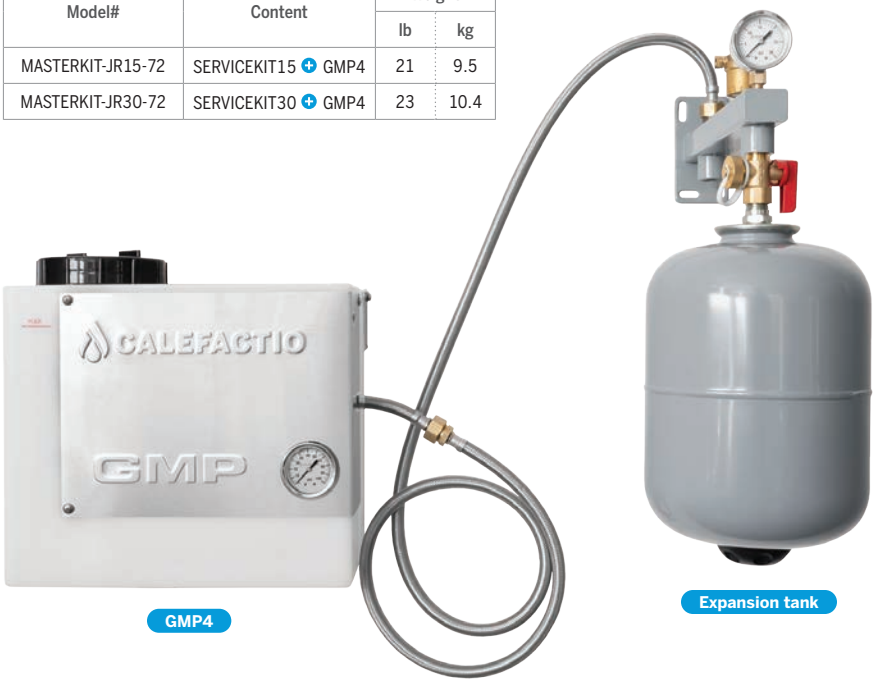
One box, seven products. Let's simplify order!

Advantages

- Safe, practical and easy access installation
- Provides an overview of the state of the system

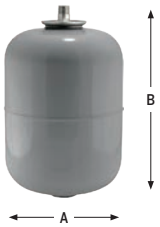
Technical Specifications

Model#	Content	Weight	
		lb	kg
MASTERKIT-JR15-72	SERVICEKIT15 ⊕ GMP4	21	9.5
MASTERKIT-JR30-72	SERVICEKIT30 ⊕ GMP4	23	10.4



Expansion Tanks

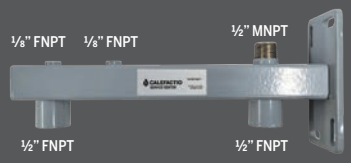
Model#	Volume		Connection	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
HGT15	2.1	8	½"	7.9	200	13.7	348	5	2
HGT30	4.8	18	½"	10.6	270	16.3	415	9	4



Glycol Make-Up Package

Model#	Volume		Pump	Dimension						Weight	
				A		B		C			
	gal	L	PSI	in	mm	in	mm	in	mm	lb	kg
GMP4	4	15	100	16¼	413	13½	343	7½	191	9.6	4.4

The kit includes



Service Center

Steel frame

Model#	Length	Height	Width	Weight	
				lb	kg
HGSC-MULTI	10¾"	4½"	2⅜"	2.8	1.27

Pressure Gauge

⅛"MNPT • 0-30 PSI

Model#	Weight	
	lb	kg
GAGE0-30BOTTOM	0.22	0.1

Automatic Vent

⅛"MNPT

Model#	Weight	
	lb	kg
R8818	0.24	0.11

Service Valve

½"FNPT

Model#	Weight	
	lb	kg
HGSV12	0.66	0.3

Connection Hose

Braided hose 72"
½"FNPT × ½"MNPT

Model#	Weight	
	lb	kg
BH72	1.32	0.6

Expansion Tank

Model#	Volume		Weight	
	gal	L	lb	kg
HGT15	2.1	8	5	2
HGT30	4.8	18	9	4

Glycol Make-Up Package

Model#	Volume		Weight	
	gal	L	lb	kg
GMP4	4	15	9.6	4.4

MASTER KIT

SERVICE KIT FOR HEATING SYSTEM

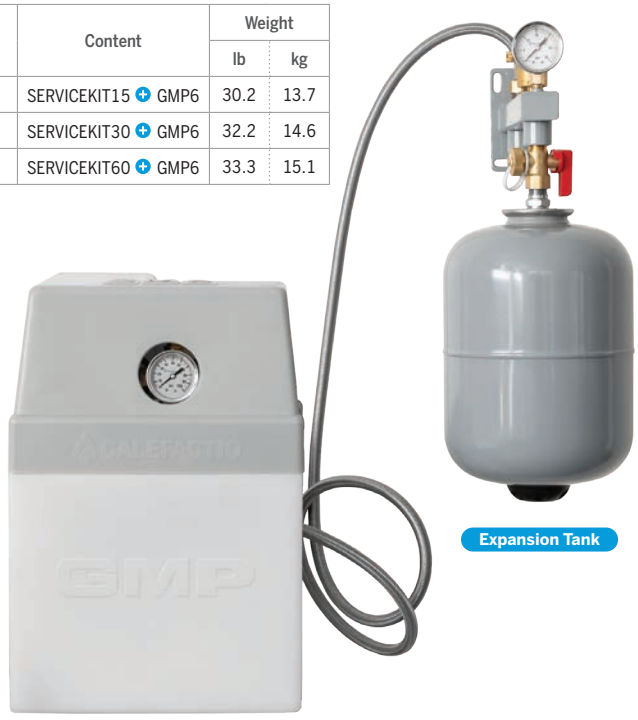
One box, seven products. Let's simplify order!

Advantages

- Safe, practical and easy access installation
- Provides an overview of the state of the system

Technical Specifications

Model#	Content	Weight	
		lb	kg
MASTERKIT15-72	SERVICEKIT15 + GMP6	30.2	13.7
MASTERKIT30-72	SERVICEKIT30 + GMP6	32.2	14.6
MASTERKIT60-72	SERVICEKIT60 + GMP6	33.3	15.1

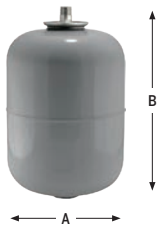


Expansion Tank

GMP6

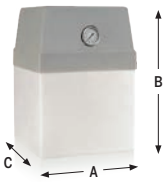
Expansion Tank

Model#	Volume		Connection	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
HGT15	2.1	8	½"	7.9	200	13.7	348	5	2
HGT30	4.8	18	½"	10.6	270	16.3	415	9	4
HGT60	8	30	½"	13.8	350	17.9	455	14	6

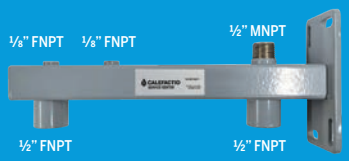


Glycol Make-Up Package

Model#	Volume		Pump	Dimension						Weight	
				A		B		C			
	gal	L	PSI	in	mm	in	mm	in	mm	lb	kg
GMP6	6	22.7	60	12	305	17.5	445	12	305	18.9	8.6



The kit includes



Service Center

Steel frame

Model#	Length	Height	Width	Weight	
				lb	kg
HGSC-MULTI	10¾"	4½"	2⅜"	2.8	1.27

Pressure Gauge

⅛"MNPT • 0-30 PSI

Model#	Weight	
	lb	kg
GAGE0-30BOTTOM	0.22	0.1

Automatic Vent

⅛"MNPT

Model#	Weight	
	lb	kg
R8818	0.24	0.11

Service Valve

½"FNPT

Model#	Weight	
	lb	kg
HGSV12	0.66	0.3

Connection Hose

Braided hose 72"

½"FNPT × ½"MNPT

Model#	Weight	
	lb	kg
BH72	1.32	0.6

Expansion Tank

Model#	Volume		Weight	
	gal	L	lb	kg
HGT15	2.1	8	5	2
HGT30	4.8	18	9	4
HGT60M	6	23	9.25	4.2
HGT60	8	30	14	6

Glycol Make-Up Package

Model#	Volume		Weight	
	gal	L	lb	kg
GMP6	6	22.7	18.9	8.6

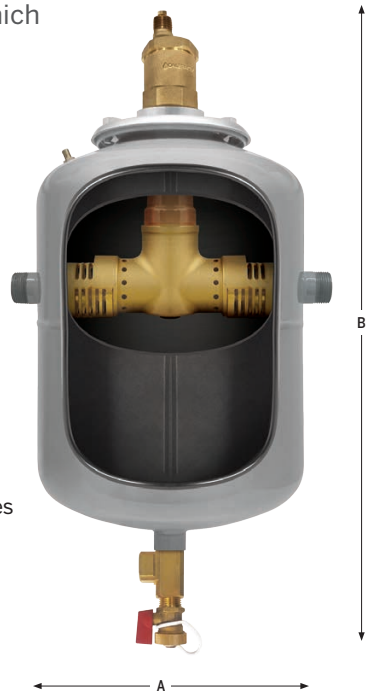
THE ONE®

UNIQUE & EXCLUSIVE CALEFACTIO

Patent pending

Highest performing air and dirt separator in the industry due to an oversize chamber which absorbs shock to the system.

The only device which combines an expansion tank, an air separator and a dirt separator.



Advantages

- Save money
- Save time
- Reduce the risk of leaks
- Reduce the number of joints and welds

Features

- Coalescent media in stainless steel
- Minimum loss of pressure (CV22)
- Brass and copper casing
- Superior performance for separation of microbubbles
- High efficiency for separation of solids and dirt
- Internal element: stainless steel
- Joint: EPDM
- Adapted fluids: Water and 50% glycol solution
- Temperature range: 32-240°F (0-115°C)
- Maximum pressure: 115 PSI

The ONE®

Model#	Total Volume		Net Volume		Max. Operating Pressure	Conn. MNPT	Dimension				Weight	
							A		B			
	gal	L	gal	L	PSI	in	in	mm	in	mm	lb	kg
T015	2.7	10	2.7	8	115	1	12.8	325	15.6	395	15	6.82
T030	5.3	20	4.8	18	115	1	12.8	325	22.4	570	19.2	8.73

Replaceable bladder expansion tank

Air and dirt separator

Calvent automatic air vent

Drain valve

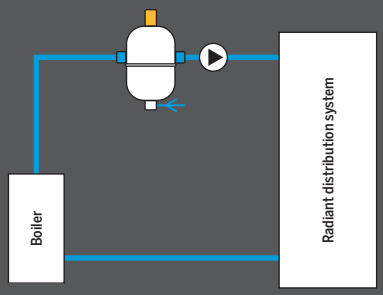
Wall support

Operation

The heart of The ONE® is a brass casing air and dirt separator of superior quality and highly resistant. Its efficiency is 40% higher than that of other air and dirt removal devices due to its size.

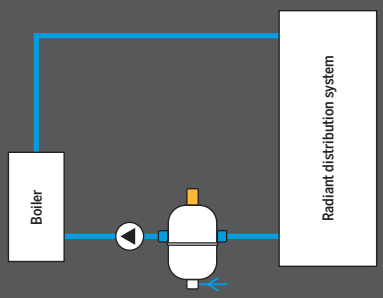
Installation schematic

Configuration 1



Installation schematic

Configuration 2



POTABLE

C US
Drinking Water
NSF/ANSI 61 & 372

- Potable water applications in a domestic system
- EPDM bladder
- Maximum temperature: 200°F (93°C)
- Precharge: 50 PSI
- Maximum operating pressure: 150 PSI
- 0.4 to 74 gallons

Water never comes in contact with the tank

HGTE1

- For tankless water heaters of less than 2 gallons

Model#	Volume		Connect.	Dimension				Weight		Qty/box*
				A		B				
	gal	L		in	mm	in	mm	lb	kg	
HGTE1	0,4	0,16	½"	3,25	80	4,5	112	0,5	0,2	8

*This product is sold individually, but it can also be sold in a master pack.

HGTE

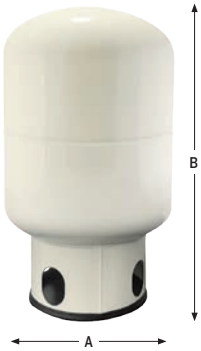
- Fixed bladder expansion tank
- MNPT Top connection (stainless steel)

Model#	Volume		Connect.	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
HGTE5	2,1	8	¾"	7,9	200	13,7	348	5	2
HGTE8	3,2	12	¾"	10,6	270	12,8	325	9	4
HGTE12	4,7	18	¾"	10,6	270	16,7	425	11	5
HGTE25	8,0	30	¾"	13,8	350	16,4	418	14	6

HGTEV

- Expansion tank with replaceable bladder
- FNPT (stainless steel) bottom connection (on base)

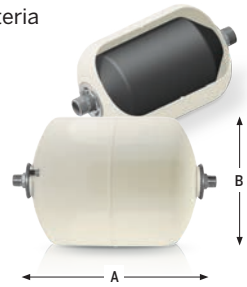
Model#	Volume		Connect.	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
HGTEV30	14	53	¾"	14.9	380	26.4	670	26	12
HGTEV42	20	75.8	¾"	17.7	450	27.8	750	31	14
HGTEV60	30	114	1¼"	17.7	450	31.8	808	37	17
HGTEV80	44	167	1¼"	19.7	500	42.0	1065	52	23
HGTEV180	57	215	1¼"	19.7	500	52.4	1330	75	34
HGTEV200	74	280	1¼"	19.7	500	63.4	1610	103	47



FTTE – Flow Through

- Limits the risk of system contamination by legionella bacteria
- Avoids water stagnation

Model#	Volume		Connect.	Dimension				Weight	
				A		B			
	gal	L		in	mm	in	mm	lb	kg
FTTE5	2.1	8	¾"	14.3	365	7.9	200	6.3	2.9
FTTE8	3.2	12	¾"	14.3	365	10.6	270	7.6	3.5
FTTE12	4.7	18	¾"	17.5	445	10.6	270	9.3	4.2
FTTE25	8	30	¾"	17.5	445	13.8	350	11.5	5.2

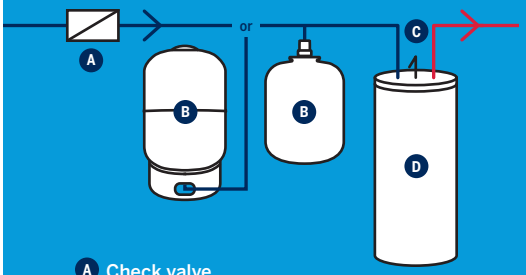


New

Discover our new all-in-one tankless water heaters service valve with expansion tank on page 47.

Installation schematic

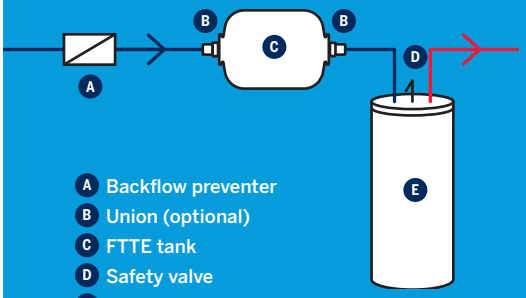
HGTE/HGTEV



- A Check valve
- B HGTE/HGTEV tank
- C Safety valve
- D Water heater

Installation schematic

FTTE



- A Backflow preventer
- B Union (optional)
- C FTTE tank
- D Safety valve
- E Water heater

SERVICE KIT

SERVICE KIT FOR POTABLE SYSTEM

Operation

The service kit for potable water systems includes an expansion tank (HGTE-5, HGTE-8, HGTE-12 or HGTE-25), a stainless steel service center (#HGSC-SS), and a service valve with pressure gauge (#HGSV34). The potable water system service valve from Calefactio combines several functions, one of which allows reading the system pressure at any time.

When the valve is in closed position, it is possible to use it to drain the tank, or perform maintenance. Once the tank is drained, it becomes very easy to verify that the pressure is equal to or greater than that of the municipal network and to adjust it for proper functioning if necessary.

Advantages

- Provides an overview of the state of the system
- Saves time and money

Model#	Content	Weight	
		lb	kg
SERVICEKIT5	HGTE5 + HGSC-SS + HGSV34	8.7	3.95
SERVICEKIT8	HGTE8 + HGSC-SS + HGSV34	12.7	5.77
SERVICEKIT12	HGTE12 + HGSC-SS + HGSV34	14.7	6.68
SERVICEKIT25	HGTE25 + HGSC-SS + HGSV34	17.7	8.05

The kit includes

Service Center
Stainless steel housing

Model#	Length	Height	Width	Weight	
				lb	kg
HGSC-SS	9¼"	4¾"	2⅜"	2.6	1.2

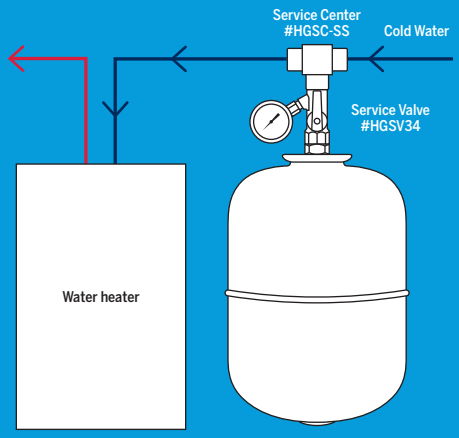
Service Valve With Drain
¾"MNPT × ¾"FNPT

Model#	Weight	
	lb	kg
HGSV34	1.1	0.5

Expansion Tank

Model#	Volume		Weight	
	gal	L	lb	kg
HGTE5	2.1	8	5	2
HGTE8	3.2	12	9	4
HGTE12	4.7	18	11	5
HGTE25	8.0	30	14	6

Installation schematic



ACCESSORIES

HEATING

Wall Support

Compatible with
HGT15

Compatible with
HGT30 HGT60M
TO15 TO30

Model#	Weight	
	lb	kg
BRACKET200MM	0.66	0.3

Model#	Weight	
	lb	kg
BRACKET270MM	0.66	0.3

Service Valve

Model#	Description	Weight	
		lb	kg
#HGSV12	½"MNPT × ½"FNPT	0.66	0.3

⅛"MNPT Pressure Gauge

Model#	Description	Weight	
		lb	kg
GAGE0-30BOTTOM	0-30 PSI	0.22	0.1
GAGE0-100BOTTOM	0-100 PSI	0.22	0.1

Automatic Vent

Model#	Description	Weight	
		lb	kg
R8818	⅛" MNPT	0.24	0.11

Connection Hose

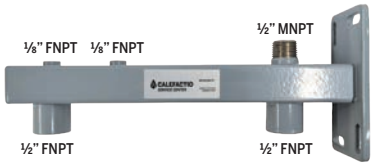
Braided hose 72"

Model#	Description	Weight	
		lb	kg
BH72	½" FNPT × ½" MNPT	1.32	0.6

Heating System Service Center

Steel frame

Compatible with
HGT15
HGT30
HGT60M
HGT60



Model#	Length	Height	Width	Weight		Qty/box*
				lb	kg	
HGSC-MULTI	10¾"	4½"	2⅜"	2.8	1.27	12

POTABLE

Wall Support

Compatible with
HGTE5 FTTE5

Compatible with
HGTE8 HGTE12
FTTE8 FTTE12

Model#	Weight	
	lb	kg
BRACKET200MM	0.66	0.3

Model#	Weight	
	lb	kg
BRACKET270MM	0.66	0.3

Service Valve with Drain

Compatible with
FTTE5 FTTE8 FTTE12 FTTE25
HGTE5 HGTE8 HGTE12 HGTE25

Model#	Description	Weight	
		lb	kg
#HGSV34	¾"MNPT × ¾"FNPT ¼" system gauge	1.1	0.5

Jauge pour test pression maximum

Thanks to its red marker indicating the highest pressure reached, you'll be able to prevent several problems that could be caused by excessive water pressure in your system.

Model#	Description	Weight	
		lb	kg
WPG-C	GHT ¾", 0-200 PSI	0.2	0.1

Potable Water Service Center

Stainless steel housing

Compatible with
HGTE5
HGTE8
HGTE12
HGTE25

Model#	Length	Height	Width	Weight		Qty/box*
				lb	kg	
HGSC-SS	9¼"	4¾"	2⅜"	2.6	1.18	20

*This product is sold individually, but it can also be sold in a master pack.

VENTS, AIR, DIRT AND HYDRAULIC SEPARATORS

THE PERFECT SOLUTION TO AIR AND DIRT PROBLEMS IN HEATING SYSTEMS

The Cal-X-Tract air and dirt product line from Calefactio reduce the risk of corrosion and damage that could be caused by the oxygen, micro-bubbles and impurities in the systems of heating.

Reduces the risk of corrosion

Improve system efficiency

Limits the risk of pump cavitation

VENTS, AIR, DIRT AND HYDRAULIC SEPARATORS

CAL-X-TRACT

AIR AND DIRT SEPARATORS

CAL-X-TRACT-D
Dirt Separators

CAL-X-TRACT-D-MAG
Dirt Separators
with Magnet

CAL-X-TRACT
Air Separators

CAL-X-TRACT-AD
Air and Dirt
Separators

CAL-X-TRACT-AD-MAG
Air and Dirt Separators
with Magnet

CALBALANCE
Hydraulic Separators

CALVENT
Automatic Air Vent

MAGNET

CALVENT

AUTOMATIC AIR VENT

Technical Specifications

Material

- Body: brass
- Cover: brass
- Float: polypropylene
- Float guide: brass
- Float linkage: stainless steel
- O-ring: EPDM

Adapted fluids

Water and 50% glycol solution

Advantages

- Float guided by a tree
- Easy to disassemble hexagonal head for cleaning and maintenance
- Enhances heating systems efficiency
- A system without air allows full contact between the liquid and transfer surfaces offering an optimized temperature control
- Limits system components' corrosion
- Vent pipe connection ½" MNPT

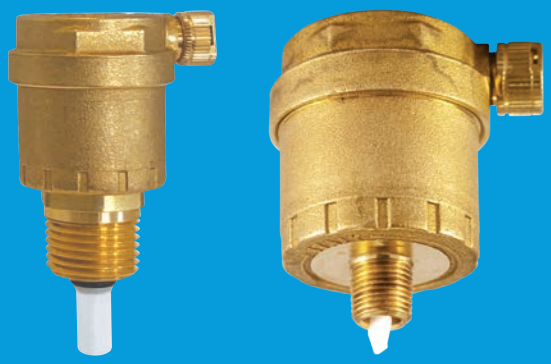
Model#	Connection	Maximum Operation Pressure	Temp. Range		A		B		Weight		Qty/box*
			°C	°F	in	mm	in	mm	lb	kg	
CV050	½"FNPT × ¾"MNPT	150 PSI	0-121	32-250	2¼	56	5⅓	136	1,6	0,73	18

*This product is sold individually, but it can also be sold in a master pack.

AUTOMATIC BRASS VENTS

Calefactio's automatic brass vents evacuate trapped air to restore optimal functioning of the installation. They are made of solid brass able to resist high temperatures up to 120°C/248°F. These vents evacuate the air laterally reducing the accumulation of foreign bodies in the seat.

Model#	Connection	Pressure	Dimension		Weight	
			Width	Height	lb	kg
R8818	⅛"MNPT	150 PSI	1¾"	2"	0.24	0.11
R8814	¼"MNPT	150 PSI	1¾"	2"	0.25	0.11
R8812	½"MNPT	150 PSI	1¾"	2¼"	0.22	0.10



CAL-X-TRACT

AIR AND DIRT SEPARATORS

The Cal-X-Tract air and dirt product line from Calefactio reduce the risk of corrosion and damage that could be caused by the oxygen, micro-bubbles and impurities in the systems of heating.

They are equipped with a stainless steel bristles coalescing media to catch the finest micro-bubbles, air and dirt particles without affecting the flow. The coalescence process produced by the media allows air and micro-bubbles to fusion and then be evacuated through the Calvent automatic vent. As for the dirt, they will collide with each other to then fall to the bottom of the separator to be drained.

Their function allowing a better energetic performance while reducing the costly maintenance frequency. Their sturdy design allows to maintain their efficiency for whole duration of the system's lifetime.

Dirt Separators

A

Dirt Separators with Magnet

B

Air Separators

C

Air and Dirt Separators

D

Air and Dirt Separators with Magnet

E

Features	A	B	C	D	E
Facilitates the separation and accumulation of ferrous impurities in the system		X			X
Reduces the risk of corrosion caused by oxygen			X	X	X
Limits the risk of pump cavitation			X	X	X
Improves system efficiency	X	X	X	X	X
Increases component life	X	X	X	X	X
Eliminates annoying noises in the system	X	X	X	X	X

CAL-X-TRACT
AIR SEPARATORS

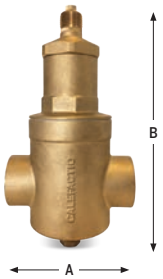
Technical Specifications

- Coalescent media: 316 stainless steel
- Connections: NPT, Sweat or Press, ¾" to 2"
- Body: brass
- Adapted fluids: water and 50% glycol solution
- Maximum temperature: 120°C (250°F)
- Maximum design pressure: 150 PSI
- Equipped with a vent pipe connection
- Calvent automatic air vent
- Equipped with a vent pipe connection

NPT

Air separators

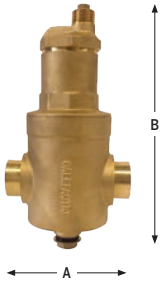
Model#	Connect.	Dimension				Weight		Qty/box†
		A		B				
		in	mm	in	mm	lb	kg	
CXT-075NC	¾"*	3⅜	85	6⅞	176	2.0	0.9	21
CXT-100N	1"	4½	115	8½	215	4.0	1.8	8
CXT-125N	1¼"	4½	115	8½	215	4.0	1.8	8
CXT-150N	1½"	8½	215	8½	215	4.4	2.0	8
CXT-200N	2"	8½	215	8½	215	4.2	1.9	8



Sweat

Air separators

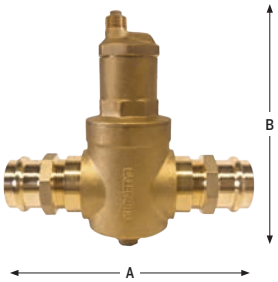
Model#	Connect.	Dimension				Weight		Qty/box†
		A		B				
		in	mm	in	mm	lb	kg	
CXT-075SC	¾"*	3⅝	92	6⅞	176	2.0	0.9	21
CXT-100S	1"	4½	115	8½	215	4.0	1.8	8
CXT-125S	1¼"	4½	115	8½	215	3.75	1.7	8
CXT-150S	1½"	5⅛	131	8½	215	4.6	2.1	8
CXT-200S	2"	5⅛	143	8½	215	4.6	2.1	8



Press

Air separators

Model#	Connect.	Dimension				Weight		Qty/box†
		A		B				
		in	mm	in	mm	lb	kg	
CXT-075PC	¾"*	6⅜	162	6⅞	176	2.4	1.1	21
CXT-100P	1"	7½	190	8½	215	4.5	2.1	8
CXT-125P	1¼"	8	203	8½	215	4.9	2.2	8
CXT-150P	1½"	8½	216	8½	215	5.7	2.6	8
CXT-200P	2"	9	229	8½	215	6.2	2.8	8



*Compact. †This product is sold individually, but it can also be sold in a master pack.

CAL-X-TRACT
DIRT SEPARATORS

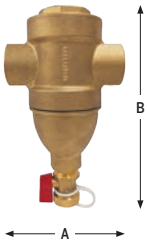
Technical Specifications

- Coalescent media: 316 stainless steel
- Connections: NPT, Sweat or Press, ¾" to 2"
- Drain valve: ¾"
- Magnet connection: ¾" (optional)
- Body: brass
- Adapted fluids: water and 50% glycol solution
- Maximum temperature: 120°C (250°F)
- Maximum design pressure: 150 PSI

With Magnet

Models with a magnet facilitate the separation and accumulation of ferrous impurities thanks to their magnetic field. Some non-errous particles are also captured.

