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HYDRONIC, HVAC SPECIALTY EQUIPMENT

Product Overview

ASME SETTING THE STANDARD

AU JIS CRN

AHRI CERTIFIED® www.ahridirectory.org
Liquid to Liquid Heat Exchangers
AHRI Standard 400

MADE IN USA

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Quality Manufacturing and Outstanding Customer Service

Wessels offices and worldwide sales are headquartered in Greenwood, Indiana, a suburb just south of Indianapolis. Our adjacent 110,000 square foot facility is responsible for the manufacture of tanks up to 36" diameter with a variety of available lengths. In 2007, we expanded our operations to Tiffin, Ohio and formed Wessels East, our Large Tank Division.

Wessels East houses a 60,000 square foot manufacturing space with a 25-ton bridge-crane capacity and highly skilled, custom fabricators and engineers. The structure of the facility allows for easy railway access and a focus on large scale custom tanks and vessels. Wessels East is capable of building vessels up to 144" in diameter and up to 50 feet in length. With the addition of this new facility, we're proud to offer best in class lead-times and the flexibility to service a wide range of customers.

EXPANSION TANKS

Bladder, diaphragm, and compression style tanks maintain system pressures by accepting and expelling the changing volume of water as it heats and cools.

Expansion, Thermal, and Hydro-pneumatic tanks available with Smart Monitor in ASME and Non-ASME.

Models: *NLA, NL, NVA, NLAP, NTA, N, NA, NAG, TXA, TX, TTA, T, FXA, FX, FXT*

GLYCOL MAKEUP PACKAGES

Automatically supply pressurized water or water-glycol mixture to closed-loop systems to maintain critical minimum system pressure levels.

Available in Glymatic, Simplex, Duplex, and Twin packages.

Models: *GMP, GMPD, GMPT*

FILTRATION VESSELS

Enable the physical or mechanical process of separating insoluble particulate matter from a fluid by passing through a filter medium that will not let the particulates through.

Bag or cartridge filter style carbon steel, stainless, and aluminum pressure vessels available in ASME and Non-ASME.

Models: *CF, 4NCF, BF, 4NBF, HP, 6HP, HFH, HFV, TFA, TFS*

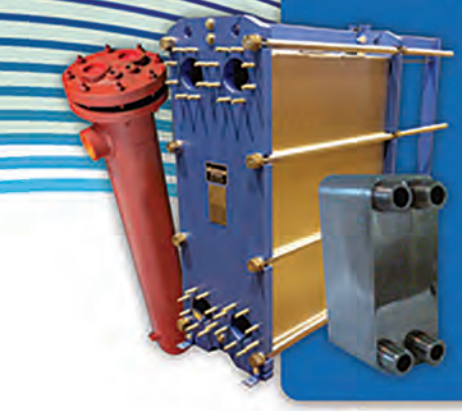
SHOCK AND SURGE

Replaceable bladder pre-charged hydro- pneumatic tanks effectively control water hammer shock and pump start-up/shut-down water surge.

Commercial, Industrial, Well-Water, Fire Protection and Municipality tanks available in ASME and Non-ASME.

Models: *SSA*

America's Leading Supplier of Custom



HEAT EXCHANGERS

Designed and manufactured to efficiently transfer heat between two fluids (gas or liquid) while keeping them separate.

WesPlate® Plate & Frame (AHRI Certified), WesPac® Brazed Plate, and WesTube® Shell & Tube available in ASME and Non-ASME.

Models: *WP, WPDW, WB, WBDW, WST, WWT, WSD, WWDD*

AIR/DIRT SEPERATORS

Eliminate entrained air and separate debris associated with start-up and maintenance of any hydronic system.

In-line Air Purgers, Tangential/Vortex Air Separators, Centrifugal Separators and Air/Dirt Separators available in ASME and Non-ASME.

Models: *WVA, WVAN, WVN-N, WVA-G, WVAA, WVNA, WVAD, WVAD-N, WVND-N, AP, SPA*

BUFFER TANKS

Eliminate problems such as excessive chiller or boiler cycling, poor temperature control, and erratic system operation by installing additional "buffer" capacity.

Chilled Water and Hot Water buffer tanks available in ASME and Non-ASME.

Models: *CBT, HBT-2 Port, HBT-4 Port*

STORAGE TANKS

Glass or epoxy lined carbon steel vessels designed for commercial and industrial systems that require internal protection more robust than traditional fabricated plain steel designs.

Storage tanks for potable water or water heating systems available in ASME and Non-ASME.

Models: *GN, GA, EA*

and Specialty Tanks for Over 100 Years

Wessels has developed an excellent reputation for delivering high quality products for hot and chilled water HVAC systems. Every part that goes into our products is tagged and is traceable throughout the life of the product. To ensure international standards of quality, Wessels is ASME certified and meets the Japanese Inspection Standard (JIS). As a result, we're recognized for delivering a wide breadth of high quality pressure vessels that are cost competitive and delivered on a timely basis.

Our ability to offer high quality products and deliver outstanding customer serive has allowed Wessels to foster long-term relationships with many of our customers. Fast turn-around, personslized customer service and large factory capabilities make us uniquely suited to handle local and worldwide sales, including distribution in Asia and the Middle East.

ASME SETTING THE STANDARD

AU JIS CRN

AHRI CERTIFIED® www.ahridirectory.org Liquid to Liquid Heat Exchangers AHRI Standard 400

MADE IN USA

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101 Tank Street
Greenwood, IN 46143
phone 317 | 888.8900
fax 317 | 888.9988
wesselscompany.com

MEDIA BLAST POTS

High-performance, versatile blast cleaning tanks are used in systems for removing contamination, corrosion, mill scale, and coatings from most surfaces.

Media blasting produces a uniform surface texture and creates a surface profile to increase bonding for coatings. Available in ASME and Non-ASME.

Models: *BPA, BPN*

BLOWDOWN TANKS

Reduce temperature and pressure of the blowdown discharge from the boiler.

Manufactured in over 40 sizes based on inlet/outlet and venting design requirements available in ASME and Non-ASME.

Models: *BDT, BDTN*

FLASH TANKS

Allow high-pressure condensate to flash and reduce pressure steam.

Sparge and drop-leg designs available to meet any design condition in ASME and Non-ASME.

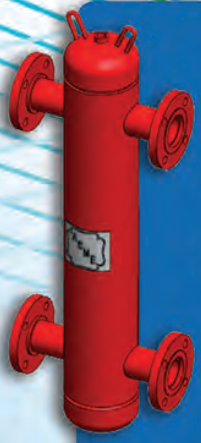
Models: *FTA, FTA-V, FTN*

FULL FLOW TANKS

Protect against the growth of bacteria and biofilm by creating turbulent, flow-through water circulation and elevated temperatures throughout the vessel in thermal applications.

Available in ASME as standard.

Models: *TXA-FF, TX-FF*



PRIMARY/SECONDARY HEADERS

Used in heating and cooling systems that require the primary and secondary loop of their system to be interlocked.

Designed to keep both connected hydraulic circuits completely independent from one another and to provide a means for system air elimination. Available in ASME and Non-ASME.

Models: *PSA, PSN, PSAV, PSNV, PSAVR*

CONDENSATE NEUTRALIZERS

Condensate Neutralizers are acidic condensate neutralizer boxes divided into sections with easy-to-use bags of media in each chamber. The media bags feature helpful expiration labels to track performance. Services boilers up to 3.5 million BTU/Hr.

Models: *WCN, WCN-2*

CUSTOM TANK FABRICATION

Wessels Company offers industry expertise in custom tank fabrication for applications including filtration, shock & surge arrestors, stainless tanks, media blast pots and other specialty designs according to desired specifications.

Visit westank.com/custom-tanks/ for more information.

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HVAC Expansion Tanks

NLA Series

Wessels NLA series ASME Replaceable Bladder System with Smart Tank Add-On for Thermal Expansion Pressure Control

APPLICATIONS

Closed-loop

Non-Potable

Hydronic Heating

Hydronic Cooling

Heat Transfer

Water

Glycol

Wessels patented NLA vessels are ASME removable bladder type pre-charged, expansion tanks. They are designed to absorb the expansion volumes and control the pressure in heating/cooling systems. The system's expanded water (fully compatible with water/glycol mixtures) is contained in a full acceptance heavy-duty butyl bladder that prevents tank corrosion and waterlogging problems. All NLA expansion tanks can be installed vertically or horizontally.

NEXT LEVEL INTELLIGENCE

- Pressure gauge integrated
- WessView® bladder integrity monitor included
- WessGuard® proximity sensor port adaptable
- Easy-access air valve
- Tamper-resistant secure guard mount
- Designed and fabricated in accordance with ASME Boiler & Pressure vessel code
- Products comply with NSF/ANSI Standard 61
- Replaceable heavy-duty butyl bladder (other materials available)
- Standard design pressure is 125 psi (8.6 bar)
- Available in carbon steel, 304 or 316L stainless steel
- Factory pre-charged and field adjustable
- Never waterlogs
- Separation of water and air
- Full flow design compatible
- Higher pressure ratings available
- Wessels Company Patented Design US 8,633,825 B2

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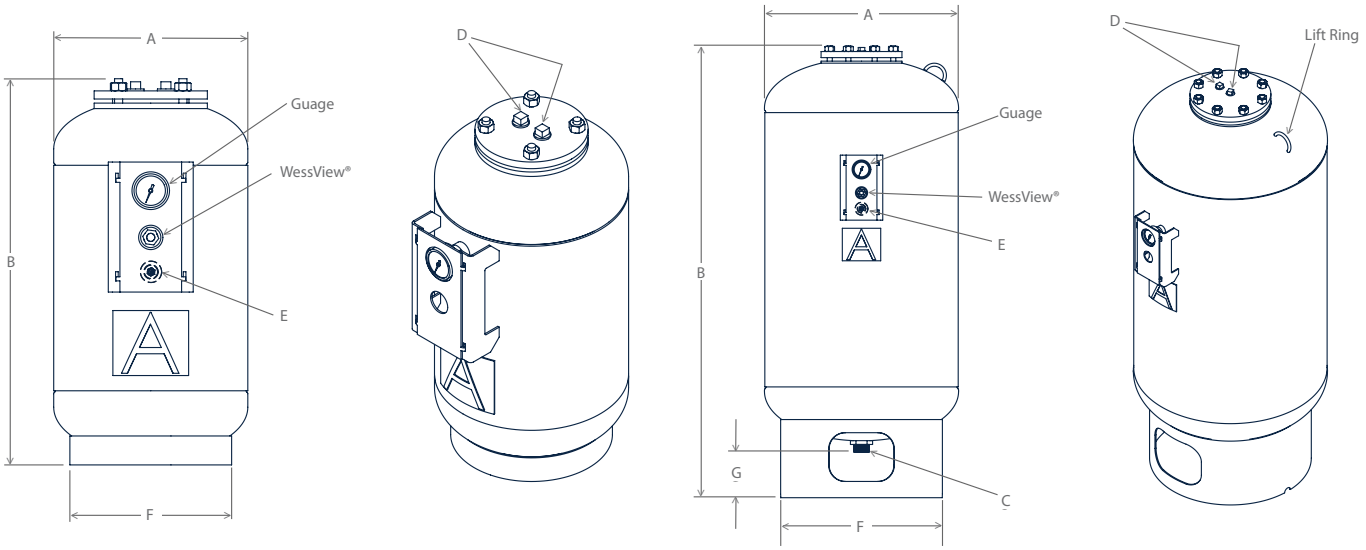
NLA



NLA-85 thru NLA-800L

MODEL	DIMENSIONS (in.)							MAX WORKING PRESSURE	SHIPPING WEIGHT (lbs)
	A	B	SYSTEM CONNECTION C	SYSTEM CONNECTION D	CHARGING VALVE E	F	G		
NLA-35	12	23 1/2	-	3/4 NPT	0.302" - 32NC	10	-	125	40
NLA-50	14	24	-	3/4 NPT	0.302" - 32NC	10	-	125	50
NLA-85	16	37	1 NPT	3/4 NPT	0.302" - 32NC	12	5 1/2	125	90
NLA-130	20	37	1 NPT	3/4 NPT	0.302" - 32NC	16	5 1/2	125	125
NLA-200	24	43	1 1/2 NPT	3/4 NPT	0.302" - 32NC	20	5 1/4	125	210
NLA-300	24	55	1 1/2 NPT	3/4 NPT	0.302" - 32NC	20	5 1/4	125	225
NLA-400	30	49	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	125	300
NLA-500	30	57	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	125	335
NLA-600	30	65	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	125	360
NLA-800L	32	76	1 1/2 NPT	3/4 NPT	0.302" - 32NC	28	5 1/4	125	475

Note:

- Tanks are factory pre-charged at 12 psi and field adjustable.
- California code-sight glass is available upon request.
- Both top and bottom connections (C and D) access the bladder.
- Available with mounting clips.

TYPICAL SPECIFICATION

Furnish and install, as shown on plans, a _____ gallon _____" diameter X _____" (high) pre-charged steel expansion tank with heavy-duty butyl bladder. The tank shall have multiple water-side connections to promote full-flow to eliminate stagnate water within the tank, a 0.302"-32 charging valve connection (standard tire valve) to facilitate the on-site charging of the tank to meet system requirements, a pressure gauge, and WessView® bladder integrity monitor. The tank must contain a port for WessGuard® proximity sensor monitor. The tank must be constructed in accordance with most recent addendum of Section VIII Division 1 of the ASME Boiler and Pressure Vessel Code, and rated for 125 psig.

Each tank shall be Wessels model number NLA-_____ or approved equal.

UPGRADE TO SMART WESSGUARD® TANK PROTECTION

Wessels Type NLA-WG Smart Tanks are ASME removable bladder type pre-charged, expansion tanks, with patented WessGuard® bladder monitor. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems and come equipped with a uniquely designed capacitive sensor that is sensitive to any movement inside the tank.

The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and waterlogging problems. If the bladder extends beyond the normal movement, WessGuard® monitor will activate an audible LED alarm and energy management system to notify maintenance staff of a potential system issue.

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101 Tank Street Greenwood, IN 46143
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www.westank.com

Domestic Hot water Expansion Tanks

TXA Series

Wessels TXA series ASME Replaceable Bladder System with Smart Tank Add-On for Thermal Expansion Pressure Control

APPLICATIONS

Open-System

Potable

Water Heating

Fresh Hot Water

R/O Water

Wessels patented TXA tanks are ASME replaceable bladder type pre-charged thermal expansion tanks for commercial and industrial potable hot water applications. They are designed to be installed between a backflow preventer and a water heater, so it can accept the expanded volume of hot water generated during heating and keep the system pressure below the relief valve setting. The water is contained in a butyl bladder. All other welted parts are stainless steel. All TXA expansion tanks can be installed vertically or horizontally.

NEXT LEVEL INTELLIGENCE

- Pressure gauge integrated
- WessView® bladder integrity monitor included
- WessGuard® proximity sensor port adaptable
- Easy-access air valve
- Tamper-resistant secure guard mount
- Designed and fabricated in accordance with ASME Boiler & Pressure vessel code
- Products comply with NSF/ANSI Standard 61
- Replaceable heavy-duty butyl bladder (other materials available)
- Standard design pressure is 150 psi (10 bar)
- Available in carbon steel, 304 or 316L stainless steel
- Factory pre-charged and field adjustable
- Never waterlogs
- Separation of water and air
- Full flow design compatible
- Higher pressure ratings available
- Wessels Company Patented Design US 8,633,825 B2

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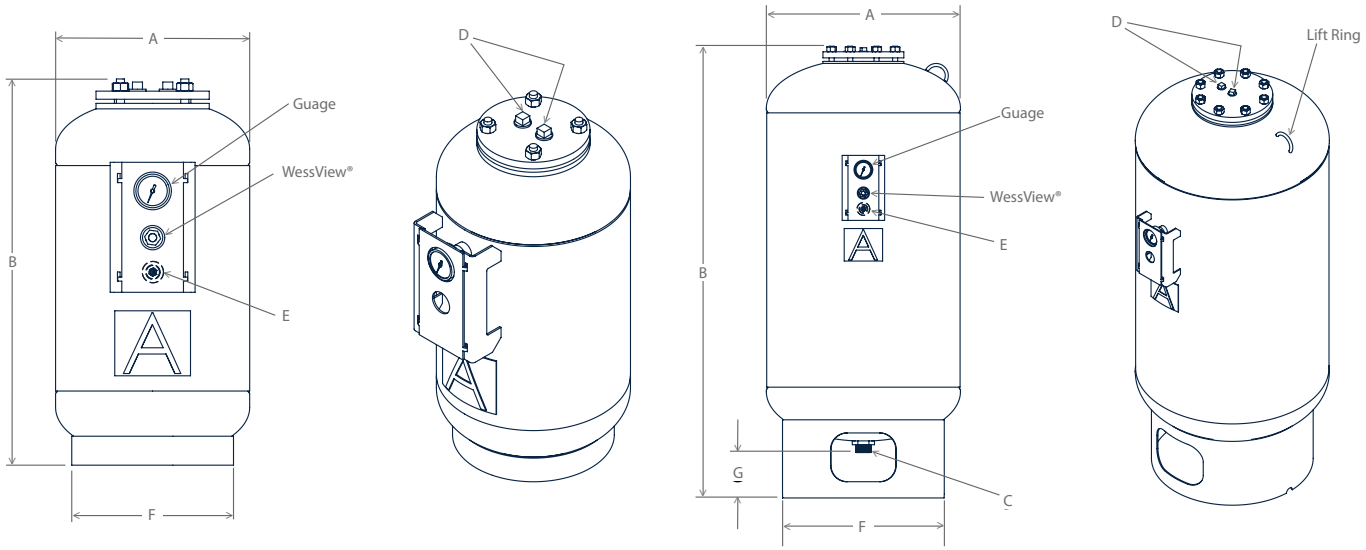
TXA



TXA-85 thru TXA-800L

MODEL	DIMENSIONS (in.)							MAX WORKING PRESSURE	SHIPPING WEIGHT (lbs)
	A	B	SYSTEM CONNECTION C	SYSTEM CONNECTION D	CHARGING VALVE E	F	G		
TXA-35	12	23 1/2	-	3/4 NPT	0.302" - 32NC	10	-	150	40
TXA-50	14	24	-	3/4 NPT	0.302" - 32NC	10	-	150	50
TXA-85	16	37	1 NPT	3/4 NPT	0.302" - 32NC	12	5 1/2	150	90
TXA-130	20	37	1 NPT	3/4 NPT	0.302" - 32NC	16	5 1/2	150	125
TXA-200	24	43	1 1/2 NPT	3/4 NPT	0.302" - 32NC	20	5 1/4	150	210
TXA-300	24	55	1 1/2 NPT	3/4 NPT	0.302" - 32NC	20	5 1/4	150	225
TXA-400	30	49	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	150	300
TXA-500	30	57	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	150	335
TXA-600	30	65	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	150	360
TXA-800L	32	76	1 1/2 NPT	3/4 NPT	0.302" - 32NC	28	5 1/4	150	475

Note:

- Tanks are factory pre-charged at 40 psi and field adjustable.
- California code-sight glass is available upon request.
- Both top and bottom connections (C and D) access the bladder.
- Available with mounting clips.

TYPICAL SPECIFICATION

Furnish and install, as shown on plans, a _____ gallon _____" diameter X _____" (high) pre-charged steel thermal expansion tank with heavy-duty butyl bladder. The tank shall have multiple water-side connections to promote full-flow to eliminate stagnate water within the tank, a 0.302"-32 charging valve connection (standard tire valve) to facilitate the on-site charging of the tank to meet system requirements, a pressure gauge, and WessView® bladder integrity monitor. The tank must contain a port for WessGuard® proximity sensor monitor. The tank must be constructed in accordance with most recent addendum of Section VIII Division 1 of the ASME Boiler and Pressure Vessel Code, and rated for 150 psig.

Each tank shall be Wessels model number TXA-_____ or approved equal.

UPGRADE TO SMART WESSGUARD® TANK PROTECTION

Wessels Type TXA-WG Smart Tanks are ASME removable bladder type pre-charged, thermal expansion tanks, with patented WessGuard® bladder monitor. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems and come equipped with a uniquely designed capacitive sensor that is sensitive to any movement inside the tank.

The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and waterlogging problems. If the bladder extends beyond the normal movement, WessGuard® monitor will activate an audible LED alarm and energy management system to notify maintenance staff of a potential system issue.

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Well Water & Pressure Booster Expansion Tanks

FXA Series

Wessels FXA series ASME Replaceable Hydropneumatic Bladder System with Smart Tank Add-On for Booster Expansion Pressure Control

APPLICATIONS

Open-loop

Potable

Pressure Booster

Well Water

Water

Wessels patented FXA Tanks are ASME replaceable bladder type pre-charged hydro-pneumatic tanks for commercial and industrial well and water systems, booster systems, or other non-heated potable water applications. They are designed to deliver water under pressure between pump cycles to provide sufficient flow to meet demands. The water is contained in a butyl bladder. All FXA tanks can be installed vertically or horizontally.