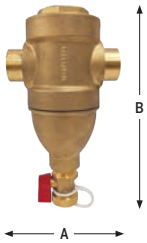
Dirt separators



NPT

Model#	Connect.	Dimension A in	Dimension A mm	Dimension B in	Dimension B mm	Weight lb	Weight kg
CXTD-075N	¾"	4.5	115	8.3	210	3.7	1.7
CXTD-100N	1"	4.5	115	8.3	210	3.7	1.7
CXTD-125N	1¼"	4.5	115	8.3	210	3.7	1.7
CXTD-150N	1½"	4.5	115	8.3	210	4.1	1.9
CXTD-200N	2"	4.5	115	8.3	210	3.9	1.8

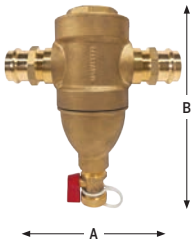
Dirt separators



Sweat

Model#	Connect.	Dimension A in	Dimension A mm	Dimension B in	Dimension B mm	Weight lb	Weight kg
CXTD-075S	¾"	4.5	115	8.3	210	3.4	1.6
CXTD-100S	1"	4.5	115	8.3	210	3.4	1.6
CXTD-125S	1¼"	4.5	115	8.3	210	3.4	1.6
CXTD-150S	1½"	5.6	143	8.3	210	4.3	2.0
CXTD-200S	2"	5.6	143	8.3	210	4.1	1.9

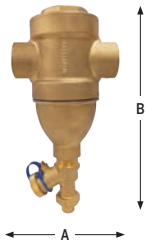
Dirt separators



Press

Model#	Connect.	Dimension A in	Dimension A mm	Dimension B in	Dimension B mm	Weight lb	Weight kg
CXTD-075P	¾"	6.5	166	8.3	210	3.7	1.7
CXTD-100P	1"	6.5	166	8.3	210	3.7	1.7
CXTD-125P	1¼"	8.0	204	8.3	210	3.7	1.7
CXTD-150P	1½"	8.3	211	8.3	210	4.1	1.9
CXTD-200P	2"	9.0	229	8.3	210	3.9	1.8

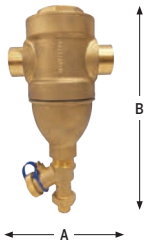
Dirt separators
With magnet



NPT

Model#	Connect.	Dimension A in	Dimension A mm	Dimension B in	Dimension B mm	Weight lb	Weight kg
CXTD-075N-MAG	¾"	4.5	115	9.3	235	4.3	2.0
CXTD-100N-MAG	1"	4.5	115	9.3	235	4.3	2.0
CXTD-125N-MAG	1¼"	4.5	115	9.3	235	4.3	2.0
CXTD-150N-MAG	1½"	4.5	115	9.3	235	4.8	2.2
CXTD-200N-MAG	2"	4.5	115	9.3	235	4.6	2.1

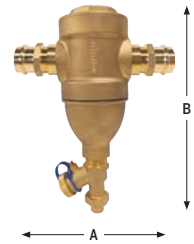
Dirt separators
With magnet



Sweat

Model#	Connect.	Dimension A in	Dimension A mm	Dimension B in	Dimension B mm	Weight lb	Weight kg
CXTD-075S-MAG	¾"	4.5	115	9.3	235	4.1	1.9
CXTD-100S-MAG	1"	4.5	115	9.3	235	4.1	1.9
CXTD-125S-MAG	1¼"	4.5	115	9.3	235	4.1	1.9
CXTD-150S-MAG	1½"	5.6	143	9.3	235	5.0	2.3
CXTD-200S-MAG	2"	5.6	143	9.3	235	4.8	2.2

Dirt separators
With magnet



Press

Model#	Connect.	Dimension A in	Dimension A mm	Dimension B in	Dimension B mm	Weight lb	Weight kg
CXTD-075P-MAG	¾"	4.5	115	9.3	235	4.3	2.0
CXTD-100P-MAG	1"	4.5	115	9.3	235	4.3	2.0
CXTD-125P-MAG	1¼"	4.5	115	9.3	235	4.3	2.0
CXTD-150P-MAG	1½"	4.5	115	9.3	235	4.8	2.2
CXTD-200P-MAG	2"	4.5	115	9.3	235	4.6	2.1

CAL-X-TRACT
AIR AND DIRT SEPARATORS

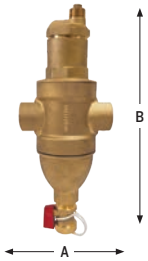
Technical Specifications

- Coalescent media: 316 stainless steel
- Connections: NPT, Sweat or Press, ¾" to 2"
- Drain valve: ¾"
- Magnet connection: ¾"(optional)
- Body: brass
- Adapted fluids: water and 50% glycol solution
- Maximum temperature: 120°C (250°F)
- Maximum design pressure: 150 PSI
- Equipped with a vent pipe connection
- Calvent automatic air vent

With Magnet

Models with a magnet facilitate the separation and accumulation of ferrous impurities thanks to their magnetic field. Some non-errous particles are also captured.

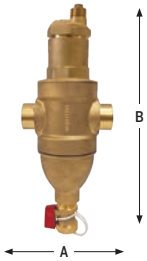
Air and dirt separators



NPT

Model#	Connect.	Dimension				Weight	
		A		B			
		in	mm	in	mm	lb	kg
CXTAD-075N	¾"	4.5	115	11.6	295	4.5	2.1
CXTAD-100N	1"	4.5	115	11.6	295	4.8	2.2
CXTAD-125N	1¼"	4.5	115	11.6	295	4.8	2.2
CXTAD-150N	1½"	4.5	115	11.6	295	5.2	2.4
CXTAD-200N	2"	4.5	115	11.6	295	5.0	2.3

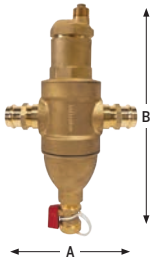
Air and dirt separators



Sweat

Model#	Connect.	Dimension				Weight	
		A		B			
		in	mm	in	mm	lb	kg
CXTAD-075S	¾"	4.5	115	11.6	295	4.5	2.1
CXTAD-100S	1"	4.5	115	11.6	295	4.5	2.1
CXTAD-125S	1¼"	4.5	115	11.6	295	4.5	2.1
CXTAD-150S	1½"	5.6	143	11.6	295	5.4	2.5
CXTAD-200S	2"	5.6	143	11.6	295	5.2	2.4

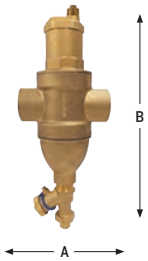
Air and dirt separators



Press

Model#	Connect.	Dimension				Weight	
		A		B			
		in	mm	in	mm	lb	kg
CXTAD-075P	¾"	6.5	166	11.6	295	4.5	2.1
CXTAD-100P	1"	6.5	166	11.6	295	4.8	2.2
CXTAD-125P	1¼"	8.0	204	11.6	295	4.8	2.2
CXTAD-150P	1½"	9.4	239	11.6	295	5.2	2.4
CXTAD-200P	2"	10.1	257	11.6	295	5.0	2.3

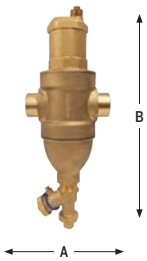
Air and dirt separators
With magnet



NPT

Model#	Connect.	Dimension				Weight	
		A		B			
		in	mm	in	mm	lb	kg
CXTAD-075N-MAG	¾"	4.5	115	12.6	320	5.2	2.4
CXTAD-100N-MAG	1"	4.5	115	12.6	320	5.5	2.5
CXTAD-125N-MAG	1¼"	4.5	115	12.6	320	5.5	2.5
CXTAD-150N-MAG	1½"	4.5	115	12.6	320	5.9	2.7
CXTAD-200N-MAG	2"	4.5	115	12.6	320	5.7	2.6

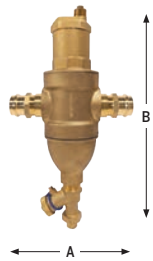
Air and dirt separators
With magnet



Sweat

Model#	Connect.	Dimension				Weight	
		A		B			
		in	mm	in	mm	lb	kg
CXTAD-075S-MAG	¾"	4.5	115	12.6	320	5.2	2.4
CXTAD-100S-MAG	1"	4.5	115	12.6	320	5.2	2.4
CXTAD-125S-MAG	1¼"	4.5	115	12.6	320	5.2	2.4
CXTAD-150S-MAG	1½"	5.6	143	12.6	320	6.1	2.8
CXTAD-200S-MAG	2"	5.6	143	12.6	320	5.9	2.7

Air and dirt separators
With magnet



Press

Model#	Connect.	Dimension				Weight	
		A		B			
		in	mm	in	mm	lb	kg
CXTAD-075P-MAG	¾"	4.5	115	12.6	320	5.9	2.7
CXTAD-100P-MAG	1"	4.5	115	12.6	320	6.1	2.8
CXTAD-125P-MAG	1¼"	4.5	115	12.6	320	6.3	2.9
CXTAD-150P-MAG	1½"	5.6	143	12.6	320	7.2	3.3
CXTAD-200P-MAG	2"	5.6	143	12.6	320	7.9	3.6

VENTS / MAGNET / AIR VALVES

Industrial Vents

Calefactio's industrial vents reduce the accumulation of air in the systems while improving their efficiency. Installed at high points in your piping system, the industrial vents eliminate air pockets, providing an inexpensive method to reduce air pressure in the system.

Model#	Connection	Maximum Pressure	Maximum Temperature	Inlet	Outlet	Weight	
						lb	kg
MV15	¾" FNPT	150 PSI 1034 kPa	250°F 121°C	¾" NPT	½" NPT	5.5	2.5

Magnet

This magnet captures ferrous and non-ferrous particles thanks to its magnetic field. Non-ferrous particles are captured due to the cross contamination occurred when particles are charged with the velocity rate of the stream.

Iron particles contaminate non-ferrous particles by attracting them to the statically charged surface. Another form of cross contamination occurs when iron particles strike non-ferrous particles, creating a static charge transmission on the non-ferrous particles.

When cleaning simply open the valve and drain, wipe the magnet removing all particle residues and reinstall.

Model#	Connection	Weight	
		lb	kg
MAGNET7075	¾"	0.8	0.4

Coin or Key Air Valves

Air valves are designed to reduce the operating frequency of the burner in hydronic and vapour heating systems to save energy. They are made of anticorrosive material and offer a waterproof closure.

Model#	Connection	Description	Weight		Qty/ box*
			lb	kg	
HG9	⅛"MNPT	Room ventilation	1.1/50 units	0.5/50 units	50
HG10	⅛"MNPT	Keyed vent	1.1/50 units	0.5/50 units	10
HKEY	n/a	Key for HG10 and HG14	0.66/50 units	0.3/50 units	–
HG14	⅛"MNPT	Kit for key valve and tube kit 20"	0.22	0.10	–
HG14A	⅛"MNPT	Kit for room valve and tube 20"	0.22	0.10	–

*This product is sold individually, but it can also be sold in a master pack.

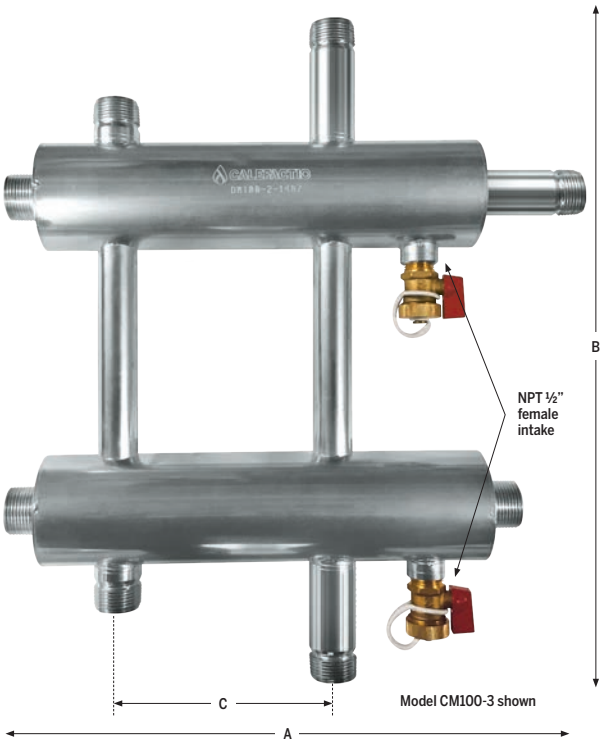
HG9

HG14

CALMAN
HEATING DISTRIBUTION MANIFOLD

The Calman distribution manifold allows the user to connect all the heating zones in a single point.

The Calman heat distribution manifold guarantees a uniform temperature of heat carrying liquid in each zone while increasing time and money savings because it is only necessary to install one item rather than a large number of elbows and tees in order to create the required zones.



Model CM100-3 shown

Technical Specifications

- Maximum temperature: 100°C (212°F)
- Maximum design pressure: 150 PSI
- Steel frame
- Drain valve included
- Zone connection: 1 in

Advantages

- Guarantees a uniform temperature
- Saves time and money
- Reduces the number of potential leak points
- Sufficient space planned to accept pumps between each zone
- Connects directly to the Calbalance hydraulic separator

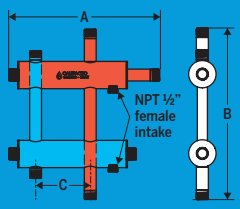
Model#	Connect.	Zones	A		B		C		Weight	
			in	mm	in	mm	in	mm	lb	kg
CM100-3	1"	3	16½	421	18¾	476	6	152.4	3.8	1.7
CM100-4	1"	4	28½	725	18¾	476	6	152.4	4.0	1.8
CM125-4	1¼"	4	28½	725	18¾	476	6	152.4	4.0	1.8
CM125-5	1¼"	5	28½	725	18¾	476	6	152.4	4.4	2.0

Accessories

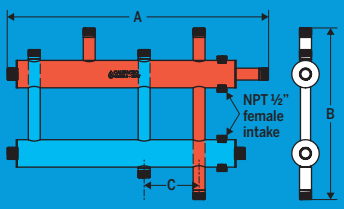
Drain Valve

Model#	Description	Weight	
		lb	kg
DV12	½" Connection	0.2	0.1

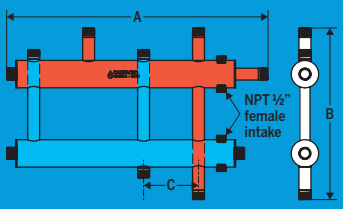
MODELS



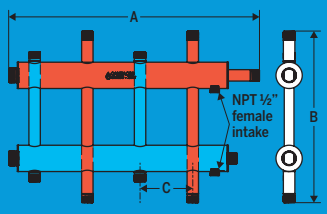
CM100-3



CM100-4



CM125-4



CM125-5

*Sold together or individually.

CALBALANCE NPT
HYDRAULIC SEPARATORS

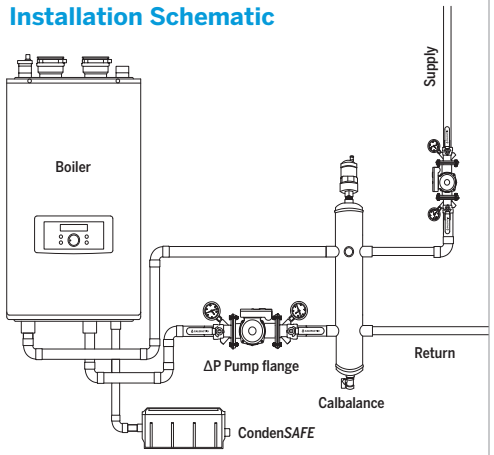
Technical Specifications

- Equipped with a Calvent automatic air vent (#CV050)
- Separates air Offered with drain valve (#DV34)
- Housing in carbonized steel
- Wall support included
- Maximum operating pressure: 150 PSI
- Max. operating temp. with isolation: 100°C (212°F)
- Max. operating temp. without isolation: 132°C (270°F)
- Adapted fluids: water and 50% glycol solution

Advantages

- Simple to install
- Easy maintenance
- ½" FNPT thermometer port

Installation Schematic



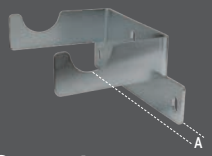
Calbalance NPT

Model#	Connect. FNPT	Flow		Dimension										Weight	
				A		B		C		D		E			
	in	GPM	m³/h	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
CB100	1	11	2.5	3	76	26	660	10½	267	8⅝	220	6¾	172	8.4	3.8
CB125	1¼	18	4	3½	89	28	710	11¼	282	9½	240	7⅜	188	10.6	4.9
CB150	1½	26	6	4½	114	30	760	11¾	298	10¼	260	8	203	14.5	6.6
CB200	2	39	9	5½	140	32	810	11¾	298	11⅞	300	8⅜	213	19.8	8.9

Included

Automatic air vent

#Model	Description	Weight	
		lb	kg
CV050	Connection ½" FNPT x ¾" MNPT	1.6	0.73



Wall Support

Compatible with	A*		Weight	
	in	mm	lb	kg
CB100	2⅞	73	0.6	0.3
CB125	3⅜	86	0.8	0.4
CB150	3⅞	98	1.0	0.5
CB200	4⅜	111	1.8	0.8

*Distance to the centre of the wall.

Drain Valve

Model#	Description	Weight	
		lb	kg
DV34	¾" Connection	0.2	0.1

Optional

Available with preformed polyurethane insulation to minimize heat loss.

Preformed Insulation

Model#	Compatible with	Weight	
		lb	kg
CB100-FOAM	CB100	0.44	0.2
CB125-FOAM	CB125	0.44	0.2
CB150-FOAM	CB150	0.66	0.3
CB200-FOAM	CB200	0.66	0.3

Magnet

Model#	Connection	Weight	
		lb	kg
MAGNET7075	¾"	0.8	0.4
MAGNET10075	¾"	1.3	0.6

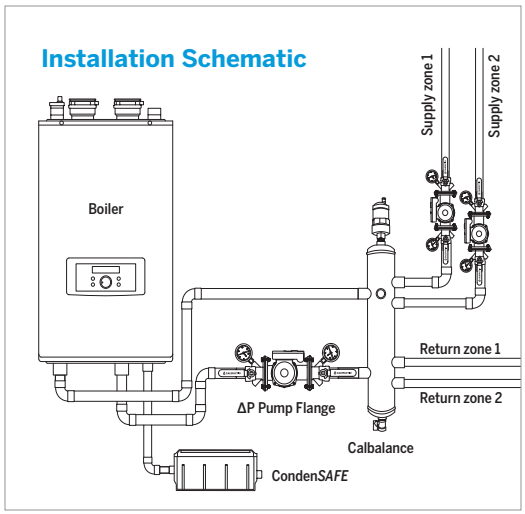
CALBALANCE NPT 2 ZONES
HYDRAULIC SEPARATORS

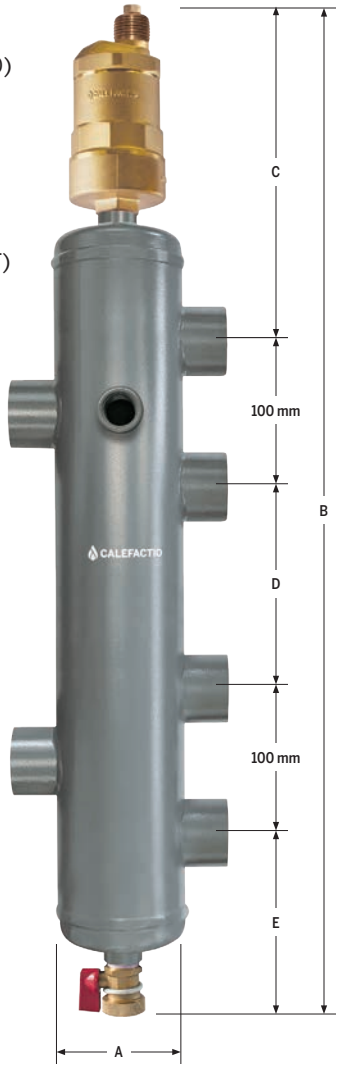
Technical Specifications

- Equipped with a Calvent automatic air vent (#CV050)
- Separate air
- Offered with drain valve (#DV34)
- Housing in carbonized steel
- Wall support included
- Maximum operating pressure: 150 PSI
- Max. operating temp. with isolation: 100°C (212°F)
- Max. operating temp. without isolation: 132°C (270°F)
- Adapted fluids: water and 50% glycol solution

Advantages

- Simple to install
- Easy maintenance
- ½" FNPT thermometer port





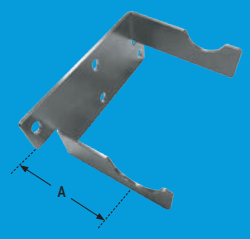
Calbalance NPT/2 zones

Model#	Conn. FNPT	Flow		Dimension										Weight	
				A		B		C		D		E			
	in	GPM	m³/h	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
CB1002Z	1	11	2.5	3	76	25¾	653	8⅛	206	4¾	120	5	127	8.8	4
CB1252Z	1¼	18	4	3½	89	27½	698	8½	218	5½	140	5½	140	11.2	5.1

Included

Automatic air vent

#Model	Description	Weight	
		lb	kg
CV050	Connection ½" FNPT x ¾" MNPT	1.6	0.73



Wall Support

Compatible with	A*		Weight	
	in	mm	lb	kg
CB1002Z	2⅞	73	0.6	0.3
CB1252Z	3⅜	86	0.8	0.4

*Distance to the centre of the wall.

Drain Valve

Model#	Description	Weight	
		lb	kg
DV34	¾" Connection	0.2	0.1

Optional

Magnet

Model#	Connection	Weight	
		lb	kg
MAGNET7075	¾"	0.8	0.4
MAGNET10075	¾"	1.3	0.6

CALBALANCE WITH FLANGE
HYDRAULIC SEPARATORS

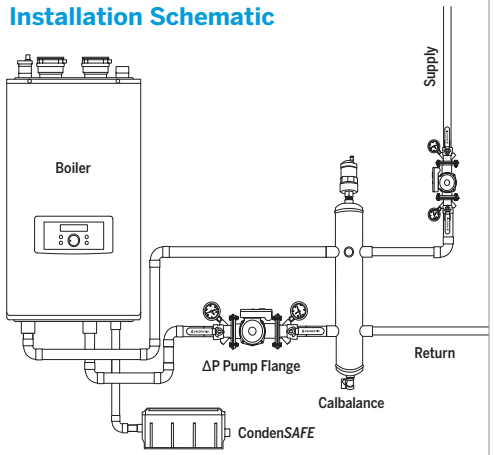
Technical Specifications

- Equipped with a Calvent automatic air vent (#CV050)
- Separate air with baffles
- Housing in carbonized steel
- Adapted fluids: water and 50% glycol solution
- Models with connections of 6 in or greater supplied on stand
- Supplied with a drain valve
- Maximum operating pressure: 10 bar/150 PSI
- Operating temperature: 0-132°C/32-270°F

Advantages

- Simple to install
- Easy to maintain
- Eliminates the need to install an automatic air vent and a dirt separator

Installation Schematic



Accessories

Magnet

#Model	Connection	Weight	
		lb	kg
MAGNET10075	¾"	1.3	0.6

Calbalance with Flange

NON-ASME Models

Model#	Connect.	Flow		Dimension													Weight	
				A		B		C		D		E		F		G		
	in	GPM	m³/h	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	lb	kg
CB250F	2½	88	20	6⅝	168	41¼	1049	13¾	350	15¼	388	13	330	13	331	1	60	27
CB300F	3	132	30	8⅝	219	43 3/16	1147	18⅜	467	14⅞	377	17¾	450	12⅝	320	1	75	34
CB400F	4	255	58	8⅝	219	43 3/16	1147	18⅜	467	14⅞	377	17¾	450	12⅝	320	1	84	38

Also available in ASME version on page 78.

ECONOMICAL, EFFICIENT AND ROBUST

System filling with an independant glycol container is now easier than ever with the 3-way valve and filling kit, unique to Calefactio's GMP design. The optional remote alarm kit also alerts the user if there is a system leak, allowing quick corrective actions.

Easy filling

Provide leak detection

Prevent major floods

Their function is to automatically supply pressurized water or a water/glycol mixture to a closed-loop space heating, chilled water, snowmelt, solar, radiant heating or process control system, to ensure that minimum system pressure levels are maintained.

GMP
Glycol Make-up Package

GMP4 GMP6

RESIDENTIAL AND COMMERCIAL

COMMERCIAL AND INDUSTRIAL

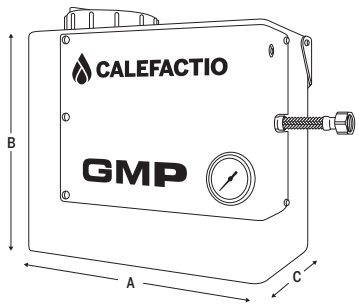
GMP4

Calefactio's GMP are economical yet rugged, compact and easy to use fluid feeders for small closed-loop systems.

Their function is to automatically supply pressurized water or a water/glycol mixture to a closed-loop space heating, chilled water, snowmelt, solar, radiant heating or process control system, to ensure that minimum system pressure levels are maintained.

Advantages

- No direct connection to potable water supply
- Provide leak detection
- Low level alarm
- Easy maintenance
- By-pass valve
- Self priming pump
- Connected with a flexible braided hose



#GMP4 Model

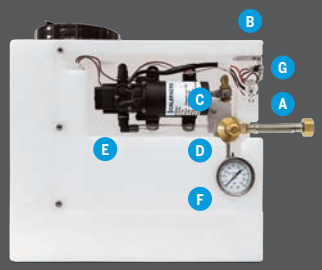
Volume		Pompe	Dimension						Weight	
			A		B		C			
gal	L	PSI	in	mm	in	mm	in	mm	lb	kg
4	15	100	16¼	412.8	13½	343	7½	190.5	9.6	4.4

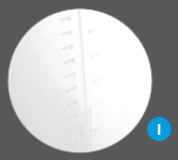
Prevent major floods

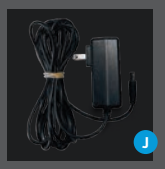
Discover the master kit junior which includes seven products in a single box on page 10.

Specifications

- Easy to adjust PRV to maintain system pressure
- 24V Pump, 35 PSI (241 kPa), 1.06 GPM (3.8 LPM)
- Level switch – stops the pump if fluid level in the tank is too low
- Integrated low liquid level float for audible alarm
- Discharge connection: ½" FNPT







- **A** Flexible braided hose
- **B** ¾" opening for relief valve
- **C** By-pass valve
- **D** PRV
- **E** 24V Pump, 35 PSI (241 kPa), 1.06 GPM (3.8 LPM)
- **F** Glycerine filled pressure gauge (0-100 PSI)
- **G** Adaptor plug
- **H** Included wall support
- **I** Heavy duty roto-molded tank with embossed graduation for a liquid level indicator that won't fade away.
- **J** 24V Adaptor

GMP6/GMP18 GMPLC55/GMPLC100

Calefactio's GMP are economical yet rugged, compact and easy to use fluid feeders for small closed-loop systems.

Their function is to automatically supply pressurized water or a water/glycol mixture to a closed-loop space heating, chilled water, snowmelt, solar, radiant heating or process control system, to ensure that minimum system pressure levels are maintained.

Technical Specifications

Model#	Volume		Pump	Dimension						Weight	
				A		B		C			
	gal	L	PSI	in	mm	in	mm	in	mm	lb	kg
GMP6	6	22.7	60	12	305	17.5	445	12	305	18.9	8.6
GMP18	18	68.1	60	12	305	39.3	997	12	305	26.6	12.1
GMPLC55	55	208	100	24	610	48.0	1219	–	–	37.8	17.2
GMPLC100	100	379	100	33	838	62.0	1575	–	–	51.5	23.4
GMP6S	6	15.0	100	16¼	413	13.5	343	7.5	190.5	9.6	4.4
GMP18S	18	22.7	100	12	305	17.5	445	12	305	18.9	8.6

Discover the master kit junior which includes seven products in a single box on page 10.

Specifications

- Pump: 1.6 GPM (6 L/m) GMP6 and GMP18: 60 PSI GMPLC55 and GMPLC100: 100 PSI
- Discharge connection: ½" FNPT
- 120 VAC/1 ph/60 Hz, standard plug with 1.8 m (6 ft) power cord.
- Level switch with plug (piggyback), pump power cutoff when the liquid in the tank is too low.
- The pressure regulation valve is easily adjustable to maintain pressure up to 412.8 kPa (60 psig), and 690 kPa (100 psig) for solar models.

- **A** Flexible braided hose
- **B** ¾" Opening for return from the system safety valve
- **C** By-pass valve
- **D** Pressure adjustment valve
- **E** Pump
- **F** Glycerine pressure gauge (0-100 PSI)
- **G** 3-way filling valve**

*GMP6 and GMP18 only.