NEXT LEVEL INTELLIGENCE

- Pressure gauge integrated
- WessView® bladder integrity monitor included
- WessGuard® proximity sensor port adaptable
- Easy-access air valve
- Tamper-resistant secure guard mount
- Designed and fabricated in accordance with ASME Boiler & Pressure vessel code
- Products comply with NSF/ANSI Standard 61
- Replaceable heavy-duty butyl bladder (other materials available)
- Standard design pressure is 125 psi (8.6 bar)
- Available in carbon steel, 304 or 316L stainless steel
- Factory pre-charged and field adjustable
- Never waterlogs
- Separation of water and air
- Full flow design compatible
- Higher pressure ratings available
- Wessels Company Patented Design US 8,633,825 B2

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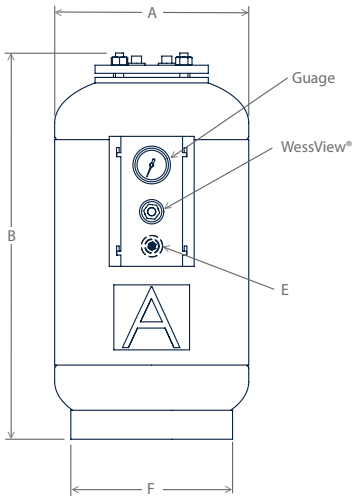
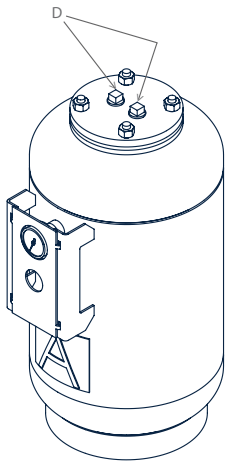
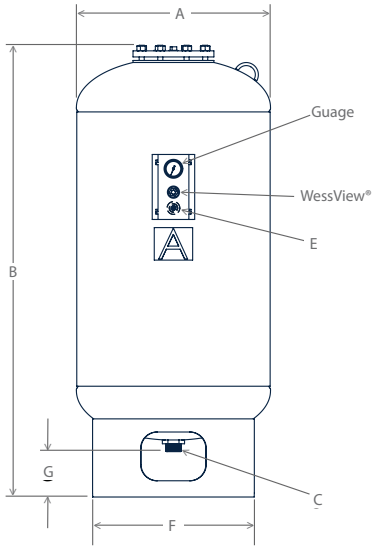
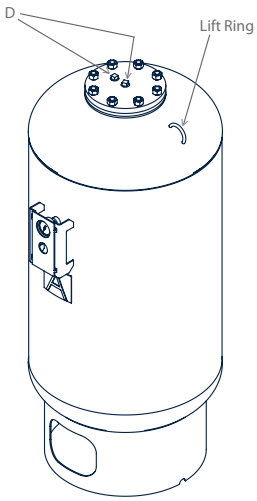
FXA









FXA-85 thru FXA-800L

MODEL	DIMENSIONS (in.)							MAX WORKING PRESSURE	SHIPPING WEIGHT (lbs)
	A	B	SYSTEM CONNECTION C	SYSTEM CONNECTION D	CHARGING VALVE E	F	G		
FXA-35	12	23 1/2	-	3/4 NPT	0.302" - 32NC	10	-	125	40
FXA-50	14	24	-	3/4 NPT	0.302" - 32NC	10	-	125	50
FXA-85	16	37	1 NPT	3/4 NPT	0.302" - 32NC	12	5 1/2	125	90
FXA-130	20	37	1 NPT	3/4 NPT	0.302" - 32NC	16	5 1/2	125	125
FXA-200	24	43	1 1/2 NPT	3/4 NPT	0.302" - 32NC	20	5 1/4	125	210
FXA-300	24	55	1 1/2 NPT	3/4 NPT	0.302" - 32NC	20	5 1/4	125	225
FXA-400	30	49	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	125	300
FXA-500	30	57	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	125	335
FXA-600	30	65	1 1/2 NPT	3/4 NPT	0.302" - 32NC	24	5 1/4	125	360
FXA-800L	32	76	1 1/2 NPT	3/4 NPT	0.302" - 32NC	28	5 1/4	125	475

Note:

- Tanks are factory pre-charged at 40 psi and field adjustable.
- California code-sight glass is available upon request.
- Both top and bottom connections (C and D) access the bladder.
- Available with mounting clips.

TYPICAL SPECIFICATION

Furnish and install, as shown on plans, a _____ gallon _____" diameter X _____" (high) pre-charged steel hydropneumatic pressure tank with heavy-duty butyl bladder. The tank shall have multiple water-side connections to promote full-flow to eliminate stagnate water within the tank, a 0.302"-32 charging valve connection (standard tire valve) to facilitate the on-site charging of the tank to meet system requirements, a pressure gauge, and WessView® bladder integrity monitor. The tank must contain a port for WessGuard® proximity sensor monitor. The tank must be constructed in accordance with most recent addendum of Section VIII Division 1 of the ASME Boiler and Pressure Vessel Code, and rated for 125 psig.

Each tank shall be Wessels model number FXA-_____ or approved equal.

UPGRADE TO SMART WESSGUARD® TANK PROTECTION

Wessels Type FXA-WG Smart Tanks are ASME removable bladder type pre-charged, hydropneumatic expansion tanks, with patented WessGuard® bladder monitor. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems and come equipped with a uniquely designed capacitive sensor that is sensitive to any movement inside the tank.

The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and waterlogging problems. If the bladder extends beyond the normal movement, WessGuard® monitor will activate an audible LED alarm and energy management system to notify maintenance staff of a potential system issue.

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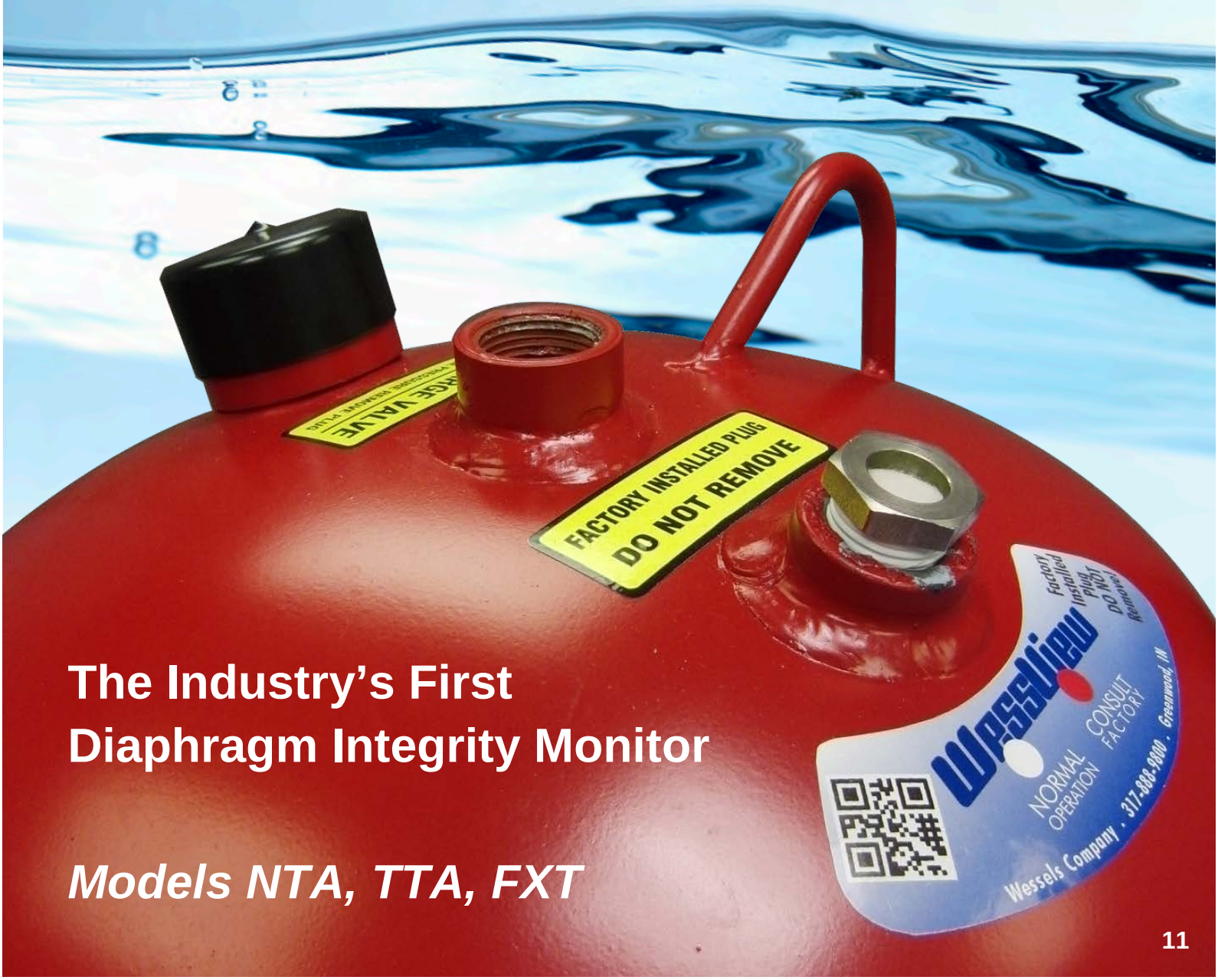
WessView



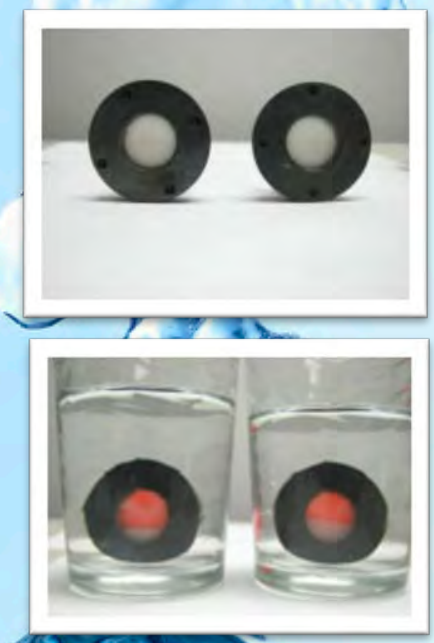
The Industry's First Diaphragm Integrity Monitor

Models NTA, TTA, FXT

Introducing WessView

Diaphragm Integrity Monitor

Ready for the first innovation in diaphragm expansion tank technology in over 50 years? Wessels Company is proud to introduce the **WessView** monitor featuring exclusive, patented technology for maintenance troubleshooting of any diaphragm tank. This simple device allows for fast, accurate assessment of the expansion tank's integrity by changing color from white to red in the case of a compromised internal diaphragm.



Specially designed sensor turns red when internals compromised

QR Code for Troubleshooting

A QR code affixed next to the device will direct maintenance personnel to a specialized troubleshooting web-link and the product's distributor.

WessView AVAILABLE on Diaphragm Tanks

NTA — **The NTA Series** HVAC Expansion Tanks are manufactured to ASME specifications. These vessels are designed using a heavy-duty fixed butyl diaphragm and are offered in sizes ranging from 8 to 211 gallons.

TTA — **The TTA Series** Thermal Expansion Tanks are manufactured to ASME specifications. These vessels are designed using a heavy-duty fixed butyl diaphragm and are offered in sizes ranging from 3 to 90 gallons.

FXT — **The FXT Series** Hydro-pneumatic Tanks are manufactured to ASME specifications. These vessels are designed using a heavy-duty fixed butyl diaphragm and are offered in sizes ranging from 8 to 210 gallons.

Exclusively from wessels company SINCE 1908

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SINCE 1908
wessels company

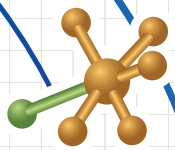
The Industry's Only **True** *Full-Flow* Expansion Tank Design

Model **TXA-FF**

- Full flow into and out of tank
- Stainless steel fittings
- NSF full acceptance butyl bladder
- WessView Tank integrity monitor **standard!**
- WESSGUARD® EMS compatible
- Flexible design allows for tailored installation

TRIPLE PROTECTION

Full-Flow Technology disrupts stagnant water, the breeding ground of harmful bacteria.



Butyl bladder material does not support biological nutrients found on natural rubber.

Design allows for elevated temperatures that can fight biological contaminants.

The Industry's Only **True**

Full-Flow

Expansion Tank Design

Today's expansion tanks need to be smarter and safer. Wessels Company has a rich history of developing smart-guards for preventative maintenance, such as **WessGuard®** and **WessView®**. In the evolution of the tank, safeguards are necessary to protect against known conditions that can potentially lead to biological dangers.

Water storage expansion tanks have been established as a place where microorganisms can flourish. Bacteria colonies only need the right conditions, including nutrients, temperature, and contact time, to establish growth. Many tank designs incorporate a diffuser that promotes mixing. Unfortunately, this only occurs when water is flowing and there is no guaranty that the water leaves the tank. Wessels Company has designed a vessel that attacks and protects by disrupting this stagnant environment. The design is simple; create a true flow through configuration.

Wessels Full-Flow Bladder Tanks Feature:

- Butyl bladder material – does not support nutrients found on natural rubber
- Water circulation through the tank – every cycle or constant flow
- Elevated temperatures in thermal applications - every thermal cycle or forced with constant flow

Did You Know?

Legionnaire's Disease is a severe form of pneumonia caused by the bacteria legionella, which is commonly found in aquatic systems such as cooling towers, domestic hot water and public water disseminator systems.

This dangerous and sometimes deadly bacteria is transmitted through water vapor inhalation. However, by disrupting the environments where legionella flourish with smart tank technologies like **Wessels Company's Full-Flow design,** you can greatly reduce the risk of serious infection.

Visit
westank.com/fullflow
for more information

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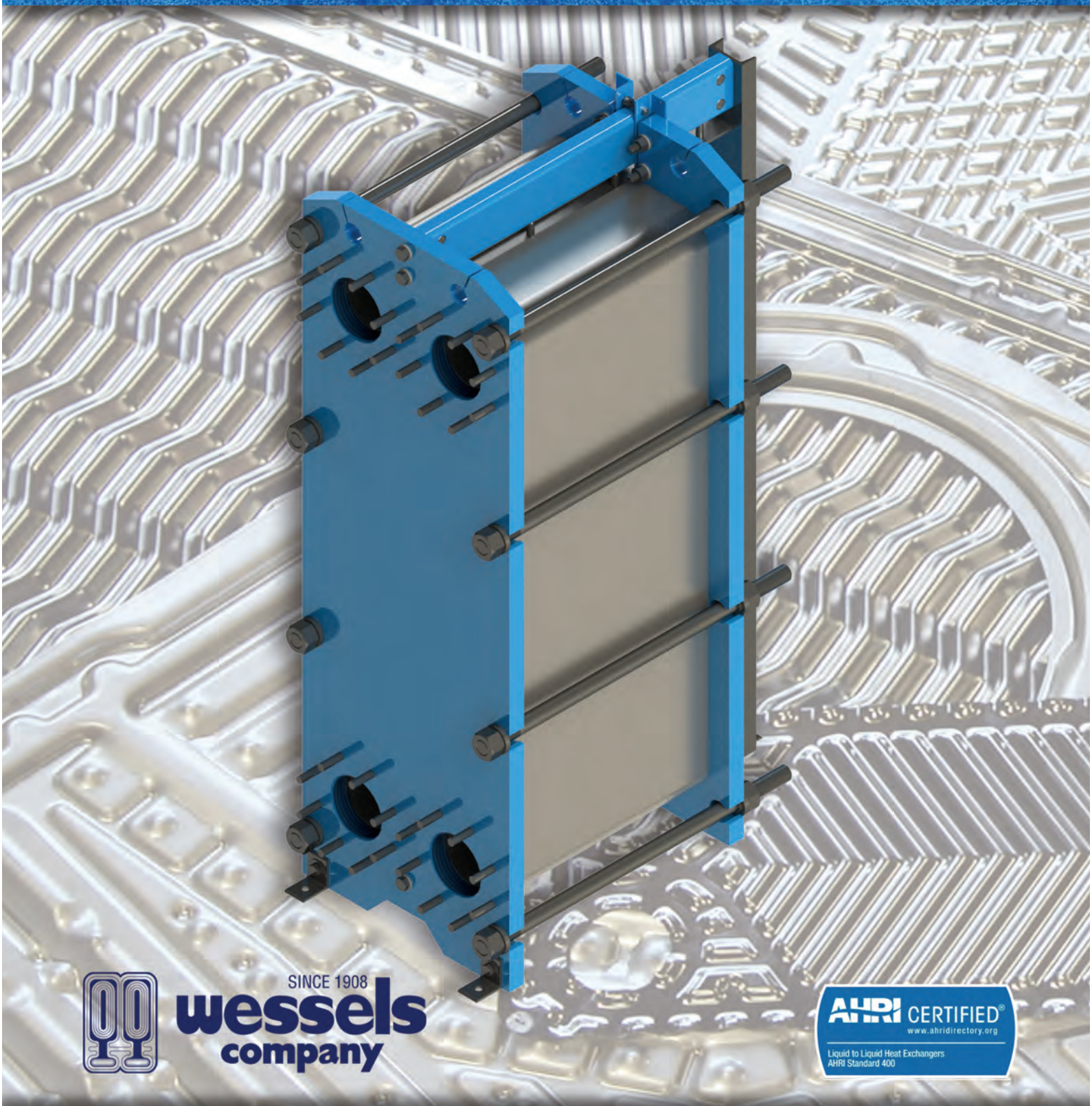
WesPlate® Heat Exchangers



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AHRI CERTIFIED®
www.ahridirectory.org
Liquid to Liquid Heat Exchangers
AHRI Standard 400

PLATE TYPE HEAT EXCHANGERS

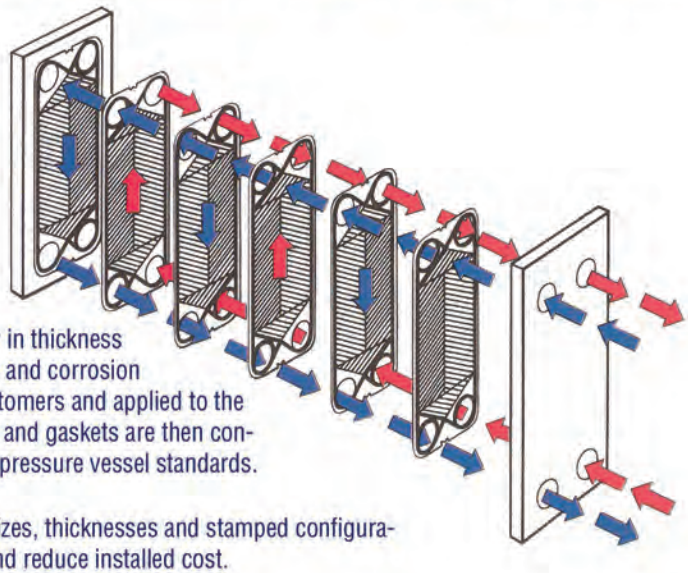
WesPlate®

PLATE HEAT EXCHANGERS WITH GASKETS

Water is the most effective media for heat transfer. In typical HVAC installations, primary loops circulate water throughout a building to transport energy from the source to the building load. A district cooling source or chiller is used to remove heat and a district heating source or boiler is used to add heat to these primary loops. Heat exchangers transfer heat from the building's primary loops to secondary loops and can also serve as a separation device to reduce system costs. These loops can serve auxiliary equipment like heating or cooling secondary systems, potable water heating, and pool water heating systems. Secondary loops provide better temperature control, increased/decreased fluid pressures, separation of water and glycol loops, separation of primary water and potable water loops, and separation of potentially contaminated open systems to closed loops. In all cases, the heat exchanger is relied on to transfer as much heat as possible at the lowest cost.

HOW IT WORKS

The WesPlate® heat exchanger consists of stamped plates designed to maximize heat transfer. Gaskets are fixed between the plates to contain the two separate fluids. These fluids flow alternately between every other plate, counter-flowing to produce the greatest rate of heat transfer and provide the closest temperature approach to the incoming cold fluid. The stamped plates use enhanced surface area flow to create scrubbing turbulence that increases the U-coefficient and increases heat transfer.



The heat transfer plates are typically stainless steel or titanium and vary in thickness from 0.4mm to 0.6mm. This allows for tailored designs of all pressures and corrosion allowances for any job. Glue-less gaskets are made from specialty elastomers and applied to the plates with an integrated clip for a clean, reliable installation. The plates and gaskets are then constrained by a heavy-duty base frame that is ASME-certified to stringent pressure vessel standards.

Heat transfer plates are available in many lengths, widths, connection sizes, thicknesses and stamped configurations that create various depths and angles to maximize heat transfer and reduce installed cost.

The most common plate angles are 30° and 60°. The 30° plate creates a tortuous path for greater heat transfer, but with a higher pressure drop than the 60° plate. **WesPlate® sizing software** will calculate the optimum heat transfer plate and plate sequencing for any application.

MATERIALS OF CONSTRUCTION

PLATES:
Stainless Steel (304SS and 316SS) and Titanium
GASKETS:
Nitrile, EPDM

CERTIFICATION

SAFETY:
AHRI Standard 400
ASME for pressure vessels
CRN for Canadian Registration

TYPICAL SPECIFICATIONS

Furnish and install, as shown on plans, a Wessels model _____ to heat or cool with the capacity and pressure/temperature rating as detailed in the schedule. The heat exchanger must be constructed with most recent addendum of Section VIII of the ASME Boiler and Pressure Vessel Code.

Each heat exchanger shall be Wessels' Model _____ or approved equal.