ACCESSORIES

Audible Alarm

Compatible with

GMP4

Model#	Description	Weight	
		lb	kg
GMP4ALARM	Low liquid level alarm	0.1	0.04

Wall Mounting Shelf

Compatible with

GMP6

Model#	Description	Weight	
		lb	kg
GMP6WMS	Wall support for GMP6	7.48	3.4

Connection Hose

Compatible with

GMP4

GMP6

GMP18

GMPLC55

GMPLC100

Model#	Description	Weight	
		lb	kg
BH72	72" Braided hose ½" FNPT × ½" MNPT	1.32	0.6

Alarm Panel Kit

Compatible with

GMP6

GMP18

GMPLC55

GMPLC100

Model#	Description	Weight	
		lb	kg
GMPAL	Remote low level alarm	1.98	0.9

Float

Compatible with

GMP6

GMP18

GMPLC55

GMPLC100

Model#	Description	Weight	
		lb	kg
GMPDC	Low level interrupter	1.32	0.6

Filling Kit

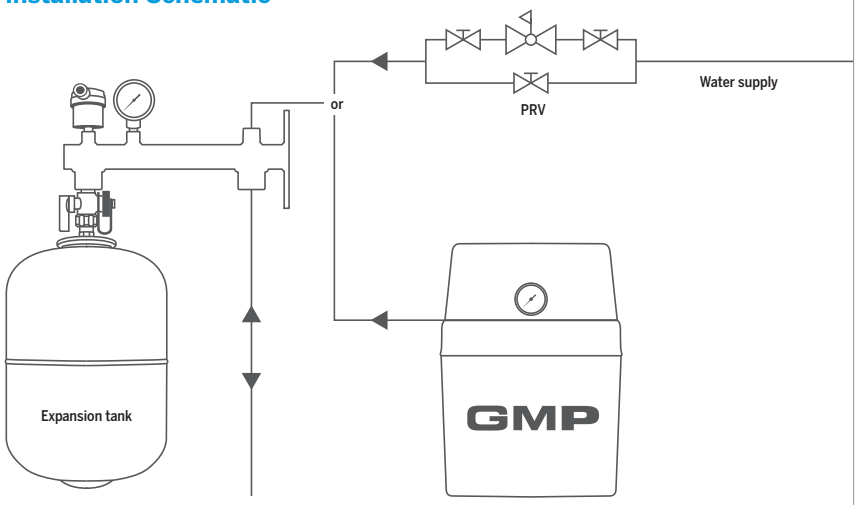
Compatible with

GMP6

GMP18

Model#	Description	Weight	
		lb	kg
GMPFILLINGKIT	Reusable hose	0.22	0.1

Installation Schematic

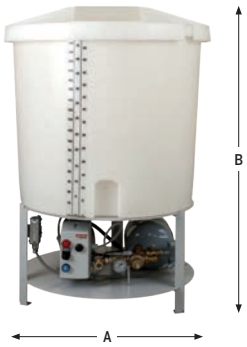


SIMPLE/DUPLEX/TWIN

Simple GMP

- Tank, 50 or 100 gallons
- 1 booster pump of ⅓ or ½ H.P.
- 1 pressure regulator
- Pressure maintained between 10 and 70 PSI

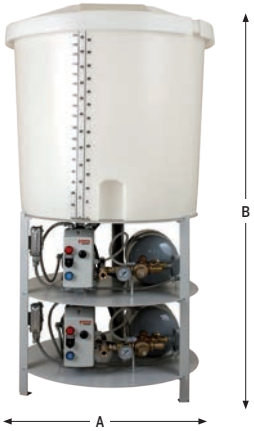
Model#	Motor		Volume		Dimension				Weight	
					A		B			
	HP	kW	gal	L	in	mm	in	mm	lb	kg
GMP13050	⅓	0.2	50	189	28	710	42	1070	90	41
GMP13100	⅓	0.2	100	378	28	710	67	1700	105	47
GMP15050	½	0.4	50	189	28	710	42	1070	95	43
GMP15100	½	0.4	100	378	28	710	67	1700	110	49



Duplex GMP

- Tank, 50 or 100 gallons
- 2 booster pumps of ⅓ or ½ H.P.
- 2 pressure regulators
- Pressure maintained between 10 and 70 PSI

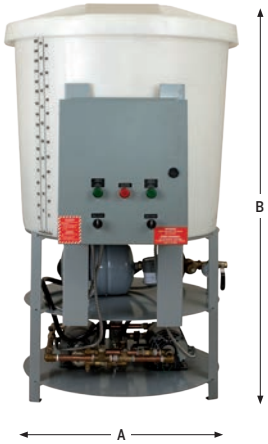
Model#	Motor		Volume		Dimension				Weight	
					A		B			
	HP	kW	gal	L	in	mm	in	mm	lb	kg
GMPD23050	⅓	0.2	50	189	28	710	55	1400	153	69
GMPD23100	⅓	0.2	100	378	28	710	78	1980	166	75
GMPD25050	½	0.4	50	189	28	710	55	1400	153	69
GMPD25100	½	0.4	100	378	28	710	78	1980	166	75



Twin GMP

- Tank, 50 or 100 gallons
- 2 booster pumps of ⅓ or ½ H.P.
- 2 pressure regulators
- Pressure maintained between 10 and 70 PSI
- Alternation managed by a control panel supplied by an alternator and two magnetic starters

Model#	Motor		Volume		Dimension				Weight	
					A		B			
	HP	kW	gal	L	in	mm	in	mm	lb	kg
GMPT33050	⅓	0.2	50	189	28	710	55	1400	188	85
GMPT33100	⅓	0.2	100	378	28	710	78	1980	201	91
GMPT35050	½	0.4	50	189	28	710	55	1400	188	85
GMPT35100	½	0.4	100	378	28	710	78	1980	201	91



Specifications

Make-up capacity
1.8 gpm @ 70 PSI
6.8 L/m @ 482 kPa

Voltage
120 V/1 ph/60 Hz

Pressure range
10-70 PSI/69-482 kPa

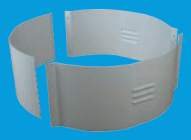
Each Set Includes

- Base on stand
- Pump and motor (one or two)
- Liquid detection probe
- Manometer
- Audible and visual alarm panel
- Magnetic starter with selector (automatic, manual, off)
- Tank, 50 or 100 gallons

Optional

High Level Alarm
GMPOF

Protective Skirts
GMPJU



CONDENSAFE™

CONDENSATE NEUTRALIZER

AN INNOVATION IN CONDENSATE NEUTRALIZER DOMAIN

Engineered media is contained in a bag that can be replaced without having to disconnect the unit. They are economical and environment friendly.

No messy media replacement

Simple to install

Environment friendly

CONDENSATE NEUTRALIZER

CONDENSAFE™ NEUTRALIZER CS2

CS2 NEUTRALIZER

- 1 section
- Treatment capacity: 2,1 GPH

CONDENSAFE™ NEUTRALIZER CS6

CS6 NEUTRALIZER

- 3 sections
- Maximum capacity treatment: 6.3 GPH

CONDENSAFE™ NEUTRALIZER CSNP20

NEUTRALIZER WITH PUMP

- 2 sections
- Maximum treatment capacity: 4.2 GPH

CONDENSAFE™ NEUTRALIZER CSC28

HIGH CAPACITY NEUTRALIZER

- Commercial
- Modular
- Treatment capacity: 10,500 MBH

CONDENSAFE™ NEUTRALIZER CS2

We have included a 12-month time indicator so the user knows exactly when to replace it to protect the environment and the components of the building.

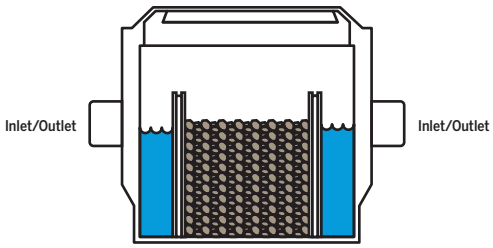
Technical Specifications

A		B		C		D		Inlet Outlet	Weight		Treatment Capacity 1 Section				Maximum Treatment Volume†	
in	cm	in	cm	in	cm	in	cm		lb	kg	MBH	kWh	gal/h	L/h	GPH	LPH
5¾	14.5	4¾	12	5	13	2½	6	¾" FNPT	2.9	1.32	525	154	2.1	8	2.1	8

† Verify the flow of condensate produced by your device. Generally speaking, a boiler with a capacity of 500,000 BTU/h at 92% efficiency should generate about 1.6 gal/h of condensate.

Advantages

- Brackets are included to fix the unit to the wall
- Engineered media is contained in a replaceable bag
- No disconnection required to replace media
- Time indicator (12 months) included
- No by-pass needed
- Economical and environment friendly
- Can be connected to hard piped
- Long-life heavy duty tank and cove



The date label has been replaced with a new time indicator that you need to activate and put on top of the cover.

Included

Time Indicator
12 months

Model#	Weight	
	lb	kg
CSTS	0.44	0.002

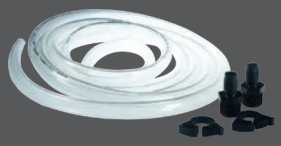
Media Bag (1)

Model#	Weight	
	lb	kg
CSM2	1.7	0.78

Straight Fitting
¾" Connection

90° Elbow

Optional



Hose and clips kit

Model#	Weight		Qty/box*
	lb	kg	
CSHK	1.32	0.6	12

* This product is sold individually, but it can also be sold in a master pack.

CONDENSAFE™ NEUTRALIZER CS6

Technical Specifications

A		B		C		D		E		Inlet Outlet	Weight		Qty/box*
in	cm	in	cm	in	cm	in	cm	in	cm		lb	kg	
12	30.5	4¾	12	5½	14	2½	6	3	7.6	½" FNPT	4.18	1.9	6

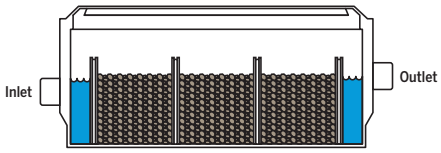
*This product is sold individually, but it can also be sold in a master pack.

Treatment Capacity												Maximum Treatment Volume†	
1 Section				2 Sections				3 Sections					
MBH	kWh	gal/h	L/h	MBH	kWh	gal/h	L/h	MBH	kWh	gal/h	L/h	GPH	LPH
525	154	2.1	8	1050	308	4.2	16	1575	461	6.3	24	6.3	24

†Verify the flow of condensate produced by your device. Generally speaking, a boiler with a capacity of 500,000 BTU/h at 92% efficiency should generate about 1.6 gal/h of condensate.

Advantages

- Brackets are included to fix the unit to the wall
- Engineered media is contained in a replaceable bag
- No disconnection required to replace media
- Time indicator (12 months) included
- No by-pass needed
- Economical and environment friendly
- Can be connected to hard piped
- Long-life heavy duty tank and cove



Use only the sections that you need

Included

The date label has been replaced with a new time indicator that you need to activate and put on top of the cover.

Time Indicator
12 months

Model#	Weight	
	lb	kg
CSTS	0.44	0.002

Wall Support

Model#	Weight	
	lb	kg
CSB	0.44	0.2

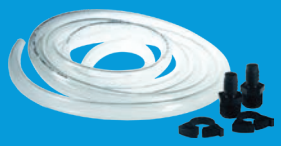
Media Bag (1)

Model#	Weight	
	lb	kg
CSM2	1.7	0.78

2 barbed fittings
¾" Connection

2 glued fittings
¾" Connection female

Optional



Hose and clips kit

Model#	Weight		Qty/box*
	lb	kg	
CSHK	1.32	0.6	12

*This product is sold individually, but it can also be sold in a master pack.

Media Bag

Model#	Weight	
	lb	kg
CSM2	1.7	0.78

CONDENSAFE™
NEUTRALIZER CSNP20

NEUTRALIZER WITH PUMP

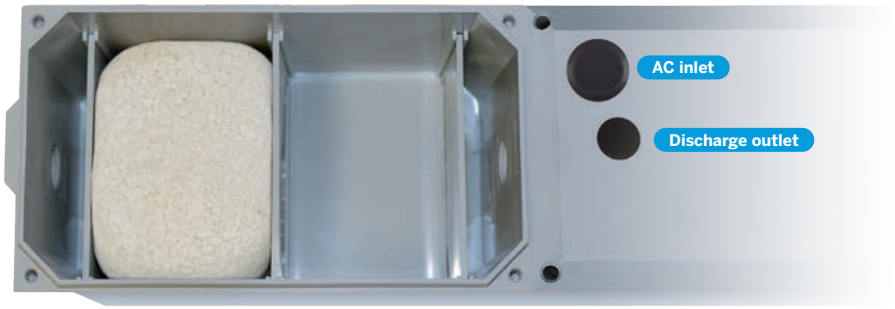
Use only the sections that you need! The date label has been replaced with a new time indicator that you need to activate and put on top of the cover.

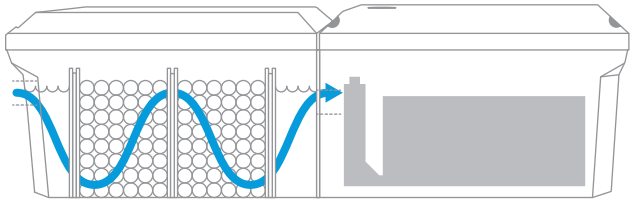
Designed to prevent fire and short circuit

Preserve your drain from corroding

Features

- All-in-one
- Compact
- Space saving construction
- AC inlet port included
- Easy maintenance
- Non return valve





Operation

The unit is divided into two sections, and the engineering media is contained in bags which needs to be replaced every year

Complies with UL 778
CSA 22.2 No 108
E114970

#CSNP20 Model

A		B		C		D		Inlet/Outlet	Weight	
in	cm	in	cm	in	cm	in	cm		lb	kg
15⅝	40	5	12.7	4¾	12	3	7.6	½" FNPT/ ⅜"I.D. barbed	9.43	4.28
Treatment Capacity								Maximum Treatment Volume*		
1 Section				2 Sections						
MBH	kWh	Gal/h	L/H	MBH	kWh	Gal/h	L/H	GPH	L/H	
525	151	2.1	8	1050	308	4.2	16	4.2	16	

* Verify the flow of condensate produced by your device. Generally speaking, a boiler with a capacity of 500,000 BTU/h at 92% efficiency should generate about 1.6 gal/h of condensate.

Included

Time Indicator
12 months

Model#	Weight	
	lb	kg
CSTS	0.44	0.002

Media Bag (1)

Model#	Weight	
	lb	kg
CSM2	1.7	0.78

Pump

Model#	Power			Weight	
	Volt	Hz	Amps	lb	kg
CSP20	120	60	2.0	3.0	1.4

20', ⅜" tubing included

120 V, 60 Hz. 7.2 ft (2.2 m) power cord

1 safety switch

Optional

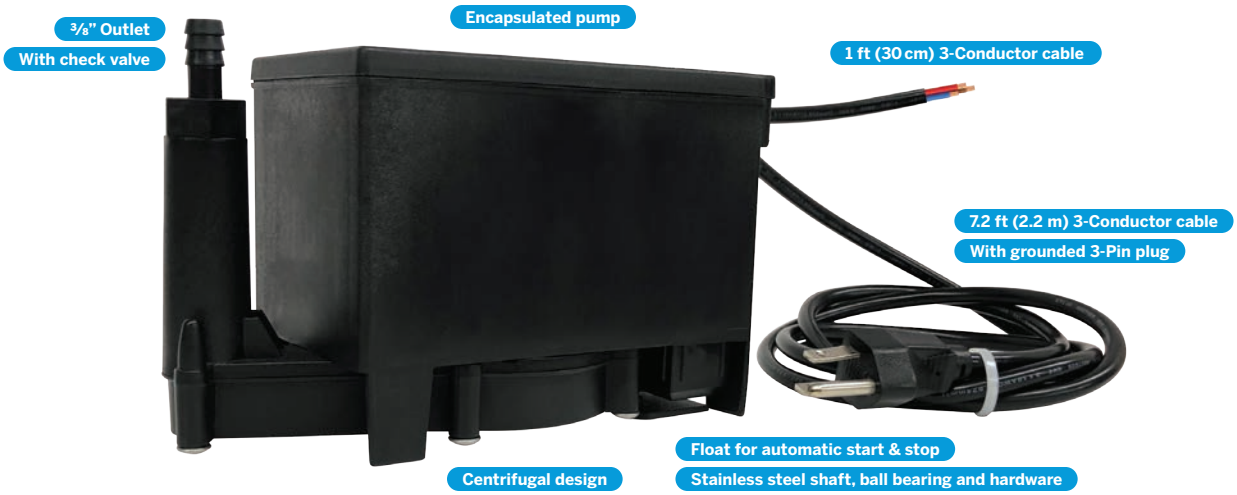
Alarm Panel

Model#	Weight	
	lb	kg
CAL-AL120	1.98	0.9

Media Bag

Model#	Weight	
	lb	kg
CSM2	1.7	0.78

PUMP



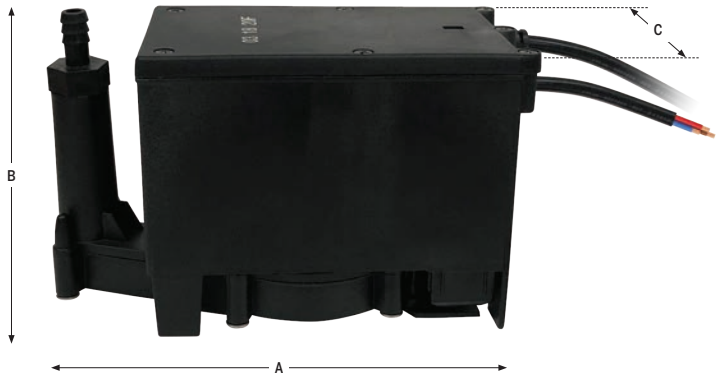
#CSP20 Model

Dimensions						Power			Discharge	Cord	Shut Off	Débit GPH/LPH					Weight	
A		B		C		Volt	Hz	Amps			pi/m	1'	5'	10'	15'	20'	lb	kg
in	mm	in	mm	in	mm													
6.7	170	3.9	100	3.1	80	120	60	2.0	3/8" I.D.	7.2'	20/6.1	114/430	108/410	87/330	58/220	20/75	3.0	1.4

Features

- Protection class IP65 (compares to NEMA 4) waterproof and dust proof
- 7.2 ft (2.2 m) 3-conductor cable with grounded 3-pin plug
- Pump encapsulated and fluid cooled thermally protected
- Ultra low noise
- Centrifugal pump design
- Strong nylon glass plastic pump housing (acid resistant, ≥ Ph3)
- Maximum water temperature: 158°F (70°C)
- Automatic start and stop operation
- Compact, space saving construction
- Integrated check valve
- Non-submersible pump
- Integrated safety switch, NO or NC
- Designed to prevent fire and short circuit

Complies with UL 778
CSA 22.2 No. 108
E114970



Operating point start ffl 34 mm, stop ffl 13 mm, alarm 40 mm.

CONDENSAFE™
NEUTRALIZER CSC28

HIGH CAPACITY NEUTRALIZER

Conden*SAFE* being modular, it is possible to install up to 3 units in series to obtain a treatment able to reach 10,500 MBH.

Features

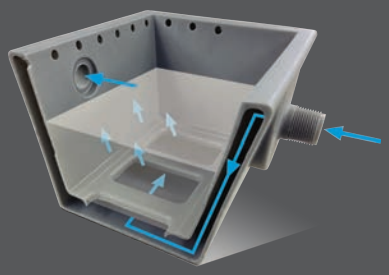
- The entire volume of condensate crosses the entire thickness of the engineering media
- Treatment optimized by feeding at bottom
- Integrated overflow protection
- Stainless steel media support of 53 in² (342 cm²)
- Easy to clean
- Supplied with Calefactio engineered media

#CSC28 Model

Capacity	Max. Volume Treatment per Hour		A		B		C		D		Connection		Weight	
	L	gal	in	mm	in	mm	in	mm	in	mm	Inlet	Outlet	lb	kg
3500 MBH 1026 KwH	106	28	7½	190	10½	267	16¼	414	5½	140	1"MNPT	1"FNPT	18	8.18

Treatment capacity can be increased

Operation



Conden*SAFE* commercial units are designed to optimize the flow mode of the raw condensate. The double wall reactor offers a buffer volume for preneutralization.

The preneutralized condensate flows ascending vertically across all the reactive media. A layer of several centimetres of condensate is omnipresent at the surface of the media, thus minimizing direct gaseous exchanges between the ambient air, containing CO_2, and the media.

Included

Time Indicator

12 months

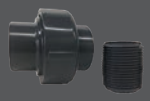
Model#	Weight	
	lb	kg
CSTS	0.44	0.002

Engineered Media

Suitable for #CSC28

Model#	Weight	
	lb	kg
CSM28	10.3	4.7

Accessories



Connection Union

For installation in series

Model#	Weight	
	lb	kg
CSCUK	0.2	0.1

VALVES

UNIQUE AND EXCLUSIVE DESIGN

The Calefactio series of valves offers many benefits in order to protect and facilitate the maintenance of the systems.

Strong and durable

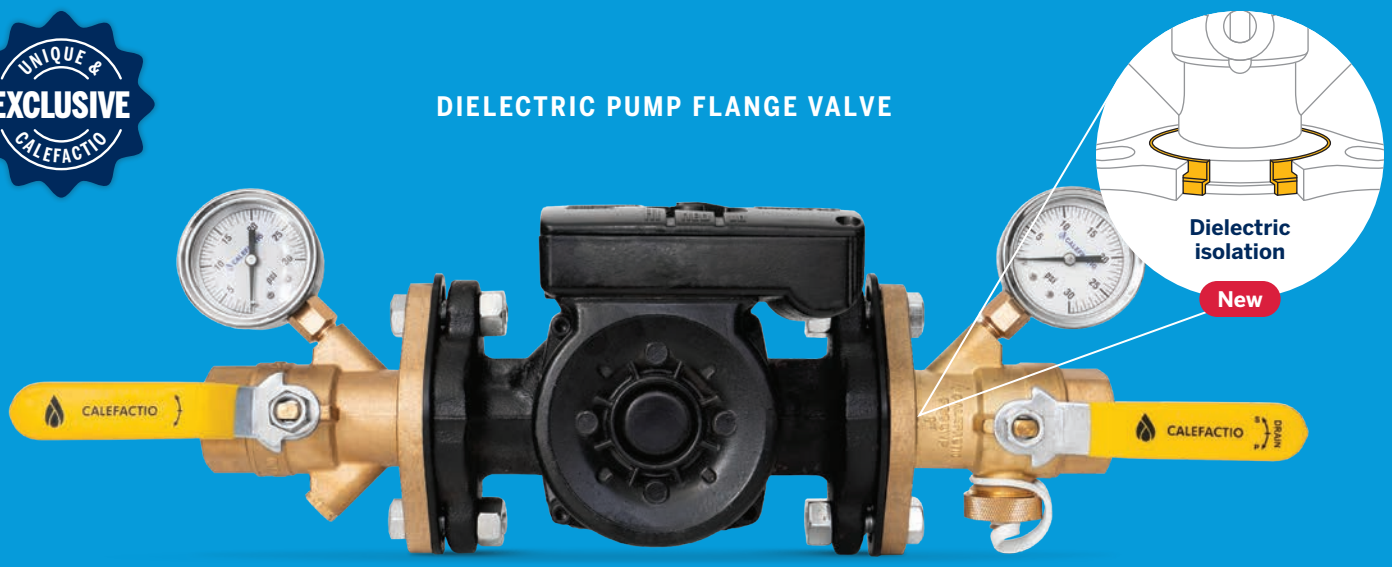
Easy to install

Simplified maintenance

VALVES

UNIQUE & EXCLUSIVE CALEFACTIO

DIELECTRIC PUMP FLANGE VALVE



UNIQUE & EXCLUSIVE CALEFACTIO

ALL-IN-ON TANKLESS WATER HEATER SERVICE VALVES WITH EXPANSION TANK

New

TANKLESS WATER HEATER VALVES

BALL VALVE FOR DRAINAGE

THERMOSTATIC VALVES

THERMOSTATIC MIXING VALVE ASSEMBLY

DIELECTRIC PUMP FLANGE VALVE KIT

- A quick overview of the system
- Simplify drainage and filling
- Ensures a great seal

UNIQUE & EXCLUSIVE CALEFACTIO

The only pump flange valve that allows you to quickly monitoring your system. By taking a reading of the pressure gauges on each side of the pump, one obtains the pressure differential in PSI, also known under the name Delta P (ΔP).

Technical Specifications

- Full port brass ball valve
- Connections: NPT, Sweat or Press, ¾" to 2"
- Dielectric rotating flange New
- 1 valve with drain and gauge port
- 1 valve with 2 gauge ports
- Ball valve isolation for circulating pumps
- Threaded end complies with ANSI B1.20.1
- 500 CWP (Cold Working Pressure)

Gauge not included

NPT

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034N	¾"	3.3	1.5	12
PF100N	1"	4.2	1.9	8
PF114N	1¼"	5.5	2.5	8
PF112N	1½"	6.4	2.9	4
PF200N*	2"	9.7	4.4	–

Gauge not included

Press

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034P	¾"	3.4	1.6	12
PF100P	1"	4.2	1.9	8
PF114P	1¼"	5.7	2.6	8
PF112P	1½"	6.8	3.1	4
PF200P*	2"	10.3	4.7	–

Gauge not included

Sweat

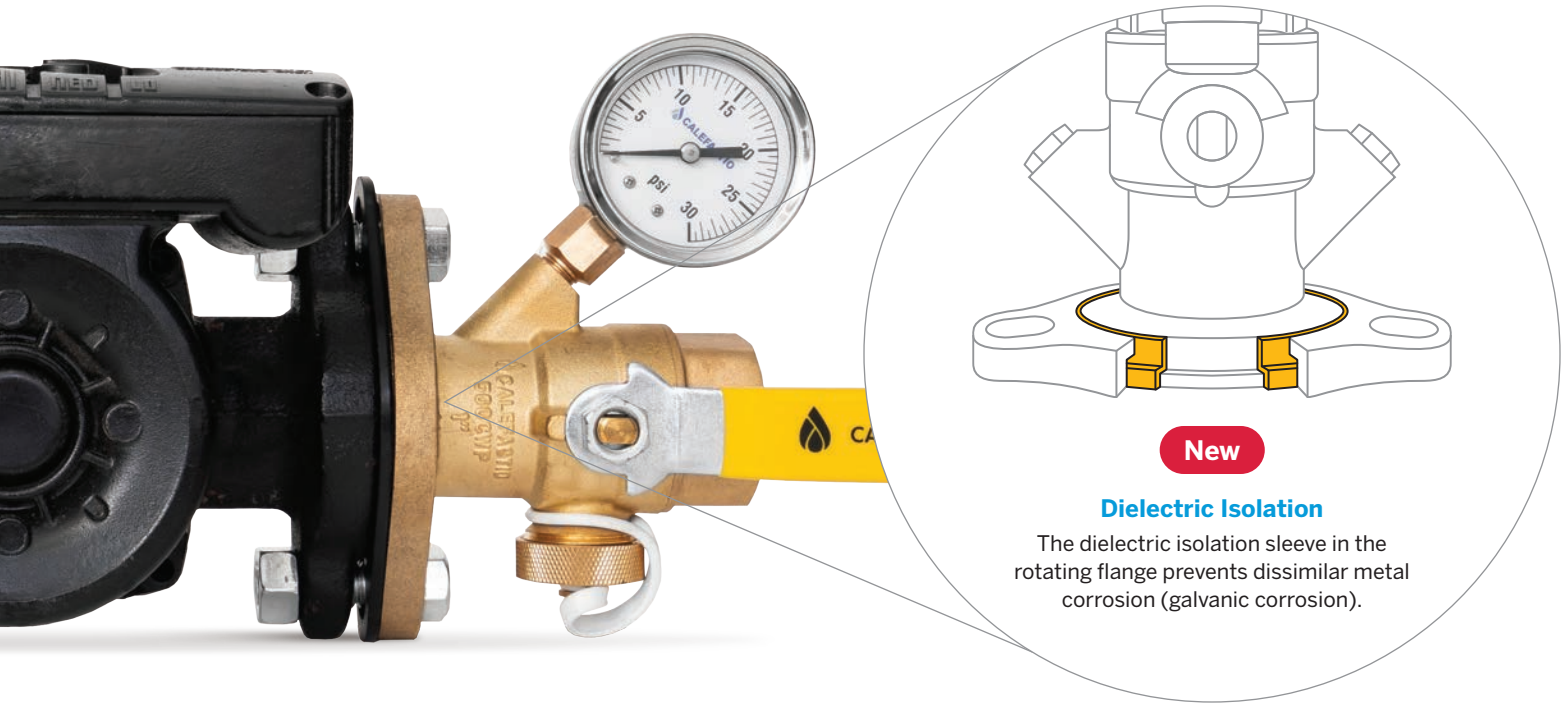
Model#	Size	Weight		Qty/box†
		lb	kg	
PF034S	¾"	3.2	1.5	12
PF100S	1"	4.1	1.9	8
PF114S	1¼"	5.4	2.4	8
PF112S	1½"	6.2	2.8	4
PF200S*	2"	9.5	4.3	–

Gauge not included

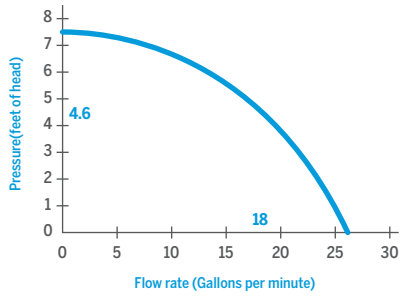
PEX F1960

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034F	¾"	3.3	1.5	12
PF100F	1"	4.2	1.9	8
PF114F	1¼"	5.6	2.6	8
PF112F	1½"	6.6	3.0	4

*Models without drain only. †This product is sold individually, but it can also be sold in a master pack.



Performance Curve of the Pump



How do I get my pump's flow rate in gallons per minute?

1. Read the pressure gauges on each side of the pump;
2. Subtract the lower pressure from the higher pressure to obtain the pressure differential in PSI also called Delta P (ΔP);
3. Convert this measurement to feet of head by multiplying by 2.3;
4. Use the pump performance curve to obtain pump output in gallons per minute.

Each kit includes

2 gaskets

+

4 nuts and 4 bolts

+

2 plugs ⅛" installed

Optional

Jauge à pression

⅛" MNPT

Model#	PSI	Weight	
		lb	kg
GAGE0-30BOTTOM	0-30	0.22	0.1
GAGE0-100BOTTOM	0-100	0.22	0.1

DIELECTRIC PUMP FLANGE VALVE KIT

UNIT / WITH DRAIN

Technical Specifications

- Full port brass ball valve
- Connections: NPT, Sweat or Press, ¾" à 2"
- Dielectric rotating flange
- Drain and gauge port
- Ball valve isolation for circulating pumps
- Threaded end complies with ANSI B1.20.1
- 500 CWP (Cold Working Pressure)

Included

With drain
Gauge not included

NPT

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034N-D	¾"	1.7	0.8	24
PF100N-D	1"	2.1	1.0	18
PF114N-D	1¼"	2.8	1.3	12
PF112N-D	1½"	3.3	1.5	12

With drain
Gauge not included

Sweat

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034S-D	¾"	1.7	0.8	24
PF100S-D	1"	2.1	0.9	18
PF114S-D	1¼"	2.7	1.2	12
PF112S-D	1½"	3.2	1.4	12

With drain
Gauge not included

Press

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034P-D	¾"	1.8	0.8	24
PF100P-D	1"	2.2	1.0	18
PF114P-D	1¼"	2.9	1.3	12
PF112P-D	1½"	3.4	1.6	12

With drain
Gauge not included

PEX F1960

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034F-D	¾"	1.7	0.8	24
PF100F-D	1"	2.1	1.0	18
PF114F-D	1¼"	2.9	1.3	12
PF112F-D	1½"	3.3	1.5	12

†This product is sold individually, but it can also be sold in a master pack.

DIELECTRIC PUMP FLANGE VALVE KIT

UNIT / WITHOUT DRAIN

Technical Specifications

- Full port brass ball valve
- Connections: NPT, Sweat or Press, ¾" à 2"
- Dielectric rotating flange
- 2 gauge ports
- Ball valve isolation for circulating pumps
- Threaded end complies with ANSI B1.20.1
- 500 CWP (Cold Working Pressure)

Included

Without drain
Gauge not included

NPT

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034N-ND	¾"	1.6	0.7	24
PF100N-ND	1"	2.1	0.9	18
PF114N-ND	1¼"	2.7	1.2	12
PF112N-ND	1½"	3.2	1.4	12
PF200N-ND	2"	4.8	2.2	6

Without drain
Gauge not included

Sweat

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034S-ND	¾"	1.6	0.7	24
PF100S-ND	1"	2.0	0.9	18
PF114S-ND	1¼"	2.6	1.2	12
PF112S-ND	1½"	3.1	1.4	12
PF200S-ND	2"	4.7	2.2	6

Without drain
Gauge not included

Press

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034P-ND	¾"	1.7	0.8	24
PF100P-ND	1"	2.1	1.0	18
PF114P-ND	1¼"	2.8	1.3	12
PF112P-ND	1½"	3.3	1.5	12
PF200P-ND	2"	5.1	2.3	6

Without drain
Gauge not included

PEX F1960

Model#	Size	Weight		Qty/box†
		lb	kg	
PF034F-ND	¾"	1.6	0.7	24
PF100F-ND	1"	2.1	0.9	18
PF114F-ND	1¼"	2.8	1.3	12
PF112F-ND	1½"	3.2	1.5	12

†This product is sold individually, but it can also be sold in a master pack.

TANKLESS WATER HEATER SERVICE VALVES WITH EXPANSION TANK KIT

New

#TK075NTE Model

Calefactio's service valves kit combine union-treaded isolation valves for the hot water outlet and cold water inlet with hi-flow purge drains, a port for the required pressure relief valve and a port on the cold side for an expansion tank.

The expansion tank function is to absorb the increased volume of water which results from the heating process, thereby keeping the system's pressure below the relief valve setting. It also acts as a water hammer or shock absorber to absorb a sudden change in fluid velocity after the sudden closing of a faucet.

Advantages

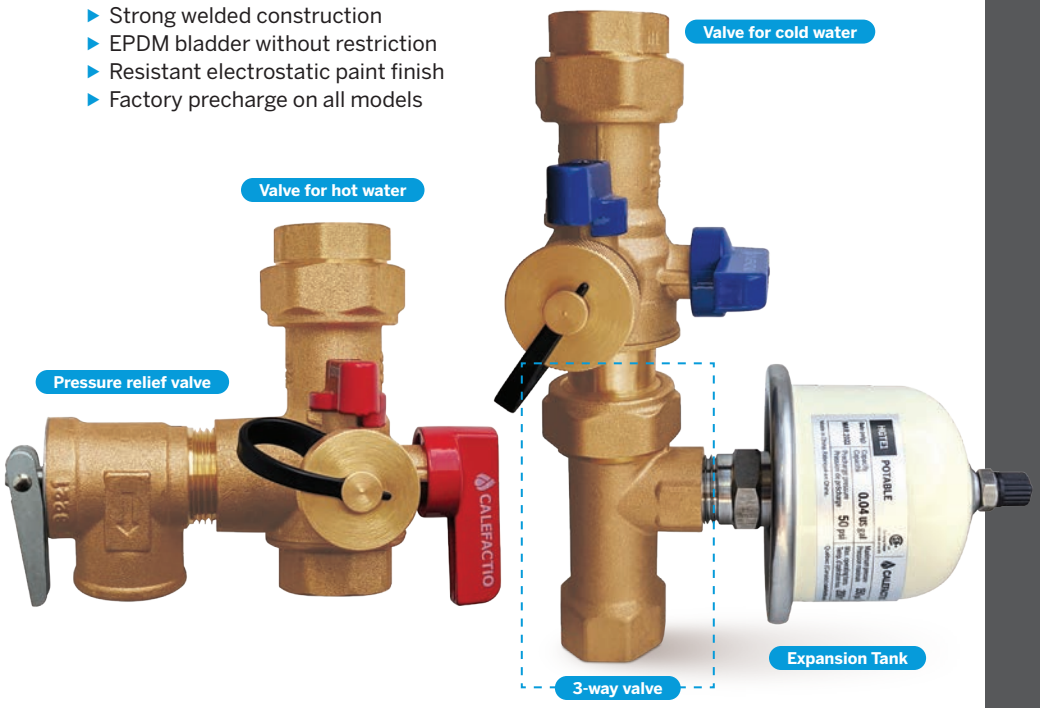
Valves

- Secure seal
- Lead free
- Facilitate maintenance with dedicated ports
- Easy identification of hot and cold valves
- Povided with 150 PSI pressure relief valve (PRV)

UNIQUE & EXCLUSIVE CALEFACTIO

Expansion Tank

- Water hammer
- Water never comes in contact with the tank
- No rust or corrosion of the steel shell
- Strong welded construction
- EPDM bladder without restriction
- Resistant electrostatic paint finish
- Factory precharge on all models



Each kit includes

Drinking Water NSF/ANSI 61 & 372

Expansion Tank

Model#		Volume	
		gal	L
HGTE-1		0.04	0.16
Connect.	Pre-charge	Max. Temp.	Max. Press.
in	PSI	°F	PSI
½"	50	180	150

IAPMO R&T

NSF/ANSI 14

UPC C

Lead Free

Tankless Water Heater Valves

#TK075NPT Model

Connection	¾" FNPT
Temperature Range	40°F to 180°F
Maximum Pressure	150 PSI

Lead Free

Drinking Water NSF/ANSI 61

NSF14

Pressure Relief Valve

#PRV075-150 Model

Connection	¾" MNPT
Maximum Temperature	180°F
Maximum Pressure	150 PSI
Maximum Heating Input	200 000 BTU

TANKLESS WATER HEATER VALVES

The valves are easy to install and provide secure and tight seals. The drains and the colour handles simplify the maintenance of the system. They are made of brass and certified lead free to ensure lasting durability.

NSF/ANSI 14 · Lead Free · IAPMO R&T

Model#	Size	Width		Height		Weight		Qty/box†
		in	mm	in	mm	lb	kg	
TK075N	¾"	3	76.6	4	102	2.9	1.3	12
TK075S	¾"	3	76.6	4	102	2.7	1.2	12
TK075N-30*	¾"	3	76.6	4½	114	4.0	1.8	12

Features

- Secure seal
- Lead Free
- Facilitate maintenance with dedicated ports
- Easy identification of hot and cold valves
- Provided with 150 PSI pressure relief valve (PRV) (30 PSI available in option)

Valve Specifications

- Temperature rating: 40°F to 180°F
- Maximum pressure: 150 PSI

PRV Specifications

- Maximum pressure: 150 PSI
- Maximum heating input: 200,000 BTU
- Connection: ¾"

Model#	Size	Width		Height		Weight		Qty/box†
		in	mm	in	mm	lb	kg	
TK100N	1"	3	76.6	4½	114.3	4.0	1.8	8
TK100N-30*	1"	3	76.6	4½	114.3	4.0	1.8	8

PRESSURE RELIEF VALVE

Model#	Size	Width		Height		Max. Pressure	Max. Temp.	Maximum Heating Input	Connection	Certification	Weight	
		in	mm	in	mm						lb	kg
PRV075-30	¾"	2	51	2½	63.5	30 PSI	99°C	535,000 BTU	¾"MNPT	ASME	0.66	0.3
PRV075-150	¾"	2	51	2½	63.5	150 PSI	99°C	200,000 BTU	¾"MNPT	CSA ANSI Z21.22	0.44	0.2

Drinking Water NSF/ANSI 61

Lead Free

NSF14

DRAIN VALVES

Drain Valves

Model#	Description	Weight	
		lb	kg
DV12	½"Connection	0.2	0.1
DV34	¾"Connection	0.2	0.1

Ball Valve for Drainage

Model#	Description	Weight		Qty/box†
		lb	kg	
DBV034N	¾"Connection	0.7	0.32	8

*30 PSI PRV. † This product is sold individually, but it can also be sold in a master pack.

THERMOSTATIC VALVES

Features

- Temperature setting range: 33 to 49°C (86 to 120°F)
- Set and locked at the factory at 41°C (106°F)
- Hot supply: 49 to 82°C (120 to 180°F)
- Cold supply: 4 to 27°C (40 to 80°F)
- Maximum static pressure: 145 PSI (1,000 kPa)
- Flow rate range: 1 to 12 GPM (4 LPM to 45 LPM)
- Chrome plated finish
- Check valve can be disassembled and cleaned

C US
Drinking Water
NSF/ANSI 61

PEX × PEX × Sweat

Model#	Size	Width		Height		Weight	
		in	mm	in	mm	lb	kg
21001	¾"	5⅞	142	5⅛	130	1.4	0.6

ASSE 1016 ASSE 1017 ASSE 1069
ASSE 1070 CSA B125.16-17

Sweat × Sweat × Sweat

Model#	Size	Width		Height		Weight	
		in	mm	in	mm	lb	kg
21002	¾"	5⅞	142	5⅛	130	1.4	0.6

ASSE 1016 ASSE 1017 ASSE 1069
ASSE 1070 CSA B125.16-17

Press × Press × Press

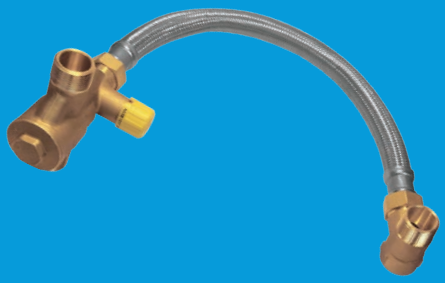
Model#	Size	Width		Height		Weight	
		in	mm	in	mm	lb	kg
21003	¾"	5⅞	142	5⅛	130	1.6	0.7

ASSE 1016 ASSE 1017 ASSE 1069
ASSE 1070 CSA B125.16-17

Push × Push × Push

Model#	Size	Width		Height		Weight	
		in	mm	in	mm	lb	kg
21004	¾"	5⅞	142	5⅛	130	1.8	0.8

ASSE 1016 ASSE 1017 ASSE 1069
ASSE 1070 CSA B125.16-17



THERMOSTATIC MIXING VALVE ASSEMBLY

Ready to install

Temperature actuated mixing valve that mixes hot and cold water to distribute tempered water at a controlled temperature between 32 and 54°C (90 and 129°F).

Installation of the water heater allows the device to be set at 60°C (140°F), thus providing a greater effective volume of hot water and reducing the chances of Legionella bacteria growth in the water.

Factory set at 48°C (118°F), easily adjustable.

Material

- Body: brass
- Springs: stainless steel
- Piston: engineered polymer
- Seals: EPDM
- Internal cap: brass

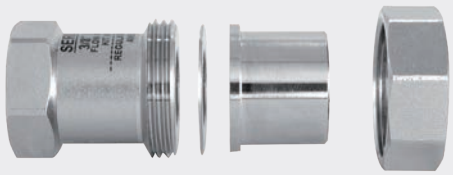
#21005 Model

Connect.	Width		Height		Weight	
	in	mm	in	mm	lb	kg
¾"	3⅞	99	4¼	107	2.4	1.1

FLOW REGULATORS

FIXED

UNION



INDUSTRIAL

SPECIALIZED

Discover our complete range of flow regulators conforming to the NSF61 standard.

FIXED

Features

- Also available in SS316
- Made in lead free brass
- Available in five formats and more than 30 flow rates

Potable Water
NSF/ANSI 61
NSF/ANSI 372 LLC

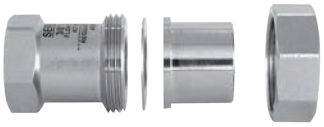
Model#	Connect.	Height	GPM	Gallons per Minute (GPM)																																Weight (oz)
				0.13	0.19	0.25	0.35	0.50	0.75	1.00	1.30	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.00	6.50	7.00	8.00	9.00	10.0	12.0	13.0	13.5	15.0	18.0	20.0	24.0	25.0	26.0	30.0	
A	⅜" FNPT	1¾"	0.13 to 4	•	•	•	•	•	•	•	•	•	•	•	•	•		•																			3.00
B	½" FNPT	2"	0.25 to 9			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•												3.60
C	¾" FNPT	2¼"	0.25 to 30			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	6.00
X	1" FNPT	2¾"	2.5 to 30							•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	10.8
Z	1½" FNPT	2¾"	5 to 30																	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	22.6
SSA	⅜" FNPT	1¾"	0.13 to 4	•	•	•	•	•	•	•	•	•	•	•	•	•		•																			2.90
SSB	½" FNPT	2"	0.25 to 9			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•												3.30
SSC	¾" FNPT	2¼"	0.25 to 30			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	5.50
SSX	1" FNPT	2¾"	2.5 to 30							•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	9.00
SSZ	1½" FNPT	2¾"	5.0 to 30																	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	21.0

UNION

Features

- Also available in SS316
- Made in lead free brass
- Available in four formats and more than 30 flow rates

Potable Water
NSF/ANSI 61
NSF/ANSI 372 LLC



Model#	Connect.	Height.	GPM	Gallons per Minute (GPM)																																Weight (oz)
				0.13	0.19	0.25	0.35	0.50	0.75	1.00	1.30	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.00	6.50	7.00	8.00	9.00	10.0	12.0	13.0	13.5	15.0	18.0	20.0	24.0	25.0	26.0	30.0	
AU	⅜" FNPT	1⅞"	0.13 to 4	•	•	•	•	•	•	•	•	•	•	•	•	•		•																			0.02
BU	½" FNPT	2⅛"	0.25 to 9			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•												4.00
CU	¾" FNPT	2¼"	0.25 to 30			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	6.40
XU	1" FNPT	2¾"	2.5 to 30							•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	12.8

Custom requests are welcome (OEM). Contact us at info@calefactio.com

INDUSTRIAL

Features

- Made in lead free brass
- Available in five formats and more than 30 flow rates

Potable Water
NSF/ANSI 61
NSF/ANSI 372 LLC

Model#	Connection	Height	GPM	Gallons per Minute (GPM)																																	Weight (oz)
				5.00	6.00	6.50	7.00	8.00	9.00	10.0	12.0	13.0	13.5	15.0	18.0	20.0	24.0	25.0	26.0	30.0	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	100	105	110	115	120	
P	1¼"×1¼" MNPT	3"	5 to 30	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																			10
T	1½"×1½" MNPT	3"	5 to 30	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																			13
F	2"×2" MNPT	3"	10 to 30							•	•	•	•	•	•	•	•	•	•																			19
H	2½"×2½" MNPT	4"	30 to 90																	•	•	•	•	•	•	•	•	•	•	•	•							32
K	3"×3" MNPT	4"	30 to 120																	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	51

SPECIALIZED

For irrigation

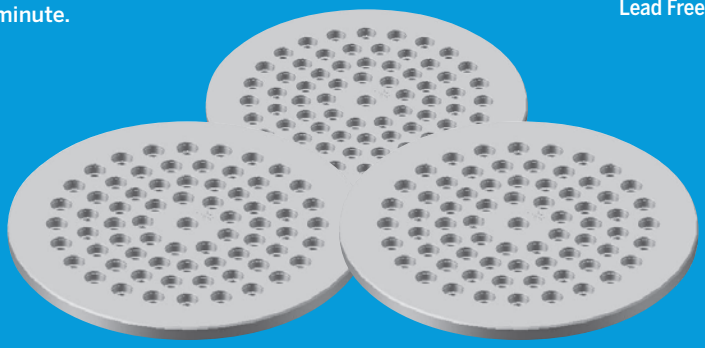
Model#	Connection	Height	GPM	Gallons per Minute (GPM)																			Weight (oz)
				0.50	0.75	1.00	1.30	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.00	6.50	7.00	8.00	9.00	10.0	
Y	¾" MNPT × ¾" FNPT	1½"	1 to 10			•		•		•	•	•	•	•		•	•		•	•	•	•	4.5 oz

WAFER TYPE FLOW REGULATORS

Lead Free

Wafer type flow regulators from Calefactio are available in five sizes and cover a large range of flows, from 60 to 2,100 gallons per minute.

Model#	Diameter	Total Diameter	GPM
WF4	4"	6"	60 to 240
WF6	6"	7⅛"	100 to 540
WF8	8"	10⅛"	200 to 960
WF10	10"	12½"	300 to 1500
WF12	12"	15¼"	400 to 2100




AIR PRESSURE
psi
NORMAL OPERATION
CONSULT FACTORY
Factory Installed Color-Changing Plug DO NOT REMOVE
BLADDER MONITOR
382083
CERTIFIED BY STC
MAWP 125 PSI AT 240°F
U MDMT -20°F AT 125 PSI
YR BUILT 2022
MADE IN USA
HD.174 2:1 SH.144
WESSELS CO.
CRN L8142.5C
L-500
WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov
AL.T-500

ASME EXPANSION TANKS

EXPAN VIEW

HEATING

POTABLE

HYDRO-PNEUMATICS

Use our online selector tool
to choose the right tank size.
calefactio.com/en/sizing-tool

HEATING

AL SERIES

Replaceable bladder **Bottom connection**

Features

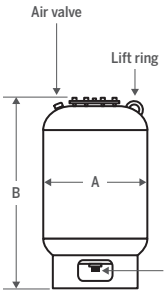
- Acceptance factor of 100 %
- Replaceable butyl bladder
- Design conforms to ASME, section VIII
- Water remains permanently separated from air
- Air precharged at factory; pressure adjustable on site

Technical Specifications

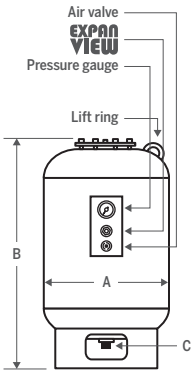
- Exterior finish in painted primer
- Maximum temperature 240°F (115°C)
- Air precharged at factory at 12 PSI (83 kPa)
- Service pressure 125 PSI (862 kPa)
- Maximum pressure of 150, 175, 250 and 300 PSI also available

Model AL-35 thru AL-130 shown

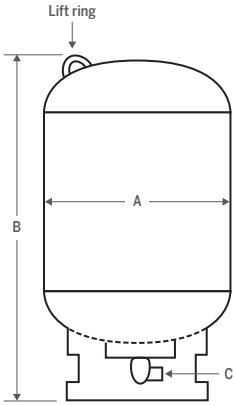
Model AL-200 thru AL-800 shown



AL-35 thru AL-130*



AL-200 thru AL-800

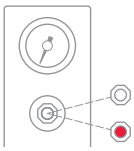


AL-1000 thru AL-5000

***Pressure gauge available as an option.**

Model#	Volume		Dimension				NPT Connection		Weight	
			A		B		C			
	gal	L	in	mm	in	mm	in	mm	lb	kg
AL-35	10	38	12	305	28	711	1	25	40	18
AL-50	13	50	12	305	36	918	1	25	60	27
AL-85	23	87	16	406	37	940	1	25	90	41
AL-130	35	132	20	508	37	940	1	25	125	57
AL-200	53	200	24	610	43	1092	1½	38	210	95
AL-300	79	299	24	610	55	1397	1½	38	225	102
AL-400	106	401	30	762	49	1245	1½	38	300	136
AL-500	132	500	30	762	57	1448	2	50	330	150
AL-600	158	598	30	762	65	1651	2	50	360	163
AL-800	211	798	32	813	76	1930	2	50	475	215
AL-1000	264	999	36	914	87	2210	3	76	735	333
AL-1200	317	1200	36	914	98.5	2502	3	76	745	338
AL-1400	370	1400	36	914	112	2845	3	76	900	408
AL-1600	422	1597	48	1219	84	2134	3	76	1210	549
AL-2000	528	1999	48	1219	96	2438	3	76	1305	592
AL-2500	660	2498	48	1219	114	2896	4	102	1430	649
AL-3000L	792	2998	48	1219	134	3404	4	102	1671	758
AL-3000S	792	2998	60	1524	93	2362	4	102	2169	984
AL-4000	1056	3997	60	1524	115	2921	4	102	2638	1197
AL-5000	1320	4996	60	1524	138	3505	4	102	3246	1472

EXPAN VIEW



ExpanView tank integrity indicator which changes color in the presence of a leak.

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

HEATING

ALT SERIES

Replaceable bladder **Top connection**

Features

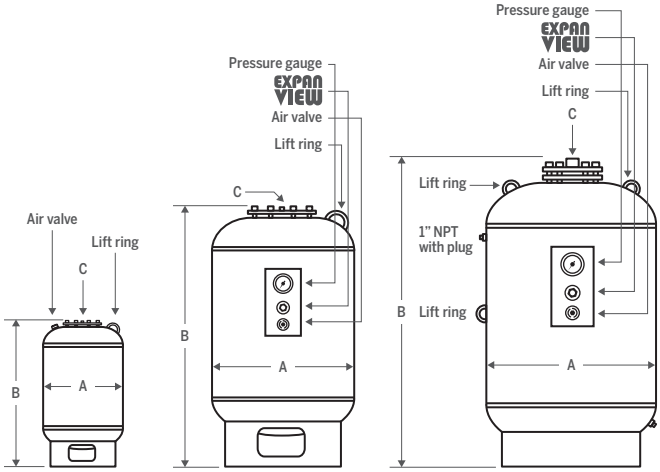
- Acceptance factor of 100 %
- Replaceable butyl bladder
- Design conforms to ASME, section VIII
- Water remains permanently separated from air
- Air precharged at factory; pressure adjustable on site

Technical Specifications

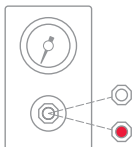
- Exterior finish in painted primer
- Maximum temperature 240°F (115°C)
- Air precharged at factory at 12 PSI (83 kPa)
- Service pressure 125 PSI (862 kPa)
- Maximum pressure of 150, 175, 250 and 300 PSI also available

Model ALT-35 thru ALT-85 shown

Modèle ALT-130 à ALT-800 illustré



ALT-35 thru ALT-85 ALT-130 thru ALT-800 ALT-1000 thru ALT-7500



EXPAN VIEW

ExpanView tank integrity indicator which changes color in the presence of a leak.

Model#	Volume		Dimension				NPT Connection		Weight	
			A		B		C			
	gal	L	in	mm	in	mm	in	mm	lb	kg
ALT-35	10	38	12	305	28	706	1	25	50	23
ALT-50	13	50	12	305	36	918	1	25	60	27
ALT-85	23	87	16	406	37	935	1	25	80	36
ALT-130	35	132	20	508	37	940	¾	19	125	57
ALT-200	53	200	24	610	43	1092	¾	19	210	95
ALT-300	79	299	24	610	55	1397	¾	19	225	102
ALT-400	106	401	30	762	49	1245	¾	19	300	136
ALT-500	132	500	30	762	57	1448	¾	19	335	152
ALT-600	158	598	30	762	65	1651	¾	19	360	163
ALT-800	211	798	32	813	76	1930	¾	19	475	215
ALT-1000	264	999	36	914	76	1930	1½	38	552	250
ALT-1200	317	1200	36	914	88	2235	1½	38	679	308
ALT-1400	370	1400	36	914	100	2540	1½	38	688	312
ALT-1600	422	1597	48	1219	74	1880	1½	38	1046	474
ALT-2000	528	1999	48	1219	86	2184	1½	38	1150	522
ALT-2500	660	2498	48	1219	104	2642	2	51	1444	655
ALT-3000L	792	2998	48	1219	124	3150	2	51	1658	752
ALT-3000S	792	2998	60	1524	83	2108	2	51	1868	847
ALT-3500	926	3505	54	1372	111	2819	2	51	2369	1075
ALT-4000	1056	3997	60	1524	105	2667	2	51	2238	1015
ALT-5000	1320	4996	60	1524	128	3251	2	51	2617	1187
ALT-7500	1981	7499	72	1829	131	3327	3	76	3768	1709

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

HEATING

OT SERIES

Fixed bladder **Top connection**

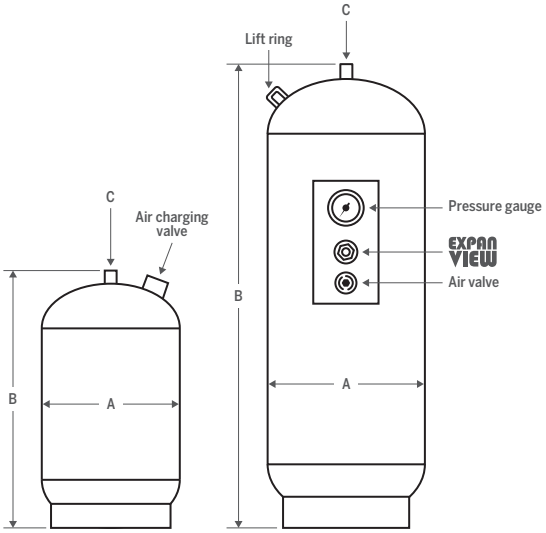
Features

- Fixed bladder in ultra resistant EPDM
- Design conforms to ASME, section VIII
- Air precharged at factory; pressure adjustable on site
- Water remains permanently separated from air for the duration of the useful life of the installation

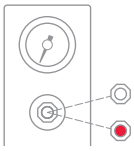
Technical Specifications

- Exterior finish in painted primer
- Maximum temperature of 240°F (115°C) at the tank level
- Air precharged at factory at 12 PSI (83 kPa)
- Service pressure
  – Models OT-15 thru OT-60: 150 PSI (1034 kPa)
  – Models OT-80 thru OT-280: 125 PSI (862 kPa)
- Maximum pressure of 175, 250 and 300 PSI also available

Model OT-80 thru OT-280 shown



OT-15 thru OT-60 OT-80 thru OT-280



EXPAN VIEW

ExpanView tank integrity indicator which changes color in the presence of a leak.

Model#	Tank Volume		Acceptance Volume		Dimension				NPT Connection		Weight	
					A		B		C			
	gal	L	gal	L	in	mm	in	mm	in	mm	lb	kg
OT-15	7.8	30	6.3	24	12	305	21.5	533	¾	19	35.6	16.2
OT-20	11	42	8.8	33	12	305	26.5	660	¾	19	40.3	18.3
OT-40	25	95	20.2	76	16	406	35	885	1	25	67.5	30.7
OT-60	35	132	28	106	16	406	46	1165	1	25	82.9	37.7
OT-80	45	170	36	136	20	508	38	965	1	25	148	67
OT-100	60	227	48.5	184	20	508	49	1245	1	25	175	79
OT-120	70	265	56.5	214	24	610	46	1168	1½	38	259	117
OT-144	80	303	65	246	24	610	49	1245	1½	38	268	122
OT-180	90	341	73	276	24	610	52	1321	1½	38	283	128
OT-200	115	435	93	352	24	610	66	1676	1½	38	325	147
OT-240	140	530	113.5	430	24	610	78	1981	1½	38	362	164
OT-260	158	598	128	485	30	762	63	1600	1½	38	591	268
OT-280	211	799	171	647	30	762	81	2032	1½	38	752	341

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

HEATING

NA SERIES

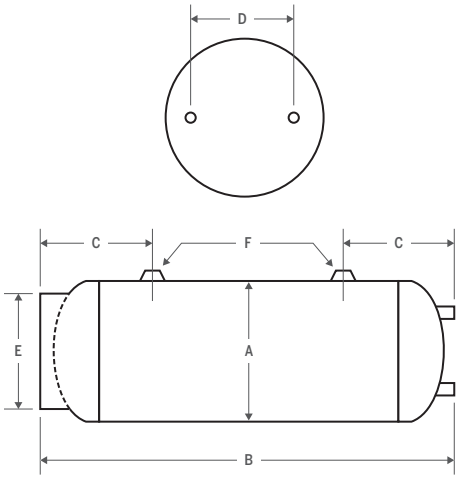
Without bladder **Without membrane**

Features

- Design conforms to ASME, section VIII
- Base ring for vertical storage
- Glass level indicator connection at top
- Straps available for hanging installation
- Tanks in galvanized steel are also available

Technical Specifications

- Steel construction
- Maximum design temperature: 450°F (232°C)
- Maximum design pressure
  - Models 12NA33 thru 20NA78: 150 PSI
  - Models 24NA65 thru 42NA96: 125 PSI



Model#	Volume		Dimension												Weight	
			A		B		C		D		E		F			
	gal	L	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
12NA33	15	57	12	305	33	838	7	203	8	203	11½	292	1	25	44	20
12NA51	24	91	12	305	51	1295	7	203	8	203	11½	292	1	25	62	28
14NA48	30	114	14	356	48	1219	10	254	10	254	11½	292	1	25	72	33
14NA63	40	151	14	356	63	1600	10	254	10	254	11½	292	1	25	92	42
16NA72	60	227	16	406	72	1829	10	254	12	305	11½	292	1	25	120	54
20NA62	80	303	20	508	62½	1587	10	254	16	406	18	457	1	25	136	62
20NA78	100	379	20	508	78	1981	10	254	16	406	18	457	1	25	168	76
24NA65	120	454	24	610	65	1651	11⅛	283	20	508	18	457	1	25	218	99
24NA72	135	511	24	610	72	1829	11⅛	283	20	508	18	457	1	25	238	108
30NA62	175	662	30	762	62¼	1581	13½	343	22	559	24	610	1½	38	338	153
30NA77	220	833	30	762	77	1956	13½	343	22	559	24	610	1½	38	368	167
30NA84	240	908	30	762	84	2134	13½	343	22	559	24	610	1½	38	394	179
30NA105	305	1155	30	762	105¾	2686	13½	343	22	559	24	610	1½	38	486	220
36NA72	295	1117	36	914	72	1829	14¾	375	28	711	30	762	1½	38	502	227
36NA93	400	1514	36	914	92½	2349	14¾	375	28	711	30	762	1½	38	645	292
36NA120	505*	1912	36	914	120	3048	14¾	375	28	711	n.d.	n.d.	1½	38	810	367
42NA96	525*‡	1987	42	1067	96	2438	18	457	28	711	n.d.	n.d.	1½	38	895	406

*The 505 and 525 gallon tanks are not supplied with a base ring.
‡The 525 gallon tanks have an 11"× 15" footprint.