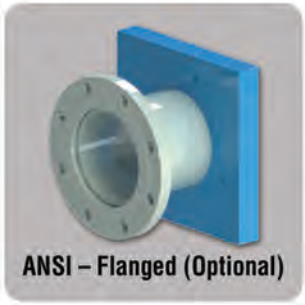
CONNECTION TYPES

NPT – Steel (Internal)

NPT – Alloy (External)

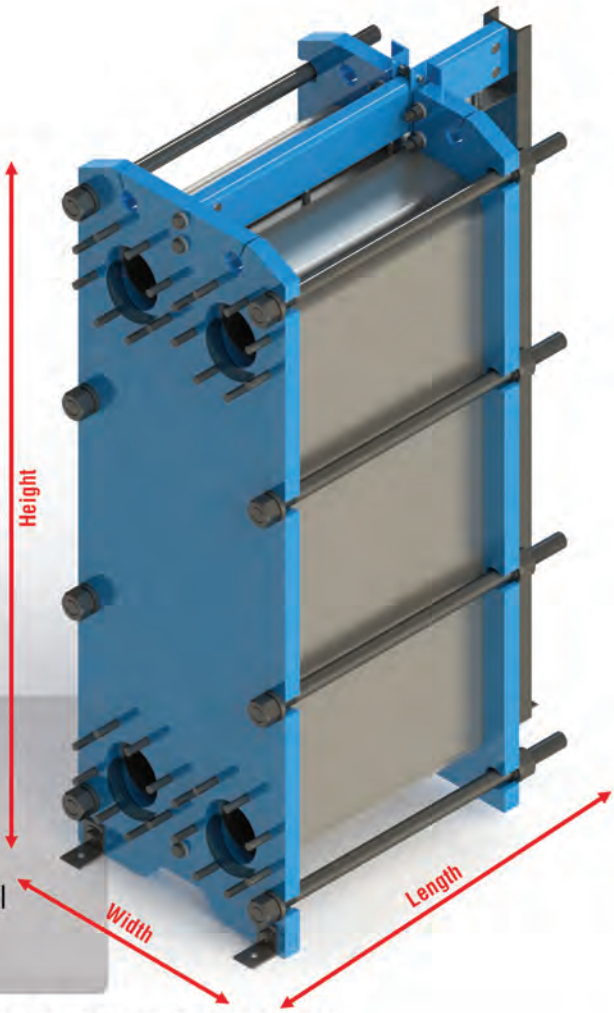
ANSI – Studded Steel

ANSI – Studded Alloy Lined


ANSI – Flanged (Optional)

DESIGN LIMITS

Max Flow: 10,500 GPM
Duty Max: 50,000,000 BTU/HR
Max Pressure: 150 / 300 / 400 PSI
Max Temperature: 320° F



SPECIFICATION & DIMENSIONS BY MODEL

Model	Maximum Flowrate (GPM)	Height (in.)	Width (in.)	Maximum Length (in.)	Conn. Size (in.)	Area Maximum (ft^2)	Weight (lbs.) Base	Weight (lbs.) Per Plate
WP11	50	21	8	18	1	30	110	0.5
WP12	50	32	8	18	1	60	150	1
WP22	200	24	13	60	2	240	370	1.5
WP23	200	36	13	60	2	520	460	2
WP24	200	44	13	60	2	730	530	2.5
WP30	300	25	16	60	3	350	520	1.5
WP42	800	44	20	84	4	600	1000	3.5
WP43	800	44	20	84	4	1000	1000	3
WP47	800	73	20	108	4	3210	1670	6
WP62	1800	55	25	120	6	3110	1520	6
WP63	1800	71	25	120	6	4200	3000	7
WP65	1800	87	25	120	6	6170	2720	10
WP82	3000	78	31	120	8	4680	2380	9.5
WP83	3000	95	31	120	8	6850	3170	12
WP122	7000	96	42	192	12	11510	4980	17
WP123	7000	124	42	216	12	17750	6660	23
Double Wall Models								
WP11DW	50	21	8	18	1	30	110	1
WP12DW	50	32	8	18	1	60	150	2
WP22DW	200	24	13	60	2	240	370	3
WP23DW	200	36	13	60	2	520	460	4
WP24DW	200	44	13	60	2	730	530	5
WP43DW	800	44	20	84	4	1000	1000	6
WP47DW	800	73	20	108	4	3210	1670	12

*"With over a century of experience in pressure vessel design and manufacture, our goal is to provide sustainable **energy saving solutions** that help make a greener HVAC world."*

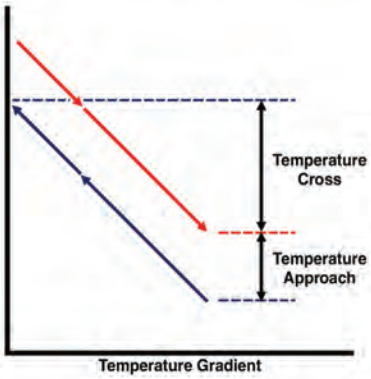
THE **Wes**Plate® ADVANTAGE

Lower Air Conditioning Costs

The **Wes**Plate® heat exchanger can result in **30% annual energy savings** for cooling when used as a water side economizer to supplement or replace a mechanical chiller. The greatest savings are realized at installations that have year-round chilled water requirements such as data centers and hospitals.

Lower Pumping Costs

WesPlate® uses only the most efficient heat transfer plate designs to maximize temperature cross and allow the closest approach temperatures that ensure the greatest percentage of heat recovery. The shape of the corrugation in **Wes**Plate® heat transfer plates maintains high turbulence at lower velocities, which allows lower flows to have high rates of heat transfer. This improved efficiency, coupled with the advantages of variable speed pumping, can result in tremendous energy savings.



The energy used by the pump serving the heat exchanger can be **reduced as much as 50%** by lowering the pressure drop and/or the flow through the heat exchanger while maintaining the required amount of heat transfer.

Lowest Installed Cost

WesPlate® heat exchangers are less expensive, more compact, and easier to install because they utilize only the most efficient heat transfer plate designs. Connections are on the fixed end to reduce first cost installation and increase serviceability. The units are fully assembled and ASME hydrostatically tested. **Wes**Plate® can then be disassembled for delivery through a small opening and reassembled on site.

Low Risk

All units come certified by the appropriate safety code (ASME, CRN, etc..). Every **Wes**Plate® heat exchanger is sized with 20% excess plate capacity so plates can be added to increase the system performance. Heat transfer plates are corrosion resistant materials. The gaskets are vented to the outside so there is no cross contamination between fluids if a gasket fails. For potable water applications, double wall heat transfer plates are used to prevent cross contamination if there is a breach of a plate. Every unit is provided with a safety shield that surrounds the plates and gaskets.

Less Maintenance

All heat exchangers require preventative maintenance and service. **Wes**Plate® exchangers are designed for easy serviceability. All plate hanging surfaces are stainless steel so plates slide easily. Heat transfer plates have either corner inter-locking tabs or a five point alignment system to make closing and sealing the unit consistent. Glue-free gaskets secure around the outer edge of the heat transfer plate. This design allows for the ability to perform a visual check to confirm the gasket is in the proper location for best sealing and trouble free operation.

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WESPAC®
BRAZED PLATE
HEAT EXCHANGER

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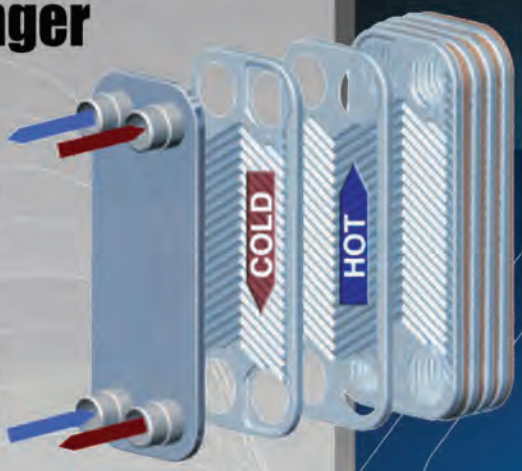
WesPac® Brazed Plate Heat Exchanger



Quality Performance

The WesPac® Brazed Heat Exchanger is designed to deliver premium performance. Specially constructed heat transfer plates feature a corrugated channeling system that maximizes heat transfer. Hot and cold fluids flow along counter-current paths on either side of the plates resulting in low temperature approaches and the highest heat recovery of any heat exchanger design.

Solid Construction

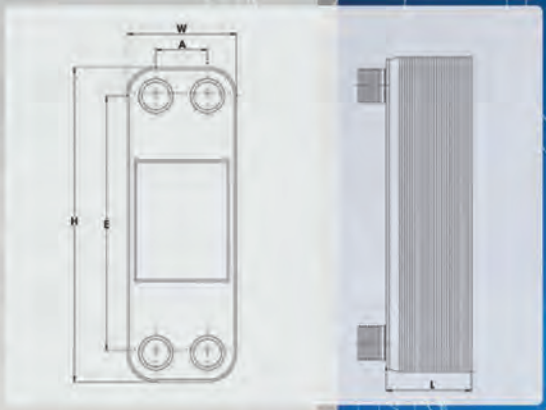
Each unit is manufactured with top-of-the-line, anti-corrosive 316 stainless steel plates and connections. The plates are then bonded together with brazing material, copper or nickel, at thousands of contact points. This brazing process produces an incredibly strong pressure vessel that eliminates the need for gaskets or tubesheet joints, ensuring a long life of trouble-free operation.

Compact Design

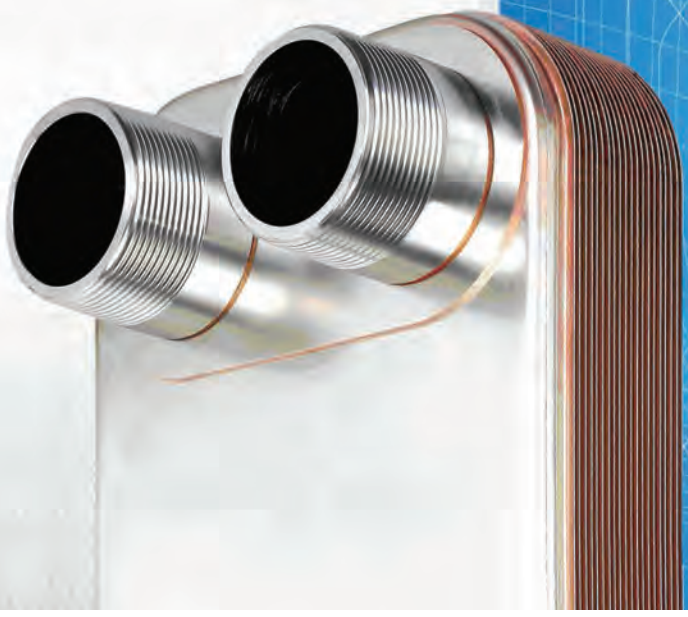
The custom brazed construction and high efficiency design of WesPac® eliminates the need for heavy pressure retaining components, which results in a heat exchanger that is 5 times smaller than conventional units. Fluid volume requirements are also decreased to allow for quicker performance response times and less expense on heat transfer liquids.

Low Maintenance

The WesPac® Brazed Heat Exchanger is optimized for maximum performance by minimizing assembly parts. Fewer parts, high thermal efficiency, and a compact brazed design make WesPac® a no-nonsense, virtually maintenance-free heat management solution. Most units also have all system connections along a single plane on one end of the vessel, which makes for a less costly and easy installation.