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

POTABLE

BFA SERIES

Fixed bladder **Top connection**

Features

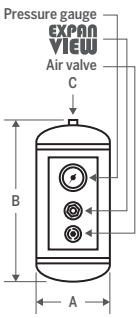
- Design conforms to ASME, section VIII
- Fixed EPDM bladder ultra resistant CSA approved
- conforms to the NSF61 standard
- Water remains permanently separated from air
- Air precharged at factory; pressure adjustable on site

Technical Specifications

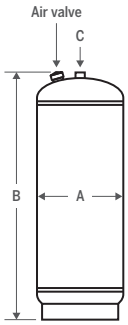
- Stainless steel connection
- Exterior finish in painted primer
- Maximum temperature 240°F (115°C)
- vAir precharged at factory at 40 PSI (275 kPa)
- Service pressure 150 PSI (1034 kPa)
- Maximum pressure of 175, 250 and 300 PSI also available

Model BFA-12 thru BFA-80 shown

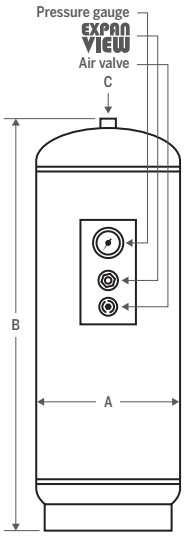
Model BFA-100 thru BFA-210 shown



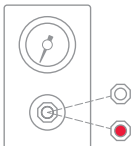
BFA-5



BFA-12 thru BFA-80



BFA-100 thru BFA-210



EXPAN VIEW

ExpanView tank integrity indicator which changes color in the presence of a leak.

Model#	Total Volume		Acceptance Volume		Dimension				Connection NPT		Weight	
					A		B		C			
	gal	L	gal	L	in	mm	in	mm	in	mm	lb	kg
BFA-5	3.5	13	2.3	9	10	254	14	356	¾	19	22	10
BFA-12	5	19	3.3	12	12	305	15	380	¾	19	28	13
BFA-20	8	30	5.3	20	12	305	21	535	¾	19	34	15
BFA-30	15	57	10	38	16	406	25	630	1	25	64	29
BFA-42	22	83	14.5	55	16	406	32	810	1	25	88	40
BFA-60	26	98	17.5	66	16	406	35	885	1	25	93	42
BFA-80	35	132	23.5	89	16	406	46	1165	1	25	109	49
BFA-100	45	170	30	114	20	508	38	965	1	25	148	67
BFA-125	60	227	40	151	20	508	49	1245	1	25	175	79
BFA-160	70	265	47	178	24	610	46	1168	1½	38	259	117
BFA-180	80	303	53	201	24	610	49	1245	1½	38	268	122
BFA-210	90	341	60	227	24	610	52	1321	1½	38	283	128

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

POTABLE

TXA SERIES

Replaceable bladder **Bottom connection**

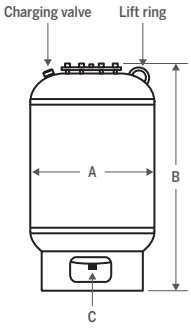
Features

- Replaceable butyl bladder ultra resistant CSA approved conforms to the NSF61 standard
- Construction conforms to ASME Section VIII
- Water remains permanently separated from air for for the entire duration of the life of the reservoir
- Air precharged at factory; pressure adjustable on site

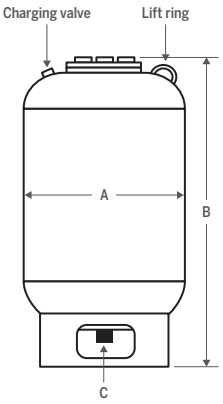
Technical Specifications

- Stainless steel connection
- Maximum design temperature: 240°F (115°C)
- Air precharged at factory at 40 PSI
- Maximum design pressure 150 PSI
- Maximum pressure of 175, 250 and 300 PSI also available

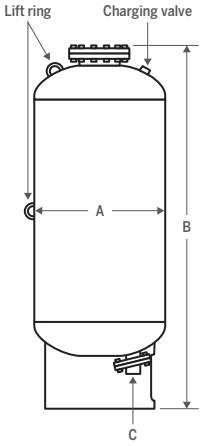
Model TXA-85 thru TXA-800 shown



TXA-35 thru TXA-50



TXA-85 thru TXA-800



TXA-1000 thru TXA-2000

Model#	Total Volume		Dimension				NPT Connection		Weight	
			A		B		C			
	gal	L	in	mm	in	mm	in	mm	lb	kg
TXA-35	10	38	12	305	28	706	1	25	40	18
TXA-50	13	49	12	305	36	918	1	25	50	23
TXA-85	23	87	16	406	37	935	1	25	90	41
TXA-130	35	132	16	406	50	1283	1	25	132	60
TXA-200	53	201	24	610	43	1092	1½	38	210	95
TXA-300	79	299	24	610	55	1397	1½	38	225	102
TXA-400	106	401	30	762	49	1245	1½	38	300	136
TXA-500	132	500	30	762	57	1448	2	51	335	152
TXA-600	158	598	30	762	65	1651	2	51	360	163
TXA-800L	211	799	32	813	76	1930	2	51	475	215
TXA-1000	264	999	36	914	87	2210	3	76	735	333
TXA-1200	317	1200	36	914	98	2489	3	76	745	338
TXA-1400	370	1401	36	914	111	2819	3	76	900	408
TXA-1600	422	1597	48	1219	84	2134	3	76	1210	549
TXA-2000	528	1999	48	1219	96	2438	3	76	1305	592

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

POTABLE

FTTE-C SERIES

Replaceable bladder **Flow through**

Features

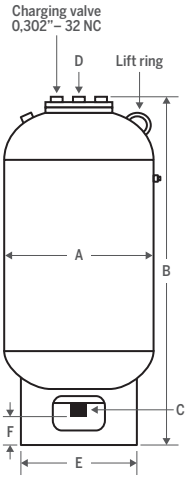
- Shell: carbon steel
- Heads: carbon steel
- Connections: stainless steel
- Ultra resistant butyl bladder, NSF approved
- Water remains permanently separated from air
- Air precharged at factory; pressure adjustable on site

Technical Specifications

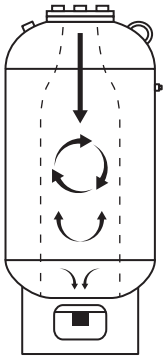
- Maximum design temperature: 240°F (115°C)
- Air precharged at factory at 40 PSI
- Maximum design pressure: 150 psig, 200 and 250 psig available

Operation

The unique design of the FTTE-C promotes mixing of fluids allowing them to cross the tank completely. This movement inside the bladder avoids water stagnation, thus preventing the potential growth of harmful bacteria colonies.



FTTE-85-C thru FTTE-800L-C



Internal view

Model#	Volume		Dimension				Connection				E		F		Weight	
			A		B		C		D							
	gal	L	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
FTTE-85-C	23	87	16	406	37	940	1	25	1	25	12	305	5¼	133	90	41
FTTE-130-C	35	132	20	508	37	940	1	25	1	25	12	406	5¼	133	132	60
FTTE-200-C	53	201	24	610	43	1092	1½	38	1½	38	20	508	5¼	133	220	100
FTTE-300-C	79	299	24	610	55	1397	1½	38	1½	38	20	508	5¼	133	236	107
FTTE-400-C	106	401	30	762	49	1245	1½	38	1½	38	24	610	5¼	133	315	143
FTTE-500-C	132	500	30	762	57	1448	2	51	2	51	24	610	4¾	121	347	157
FTTE-600-C	158	598	30	762	65	1651	2	51	2	51	24	610	4¾	121	378	171
FTTE-800L-C	211	799	32	813	76	1930	2	51	2	51	28	711	4¾	121	503	228

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

HYDRO-PNEUMATICS

AFX SERIES

Replaceable bladder **Bottom connection**

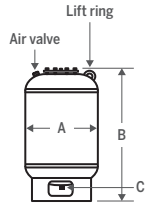
Model AFX-85 thru AFX-800 shown

Features

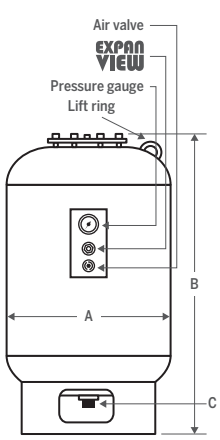
- Ultra resistant butyl bladder, NSF approved
- Design conforms to ASME, section VIII
- Air precharged at factory; pressure adjustable on site
- Ideal for booster systems
- Storage tank for drinking and well water

Technical Specifications

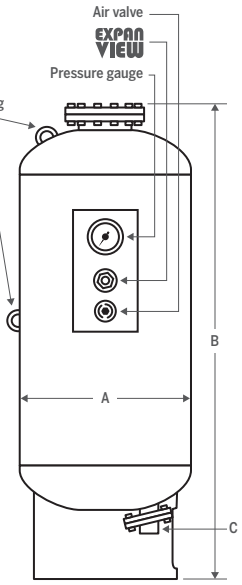
- Exterior finish in painted primer
- Maximum temperature 240°F (115°C)
- Air precharged at factory at 30 PSI
- Standard pressure of 125 PSI



AFX-35 thru AFX-50



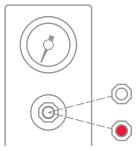
AFX-85 thru AFX-800



AFX-1000 thru AFX-5000

Model#	Total Volume		Dimension				NPT Connect.		Weight	
			A		B		C			
	gal	L	in	mm	in	mm	in	mm	lb	kg
AFX-35	10	38	12	305	23.5	584	¾	19	40	18
AFX-50	13	49	14	356	24	610	¾	19	50	23
AFX-85	23	87	16	406	37	940	1	25	90	41
AFX-130	35	133	20	508	37	940	1	25	125	57
AFX-200	53	201	24	610	43	1092	1½	38	210	95
AFX-300	79	299	24	610	55	1397	1½	38	225	102
AFX-400	106	401	30	762	49	1245	1½	38	300	136
AFX-500	132	500	30	762	57	1448	2	51	335	152
AFX-600	158	598	30	762	65	1651	2	51	360	164
AFX-800	211	799	32	813	76	1930	2	51	475	216
AFX-1000	264	999	36	914	82	2083	3	76	735	333
AFX-1200	317	1200	36	914	94	2387	3	76	745	338
AFX-1400	370	1401	36	914	107	2718	3	76	900	408
AFX-1600	422	1597	48	1219	84	2133	3	76	1210	549
AFX-2000	528	1999	48	1219	97	2464	3	76	1305	592
AFX-2500	660	2498	48	1219	116	2946	4	102	1430	649
AFX-3000L	792	2998	48	1219	134	3404	4	102	1575	714
AFX-3000S	792	2998	60	1524	97	2464	4	102	2169	984
AFX-4000	1056	3997	60	1524	123	3124	4	102	2638	1197
AFX-5000	1320	4997	60	1524	146	3708	4	102	3246	1472

EXPAN VIEW



ExpanView tank integrity indicator which changes color in the presence of a leak.

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

HYDRO-PNEUMATICS

SSA SERIES

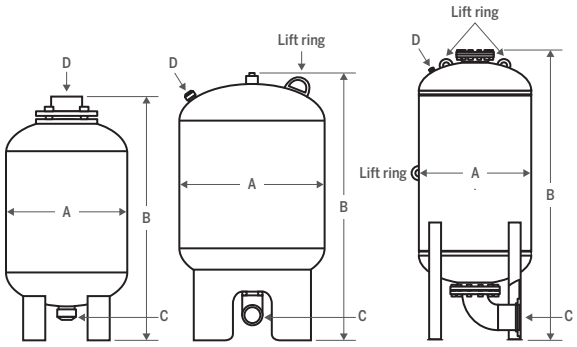
Replaceable bladder **Shock and surge arrestors**

Features

- Ultra resistant butyl bladder
- Construction conforms to ASME Section VIII
- Water remains permanently separated from air
- Air precharged at factory; pressure adjustable on site
- Effectively control water hammer shock and pump start-up/shut-down water surge
- Connection at the bottom for all models except SSA-35 and SSA-50
- With large water system connections designed to quickly accept water surge pressures, with minimal pressure drop

Technical Specifications

- Maximum design temperaturet: 240°F (115°C)
- Air precharged at factory at 30 psi
- Maximum design pressure: 250 PSI



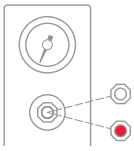
SSA-35 and SSA-85 SSA-130 thru SSA-800 SSA-1000 thru SSA-2500

Bottom connection for all models except SSA-35 and SSA-50

Model#	Volume		Dimension										Weight	
			A		B		C		Charging Valve D	E				
	gal	L	in	mm	in	mm	in	mm		in	mm		lb	kg
SSA-35	10	38	12	305	26	660	2½	64	0.302" – 32 NC 7.7 mm – 32 NC	9	229		55	25
SSA-50	13	49	14	356	26	660	2½	64		10	254		65	30
SSA-85	23	87	16	406	30½	775	3	76		12	305		134	61
SSA-130	35	132	20	508	30½	775	3	76		16	406		175	79
SSA-200	53	201	24	610	46½	1181	4	102		20	508		250	113
SSA-300	79	299	24	610	58½	1486	4	102		20	508		341	155
SSA-400	106	401	30	762	52½	1334	4	102		24	610		430	195
SSA-500	132	500	30	762	63	1600	6	152		24	610		596	270
SSA-600	158	598	30	762	71	1803	6	152		24	610		653	296
SSA-700	185	700	30	762	81½	2070	6	152		24	610		726	329
SSA-800	211	799	32	813	82	2083	6	152		26	660		902	409
SSA-1000	264	999	36	914	85	2159	10	254		–	–		1147	520
SSA-1200	317	1199	36	914	107	2718	10	254		–	–		1303	591
SSA-1400	370	1401	36	914	119	3023	10	254		–	–		1447	656
SSA-1600	422	1597	48	1219	92	2337	10	254		–	–		1888	856
SSA-2000	528	1999	48	1219	105	2667	10	254		–	–		2105	955
SSA-2500	660	2498	48	1219	122	3099	10	254		–	–		2425	1100

Note: Available with mounting clips.

EXPAN VIEW



ExpanView tank integrity indicator which changes color in the presence of a leak.

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

HYDRO-PNEUMATICS

ABM SERIES

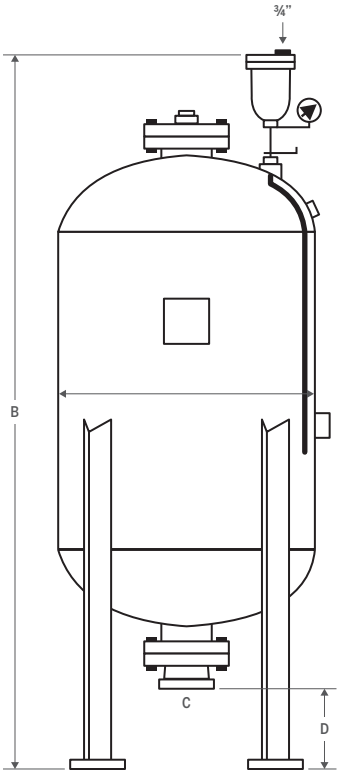
Replaceable bladder **Municipal hammer arrestors**

Features

- Heavy duty butyl bladder
- Design conforms to ASME, section VIII
- For use in wastewater systems
- Equipped with a biogas vent and manometer

Technical Specifications

- Maximum temperature: 240°F (115°C)
- Maximum design pressure: 150 PSI



Model#	Total Volume		Dimension								Weight	
			A		B		C		D			
	gal	L	in	mm	in	mm	in	mm	in	mm	lb	kg
ABM-160	43	163	24	610	60	1524	6	152	12	305	250	114
ABM-250	66	250	24	610	72	1829	6	152	12	305	300	136
ABM-400	106	401	24	610	98	2489	8	203	16	406	365	166
ABM-600	158	598	30	760	96	2438	8	203	16	406	590	268
ABM-1000	264	999	36	914	101	2565	10	254	24	610	900	409
ABM-1600	423	1601	48	1220	105	2667	12	305	30	760	1610	731
ABM-2000	528	1999	48	1220	119	3023	12	305	30	760	1810	823

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

NON-CODED HYDRO-PNEUMATICS

FX SERIES

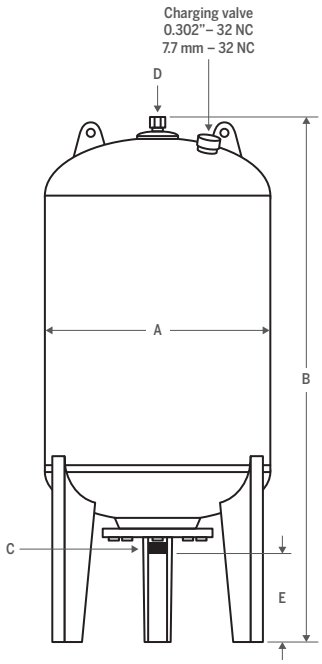
Replaceable bladder **NON-ASME Expansion tank**

Features

- NON-ASME Expansion tank
- Ultra resistant butyl bladder
- Water remains permanently separated from air
- Preload of air at factory, adjustable pressure on site
- Effectively controls pressure surges and shocks that occur when the system is turned on and off
- Equipped with connections for large water systems, designed to quickly accept water pressure surges with minimal pressure drop

Technical Specifications

- Maximum design temperature: 240°F (115°C)
- Maximum design pressure: 150 PSIG
- Air precharged at factory at 30 PSI
- Bladder: Ultra resistant butyl • FDA approved • Conforms to the NSF61 standard
- Stainless steel connection



FX-300V thru FX2000V

Model#	Volume		Dimension				Connection				E		Weight	
			A		B		C		D					
	gal	L	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
FX-300V	80	303	25	635	55	1397	1½	38	½	13	8.5	216	141	70.0
FX-500V	132	500	31	787	61	1549	1½	38	½	13	9	229	265	120.2
FX-750V	198	750	31	787	79	2007	1½	38	½	13	9	229	330	149.7
FX-1000V	264	999	37	940	77	1956	2	51	½	13	9	229	398	180.5
FX-2000V	528	1999	50	1270	84	2134	2	51	½	13	9	229	835	378.8

Use our online selector tool to choose the right tank size: **calefactio.com/en/sizing-tool**
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

ACCESSORIES

Saddles

For horizontal installation on the floor.

Model#	Diameter
SAD12	12”
SAD14	14”
SAD16	16”
SAD18	18”
SAD20	20”
SAD24	24”
SAD30	30”
SAD36	36”
SAD48	48”

Straps

Straps to attach the tank.

Model#	Diameter
STRAP12	12”
STRAP14	14”
STRAP16	16”
STRAP18	18”
STRAP20	20”
STRAP24	24”
STRAP30	30”
STRAP36	36”
STRAP48	48”

Anti-Seismic Brackets

The anti-seismic brackets are designed to protect the tanks in case of an earthquake.

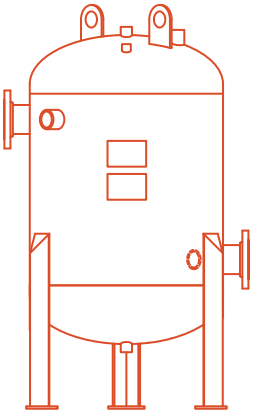
Model#	Width
BKT2	2”
BKT4	4”

ASME SPECIALIZED TANKS

Technical Specifications

- Constructed according to the ASME code, section VIII, DIV. 1
- Conforms to the CSA B.51 standard
- Available vertically (V) or horizontally (H)
- Carbon steel or stainless steel construction
- Design of 125 PSI (862 KPa), 150 PSI (1,034 KPa), 200 PSI (1,379 KPa) and greater on demand
- Exterior finish: external solvent cleaning and grey coat primer application

ASME STORAGE TANK FOR CHILLED WATER AND GLYCOL

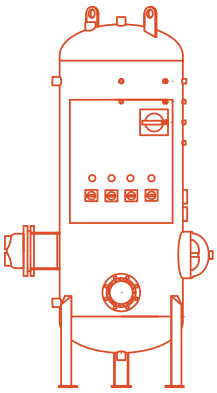


Options

- Epoxy coated interior
- Concrete coated interior
- Horizontal with steel "floor" saddles

Model#	Description
CBT	Available from 24" to 144" diameter

ASME BI-ENERGY DOMESTIC HOT WATER STORAGE TANK



Features

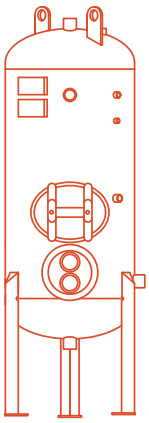
- Conforms to the NSF61 standard
- With water (W) or vapour (V) exchanger tube and electric element
- Replaceable aluminium anodes
- C/A pre-wired control panel

Options

- Interior coating hydrophobic cement, 20 mm (¾") thick
- Horizontal with steel "floor" saddles

Model#	Description
STA-BI	Available from 24" to 144" diameter

ASME DOMESTIC HOT WATER STORAGE TANK WITH HEATER



Features

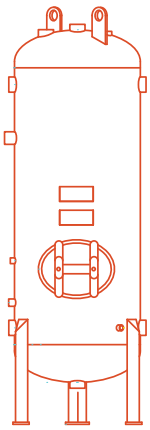
- Conforms to the NSF61 standard
- Replaceable aluminium anodes
- C/A pre-screened control panel
- Available from 24" to 144" diameter

Options

- Interior coating hydrophobic cement, 20 mm (¾") thick
- Horizontal with steel "floor" saddles

Model#	Description
STATEW	With water – tube exchanger
STATEV	With vapour – tube exchanger
STAEE	With electrical exchanger

ASME DOMESTIC HOT WATER STORAGE TANK WITHOUT HEATER



Features

- Conforms to the NSF61 standard
- Aluminium anodes

Options

- Interior coating hydrophobic cement, from 20 mm (¾") thick
- Horizontal with steel "floor" saddles

Model#	Description
STA	Available from 24" to 144" diameter

ASME BUFFER TANK

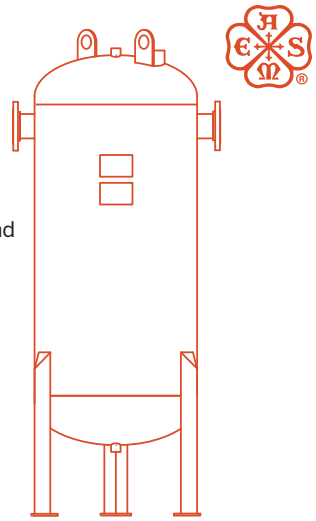
Features

- Constructed according to the ASME code, section VIII, DIV. 1
- Conforms to the CSA B.51 standard
- Available vertically (V) or horizontally (H)
- Carbon steel or stainless steel construction
- Designs of 125 PSI (862 KPa), 150 PSI (1,034 KPa), 200 PSI (1,379 KPa) and greater on demand
- Exterior finish: external solvent cleaning and grey coat primer application

Options

- Horizontal with steel "floor" saddles
- Bottom connection
- Internal deflector for a more uniform mixture

Model#	Description
HBT	Available from 24" to 144" diameter

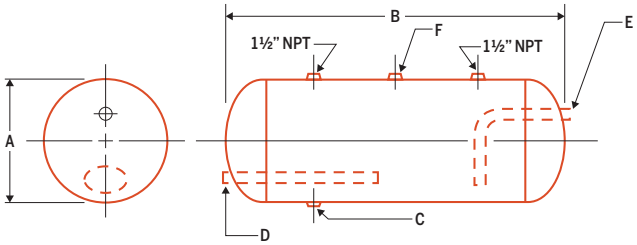


ASME FLASH TANKS

EFTA SERIES

Construction

- Constructed according to ASME standard, section VIII, Div.1
- Design temperature: 450°F / 232 °C
- Painted exterior with a primer coat



Model#	Capacity		W.P.	Dimension												Weight		Clear.	Options		
				A		B		C		D	E	F									
	gal	L	PSI	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	ft²	Inlet	Outlet	Hand Hole
EFTA-13	13	49.2	150	10	254	39	991	1	25	1½	38	2	51	79	36	2.71	1½"× 18" with 20 holes ⅜"	1½" 38.1 mm	4"× 6" 101.6 mm × 152.4 mm
EFTA-18	18	68.1	150	12	305	39	991	1	25	1½	38	2	51	94	43	3.25			
EFTA-24	24	90.8	150	14	356	39	991	1	25	1½	38	2	51	108	49	3.79			
EFTA-30	30	113.6	150	16	406	38	965	1½	38	1½	38	2½	64	121	55	4.22			
EFTA-48	48	181.7	125	18	457	48	1219	2	51	1½	38	2½	64	168	76	6.00			
EFTA-80	80	302.8	125	24	610	46	1168	2	51	2	51	3	76	214	97	7.67	2"× 24" with 32 holes ⅜"	2" 50.8 mm	
EFTA-125	125	473.2	125	30	762	48	1219	2½	64	2	51	3	76	285	129	10			
EFTA-180	180	681.4	125	36	914	48	1219	3	76	2	51	3	76	339	154	12			

Spray duct, splash pipes and inspection holes are available as optional equipment.

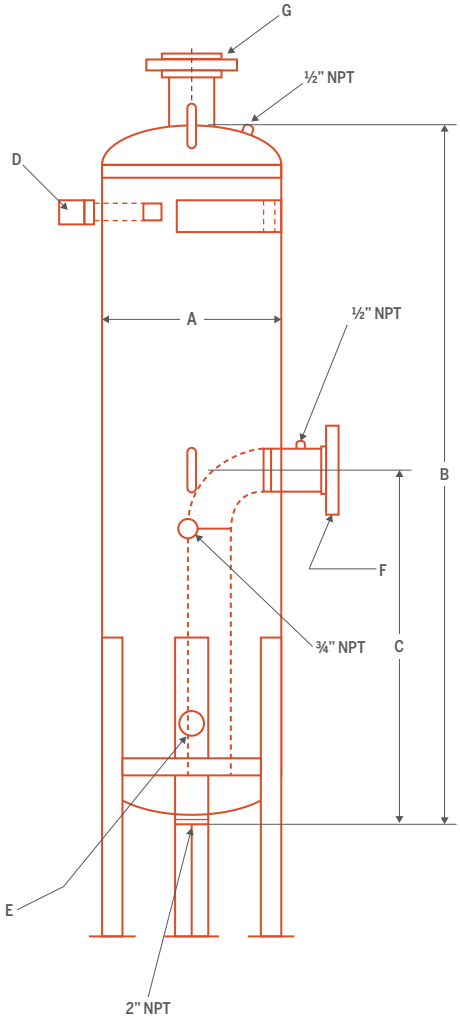
To obtain a tank of higher capacity and greater pressure, contact the manufacturer.

ASME BLOWDOWN TANKS

EBDT SERIES

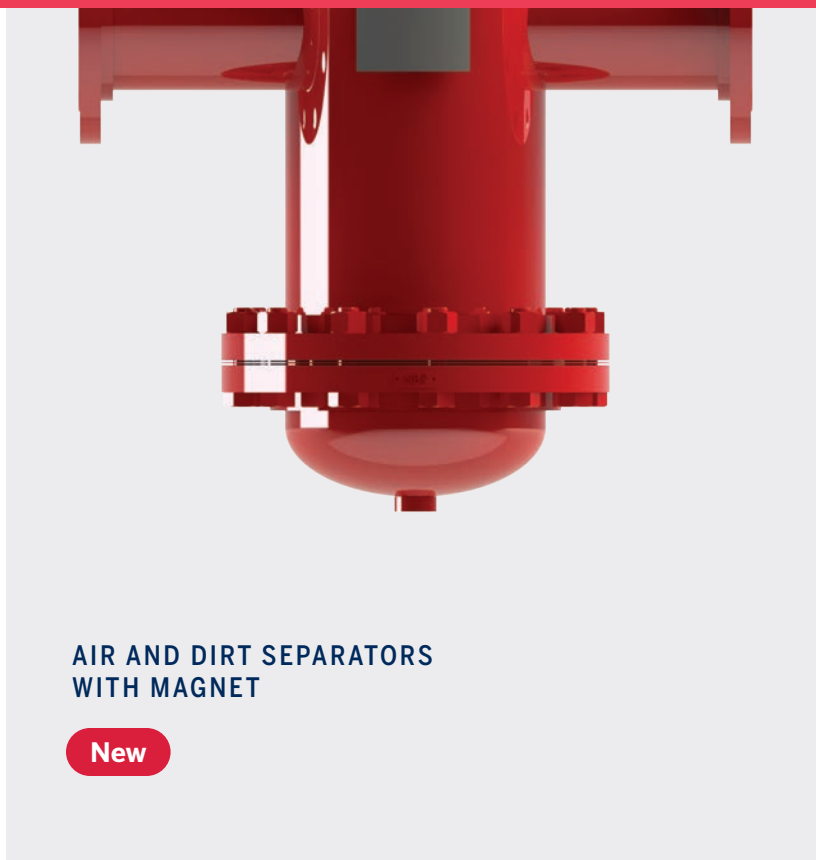
Technical Specifications

- Conforms to chapter VIII of the ASME code
- Exterior painted primer
- Head and shell from ⅜ in material
- Design temperature 450°F
- Operating pressure 125 psig



Model#	Design Pressure for Boiler	Dimension				Exit Height		Pressure Purger		Cold Water Intake		Cold water Outtake		Pressure Purger	
		A		B		C		D		E		F		G	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
EBDT-21	20 to 50	14	356	66	1676	33	838	¾	19	¾	19	1½	38	2	51
EBDT-22	20 to 50	14	356	66	1676	33	838	1	25	1	25	1½	38	2	51
EBDT-23	20 to 50	14	356	66	1676	33	838	1¼	32	1¼	32	2½	64	2	51
EBDT-24	20 to 50	14	356	66	1676	33	838	1½	38	1¼	32	2½	64	2½	64
EBDT-25	20 to 50	18	457	72	1829	36	914	2	51	2	51	4	102	3	76
EBDT-26	20 to 50	20	508	72	1829	36	914	2½	64	2	51	4	102	4	102
EBDT-51	51 to 100	14	356	66	1676	33	838	¾	19	1	25	1½	38	2	51
EBDT-52	51 to 100	14	356	66	1676	33	838	1	25	1¼	32	2	51	2½	64
EBDT-53	51 to 100	18	457	72	1829	36	914	1¼	32	1½	38	3	76	3	76
EBDT-54	51 to 100	18	457	72	1829	36	914	1½	38	2	51	4	102	4	102
EBDT-55	51 to 100	24	610	72	1829	36	914	2	51	2½	64	4	102	5	127
EBDT-56	51 to 100	30	762	78	1981	39	990	2½	64	2½	64	5	127	6	152
EBDT-101	101 to 150	14	356	66	1676	33	838	¾	19	1	25	2	51	2½	64
EBDT-102	101 to 150	14	356	66	1676	33	838	1	25	1¼	32	3	76	3	76
EBDT-103	101 to 150	20	508	72	1829	36	914	1¼	32	1½	38	3	76	4	102
EBDT-104	101 to 150	24	610	72	1829	36	914	1½	38	2	51	4	102	5	127
EBDT-151	151 to 200	14	356	66	1676	33	838	¾	19	1	25	2	51	3	76
EBDT-152	151 to 200	18	457	72	1829	36	914	1	25	1¼	32	2½	64	4	102
EBDT-153	151 to 200	24	610	72	1829	36	914	1¼	32	2	51	3	76	5	127
EBDT-154	151 to 200	30	762	78	1981	39	990	1½	38	2	51	4	102	6	152
EBDT-156	151 to 200	48	1219	78	1981	39	990	2½	64	3	76	5	127	8	203
EBDT-201	201 to 300	18	457	72	1829	34	863	¾	19	1¼	32	2	51	4	102
EBDT-202	201 to 300	24	610	72	1829	34	863	1	25	1½	38	2½	64	5	127
EBDT-203	201 to 300	30	762	78	1981	39	990	1¼	32	2	51	4	102	6	152
EBDT-204	201 to 300	36	914	78	1981	39	990	1½	38	2½	64	4	102	6	152
EBDT-205	201 to 300	48	1219	78	1981	39	990	2	51	3	76	5	127	8	203
EBDT-206	201 to 300	54	1372	84	2134	42	1067	2½	64	3	76	6	152	10	254
EBDT-301	301 to 400	20	508	72	1829	36	914	¾	19	1¼	32	2½	64	4	102
EBDT-302	301 to 400	24	610	72	1829	36	914	1	25	1½	38	3	76	5	127
EBDT-304	301 to 400	42	1067	78	1981	39	990	1½	38	2½	64	4	102	8	203
EBDT-305	301 to 400	54	1372	84	2134	42	1067	2	51	3	76	5	127	10	254
EBDT-306	301 to 400	66	1676	84	2134	42	1067	2½	64	4	102	6	152	10	254
EBDT-401	401 to 500	20	508	72	1829	36	914	1¼	19	1¼	32	2½	64	4	102
EBDT-404	401 to 500	48	1219	78	1981	39	990	1½	38	1½	38	4	102	8	203
EBDT-405	401 to 500	60	1524	84	2134	42	1067	2	51	3	76	5	127	10	254
EBDT-406	401 to 500	72	1829	84	2134	42	1067	2½	64	4	102	8	203	12	305
EBDT-501	501 to 600	24	610	72	1829	36	914	¾	19	1¼	32	2½	64	5	127
EBDT-502	501 to 600	30	762	78	1981	39	990	1	25	1½	38	3	76	6	152
EBDT-503	501 to 600	42	1067	78	1981	39	990	1¼	32	2½	64	4	102	8	203
EBDT-504	501 to 600	54	1372	84	2134	42	1067	1½	38	2½	64	5	127	10	254
EBDT-505	501 to 600	66	1676	84	2134	42	1067	2	51	3	76	6	152	12	305
EBDT-506	501 to 600	72	1829	84	2134	42	1067	2½	64	4	102	8	203	12	305
EBDT-602	601 to 800	36	914	78	1981	39	990	1	25	1½	38	3	76	6	152
EBDT-603	601 to 800	48	1219	78	1981	39	990	1¼	32	2	51	4	102	8	203
EBDT-604	601 to 800	60	1524	84	2134	42	1067	1½	38	2½	64	5	127	10	254
EBDT-605	601 to 800	72	1829	84	2134	42	1067	2	51	3	76	6	152	12	305
EBDT-606	601 to 800	72	1829	84	2134	42	1067	2½	64	4	102	8	203	12	305

ASME AIR, DIRT AND HYDRAULIC SEPARATORS



TANGENTIAL AIR SEPARATORS

ESPA

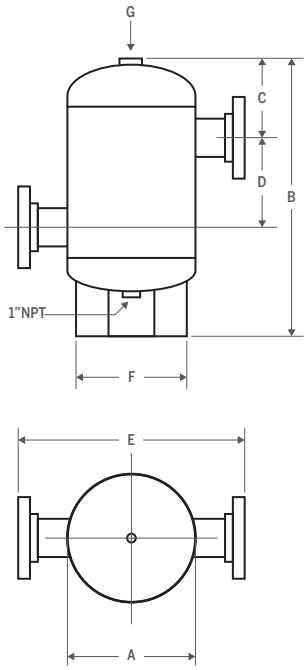
Without strainer

Features

- Design conforms to ASME, section VIII
- Separate air
- Adapted fluids: water and 50% glycol solution
- Calvent automatic vent (#CV050) available in option
- Ideal for heating or cooling installations in open or closed loop

Technical Specifications

- Carbonized steel housing
- Exterior finish in painted primer
- Maximum temperature: 232°C (450°F)
- Maximum service pressure: 125 PSI
- Pressure of 150, 175, 200, 250 and 300 PSI also available



Model#	Max GPM	Connect.		Type	Dimension														Weight	
					A		B		C		D		E		F		G			
		in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
ESPA-2	56	2	51	NPT	12	305	22½	572	5½	140	8½	216	16⅝	422	9½	241	1¼	32	50	23
ESPA-2.5	90	2½	64	NPT	12	305	22½	572	5½	140	8½	216	16⅝	422	9½	241	1¼	32	55	25
ESPA-3	190	3	76	CLAMPED	12	305	22½	572	5¾	146	8	203	19¾	502	9½	241	1¼	32	60	27
ESPA-4	300	4	102	CLAMPED	14	356	32	813	9⅛	232	10¾	273	21¾	552	11½	292	1½	38	90	41
ESPA-5	530	5	127	CLAMPED	14	356	32	813	9⅛	232	10¾	273	21¾	552	11½	292	1½	38	148	67
ESPA-6	850	6	152	CLAMPED	20	508	44	1118	13¼	337	14½	368	28	711	18	457	2	51	191	87
ESPA-8	1900	8	203	CLAMPED	20	508	44	1118	13¼	337	14½	368	28	711	18	457	2	51	379	172
ESPA-10	3600	10	254	CLAMPED	30	762	60½	1537	19	483	20	508	41	1041	24	610	2	51	598	271
ESPA-12	4800	12	305	CLAMPED	30	762	60½	1537	19	483	20	508	41	1041	24	610	2	51	947	430
ESPA-14	6100	14	356	CLAMPED	36	914	78	1981	22	559	31½	800	46⅜	1178	30	762	2	51	1680	762
ESPA-16	8000	16	406	CLAMPED	48	1219	108	2743	30	762	40	1016	60	1524	38	965	2	51	2300	1043
ESPA-18	9700	18	457	CLAMPED	54	1371	124	3150	33	838	50	1270	66	1676	44	1118	2	51	3235	1467
ESPA-20	12000	20	508	CLAMPED	60	1524	137	3480	35	889	60	1524	72	1829	50	1270	2	51	5100	2313
ESPA-22	15000	22	559	CLAMPED	66	1676	150	3810	38	965	66	1676	78	1981	56	1422	2	51	6150	2790
ESPA-24	17000	24	610	CLAMPED	66	1676	150	3810	38	965	66	1676	80	1270	56	1422	2	51	6400	2903

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

TANGENTIAL AIR SEPARATORS

ESPA-S

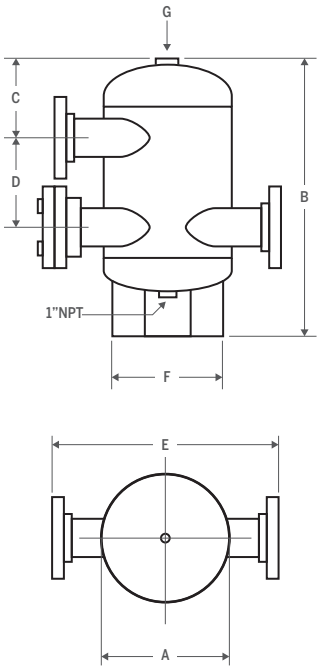
With strainer

Features

- Design conforms to ASME, section VIII
- Separate air
- With strainer allowing debris retention
- Adapted fluids: water and 50% glycol solution
- Calvent automatic vent (#CV050) available in option
- deal for heating or cooling installations in open or closed loop

Technical Specifications

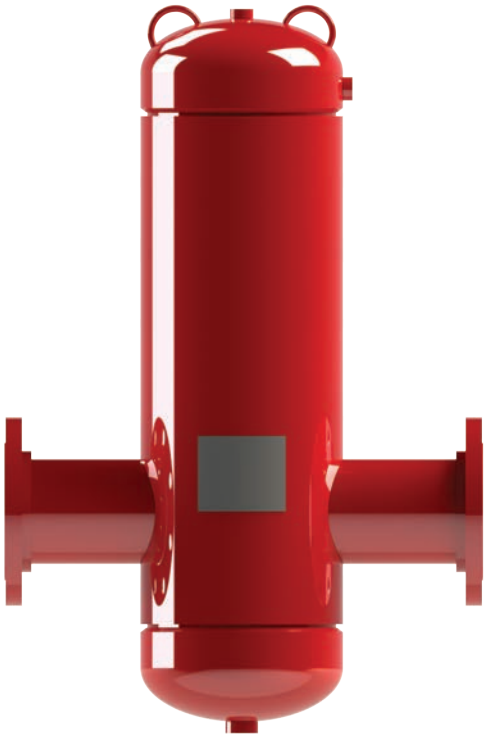
- Carbonized steel housing
- Exterior finish in painted primer
- Maximum temperature: 232°C (450°F)
- Maximum service pressure: 125 PSI
- Pressure of 150, 175, 200, 250 and 300 PSI also available



Model#	Max GPM	Connect.		Type	Dimension														Weight	
					A		B		C		D		E		F		G			
		in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
ESPA-2S	56	2	51	NPT	12	305	22½	572	5½	140	8½	216	16⅝	422	9½	241	1¼	32	55	25
ESPA-2.5S	90	2½	64	NPT	12	305	22½	572	5½	140	8½	216	16⅝	422	9½	241	1¼	32	61	28
ESPA-3S	190	3	76	CLAMPED	12	305	22½	572	5¾	146	8	203	19¾	502	9½	241	1¼	32	66	30
ESPA-4S	300	4	102	CLAMPED	14	356	32	813	9⅛	232	10¾	273	21¾	552	11½	292	1½	38	99	45
ESPA-5S	530	5	127	CLAMPED	14	356	32	813	9⅛	232	10¾	273	21¾	552	11½	292	1½	38	163	74
ESPA-6S	850	6	152	CLAMPED	20	508	44	1118	13¼	337	14½	368	28	711	18	457	2	51	210	95
ESPA-8S	1900	8	203	CLAMPED	20	508	44	1118	13¼	337	14½	368	28	711	18	457	2	51	417	189
ESPA-10S	3600	10	254	CLAMPED	30	762	60½	1537	19	483	20	508	41	1041	24	610	2	51	658	298
ESPA-12S	4800	12	305	CLAMPED	30	762	60½	1537	19	483	20	508	41	1041	24	610	2	51	1042	473
ESPA-14S	6100	14	356	CLAMPED	36	914	78	1981	22	559	31½	800	46⅜	1178	30	762	2	51	1848	838
ESPA-16S	8000	16	406	CLAMPED	48	1219	108	2743	30	762	40	1016	60	1524	38	965	2	51	2530	1148
ESPA-18S	9700	18	457	CLAMPED	54	1371	124	3150	33	838	50	1270	66	1676	44	1118	2	51	3559	1614
ESPA-20S	12000	20	508	CLAMPED	60	1524	137	3480	35	889	60	1524	72	1829	50	1270	2	51	5610	2545
ESPA-22S	15000	22	559	CLAMPED	66	1676	150	3810	38	965	66	1676	78	1981	56	1422	2	51	6765	3068
ESPA-24S	17000	24	610	CLAMPED	72	1829	150	3810	38	965	66	1676	78	1981	56	1422	2	51	7931	3597

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING AIR SEPARATORS



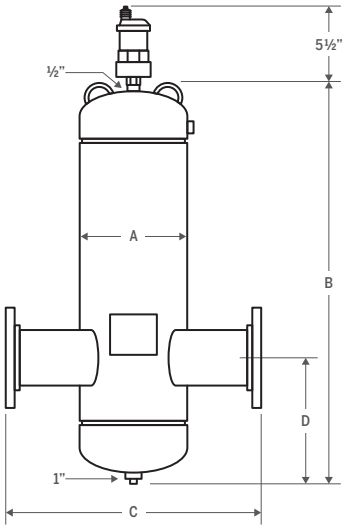
EWVAA

Features

- Design conforms to ASME, section VIII
- Equipped with a Calvent automatic vent (#CV050)
- Supplied with a drain valve

Technical Specifications

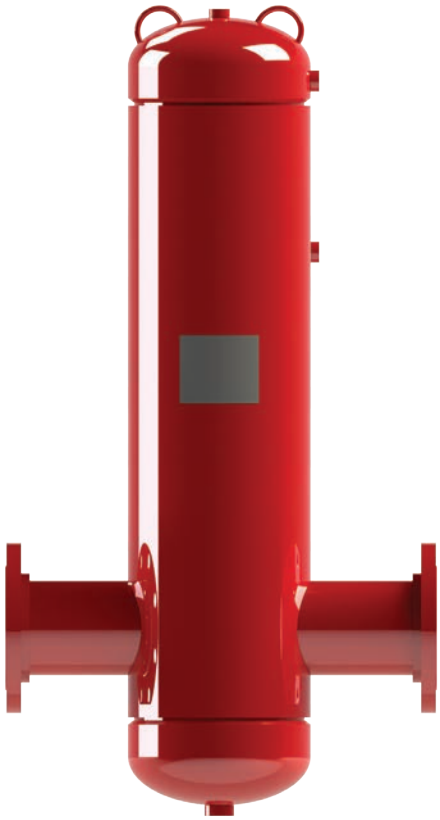
- Coalescent media: stainless steel
- Shell: carbonized steel
- Pressure purger valve: brass
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 200 and 250 PSI also available



Model#	Connection		Maximum Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVAA-2	2	51	69	261	4	102	18½	470	15¼	387	7	178	35	16
EWVAA-2NPT	2	51	69	261	4	102	18½	470	10⅜	264	7	178	26	12
EWVAA-2.5	2½	64	108	409	5	127	18½	470	15¾	400	7	178	61	28
EWVAA-2.5NPT	2½	64	108	409	5	127	18½	470	11	279	7	178	38	17
EWVAA-3	3	76	144	545	6	152	23	584	20¼	514	8½	216	71	32
EWVAA-3NPT	3	76	144	545	6	152	23	584	12½	318	8½	216	56	25
EWVAA-4	4	102	255	965	8	203	23	584	20⅝	524	8½	216	105	48
EWVAA-5	5	127	398	1507	10	254	31	787	27¾	705	11½	292	92	42
EWVAA-6	6	152	570	2158	12	305	31	787	27¾	705	11½	292	129	59
EWVAA-8	8	203	945	3577	16	406	36	914	33⅝	854	11½	292	225	102
EWVAA-10	10	254	1440	5451	20	508	46	1168	37½	953	13½	343	375	170
EWVAA-12	12	305	2100	7949	24	610	54	1372	42½	1080	16	406	564	256

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING AIR SEPARATORS



EWVAA-HV

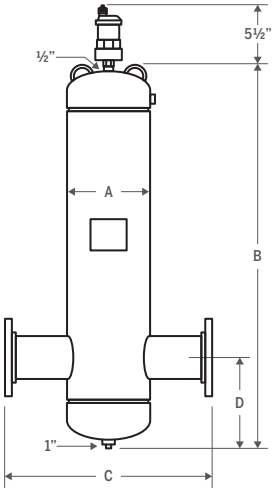
High velocity

Features

- Design conforms to ASME, section VIII
- High velocity
- Equipped with Calvent automatic vent (#CV050)
- Supplied with a drain valve

Technical Specifications

- Coalescent media: stainless steel
- Shell: carbonized steel
- Pressure purger valve: brass
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 200 and 250 PSI also available



Model#	Connection		Maximum Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVAA-2HV	2	51	105	397	4	102	23	584	15¼	387	6½	165	40	18
EWVAA-2HV-NPT	2	51	105	397	4	102	23	584	10⅜	264	6½	165	31	14
EWVAA-2.5HV	2½	64	155	587	5	127	23	584	15¾	400	6½	165	68	31
EWVAA-2.5HV-NPT	2½	64	155	587	5	127	23	584	11	279	6½	165	45	20
EWVAA-3HV	3	76	225	852	6	152	30	762	20¼	514	9	229	82	37
EWVAA-3HV-NPT	3	76	225	852	6	152	30	762	12½	318	9	229	68	31
EWVAA-4HV	4	102	405	1533	8	203	30	762	20⅝	524	9	229	122	55
EWVAA-5HV	5	127	630	2385	10	254	41	1041	27¾	705	11½	292	128	58
EWVAA-6HV	6	152	910	3445	12	305	41	1041	27¾	705	11½	292	140	64
EWVAA-8HV	8	203	1610	6094	16	406	49	1245	33⅝	854	11½	292	245	111
EWVAA-10HV	10	254	2450	9274	20	508	60	1524	37½	953	14	356	407	185
EWVAA-12HV	12	305	3500	13249	24	610	71	1803	42½	1080	16	406	612	278

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING
AIR AND DIRT SEPARATORS

EWVA

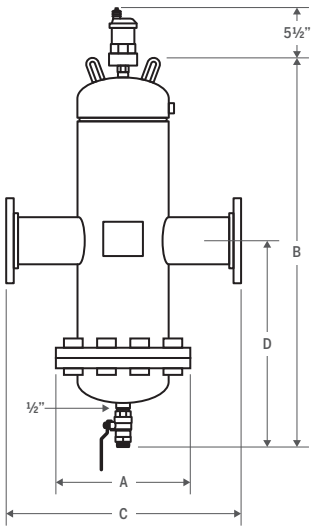
Replaceable media

Features

- Design conforms to ASME, section VIII
- The media can be removed for maintenance or replacement
- Equipped with Calvent automatic vent (#CV050)
- Supplied with a drain valve

Technical Specifications

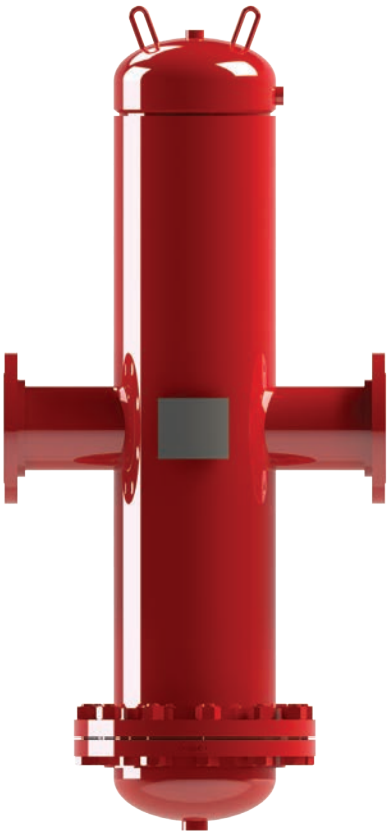
- Coalescent media: stainless steel
- Shell: steel
- Pressure purger valve : bronze
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 175, 200, 250 and 300 PSI also available



Model#	Connection		Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVA-2	2	51	69	261	9	229	23	584	15¼	387	11½	292	100	45
EWVA-2 NPT	2	51	69	261	9	229	23	584	9	227	11½	292	90	41
EWVA-2.5	2½	64	108	409	10	254	23	584	15¾	400	11½	292	125	57
EWVA-2.5 NPT	2½	64	108	409	10	254	23	584	10½	267	11½	292	115	52
EWVA-3	3	76	144	545	11	279	29	737	20¼	514	14½	368	150	68
EWVA-3 NPT	3	76	144	545	11	279	29	737	12½	318	14½	368	130	59
EWVA-4	4	102	255	965	13½	343	29	737	20⅝	524	14½	368	250	113
EWVA-5	5	127	398	1507	16	406	39	991	27¾	705	19½	495	310	141
EWVA-6	6	152	570	2158	19	483	39	991	27¾	705	19½	495	375	170
EWVA-8	8	203	945	3577	23½	597	49	1245	35⅝	905	24½	622	700	318
EWVA-10	10	254	1440	5451	27½	699	65	1651	37½	953	32½	826	1000	454
EWVA-12	12	305	2100	7949	32	813	76	1930	42½	1080	38	965	1500	680

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING
AIR AND DIRT SEPARATORS



EWVA-HV

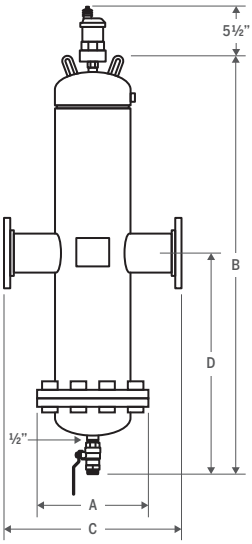
High velocity **Replaceable media**

Features

- Design conforms to ASME, section VIII
- High velocity
- The media can be removed for maintenance or replacement
- Equipped with Calvent automatic air vent (#CV050)
- Supplied with a drain valve

Technical Specifications

- Coalescent media: stainless steel
- Shell: steel
- Pressure purger valve: bronze
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 175, 200, 250 and 300 PSI also available



Model#	Connection		Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVA-2-HV	2	51	105	397	9	229	33	838	15¼	387	16½	419	110	50
EWVA-2.5-HV	2½	64	155	587	9	229	33	838	15¾	400	16½	419	140	64
EWVA-3-HV	3	76	225	852	11	279	42	1067	20¼	514	21	533	175	79
EWVA-4-HV	4	102	405	1533	13½	343	42	1067	20⅝	524	21	533	275	125
EWVA-5-HV	5	127	630	2385	16	406	59	1499	27¾	705	29½	749	475	215
EWVA-6-HV	6	152	910	3445	19	483	59	1499	27¾	705	29½	749	525	238
EWVA-8-HV	8	203	1610	6095	23½	597	75	1905	33⅝	854	37¾	959	825	374
EWVA-10-HV	10	254	2450	9274	27½	699	92	2337	37½	953	46	1168	1275	578
EWVA-12-HV	12	305	3500	13249	32	813	110	2794	42½	1080	55	1397	2050	930

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING
AIR AND DIRT SEPARATORS

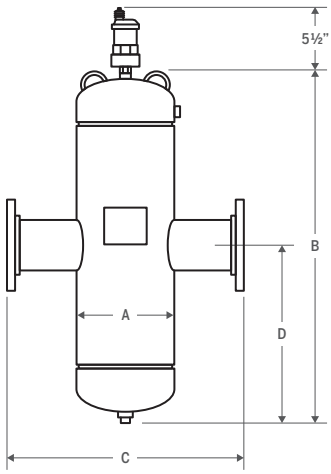
EWVAN

Features

- Design conforms to ASME, section VIII
- Non-replaceable media
- Equipped with Calvent automatic vent (#CV050)
- Supplied with a drain valve

Technical Specifications

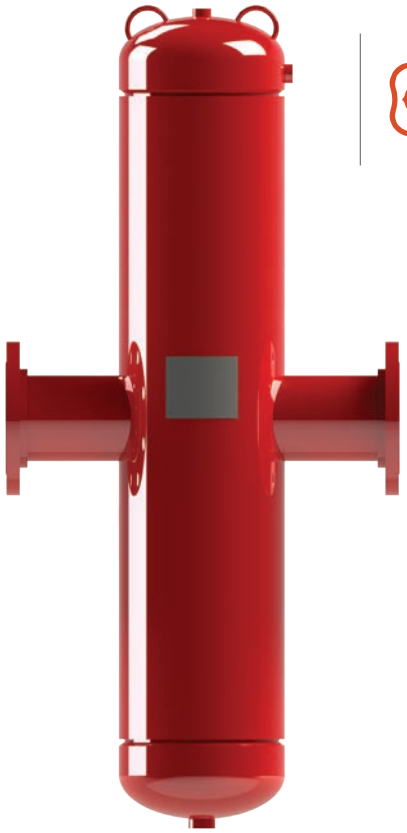
- Coalescent media: stainless steel
- Shell: carbonized steel
- Pressure purger valve: bronze
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 200 and 250 PSI also available



Model#	Connection		Maximum Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVAN-2	2	51	69	261	4½	114	23	584	15¼	387	11½	292	76	35
EWVAN-2NPT	2	51	69	261	4½	114	23	584	9	229	11½	292	70	32
EWVAN-2.5	2½	64	108	409	5½	140	23	584	15¾	400	11½	292	99	45
EWVAN-2.5NPT	2½	64	108	409	5½	140	23	584	10½	267	11½	292	90	41
EWVAN-3	3	76	144	545	6½	165	29	737	20¼	514	14½	368	114	52
EWVAN-3NPT	3	76	144	545	6½	165	29	737	12¾	324	14½	368	100	46
EWVAN-4	4	102	255	965	8½	216	29	737	20⅝	524	14½	368	194	88
EWVAN-5	5	127	398	1507	10	254	39	991	27¾	705	19½	495	230	105
EWVAN-6	6	152	570	2158	12	305	39	991	27¾	705	19½	495	255	116
EWVAN-8	8	203	945	3577	16	406	49	1245	33⅝	854	24½	622	514	234
EWVAN-10	10	254	1440	5451	20	508	65	1651	37½	953	32½	826	770	350
EWVAN-12	12	305	2100	7949	24	610	76	1930	42½	1080	38	965	1080	491

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING AIR AND DIRT SEPARATORS WITH MAGNET



EWVAN-HV

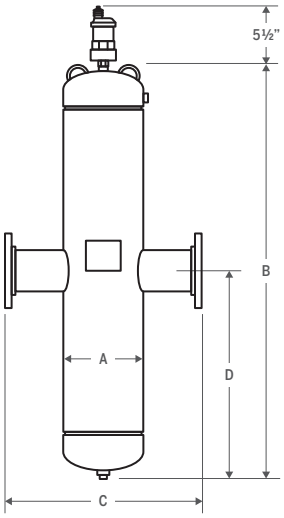
High velocity

Features

- Design conforms to ASME, section VIII
- Non-replaceable media
- Equipped with Calvent automatic air vent (#CV050)
- Supplied with a drain valve

Technical Specifications

- Coalescent media: stainless steel
- Shell: carbonized steel
- Pressure purger valve: bronze
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 200 and 250 PSI also available



Model#	Connection		Maximum Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVAN-2HV	2	51	105	397	4½	114	33	838	15¾	400	16½	419	100	45
EWVAN-2HV-NPT	2	51	105	397	4½	114	33	838	9	229	16½	419	90	41
EWVAN-2.5HV	2½	64	155	587	5½	140	33	838	15¾	400	16½	419	125	57
EWVAN-2.5HV-NPT	2½	64	155	587	5½	140	33	838	10½	267	16½	419	115	52
EWVAN-3HV	3	76	225	852	6½	165	42	1067	20¼	514	21	533	150	68
EWVAN-3HV-NPT	3	76	225	852	6½	165	42	1067	12¾	324	21	533	130	59
EWVAN-4HV	4	102	405	1533	8½	216	42	1067	20⅝	524	21	533	250	114
EWVAN-5HV	5	127	630	2385	10	254	59	1499	27¾	705	29½	749	310	141
EWVAN-6HV	6	152	910	3445	12	305	59	1499	27¾	705	29½	749	375	170
EWVAN-8HV	8	203	1610	6094	16	406	75	1905	33⅝	854	37½	953	700	318
EWVAN-10HV	10	254	2450	9274	20	508	92	2337	37½	953	46	1168	1000	455
EWVAN-12HV	12	305	3500	13249	24	610	110	2794	42½	1080	55	1397	1500	682