Model Type	Dimensions in inches					Weight empty (lbs.)	Maximum No. of Plates	Plate Area (sq. ft.)	Maximum Flow gpm	Connection Size inches
	H	E	W	A	L					
WB01	7.64	6.06	3.15	1.58	0.39+0.09N	2+0.11N	60	0.13	30	0.75
WB10	12.05	9.84	4.17	1.97	0.49+0.09N	4+0.30N	100	0.29	70	1.00
WB15D	11.97	9.84	4.88	2.76	0.49+0.09N	5+0.30N	100	0.34	70	1.00
WB11	20.55	18.35	4.17	1.97	0.39+0.09N	7+0.48N	120	0.54	70	1.00
WB20	20.79	17.95	9.69	6.85	0.51+0.09N	16+1.1N	160	1.22	150	1.50
WB30	20.75	16.93	9.65	5.83	0.45+0.11N	19+1.1N	140	1.12	327	3.00
WB31	29.6	25.6	12.6	8.7	0.55+0.09N	56+2N	210	1.4	383	3.0



WesPac® is also available in double wall construction for potable water isolation. Please consult factory for more information.

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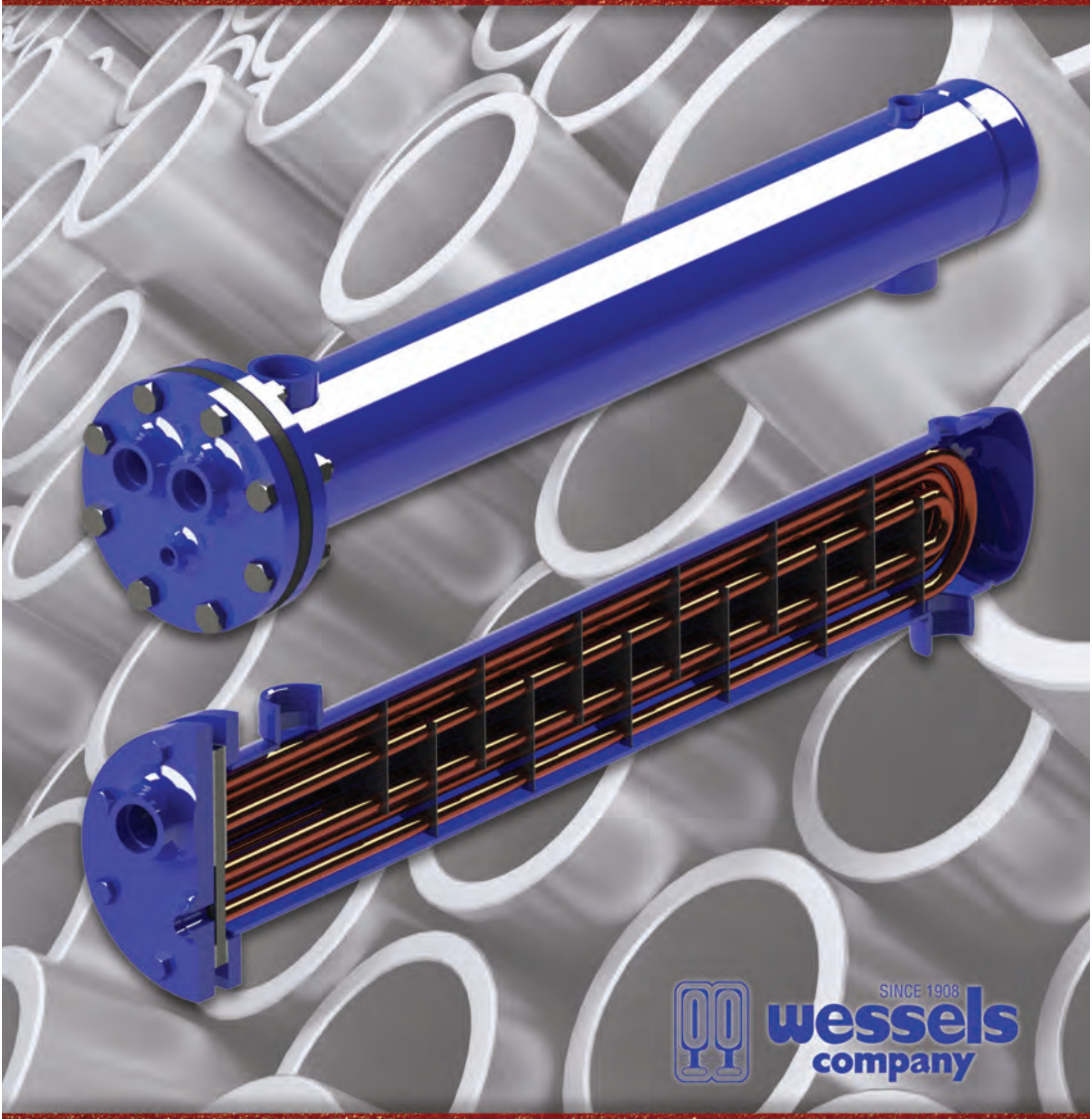
WesTube® Heat Exchangers



SHELL & TUBE TYPE HEAT EXCHANGERS

WesTube®
SHELL AND TUBE HEAT EXCHANGERS

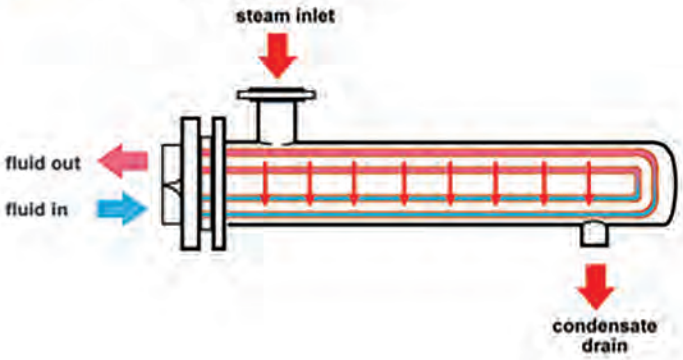
Steam and water are effective media for transferring heat. In typical HVAC heat applications, steam or hot water primary loops distribute heat from the central boiler out to secondary loops through U-tube style heat exchangers. Heat exchangers transfer heat from the building's primary loops to secondary loops and can also serve as separation devices to reduce system costs. These loops serve auxiliary equipment like heating systems, potable water heating and pool water heating. The heat exchangers provide better temperature control, differential system operating pressures and separation of steam, water, glycol and potable water systems. In all cases, the heat exchanger is relied on to transfer as much heat as possible at the lowest cost.

HOW IT WORKS

The WesTube® shell and tube heat exchanger consists of two sides for two different fluids. The Tube Side fluid flows inside the tubes and is diverted by the heat exchanger head located on the end into two or four passes or circuits. The Shell Side fluid flows on the outside of the tubes and is contained by the shell where it is diverted by baffles or tube supports that also carry the weight of the tubes. The wall of the tubes is the heat transfer surface. The tube bundle consists of U-shaped tubes confined at one end by the tube sheet that separates the two fluids. The tube bundle is assembled into a steel shell and head that forms a two sided heat exchanger.

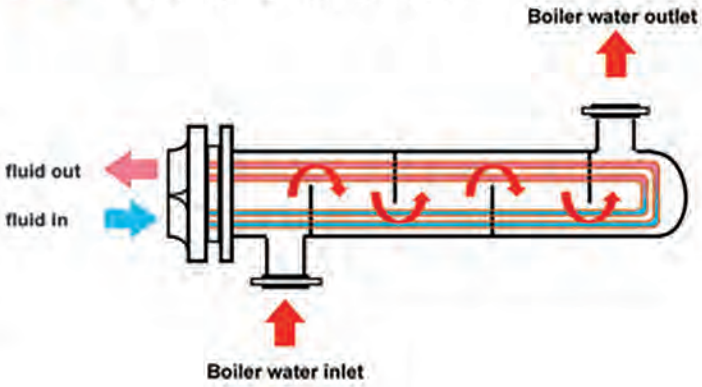
WesTube® comes in two different configurations depending on the shell side fluid:

WST • Steam in Shell



The WST works by introducing steam (water vapor) into the shell where it naturally distributes across the outer tube surface and condenses and heats the water inside the tubes. The condensate exits through a drain in the shell. Tube supports carry the weight of the tubes and do not divert the steam.

WWT • Boiler Water in Shell



The WWT works by introducing boiler water into the shell where it is diverted back and forth across the tube surface by baffles, heating the water inside the tubes. The distance between the baffles is called the "baffle spacing," which controls the rate of heat transfer and pressure drop of the shell side fluid.

MATERIALS OF CONSTRUCTION

TUBES
Standard: Copper | Option: Stainless, 90/10 Cu Ni

SHELL
Standard: Steel | Option: Stainless

TUBESHEETS
Standard: Steel | Option: Stainless, Brass, 90/10 Cu Ni

HEADS
Standard: Cast Iron | Option: Steel, Stainless

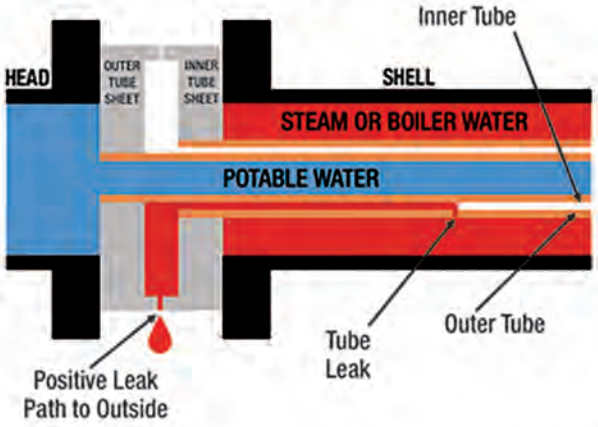
CERTIFICATION

SAFETY
ASME for pressure vessels
CRN for Canadian Registration

DESIGN LIMITS

TUBE SIDE: Standard: 125 | Option: 150, 300, 400 psi
400°F
SHELL SIDE: Standard: 150 | Option: 300 psi
375°F

WSD/WWD • Double Wall

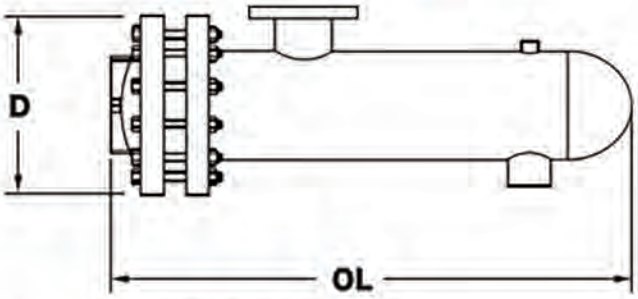


The **WSD** and **WWD** are made with inner and outer double tubes and double tube sheets that provide a positive leak path between the two fluids. This design prevents the cross-contamination of the potable water by the surrounding steam or treated boiler water.