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING AIR AND DIRT SEPARATORS WITH MAGNET

New

EWVA-2-MAG

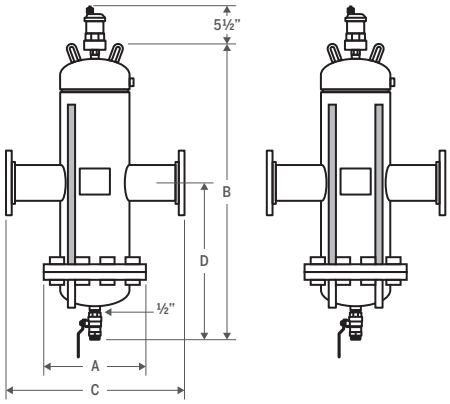
Replaceable media

Features

- Design conforms to ASME, section VIII
- Removable base for easy maintenance
- Equipped with Calvent automatic vent (#CV050)
- Supplied with one or two removable magnets

Technical Specifications

- Coalescent media: stainless steel
- Shell: steel
- Pressure purger valve: bronze
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 175, 200, 250 and 300 PSI also available



EWVA-2-MAG thru EWVA-8-MAG

EWVA-10-MAG and up

Model#	Conn.	Flow		Dimension								Weight	
				A		B		C		D			
	in	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVA-2-MAG	2	69	261	9	229	23	584	15¼	387	11½	292	110	243
EWVA-2-NPT-MAG	2	69	261	9	229	23	584	9	229	11½	292	100	221
EWVA-2.5-MAG	2½	108	409	10	254	23	584	15¾	400	11½	292	138	304
EWVA-2.5-NPT-MAG	2½	108	409	10	254	23	584	10½	267	11½	292	128	282
EWVA-3-MAG	3	144	545	11	279	29	737	20¼	57	14½	368	165	364
EWVA-3-NPT-MAG	3	144	545	11	279	29	737	12¾	324	14½	368	155	342
EWVA-4-MAG	4	255	965	13½	343	29	737	20⅝	524	14½	368	270	595
EWVA-5-MAG	5	398	1506	16	406	39	991	27¾	705	19½	495	335	739
EWVA-6-MAG	6	570	2157	19	483	39	991	27¾	705	19½	495	405	893
EWVA-8-MAG	8	945	3577	23½	597	49	1245	33⅝	854	24½	622	740	1632
EWVA-10-MAG	10	1440	5450	27½	699	65	1651	37½	953	32½	826	1050	2315
EWVA-12-MAG	12	2100	7949	32	813	76	1930	42½	1080	38	965	1560	3440

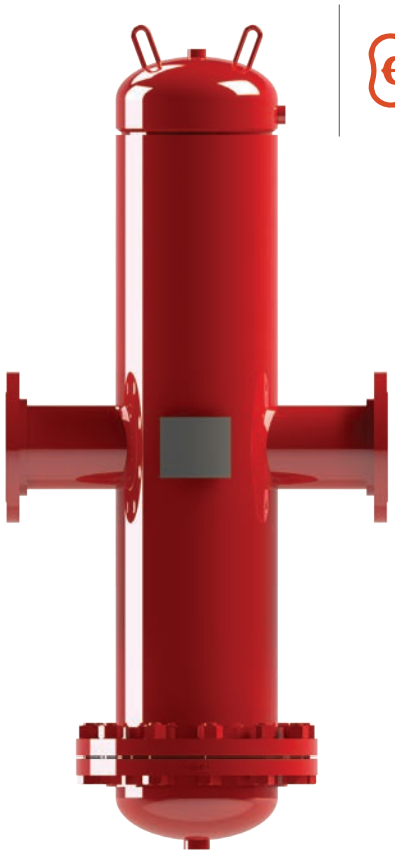
To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING AIR AND DIRT SEPARATORS WITH MAGNET

New

EWVA-2HV-MAG

High velocity | Replaceable media

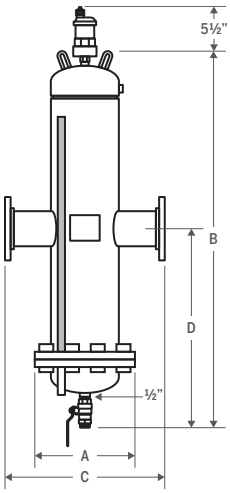


Features

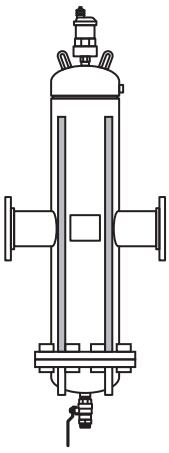
- Design conforms to ASME, section VIII
- High velocity
- Removable base for easy maintenance
- Equipped with Calvent automatic vent (#CV050)
- Supplied with one or two removable magnets

Technical Specifications

- Coalescent media: stainless steel
- Shell: steel
- Pressure purger valve: bronze
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 175, 200, 250 and 300 PSI also available



EWVA-2HV-MAG thru EWVA-8HV-MAG



EWVA-10HV-MAG and up

Model#	Conn.	Flow		Dimension								Weight	
				A		B		C		D			
	in	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVA-2HV-MAG	2	105	397	9	229	33	838	15¼	387	16½	419	110	243
EWVA-2HV-NPT-MAG	2	105	397	9	229	33	838	9	229	16½	419	100	221
EWVA-2.5HV-MAG	2½	155	587	10	254	33	838	15¾	400	16½	419	138	304
EWVA-2.5HV-NPT-MAG	2½	155	587	10	254	33	838	10½	267	16½	419	128	282
EWVA-3HV-MAG	3	225	852	11	279	42	1067	20¼	57	21	533	165	364
EWVA-3HV-NPT-MAG	3	225	852	11	279	42	1067	12¾	324	21	533	155	342
EWVA-4HV-MAG	4	405	1533	13½	343	42	1067	20⅝	524	21	533	270	595
EWVA-5HV-MAG	5	630	2385	16	406	59	1499	27¾	705	29½	749	335	739
EWVA-6HV-MAG	6	910	3444	19	483	59	1499	27¾	705	29½	749	405	893
EWVA-8HV-MAG	8	1610	6094	23½	597	75	1905	33⅝	854	37¾	959	740	1632
EWVA-10HV-MAG	10	2450	9273	27½	699	92	2337	37½	953	46	1168	1050	2315
EWVA-12HV-MAG	12	3500	13248	32	813	110	2794	42½	1080	55	1397	1560	3440

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING DIRT SEPARATORS

EWVAD

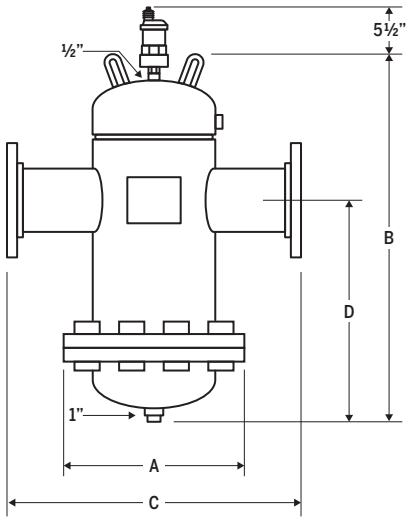
Replaceable internal

Features

- Design conforms to ASME, section VIII
- Removable base for easy maintenance
- Equipped with Calvent automatic vent (#CV050)
- Supplied with a drain valve

Technical Specifications

- Coalescent media: stainless steel
- Shell: steel
- Pressure purger valve: brass
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 200 and 250 PSI also available



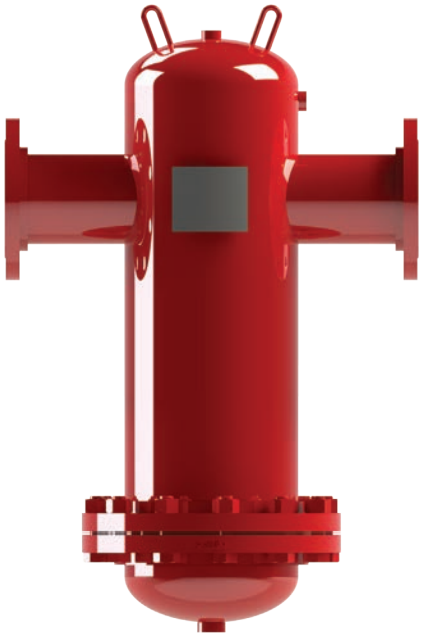
Model#	Connection		Maximum Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVAD-2	2	51	69	261	9	229	18½	470	15¼	387	11½	292	64	29
EWVAD-2NPT	2	51	69	261	9	229	18½	470	10⅜	264	11½	292	55	25
EWVAD-2.5	2½	64	108	409	10	254	18½	470	15¾	400	11½	292	82	37
EWVAD-2.5NPT	2½	64	108	409	10	254	18½	470	11	279	11½	292	70	32
EWVAD-3	3	76	144	545	11	279	23	584	20¼	514	14½	368	113	51
EWVAD-3NPT	3	76	144	545	11	279	23	584	12½	318	14½	368	198	90
EWVAD-4	4	102	255	965	13½	343	23	584	20⅝	524	14½	368	168	76
EWVAD-5	5	127	398	1507	16	406	31	787	27¾	705	19½	495	245	111
EWVAD-6	6	152	570	2158	19	483	31	787	27¾	705	19½	495	347	158
EWVAD-8	8	203	945	3577	23½	597	36	914	33⅝	854	24½	622	451	205
EWVAD-10	10	254	1440	5451	27½	699	46	1168	37½	953	32½	826	711	323
EWVAD-12	12	305	2100	7949	32	813	54	1372	42½	1080	38	965	1121	510

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

COALESCING DIRT SEPARATORS

EWVAD-HV

High velocity **Replaceable internal**

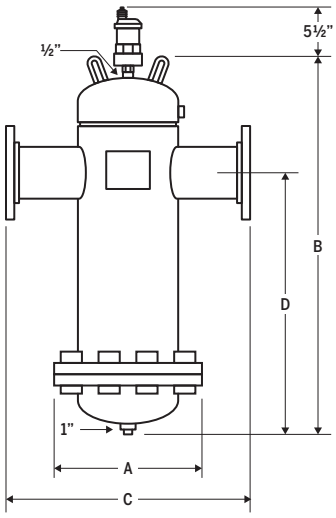


Features

- Design conforms to ASME, section VIII
- High velocity
- Removable base for easy maintenance
- Equipped with Calvent automatic air vent (#CV050)
- Supplied with drain valve

Technical Specifications

- Coalescent media: stainless steel
- Shell: steel
- Pressure purger valve: brass
- Exterior finish in painted primer
- Maximum design temperature: 121°C (250°F)
- Maximum design pressure: 125 PSI
- Pressure of 150, 200 and 250 PSI also available



Model#	Connection		Maximum Flow		Dimension								Weight	
					A		B		C		D			
	in	mm	GPM	LPM	in	mm	in	mm	in	mm	in	mm	lb	kg
EWVAD-2HV	2	51	105	397	9	229	23	584	15¼	387	16½	419	69	31
EWVAD-2HV-NPT	2	51	105	397	9	229	23	584	10⅜	264	16½	419	60	27
EWVAD-2.5HV	2½	64	155	587	10	254	23	584	15¾	400	16½	419	89	40
EWVAD-2.5HV-NPT	2½	64	155	587	10	254	23	584	11	279	16½	419	77	35
EWVAD-3HV	3	76	225	852	11	279	30	762	20¼	514	21	533	125	57
EWVAD-3HV-NPT	3	76	225	852	11	279	30	762	12½	318	21	533	110	50
EWVAD-4HV	4	102	405	1533	13½	343	30	762	20⅝	524	21	533	185	84
EWVAD-5HV	5	127	630	2385	16	406	41	1041	27¾	705	29½	749	280	127
EWVAD-6HV	6	152	910	3445	19	483	41	1041	27¾	705	29½	749	390	177
EWVAD-8HV	8	203	1610	6094	23½	597	49	1245	33⅝	854	37¾	959	472	215
EWVAD-10HV	10	254	2450	9274	27½	699	60	1524	37½	953	46	1168	744	338
EWVAD-12HV	12	305	3500	13249	32	813	71	1803	42½	1080	55	1397	1169	531

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

HYDRAULIC SEPARATORS

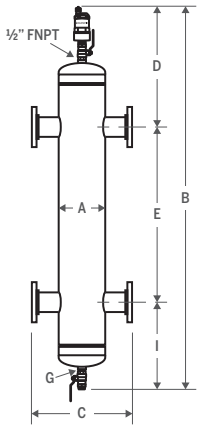
ASME CALBALANCE WITH FLANGE

Features

- Design conforms to ASME, section VIII
- Equipped with a Calvent automatic vent (#CV050)
- Supplied with a drain valve (#DV34)
- Simple to install
- Easy maintenance

Technical Specifications

- Coalescent media: stainless steel
- Carbonized steel housing
- Operating temperature: 0°C-232°C/32°F-450°F
- Maximum operating pressure: 10 bar/150 PSI (200 & 250 PSI/13 & 17 bar available)



Model#	Conn.	Flow		Dimension																Weight	
				A		B		C		D		E		F		G	I				
	in	GPM	m³/h	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm		lb	kg
CB200A	2	34	7.7	6⅝	168	44¾	1137	14¾	375	14¾	375	20¾	527	–	–	½	9	235		90	41
CB250A	2½	90	20.4	6⅝	168	49¾	1264	14¾	375	15¼	387	24¾	628				10	248		115	52
CB300A	3	130	29	10¾	273	60	1524	18¾	476	17⅜	441	30¾	781				12	302		225	102
CB400A	4	255	58	10¾	273	81¼	2064	22¾	578	23	584	40¼	1022			1	18	457		330	150
CB500A	5	398	90	14	356	91½	2324	26	660	23	584	50½	1283				18	457		415	188
CB600A	6	570	129	18	457	104¾	2661	30	762	24½	622	60¾	1643	14	356		20	495		420	191
CB800A	8	945	214	24	610	133¾	3397	36	914	29⅜	746	80	2032				24	619		575	261
CB1000A	10	1440	326	30	762	160¼	4070	42	1067	32½	826	100¼	2546				28	699		935	424
CB1200A	12	2100	476	30	762	192	4877	42	1067	38	965	119½	3035			2	35	876		1165	528
CB1400A	14	2550	578	42	1067	211¾	5378	54	1371	42	1067	131¼	3334				39	978		2430	1102
CB1600A	16	3330	748	48	1220	236¾	6013	60	1524	45⅛	1146	150	3810				42	1057		3260	1479

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

HYDRAULIC SEPARATORS

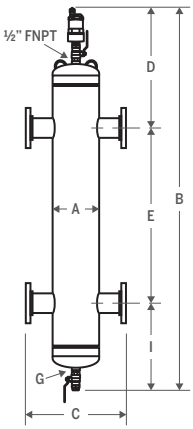
ASME CALBALANCE WITH FLANGE AND AIR & DIRT SEPARATOR

Features

- Design conforms to ASME, section VIII
- Separates air and dirt
- Adapted fluids: water and 50% glycol solution
- Equipped with a Calvent automatic vent (#CV050)
- Supplied with a drain valve
- 6" or larger connection models supplied on stand
- Simple to install
- Easy maintenance
- Reduces energy consumption as the pumps are only used in required zones

Technical Specifications

- Coalescent media: stainless steel
- Carbonized steel housing
- Maximum design temperature: 232°C (450°F)
- Maximum operating pressure: 10 bar/150 PSI
- Pressure of 200 and 250 psig also available



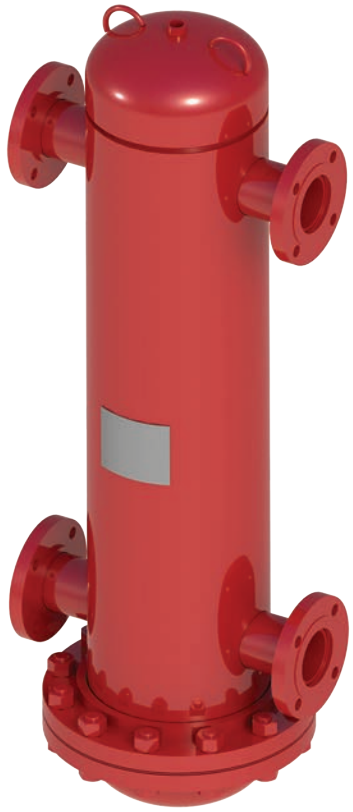
Model#	Connect,	Flow		Dimension															Weight	
				A		B		C		D		E		F		G	I			
	in	GPM	LPM	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	lb	kg
CB200AV	2	69	261	6⅝	168	44¾	1137	14¾	375	14¾	375	20¾	527	–	–	½	9	235	90	41
CB250AV	2½	108	409	6⅝	168	49¾	1264	14¾	375	15¼	387	24¾	629	–	–	½	10	248	115	52
CB300AV	3	144	545	10¾	273	60	1524	18¾	476	17⅜	441	30¾	781	–	–	½	12	302	225	102
CB400AV	4	255	965	10¾	273	81¼	2064	22¾	578	23	584	40¼	1022	–	–	1	18	457	330	150
CB500AV	5	398	1507	14	356	91½	2324	26	660	23	584	50½	1283	–	–	1	18	457	415	189
CB600AV	6	570	2158	18	457	104¾	2661	30	762	24½	622	60¾	1543	14	356	1	20	495	420	191
CB800AV	8	945	3577	24	610	133¾	3397	36	914	29⅜	746	80	2032	14	356	1	24	619	575	261
CB1000AV	10	1440	5451	30	762	160¼	4070	42	1067	32½	826	100¼	2546	14	356	1	28	699	935	425
CB1200AV	12	2100	7949	30	762	192	4877	42	1067	38	965	119½	3035	14	356	2	35	876	1165	530
CB1400AV	14	2550	9653	42	1067	211¾	5378	54	1372	42	1067	131¼	3334	14	356	2	39	978	2430	1105
CB1600AV	16	3300	12492	48	1219	236¾	6013	60	1524	45⅛	1146	150	3810	14	356	2	42	1057	3260	1482

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

HYDRAULIC SEPARATORS

ASME CALBALANCE WITH FLANGE AND AIR & DIRT SEPARATOR

Replaceable internal

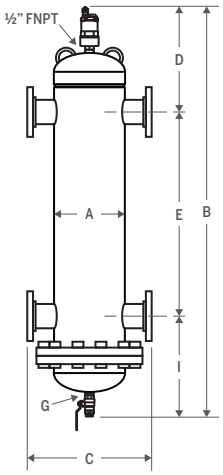


Features

- Design conforms to ASME, section VIII
- Separates air and dirt
- Adapted fluids: water and 50% glycol solution
- Equipped with a Calvent automatic vent (#CV050)
- Supplied with a drain valve
- 6" or larger connection models supplied on stand
- Simple to install
- Easy maintenance
- Reduces energy consumption as the pumps are only used in required zones

Technical Specifications

- Coalescent media: stainless steel
- Carbonized steel housing
- Maximum design temperature: 232°C (450°F)
- Maximum operating pressure: 10 bar/150 PSI
- Pressure of 200 and 250 psig also available



Model#	Conn.	Flow		Dimension																Weight	
				A		B		C		D		E		F		G	I				
	in	GPM	LPM	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm		lb	kg
CB200AVR	2	69	261	6⅝	168	44¾	1137	14¾	375	14¾	375	20¾	527	–	–	½	9	235		162	74
CB250AVR	2½	108	409	6⅝	168	49¾	1264	14¾	375	15¼	387	24¾	629	–	–	½	10	248		187	85
CB300AVR	3	144	545	10¾	273	60	1524	18¾	476	17⅜	441	30¾	781	–	–	½	12	302		354	161
CB400AVR	4	255	965	10¾	273	81¼	2064	22¾	578	23	584	40¼	1022	–	–	1	18	457		464	211
CB500AVR	5	398	1507	14	356	91½	2324	26	660	23	584	50½	1283	–	–	1	18	457		544	247
CB600AVR	6	570	2158	18	457	104¾	2661	30	762	24½	622	60¾	1543	14	356	1	20	495		625	284
CB800AVR	8	945	3577	24	610	133¾	3397	36	914	29⅜	746	80	2032	14	356	1	24	619		1075	489
CB1000AVR	10	1440	5451	30	762	160¼	4070	42	1067	32½	826	100¼	2546	14	356	1	28	699		1733	788
CB1200AVR	12	2100	7949	30	762	192	4877	42	1067	38	965	119½	3035	14	356	2	35	876		1988	904
CB1400AVR	14	2550	9653	42	1067	211¾	5378	54	1372	42	1067	131¼	3334	14	356	2	39	978		4138	1881
CB1600AVR	16	3300	12492	48	1219	236¾	6013	60	1524	45⅛	1146	150	3810	14	356	2	42	1057		5142	2337

To obtain a separator of higher capacity and greater pressure, contact the manufacturer.

SIZING GUIDE
ASME EXPANSION TANKS

Why an expansion tank?

An expansion tank is required in a closed loop heating or chilled water HVAC system for two very important reasons:

- To control the systems operating pressure range;
- To give the expanded water in the system a place to go as the water is heated. In a heating system this occurs when the system is heated from its coldest fill temperature to operation temperature. In a chilled water system this expansion occurs when the system is shut down and the system temperature rises from operating to ambient.

The goal in sizing any expansion tank is to make the system able to accommodate the expansion of the system water throughout the heating or cooling cycles without allowing the system to exceed the pressure limits of the lowest pressure rated component in that system. The lowest rated component in most systems is, by design, the pressure relief valve. The maximum system pressure is normally set at 90% of the pressure relief valve rating at its point of installation.

Bladder or diaphragm tanks compared to plain steel tanks

The plain steel expansion tank has been used for many years, and, in some systems, has worked very well. Using a plain steel expansion tank makes the system an air control system. One must control the air volume or air cushion above the water level of the tank. The common interface between this air cushion and the water in the tank allows the air to be absorbed by the water. If the air is not removed properly from the water and placed back into the air cushion, the expansion tank will become waterlogged.

A waterlogged tank is an expansion tank that no longer has an air cushion large enough to allow all the expanded water from the system to enter the tank without exceeding the maximum system pressure. When this occurs, the safety relief valve will open and heated system water will be discharged to the drain.

CAUTION: An expansion tank does not need to be 100% full to be waterlogged. The same symptoms will also show if the expansion tank is sized too small.

The advantage of a plain steel tank is that the initial purchase cost is lower than a diaphragm/bladder tank, but in many cases the operation costs will offset this advantage.

The bladder/diaphragm expansion tank has been developed to allow the system's air cushion to be separated from the system's water. No waterlogging of the tank can occur as the air is held between the tank wall and the exterior of a bladder placed inside the tank, while the system water is contained inside the bladder. This changes the system to an air elimination system, as any air extracted from the system water is passed out of the system into the atmosphere.

The bladder tank is usually smaller than a plain steel tank for the same application as they are precharged with air to the system operating pressure before the system is filled with water. The only water that needs to be accommodated by a bladder/diaphragm tank is the expanded water. In a heating system, this occurs when the water is heated from the fill temperature to the operating temperature.

In a chilled water system the water temperature rises from operating temperature to ambient temperature. The air elimination system allows the air vent and air separator to be placed at the most advantageous point in the system for air removal, usually at the system's high point where the pressure is the lowest or at the boiler outlet where the water temperature is the highest. The expansion tank can now be placed at floor level, since air no longer needs to be returned to the tank. The diaphragm/ bladder tank can also be placed at the most advantageous point in the system.

Typical positioning of an expansion tank

The system connection of an expansion is known as "The Point of No Pressure Change". This means that wherever the expansion tank is connected to the system, the pressure will always be the same as the pressure inside the tank. This is true if the tank is a plain steel or bladder/diaphragm type. This is also true whether the system pump is on or off. This pressure is only changed as water or air are added to or removed from the tank. To better understand this "Point of No Pressure Change", an in-depth study of Boyle's Law is necessary.

Because of this "Point of No Pressure Change", the system sees a pump additive pressure from the pump discharge to the expansion tank connection. From the expansion tank connection back to the pump suction, the system receives a negative pressure change from the tank pressure, due to the friction loss when there is flow.

With this loss of pressure added by the pump and the loss due to flow, it is usually better to place the "Point of No Pressure Change" or expansion tank system connection as close to the pump suction as possible.

AL / ALT / OT SERIES

ASME Expansion Tanks
With Fixed or Replaceable Bladder

Job Name: _____ **Submitted by:** _____ **Date:** _____
Location: _____ **Approved by:** _____ **Date:** _____
Engineer: _____ **Order No.:** _____ **Date:** _____
Contractor: _____ **Notes:** _____
Sales Rep.: _____ _____

Information Required

1	Total system water content	**(1)**	gal	L
2	Temperature of water when system is filled	**(2)**	°F	°C
3	Maximum operating temperature	**(3)**	°F	°C
4	Minimum operating pressure (typically fill pressure)	**(4)**	PSI	kPa
5	Maximum operating pressure (10% below relief valve)	**(5)**	PSI	kPa

Sizing for Hydronic Heating/Cooling systems

6	Enter total system water content from line **(1)**.	**(6)**	gal	L
7	Using the Expansion Factor table (see page 91), find and enter the expansion factor.	**(7)**		
8	Multiply line **(6)** by line **(7)**. Enter expanded water volume.	**(8)**	gal	L
9	Using the Acceptance Factors table (see pages 99 and 100), determine the acceptance factor.	**(9)**	PSI	kPa
10	Divide line **(8)** by line **(9)** and enter tank size.	**(10)**	gal	L

Line **(8)** _____, expanded water (acceptance volume) Line **(10)** _____, total tank volume

Model Selection

Select expansion tank model from chart on fixed/replaceable bladder section.

- HGT (non-code) or OT models must satisfy both lines **(8)** and **(10)**.
- AL models are selected by total volume only from line **(10)**.

For large systems, multiple tanks can be manifolded together.

CAUTION: The expansion chart is for water only. Add 60% to the expansion factors for 50/50 glycol/water solutions or contact your local Calefactio representative for other concentrations.

EXPANSION FACTORS TABLE

Final Temp.		Initial Temperature												
°F	°C	40°F 4.4°C	45°F 7.2°C	50°F 10°C	55°F 12.7°C	60°F 15.5°C	65°F 18.3°C	70°F 21.1°C	75°F 23.8°C	80°F 26.6°C	85°F 29.4°C	90°F 32.2°C	95°F 35°C	100°F 37.7°C
50	10.0	0.00008	0.00006	–										
55	12.7	0.00027	0.00025	0.00019	–									
60	15.5	0.00057	0.00055	0.00049	0.00030	–								
65	18.3	0.00095	0.00093	0.00087	0.00068	0.00038	–							
70	21.1	0.00151	0.00149	0.00143	0.00124	0.00094	0.00056	–						
75	23.8	0.00194	0.00194	0.00188	0.00169	0.00139	0.00101	0.00045	–					
80	26.6	0.00260	0.00260	0.00254	0.00235	0.00205	0.00167	0.00111	0.00066	–				
85	29.4	0.00326	0.00326	0.00320	0.00301	0.00271	0.00233	0.00177	0.00132	0.00066	–			
90	32.2	0.00405	0.00405	0.00399	0.00380	0.00350	0.00312	0.00256	0.00211	0.00145	0.00079	–		
95	35.0	0.00485	0.00485	0.00479	0.00460	0.00430	0.00392	0.00336	0.00291	0.00225	0.00159	0.00080	–	
100	37.7	0.00577	0.00575	0.00569	0.00550	0.00520	0.00482	0.00426	0.00381	0.00315	0.00249	0.00170	0.00090	–
105	40.5	0.00673	0.00671	0.00655	0.00646	0.00616	0.00578	0.00522	0.00477	0.00411	0.00345	0.00266	0.00186	0.00096
110	43.3	0.00773	0.00771	0.00765	0.00746	0.00716	0.00678	0.00622	0.00577	0.00511	0.00445	0.00366	0.00286	0.00196
115	46.1	0.00881	0.00879	0.00873	0.00854	0.00824	0.00786	0.00730	0.00685	0.00619	0.00553	0.00474	0.00394	0.00304
120	48.8	0.01006	0.01004	0.00998	0.00979	0.00949	0.00911	0.00855	0.00810	0.00744	0.00678	0.00599	0.00519	0.00429
125	51.6	0.01113	0.01111	0.01105	0.01086	0.01056	0.01018	0.00962	0.00917	0.00851	0.00785	0.00706	0.00625	0.00536
130	54.4	0.01238	0.01236	0.01230	0.01211	0.01181	0.01143	0.01087	0.01042	0.00976	0.00910	0.00831	0.00751	0.00661
135	57.2	0.01370	0.01368	0.01362	0.01342	0.01313	0.01275	0.01219	0.01174	0.01108	0.01042	0.00963	0.00883	0.00793
140	60.0	0.01503	0.01501	0.01495	0.01476	0.01446	0.01408	0.01352	0.01307	0.01241	0.01175	0.01096	0.01016	0.00926
145	62.7	0.01645	0.01643	0.01637	0.01618	0.01588	0.01550	0.01494	0.01449	0.01383	0.01317	0.01238	0.00158	0.01068
150	65.5	0.01787	0.01787	0.01779	0.01760	0.01730	0.01692	0.01636	0.01591	0.01525	0.01459	0.01330	0.01300	0.01210
155	68.3	0.01939	0.01937	0.01931	0.01912	0.01882	0.01844	0.01788	0.01743	0.01677	0.01611	0.01532	0.01452	0.01362
160	71.1	0.02094	0.02092	0.02086	0.02067	0.02037	0.01999	0.01943	0.01877	0.01811	0.01732	0.01652	0.01572	0.01482
165	73.8	0.02254	0.02252	0.02246	0.02227	0.02197	0.02159	0.02103	0.02058	0.01992	0.01926	0.01847	0.01767	0.01677
170	76.6	0.02420	0.02418	0.02412	0.02393	0.02363	0.02325	0.02269	0.02224	0.02158	0.02092	0.02013	0.01933	0.01843
175	79.4	0.02590	0.02588	0.02582	0.02563	0.02533	0.02495	0.02439	0.02394	0.02328	0.02262	0.02183	0.02103	0.02013
180	82.2	0.02765	0.02763	0.02757	0.02738	0.02708	0.02670	0.02614	0.02569	0.02503	0.02437	0.02358	0.02278	0.02188
185	85.0	0.02943	0.02941	0.02935	0.02916	0.02886	0.02848	0.02792	0.02747	0.02681	0.02615	0.02536	0.02456	0.02366
190	87.7	0.03129	0.03127	0.03121	0.03102	0.03072	0.03034	0.02978	0.02933	0.02867	0.02801	0.02722	0.02642	0.02552
195	90.5	0.03316	0.03314	0.0330	0.03289	0.03259	0.03221	0.03165	0.03120	0.03054	0.02988	0.02909	0.02829	0.02739
200	93.3	0.03512	0.03510	0.03504	0.03485	0.03455	0.03417	0.03361	0.03316	0.03250	0.03184	0.03105	0.03025	0.02935
205	96.1	0.03709	0.03707	0.03701	0.03682	0.03652	0.03614	0.03558	0.03513	0.03447	0.03381	0.00302	0.03222	0.03132
210	98.8	0.03913	0.03911	0.03905	0.03885	0.03856	0.03818	0.03762	0.03717	0.03651	0.03585	0.03506	0.03426	0.03336
215	101.6	0.04122	0.04120	0.04114	0.04095	0.04065	0.04027	0.03971	0.03926	0.03860	0.03794	0.03715	0.03635	0.03545
220	104.4	0.04337	0.04335	0.04329	0.04310	0.04280	0.04242	0.04186	0.04141	0.04075	0.04009	0.03930	0.03850	0.03760
225	107.2	0.04551	0.04549	0.04543	0.04524	0.04494	0.04456	0.04400	0.04355	0.04289	0.04223	0.04144	0.04064	0.03974
230	110.0	0.04764	0.04762	0.04756	0.04737	0.04707	0.04669	0.04613	0.04568	0.04502	0.04436	0.04357	0.04277	0.04187
235	111.7	0.04993	0.04991	0.04985	0.04966	0.04936	0.04898	0.04842	0.04797	0.04731	0.04665	0.04586	0.04506	0.04416
240	115.0	0.05222	0.05220	0.05214	0.05195	0.05165	0.05127	0.05071	0.05026	0.04960	0.04894	0.04815	0.04735	0.04645
245	118.3	0.05451	0.05449	0.05443	0.05424	0.05394	0.05356	0.05300	0.05255	0.05189	0.05123	0.05044	0.04964	0.04874

SYSTEM VOLUME CALCULATION

Add the total pipe fluid volume in gallons (from table 1) to the total fluid volume of all system components in gallons. Boilers, heat exchangers, etc.:

Table 1
Pipe Volume in Gallons per Foot

Pipe Diameter	½ in	¾ in	1 in	1 ¼ in	1 ½ in	2 in	2 ½ in
Steel pipe (Sch. 40) Copper tube	0.0157 0.0121	0.0277 0.0251	0.0449 0.0429	0.0779 0.0653	0.106 0.0924	0.174 0.161	0.249 0.248

Pipe Diameter	3 in	4 in	5 in	6 in	8 in	10 in	12 in
Steel pipe (Sch. 40) Copper tube	0.384 0.354	0.66 0.622	1.04 0.971	1.51 1.39	2.61 2.43	4.11 3.78	5.82 5.46

Table 2
Plain Steel Tank Volume in Gallons From Tank Dimensions

Diameter (in)	Length (in)	Volume (gallons)	Gallons per Each Additional Inch
12	33	15	0.49
14	48	30	0.67
16	72	60	0.87
20	78	100	1.36
24	72	135	1.96
30	84	240	3.06
36	93	400	4.41
42	96	525	6.00

Table 3
Water Content in Heat Exchangers

Shell Diameter (in)	Gallons per Foot for Shell Length	
	In Shell	In Tubes
4	0.425	0.225
6	1.00	0.50
8	1.85	1.00
10	2.40	1.20
12	4.00	2.20
14	5.00	2.50
16	6.50	3.50
18	8.00	4.50
20	10.00	5.50
24	15.00	7.50

ACCEPTANCE FACTORS TABLE

For ASME Expansion Tanks with Fixed or Replaceable Bladder, ASME Expansion Tanks for Potable Water, and Hydro-Pneumatic Tanks.

Use gauge pressure

(P_o) Maximum Operating Pressure		P_f – Minimum Operating Pressure at Tank (psig)/kPa											
psig	kPa	5 34.5	10 68.9	12 82.7	15 103.4	20 137.9	25 172.4	30 206.8	35 241.3	40 275.8	45 310.3	50 344.7	55 379.2
10	68.9	0.202	–										
12	82.7	0.262	0.075	–									
15	103.4	0.337	0.168	0.101	–								
20	137.9	0.432	0.288	0.231	0.144	–							
25	172.4	0.504	0.378	0.328	0.252	0.126							
27	186.1	0.527	0.408	0.360	0.288	0.168	–						
30	206.8	0.560	0.447	0.403	0.336	0.224	0.112	–					
35	241.3	0.604	0.503	0.463	0.403	0.302	0.202	0.101	–				
40	275.8	0.640	0.548	0.512	0.457	0.366	0.274	0.183	0.091	–			
45	310.3	0.670	0.586	0.553	0.503	0.419	0.335	0.251	0.168	0.084	–		
50	344.7	0.696	0.618	0.587	0.541	0.464	0.386	0.309	0.232	0.155	0.078	–	
55	379.2	0.717	0.646	0.617	0.574	0.502	0.430	0.359	0.287	0.215	0.144	0.072	–
60	413.7	0.736	0.669	0.643	0.602	0.536	0.469	0.402	0.335	0.268	0.201	0.134	0.067
65	448.2	0.753	0.690	0.665	0.627	0.565	0.502	0.439	0.376	0.314	0.251	0.188	0.125
70	482.6	0.767	0.708	0.685	0.649	0.590	0.531	0.472	0.413	0.354	0.295	0.236	0.177
75	517.1	0.780	0.725	0.702	0.669	0.613	0.558	0.502	0.446	0.390	0.333	0.279	0.223
80	551.6	0.792	0.739	0.718	0.686	0.634	0.581	0.528	0.475	0.422	0.370	0.317	0.264
85	586.1	0.802	0.752	0.732	0.702	0.652	0.602	0.552	0.502	0.451	0.401	0.351	0.301
90	620.5	0.812	0.764	0.745	0.716	0.669	0.621	0.573	0.525	0.478	0.430	0.382	0.335
95	655.0	0.820	0.775	0.757	0.729	0.684	0.638	0.593	0.547	0.501	0.456	0.410	0.365
100	689.5	0.828	0.785	0.767	0.741	0.698	0.654	0.610	0.567	0.523	0.479	0.436	0.392
105	723.9	0.835	0.794	0.777	0.752	0.710	0.668	0.626	0.585	0.543	0.501	0.459	0.418
110	758.4	0.842	0.802	0.786	0.762	0.723	0.682	0.642	0.601	0.561	0.521	0.481	0.441
115	792.9	0.848	0.810	0.794	0.771	0.734	0.694	0.655	0.617	0.578	0.540	0.501	0.463
120	827.4	0.854	0.817	0.802	0.780	0.742	0.705	0.668	0.631	0.594	0.557	0.520	0.483
125	861.8	0.859	0.823	0.809	0.787	0.752	0.716	0.680	0.644	0.608	0.573	0.537	0.501
130	896.3	0.864	0.829	0.815	0.795	0.760	0.726	0.691	0.657	0.622	0.586	0.553	0.519
135	930.8	0.868	0.835	0.822	0.802	0.768	0.735	0.701	0.6&8	0.635	0.601	0.563	0.534
140	965.3	0.873	0.840	0.827	0.808	0.776	0.743	0.711	0.679	0.647	0.614	0.582	0.550
145	965.3	0.877	0.845	0.833	0.814	0.783	0.751	0.720	0.689	0.658	0.626	0.595	0.564
150	1034.2	0.880	0.850	0.838	0.820	0.789	0.759	0.729	0.699	0.668	0.638	0.608	0.577
155	1068.7	0.884	0.854	0.843	0.825	0.795	0.766	0.736	0.707	0.677	0.648	0.618	0.589
160	1103.2	0.887	0.859	0.847	0.830	0.801	0.773	0.744	0.716	0.687	0.658	0.630	0.601
165	1137.6	0.890	0.863	0.851	0.835	0.807	0.779	0.751	0.724	0.696	0.668	0.640	0.612
170	1172.1	0.893	0.866	0.855	0.839	0.812	0.785	0.758	0.731	0.704	0.677	0.649	0.622
175	1206.6	0.896	0.870	0.859	0.843	0.817	0.791	0.764	0.738	0.711	0.685	0.659	0.632
180	1241.1	0.899	0.873	0.863	0.847	0.822	0.796	0.770	0.745	0.719	0.693	0.668	0.642
185	1275.5	0.901	0.876	0.866	0.851	0.826	0.801	0.776	0.751	0.726	0.701	0.676	0.651
190	1310.0	0.904	0.879	0.870	0.855	0.831	0.806	0.782	0.757	0.733	0.709	0.684	0.660
195	1344.5	0.906	0.882	0.873	0.858	0.835	0.811	0.787	0.7&3	0.739	0.716	0.692	0.668
200	1379.0	0.908	0.885	0.876	0.862	0.838	0.815	0.792	0.768	0.745	0.722	0.699	0.675
205	1413.4	0.910	0.888	0.878	0.865	0.842	0.819	0.796	0.774	0.751	0.728	0.705	0.682
210	1447.9	0.912	0.890	0.881	0.868	0.845	0.823	0.801	0.779	0.756	0.734	0.712	0.689
215	1482.4	0.914	0.892	0.884	0.871	0.849	0.827	0.805	0.783	0.762	0.740	0.718	0.696
220	1516.8	0.916	0.895	0.886	0.873	0.852	0.831	0.810	0.788	0.767	0.746	0.724	0.703
225	1551.3	0.918	0.897	0.889	0.876	0.855	0.834	0.813	0.792	0.772	0.751	0.730	0.709
230	1585.8	0.919	0.899	0.891	0.879	0.858	0.838	0.817	0.797	0.777	0.756	0.736	0.715
235	1620.3	0.921	0.901	0.893	0.881	0.861	0.841	0.821	0.801	0.780	0.760	0.740	0.720
240	1654.7	0.923	0.903	0.895	0.883	0.864	0.884	0.825	0.805	0.785	0.766	0.746	0.727
245	1654.7	0.924	0.905	0.897	0.886	0.866	0.847	0.828	0.808	0.789	0.770	0.751	0.731
250	1723.7	0.926	0.907	0.899	0.888	0.869	0.850	0.831	0.812	0.793	0.774	0.755	0.737

ACCEPTANCE FACTORS TABLE

For ASME Expansion Tanks with Fixed or Replaceable Bladder, ASME Expansion Tanks for Potable Water, and Hydro-Pneumatic Tanks.

Use gauge pressure

(P_O) Maximum Operating Pressure		P_f – Minimum Operating Pressure at Tank (psig)/kPa											
psig	kPa	60 413.7	65 448.2	70 482.6	75 517.1	80 551.6	85 586.1	90 620.5	95 655.0	100 689.5	105 723.9	110 758.4	115 792.9
60	413.7	–											
65	448.2	0.062	–										
70	482.6	0.118	0.059	–									
75	517.1	0.167	0.111	0.056	–								
80	551.6	0.211	0.158	0.106	0.053	–							
85	586.1	0.251	0.201	0.151	0.101	0.050	–						
90	620.5	0.287	0.239	0.191	0.143	0.096	0.048	–					
95	655.0	0.319	0.273	0.228	0.182	0.137	0.091	0.045	–				
100	689.5	0.347	0.305	0.261	0.218	0.174	0.131	0.087	0.043	–			
105	723.9	0.376	0.334	0.292	0.250	0.208	0.167	0.125	0.083	0.041	–		
110	758.4	0.401	0.361	0.321	0.281	0.241	0.200	0.160	0.120	0.080	0.040	–	
115	792.9	0.424	0.386	0.347	0.309	0.270	0.232	0.193	0.155	0.116	0.007	0.039	–
120	827.4	0.446	0.408	0.371	0.334	0.297	0.260	0.223	0.186	0.149	0.111	0.074	0.037
125	861.8	0.465	0.429	0.394	0.358	0.322	0.286	0.250	0.215	0.179	0.143	0.107	0.071
130	896.3	0.484	0.450	0.415	0.381	0.346	0.312	0.277	0.243	0.208	0.173	0.138	0.104
135	930.8	0.501	0.468	0.439	0.401	0.367	0.334	0.301	0.267	0.234	0.200	0.167	0.134
140	965.3	0.517	0.485	0.453	0.420	0.388	0.356	0.324	0.291	0.259	0.226	0194	0.162
145	999.7	0.532	0.501	0.470	0.438	0.407	0.376	0.344	0.313	0.282	0.250	0.219	0.188
150	1034.2	0.547	0.517	0.486	0.456	0.426	0.396	0.365	0.335	0.305	0.273	0.243	0.213
155	1068.7	0.559	0.530	0.500	0.471	0.441	0.412	0.382	0.353	0.323	0.295	0.265	0.236
160	1103.2	0.573	0.544	0.515	0.487	0.458	0.430	0.401	0.372	0.344	0.315	0.286	0.258
165	1137.6	0.585	0.557	0.529	0.501	0.473	0.446	0.418	0.390	0.362	0.334	0.306	0.278
170	1172.1	0.595	0.568	0.541	0.514	0.487	0.460	0.433	0.460	0.378	0.352	0.325	0.298
175	1206.6	0.606	0.579	0.553	0.527	0.500	0.474	0.447	0.421	0.395	0.369	0.343	0.316
180	1241.1	0.616	0.590	0.565	0.539	0.513	0.488	0.462	0.436	0.411	0.385	0.360	0.334
185	1275.5	0.626	0.601	0.576	0.551	0.526	0.501	0.476	0.451	0.426	0.401	0.376	0.351
190	1310.0	0.635	0.611	0.587	0.562	0.538	0.513	0.489	0.465	0.440	0.415	0.391	0.366
195	1344.5	0.644	0.620	0.597	0.573	0.549	0.525	0.501	0.478	0.454	0.429	0.405	0.381
200	1379.0	0.652	0.629	0.605	0.582	0.559	0.535	0.512	0.489	0.466	0.443	0.419	0.396
205	1413.4	0.660	0.637	0.614	0.591	0.568	0.546	0.523	0.450	0.477	0.455	0.432	0.410
210	1447.9	0.667	0.645	0.622	0.600	0.578	0.556	0.533	0.510	0.489	0.467	0.445	0.423
215	1482.4	0.674	0.653	0.631	0.609	0.587	0.565	0.544	0.522	0.500	0.479	0.457	0.435
220	1516.8	0.682	0.660	0.639	0.618	0.597	0.575	0.554	0.533	0.511	0.490	0.469	0.447
225	1551.3	0.688	0.667	0.646	0.625	0.604	0.583	0.563	0.542	0.521	0.501	0.478	0.459
230	1585.8	0.695	0.675	0.654	0.634	0.613	0.593	0.573	0.552	0.532	0.511	0.490	0.470
235	1620.3	0.700	0.680	0.660	0.640	0.620	0.600	0.579	0.559	0.539	0.521	0.501	0.481
240	1654.7	0.707	0.687	0.668	0.648	0.629	0.609	0.589	0.570	0.550	0.530	0.510	0.491
245	1689.2	0.712	0.693	0.673	0.654	0.635	0.615	0.596	0.577	0.558	0.539	0.520	0.501
250	1723.7	0.718	0.699	0.680	0.661	0.642	0.623	0.604	0.585	0.566	0.548	0.529	0.510

$$\text{Acceptance Factor} = 1 - \frac{P_f}{P_o}$$

P_f = minimum absolute pressure, P_O = maximum absolute pressure

BFA / TXA / FTTE-C SERIES

ASME Expansion Tanks for Potable Water

Job Name: _____ Submitted by: _____ Date: _____

Location: _____ Approved by: _____ Date: _____

Engineer: _____ Order No.: _____ Date: _____

Contractor: _____ Notes: _____

Sales Rep.: _____

Information Required

1	Total volume of hot water tank	**(1)**	gal	L
2	Water temperature setting	**(2)**	°F	°C
3	Minimum operating pressure at the tank	**(3)**	PSI	kPa
4	Maximum allowable pressure or relief valve setting	**(4)**	PSI	kPa

Sizing ASME Thermal Expansion Tanks for Potable Water

5	Enter the total volume of hot water tank from line **(1)**.	**(5)**	gal	L
6	Find and enter the "Expansion Factor". (Refer to the table on page 94).	**(6)**		
7	Multiply line **(5)** by line **(6)** to determine the quantity of expanded water.	**(7)**	gal	L
8	Find and enter the "Acceptance Factor" according to the pressures on line **(3)** and **(4)**. (Refer to the tables on pages 99 and 100).	**(8)**	PSI	kPa
9	Divide line **(7)** by line **(8)** to obtain the minimum tank volume required.	**(9)**	gal	L

Model Selection

Refer to the appropriate submittal datasheet (BFA, FTTE-C or TXA models) and select the model which is equal to or greater than the minimum volume required **(9)** and the minimum acceptance volume required **(7)**.

ASME EXPANSION TANKS FOR POTABLE WATER

Expansion Factors Table

Table 1
Expansion Factors based on 40 °F / 4.4 °C minimum water temperature

Expansion Factors Different Level of Maximum Temperature									
120°F	48.8°C	140°F	60°C	160 °F	71.1 °C	180 °F	82.2 °C	200 °F	93.3°C
0.01006		0.01503		0.02094		0.02765		0.03512	

For other temperatures, please refer to table on page 91

Acceptance Factors Table

Table 2
Acceptance factors (use gauge pressures)

Maximum Pressure (psig / kPa)		Minimum tank operating pressure (psig / kPa)															
		psig	kPa	psig	kPa	psig	kPa	psig	kPa	psig	kPa	psig	kPa	psig	kPa	psig	kPa
psig	kPa	60	413.7	65	448.2	70	482.6	75	517.1	80	551.6	85	586.1	90	620.5	95	655.0
100	689.5	0.347		0.305		0.261		0.218		0.174		0.131		0.087		0.043	
125	861.8	0.465		0.429		0.394		0.358		0.322		0.286		0.250		0.215	

AFX SERIES

Hydro-Pneumatic Tanks

A) Hydro-pneumatic tanks functions

There are several different functions that an hydro-pneumatic tank can perform. In a booster pump application, it can provide water to the system during periods of no flow shutdown of the booster pump or it can provide water to replace leak loads. In a well water application, it can provide the desired volume of water required between the pump shut down pressure and the pump turn on pressure.

In a sprinkler or irrigation pump application the tank may provide a cushion to maintain necessary pressure so the jockey pump will not short cycle.

In any case, the amount of water that the tank will be required to supply to the system during any given cycle is called the drawdown. Drawdown must first be determined to properly size the hydro-pneumatic tank.

There are two types of **hydro-pneumatic tanks, plain steel and bladder/diaphragm style**. Both styles perform the same function in the system. The bladder style will be smaller in size and require less floor space, while the plain steel will have a lower initial cost.

The bladder/diaphragm style also incorporates a rubber barrier which eliminates the common water/air interface that promotes water logging of the plain steel tanks. The sizing of these two styles of tanks is different and care must be taken to ensure that the proper sizing procedure is followed.

B) Determining drawdown

Well Water

In this application a pump is supplying water to a system and the hydropneumatic tank is to provide two functions.

First, it is to supply water to the system while the pump is off and second, it is to keep the pump from short cycling.

Cycle Time

Cycle time is the time elapsed between pumps starts. If the cycle time of the pump is to be controlled by the hydro-pneumatic tank, first determine how frequently the pump is to start.

This is a judgment call by the designer. Some pump or motor manufacturers recommend the pump to be controlled so as not to start more than six (6) times per hour. There are two approaches to determine the hydro-pneumatic tank that will serve this system pump capacity and system demand. Let's examine each approach separately.

AFX SERIES

Hydro-Pneumatic Tanks

Pump Capacity

The pump is usually sized to be somewhat larger than the system requirements and the hydro-pneumatic tank can be selected to work properly by using the pump capacity. If the cycle time is determined to be ten (10) minutes we can say that the shortest cycle time will be determined by a combination of when the pump is running and there is no system demand, followed by a period when the system demand is 100% and the pump is not running.

Thus if the pump ran for five (5) minutes with no system demand, all the water would enter the hydro-pneumatic tank and if the system demand was then at 100% for the next five (5) minutes and the pump was off, all the water would exit the tank and the system would be ready for the next cycle to begin.

This would give us ten (10) minute cycle time, six (6) times per hour we are looking for; but as you can readily see, that it is not practical to imagine the pump running with no system demand or for the system to always operate only when the pump is off. Any combination of the pump and the system operating simultaneously will always increase the cycle time.

Example

- The pump capacity is 10 gallons per minute.
- The drawdown would be 50 gallons.
- If the pump starts at 30 psi and shuts off at 45 psi.
- A bladder style hydro-pneumatic tank with a 200 gallons total capacity would be required.*

System Demand

If the system demand is less than the pump capacity, the tank size can be reduced to reflect this difference.

Example

- La capacité de la pompe est de 10 gallons par minute.
- La demande de l'Installation est de 5 gallons par minute.

A ten (10) minute cycle time would generate a system that would require a total of fifty (50) gallons per cycle. The pump at 10 gal/min. would run for five (5) minutes to produce this fifty (50) gallons, and this would be a fifteen (15) minute cycle time.

Since we are looking for a ten (10) minute cycle time, we divided ten (10) minutes by fifteen (15) minutes and determine a .66666 ratio factor. 50 x .66666 = 33.33 gallons required by the system per cycle, this would be the tank drawdown for the application:

33.33 gal = 10 gal per min. pump capacity
= 3.333 min. pump run time.

33.33 gal = 5 gal per min. system demand

= 6.666 min. system demand/cycle
10.0 minutes cycle time.

The tank drawdown is now 33.33 gallons if the pump starts at 30 psi and shuts off at 45 psi

A bladder type hydro-pneumatic tank with a 133 gallons total capacity would be required.*

* Consultez les fiches techniques appropriées pour obtenir les dimensions des réservoirs.

AFX SERIES

C) Booster pump systems

In a booster pump application, the tank may perform in many different ways.

(1) It may be used to provide the system with a constant supply of water, when the water usage is erratic and the pump is not to run constantly. An example of this would be an office complex where no specific water demand pattern can be established. Establishing drawdown for this application would be the same as for a well water application.

(2) The tank may provide water to a system when the pump is to be shut down for prolonged periods of time, such as during the night when the building is normally not occupied. Drawdown here would be determined by the anticipated demand on the booster system during the shutdown period, system leakage (dripping faucets), cleaning personnel in the building (buckets of water required) or flushing of water closets.

If the system in one above is large enough, say like a public school, controlling the run period with a time clock may reduce the size of the tank required. In this case, the pump runs continuously when the demand is fairly constant, but when the building is unoccupied during the night, the time clock would allow the booster system to operate as in two above. The drawdown could then be determined by the anticipated night time demand.

(3) In variable speed pumping systems the pressure and water flows are controlled by the booster pump and a hydro-pneumatic tank would only be required when the pump goes into a no-flow shut down mode. The tank would then provide water for system leaks to keep the booster pump from short cycling. For this tank to function, a pressure differential between the pump shut off point and the start point must be present. With this pressure differential and the required drawdown volume, the hydro-pneumatic tank can be properly sized.

D) Sprinkler systems

Many fire sprinkler systems incorporate a jockey pump to maintain the required pressure on the system. If there are leaks in the system, the jockey pump may start to short cycle since the water is not compressible. Placing a hydro-pneumatic tank after the jockey pump will provide a cushion that will eliminate the short cycling of the pump and still maintain the required system pressure. Drawdown would be determined by the allowable system leakage.

E) Irrigation systems

This application is the same as for a sprinkler system detailed above and the hydro-pneumatic tank would be sized in the same way. Here the jockey pump may also supply water for incidental use throughout the distribution piping.

VOLUME CALCULATION

Hydro-Pneumatic Tanks

Job Name: _____ Submitted by: _____ Date: _____

Location: _____ Approved by: _____ Date: _____

Engineer: _____ Order No.: _____ Date: _____

Contractor: _____ Notes: _____

Sales Rep.: _____

Required Information

1	Drawdown (tank must supply)	**(1)**	gal	L
2	Minimum pressure (pump turn-on pressure)	**(2)**	°F	°C
3	Maximum pressure (pump shut-off pressure)	**(3)**	°F	°C

Model Selection: Bladder Type Tanks

4	Enter required drawdown from line **(1)**.	**(6)**	gal	L
5	Using the Acceptance Factors table (see page 99 and 100), enter acceptance factor.	**(7)**		
6	Divide line **(4)** by line **(5)**, enter total tank volume.	**(8)**	gal	L

Example from page 96

1	Drawdown	50 gal
2	Minimum pressure	30 PSI
3	Maximum pressure	45 PSI
4	Drawdown from line **(1)**	50 gal
5	Acceptance Factor from chart	0.251
6	Divide line **(4)** by line **(5)**. Enter total tank volume.	199.2 gal

NA SERIES

Plain Steel Expansion Tanks Without Membrane

Job Name: _____ **Submitted by:** _____ **Date:** _____

Location: _____ **Approved by:** _____ **Date:** _____

Engineer: _____ **Order No.:** _____ **Date:** _____

Contractor: _____ **Notes:** _____

Sales Rep.: _____ _____

Required Information

1	Total system water content	**(1)**	gal	L
2	Temperature of water when system is filled	**(2)**	°F	°C
3	Maximum operating temperature	**(3)**	°F	°C
4	Minimum operating pressure (typically fill pressure)	**(4)**	PSI	kPa
5	Maximum operating pressure (10% below relief valve)	**(5)**	PSI	kPa

Sizing for Hydronic Heating/Cooling systems

6	Enter total system water content from line **(1)**.	**(6)**	gal	L
7	Using the Expansion Factors table (see page 91), find and enter the expansion factor.	**(7)**		
8	Multiply line **(6)** by line **(7)**. Enter expanded water volume.	**(8)**	gal	L
9	Determine the acceptance factor by (Pa ÷ P*f*) (Pa ÷ Po) and enter the result. Where Pa = Pressure (atmospheric) P*f* = Pressure at fill (atmospheric) Po = Pressure at operation (atmospheric)	**(9)**	PSI	kPa
10	Divide line **(8)** by line **(9)** and enter tank size.	**(10)**	gal	L

Model Selection

Select plain steel tank from NA section (see page 59).

Model _____

CAUTION: The expansion chart is for water only. Add 60% to the expansion factors for 50/50 glycol/water solutions or contact your local Calefactio representative for other concentrations.

CONVERSION

From an Expansion Tank without Membrane to an Expansion Tank with Membrane

Job Name: _____ **Submitted by:** _____ **Date:** _____

Location: _____ **Approved by:** _____ **Date:** _____

Engineer: _____ **Order No.:** _____ **Date:** _____

Contractor: _____ **Notes:** _____

Sales Rep.: _____ _____

Required Information

1	Determine plain steel tanks volume (table 2, page 92)	**(1)**	gal	L
2	Temperature of water when system is filled	**(2)**	°F	°C
3	Maximum operating temperature	**(3)**	°F	°C
4	Minimum operating pressure (usually fill pressure)	**(4)**	PSI	kPa
5	Maximum operating pressure (10% below relief valve)	**(5)**	PSI	kPa

Sizing for Hydronic Heating/Cooling Systems

6	Determine the acceptance by (Pa ÷ P*f*) (Pa ÷ Po) and enter the result. Where Pa = Pressure (atmospheric) P*f* = Pressure at fill (atmospheric) Po = Pressure at operation (atmospheric)	**(6)**	PSI	kPa
7	Enter volume of plain steel tank line **(1)**.	**(7)**	gal	L
8	Calculate expanded water volume. Multiply line **(6)** by line **(7)** and enter the answer.	**(8)**		
9	Using Acceptance Factors table (see pages 99 and 100), and enter the acceptance factor.	**(9)**	gal	L
10	Divide line **(8)** by line **(9)**; enter tank volume required.	**(10)**	gal	L

Line **(8)** _____, expanded water (acceptance volume)

Line **(10)** _____, total tank volume

Model Selection

Select expansion tank model from fixed/replaceable bladder section.

- HGT (non-code) or OT models must satisfy both lines **(8)** and **(10)**.
- AL models are selected by total volume only from line **(10)**.

For large systems, multiple tanks can be manifolded together.

CAUTION: The expansion chart is for water only. Add 60% to the expansion factors for 50/50 glycol/water solutions or contact your local Calefactio representative for other concentrations.

CALEFACTIO

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