Connection Types

NPT

Flanged



TYPICAL WST CAPACITIES & DIMENSIONS BY MODEL

Duty Btu/Hr	Water Flow GPM	PSI Drop	Model – Size - #Passes	Surface Area Sq. Ft.	Weight Lbs	D Inches	OL Inches
300,000	30	1.5	WST-0404-2	6	90	7.3	52
1,100,000	110	1.5	WST-0604-2	20	190	10.5	53
2,000,000	200	1.5	WST-0804-2	37	300	12.5	53
3,200,000	320	1.5	WST-1004-2	59	460	14.6	54
4,700,000	470	1.5	WST-1204-2	85	670	16.6	55
6,400,000	640	1.5	WST-1404-2	115	820	18	56
8,300,000	830	1.5	WST-1604-2	149	1050	20	62
10,400,000	1040	1.5	WST-1804-2	187	1250	22	66
14,000,000	1400	1.5	WST-2004-2	243	1500	24	70
16,000,000	1600	1.5	WST-2204-2	293	1800	26.1	74
20,000,000	2000	1.5	WST-2404-2	365	2250	28.1	76
24,000,000	2400	1.5	WST-2604-2	431	2810	30.6	80
28,000,000	2800	1.5	WST-2804-2	518	3520	32.6	82
32,000,000	3200	1.5	WST-3004-2	618	4400	34.6	85

Above capacities based on an inlet water temperature of 160°F heated to 180°F using 15 psi saturated steam.

TYPICAL WST CONNECTION SIZES

Model-Size	Tube Side -2 pass	-4 pass	Shell Side Inlet	Drain	Model-Size	Tube Side -2 pass	-4 pass	Shell Side Inlet	Drain
WST-04	1.25	1	2	1	WST-18	6	4	10	4
WST-06	2	1.5	3	1	WST-20	8	6	12	4
WST-08	3	2	3	1	WST-22	10	8	12	4
WST-10	4	3	6	2	WST-24	10	8	14	4
WST-12	4	4	8	2	WST-26	12	8	16	6
WST-14	4	4	8	2.5	WST-28	12	10	18	6
WST-16	6	4	10	3	WST-30	14	10	20	6

NOTES

Connection sizes are inches. Typically 3" and below are NPT and 4" and above are ANSI flanged.
Sizes are subject to variation and should be confirmed by Wessels engineering.

*"With over a century of experience in pressure vessel design and manufacture, our goal is to provide sustainable **energy saving solutions** that help make a greener HVAC world."*

THE **Wes**Tube® ADVANTAGE

Heavy Duty Construction

The **Wes**Tube® heat exchanger is one of the most rugged heavy duty heat exchangers on the market. The circular shaped shell and tubes withstand greater pressures than flat plate designs with thinner materials. In accordance with safety codes, corrosion allowances are added to the carbon steel parts for added girth. The tubes are made of various corrosion resistant materials with thicknesses ranging from 20 BWG or 0.035" to 16 BWG or 0.065" making them at least 50% thicker than other heat transfer surfaces. With fewer gaskets, **Wes**Tube® can withstand higher operating pressures and temperatures than other heat transfer devices.

Human Comfort

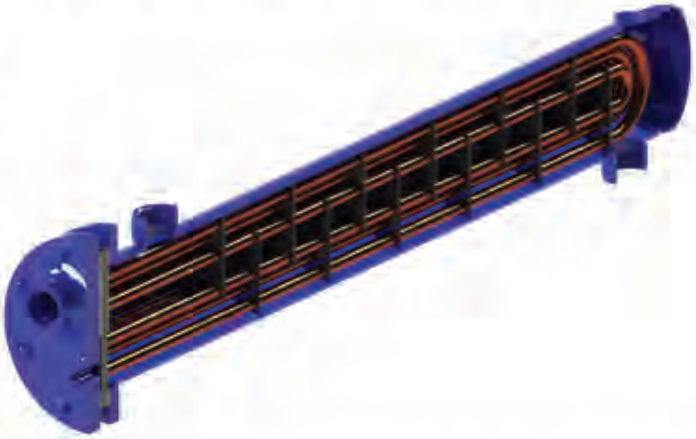
WSD and WWD double wall designs prevent potable water contact with chemically altered boiler water. The double wall construction provides a positive leak path between the potable water and the heating media should a leak occur in a tube wall. This design conforms to all US building code requirements.

Long Life Expectancy

WesTube® utilizes U shaped tubes that are anchored at only one end. The tubes are allowed to expand freely in one direction when subject to changing operating temperatures and heat loads. This allows the heat exchanger to cycle with no risk of damage, which ensures a long, trouble-free life for the product.

Low Risk

Heavy duty construction, freely expanding corrosion resistant tubes and minimized use of gaskets make **Wes**Tube® a low risk investment. All units come certified by the appropriate safety code (ASME, CRN, etc.).



Low Maintenance

WesTube® heat exchangers are designed with fewer gaskets, which leads to less maintenance. For installations where hard water and scaling may occur, **Wes**Tube® uses larger diameter tubes that can continue to operate and can be easily cleaned. If necessary, a bundle can be swapped out while the other is being serviced.

Lower Pumping Costs

The heat transfer surface in **Wes**Tube® is smooth, resulting in less turbulent flow inside the tubes. This design maximizes heat transfer with reduced pressure drop, which lowers pumping costs.

Application Friendly

WesTube® is used for heating domestic water, snow melting, pool heating, condensate cooling, district heating, radiant heating, comfort heating and other heat transfer systems where pressure separation is needed.

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WesFlo® Filter Housings

ASME / NON-ASME

CARTRIDGE FILTER / BAG FILTER
HIGH PRESSURE / HIGH FLOW
FILTRATION VESSELS

- Water
- Oil
- Air
- Gas
- Chemical
- Pulp
- Coolant
- Paint / Ink
- Electronics

CF SERIES

WesFlo® CF Series ASME (U or UM) Single and Multi-round Cartridge Filter Vessels Accommodate High Flow Rates & High Particulate Retention

APPLICATIONS

Water

Potable Liquids

Oil (petroleum, hydraulic, etc.)

Lubricants

Concentrated Alkalis

Dilute Acids & Alkalis

Mineral Acids

Organic Acids

Oxidizing Agents

Chemicals

Solvents

Inks/Paints/Coatings

Pulp & Paper

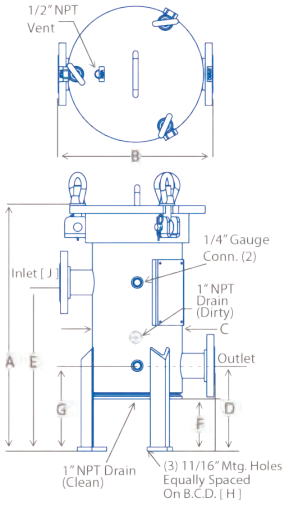
Industrial

WesFlo® single and multi-cartridge filter vessels meet a broad range of liquid and gas applications. Designed to handle flow rates of up to 2,040 gpm (7,722 lpm), the WesFlo® CF Series cartridge filter vessels accommodates double open-end (DOE) and single open-end (SOE) cartridges in lengths of 10 in., 20 in., 30 in. and 40 in. All aspects of design, materials, construction and workmanship of the CF Vessel Series conform to ASME code. (Also available in non-ASME code design and construction.)

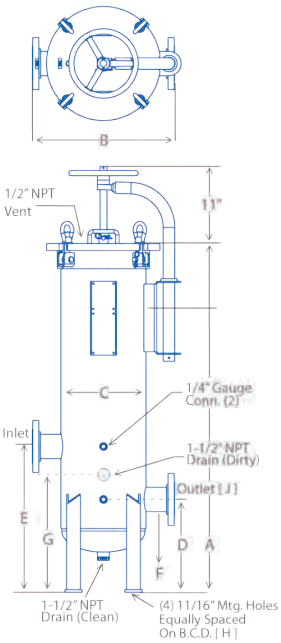
BENEFITS

- Designed and fabricated in accordance with ASME Boiler & Pressure vessel code (U or UM stamp)
- Non-code design and construction available (parallel to code standards)
- Standard design pressure is 150 psi (10.3 bar) and 300 psi (20.7 bar). Higher design pressures available
- Available in carbon steel, 304 stainless steel or 316L stainless steel
- Single O-ring seal closure design assures quick, positive cover seal
- Swing bolts for easy closure
- Buna-N standard O-ring with optional Viton®, Neoprene, EPDM and Fluoropolymer elastomers available
- Mechanical cover lift of carbon construction on models CF12 thru CF52, hydraulic cover lift of carbon steel construction on models CF85 and CF102 (available on all models as option)
- Designed for minimum pressure drop
- Dual purpose cartridge seats for use with double open-end (DOE) and single open-end (SOE) / 2-222 O-ring filter cartridges
- Other materials available

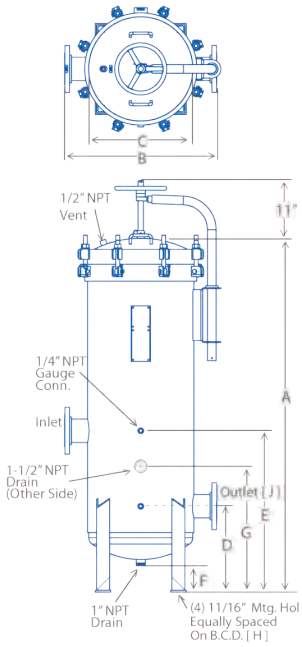
CF



CF3, CF6



CF12, CF19



CF25 & ABOVE

MAX DESIGN TEMPS	
CARBON STEEL	500°F (260°C)
304 SST	300°F (150°C)
316 SST	400°F (204°C)
GASKET	250°F (121°C)

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)**	250°F (121°C)
EPDM (EPR)	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**NITRILE O-ring is standard

Note: Wessels also offers non-code cartridge filter vessels. For more information, please refer to the 4NCF datasheet.

MODEL	(NO.) & CARTRIDGE LENGTH (in.)	MAXIMUM FLOW * (gpm)	DIMENSIONS (in.)									SHIPPING WEIGHT (lbs)
			A**	B	C	D	E	F	G	H	J	
CF3-1-2F	(3) 10	15	26.69	12.69	6.63 O.D.	8.19	16.19	5.00	11.31	5.81	2	125
CF6-1-2F	(6) 10	30	26.94	14.88	8.63 O.D.	8.19	16.19	5.06	11.31	7.81	2	180
CF6-2-2F	(6) 20	60	37.00	14.88	8.63 O.D.	8.19	16.19	5.06	11.31	7.81	2	185
CF6-3-2F	(6) 30	90	47.06	14.88	8.63 O.D.	8.19	16.19	5.06	11.31	7.81	2	200
CF6-4-2F	(6) 40	120	58.50	14.88	8.63 O.D.	8.19	16.19	5.06	11.31	7.81	3	220
CF12-3-3F	(12) 30	180	53.75	20.50	12.06 I.D.	13.38	21.00	5.00	12.00	11.68	3	310
CF12-3-4F	(12) 30	180	53.75	20.50	12.06 I.D.	13.38	21.00	5.00	17.88	11.68	4	315
CF12-4-4F	(12) 40	240	60.31	20.50	12.06 I.D.	13.38	21.00	5.00	17.88	11.68	4	330
CF19-3-4F	(19) 30	285	50.19	23.50	15.06 I.D.	13.38	21.00	5.00	17.88	14.75	4	420
CF19-4-4F	(19) 40	380	60.31	23.50	15.06 I.D.	13.38	21.00	5.00	17.88	14.75	4	440
CF25-3-4F	(25) 30	375	55.88	26.00	18.06 I.D.	15.50	28.00	5.00	20.44	17.76	4	515
CF25-4-6F	(25) 40	500	69.75	26.00	18.06 I.D.	16.50	31.00	5.00	22.25	17.76	6	540
CF35-3-4F	(35) 30	525	58.19	29.25	20.06 I.D.	16.50	31.00	5.00	22.56	19.77	4	640
CF35-3-6F	(35) 30	525	58.19	29.25	20.06 I.D.	16.50	31.00	5.00	22.56	19.77	6	645
CF35-4-6F	(35) 40	700	68.25	29.25	20.06 I.D.	16.50	31.00	5.00	22.56	19.77	6	695
CF40-3-6F	(40) 30	600	60.25	30.75	22.06 I.D.	18.00	32.00	5.00	23.31	21.70	6	810
CF52-3-4F	(52) 30	780	63.69	33.38	24.06 I.D.	20.50	34.00	5.00	27.56	23.72	4	855
CF52-3-6F	(52) 30	780	63.69	33.38	24.06 I.D.	20.50	34.00	5.00	27.56	23.72	6	865
CF52-4-8F	(52) 40	1040	73.69	33.38	24.06 I.D.	20.50	34.00	5.00	27.56	23.72	6	900
CF85-3-8F	(85) 30	1275	67.25	39.75	30.06 I.D.	24.00	40.00	6.00	31.50	29.81	8	1170
CF84-4-8F	(85) 40	1700	73.63	39.75	30.06 I.D.	24.00	40.00	6.00	31.50	29.81	8	1200
CF102-3-8F	(102) 30	1530	68.63	42.25	32.06 I.D.	23.63	41.25	6.00	31.69	31.81	8	1450
CF102-4-8F	(102) 40	2040	79.94	42.25	32.06 I.D.	23.63	41.25	6.00	31.90	31.81	8	1600

*Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.

**Add 5 in. to this dimension for hydraulic cover lift

ORDERING INFORMATION

[ ] [ ] CF [ ] - [ ] - [ ] [ ] [ ]

MATERIAL	
OMIT	CARBON STEEL
4	304 SST
6	316 SST

DESIGN SERIES	
OMIT	ASME / 150 psi
H	ASME / 300 psi
N	Non-ASME

FILTER SERIES	
CF	1 CARTRIDGE OR MULTIPLE CARTRIDGES

OF COLUMNS
3
6
12
19
25
35
40
52
85
102

CARTRIDGE LENGTH	
1	10 in.
2	20 in.
3	30 in.
4	40 in.

INLET / OUTLET	
2	2 in. ANSI
3	3 in. ANSI
4	4 in. ANSI
6	6 in. ANSI
8	8 in. ANSI

CONNECTION TYPE	
F	ANSI SORF
OMIT	NPT

COVER LIFT	
OMIT	NO COVER LIFT
K1	MECHANICAL
K2	HYDRAULIC

SINCE 1908 wessels company
101 Tank Street Greenwood, IN 46143
P: 317-888-9800 F: 317-865-7411
www.westank.com

BF SERIES

WesFlo® BF Series ASME (U or UM) Single and Multi-round Bag Vessels Accommodate High Flow Rates & High Particulate Retention

APPLICATIONS

Water

Food & Beverage

Oil

Cutting Oils

Lubricants

Chemicals

Solvents

Electronics

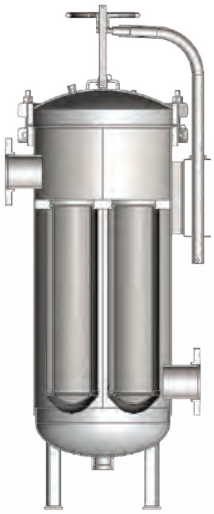
Inks/Paints/Coatings

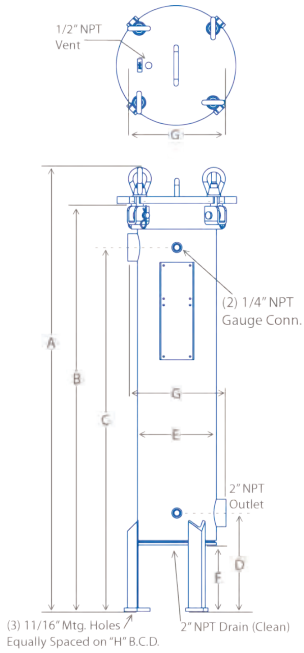
Pulp & Paper

Designed to handle flow rates of up to 1,120 gpm (4,240 lpm), the WesFlo® BF Series bag and strainer filter vessels provide excellent filtration in a wide range of industrial and chemical applications. All aspects of design, materials, construction and workmanship of the BF Vessel Series conform to ASME code. (Also available in non-ASME code design and construction.)

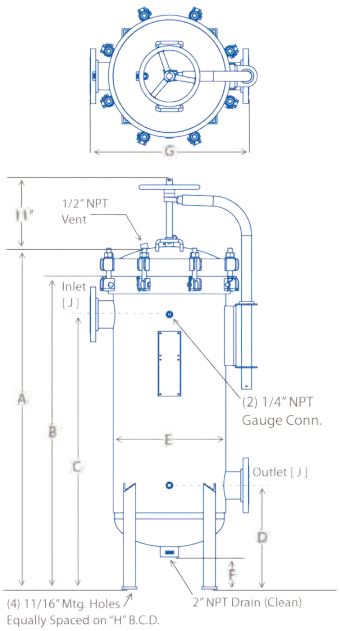
BENEFITS

- Accepts standard #1 and #2 size bag filters
- Built in accordance with ASME (U or UM stamp) Boiler and Pressure vessel code
- Non-code design and construction (parallel code standards)
- Standard design pressure is 150 psi (10.3 bar) or 300 psi (20.7 bar)
- Available in carbon steel, 304 or 316L stainless steel
- Single O-ring seal closure design assures quick, positive cover seal
- Swing bolts with hex nuts for easy closure
- Buna-N standard O-ring with optional Viton®, Neoprene, EPDM and fluoropolymer elastomers available
- Positive bag media seal prior to sealing vessel
- Stainless steel perforated basket
- Other materials available





BF11, BF12



BF25 & ABOVE

MAX DESIGN TEMPS	
CARBON STEEL	500°F (260°C)
304 SST	300°F (150°C)
316 SST	400°F (204°C)
GASKET	250°F (121°C)

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)**	250°F (121°C)
EPDM (EPR)	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**NITRILE O-ring is standard

Note: Wessels also offers non-code bag filter vessels. For more information, please refer to the 4NBF datasheet.

MODEL	MAXIMUM FLOW* (gpm)	DIMENSIONS (in.)									
		A	B	C	D	E	F	G	H	J	SHIPPING WEIGHT (lbs)
BF11-2	80	34.88	30.69	26.75	10.75	8.63	7.31	10.75	7.81	2.00	180
BF11-2F	80	34.88	30.69	26.75	10.75	8.63	7.31	14.88	7.81	2.00	180
BF12-2	160	47.88	43.69	39.75	10.75	8.63	7.31	10.75	7.81	2.00	200
BF12-2F	160	47.88	43.69	39.75	10.75	8.63	7.31	14.88	7.81	2.00	200
BF12-3F	160	48.81	44.63	40.00	10.75	8.63	7.31	16.00	7.81	2.00	220
BF31-3FK1	240	43.00	38.25	32.00	17.00	18.44	6.00	26.00	17.75	3.00	600
BF32-4FK1	480	56.00	51.25	45.00	17.00	18.44	6.00	26.00	17.75	4.00	650
BF41-4FK1	320	43.50	38.63	32.00	17.00	20.44	6.00	28.00	19.79	4.00	670
BF42-4FK1	640	56.50	51.63	45.00	17.00	20.44	6.00	28.00	19.79	4.00	720
BF42-6FK1	640	60.19	55.13	47.00	18.00	20.44	6.00	30.00	19.79	6.00	740
BF52-6FK1	800	60.50	54.50	45.00	20.00	22.44	6.00	30.00	21.71	6.00	700
BF62-8FK1	960	64.00	58.00	48.00	22.00	26.00	5.00	36.00	25.30	8.00	1105
BF72-6FK1	1120	59.75	53.75	45.00	20.00	26.00	5.00	34.00	25.30	6.00	1070
BF72-8FK1	1120	64.00	58.00	48.00	22.00	26.00	5.00	36.00	25.30	8.00	1105
BF82-8FK1	1440	64.56	58.00	48.00	23.25	28.44	5.00	38.00	27.88	8.00	1180
BF92-8FK1	1440	66.75	60.00	50.00	24.00	30.56	6.00	40.00	29.80	8.00	1180

*Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.

ORDERING INFORMATION

[ ] [ ] BF [ ] - [ ] - [ ] [ ] [ ]

MATERIAL	
OMIT	CARBON STEEL
4	304 SST
6	316 SST

DESIGN SERIES	
OMIT	ASME / 150 psig
H	ASME / 300 psig
N	Non-ASME

BAG FILTER SERIES	
BF	1 BAG OR MULTIPLE BAGS

OF COLUMNS
1
3
4
5
6
7
8
9

BAG LENGTH	
1	16.5 in.
2	32 in.

INLET / OUTLET	
2	2 in.
3	3 in.
4	4 in.
6	6 in.
8	8 in.

CONNECTION TYPE	
OMIT	NPT
F	ANSI SORF

COVER LIFT	
OMIT	NO COVER LIFT
K1	MECHANICAL
K2	HYDRAULIC

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HP SERIES

WesFlo® HP Series ASME (U or UM) Filter Vessels for High Pressure Industrial and Chemical Process Applications

APPLICATIONS

Cutting Oils

Lubricants

Chemicals

Solvents

Process Water

Coolants

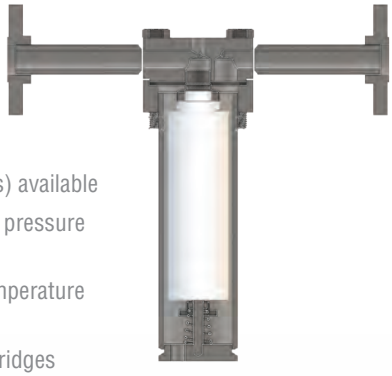
Hydraulic Oils

Compressed Air & Gases

Other High Pressure Liquids

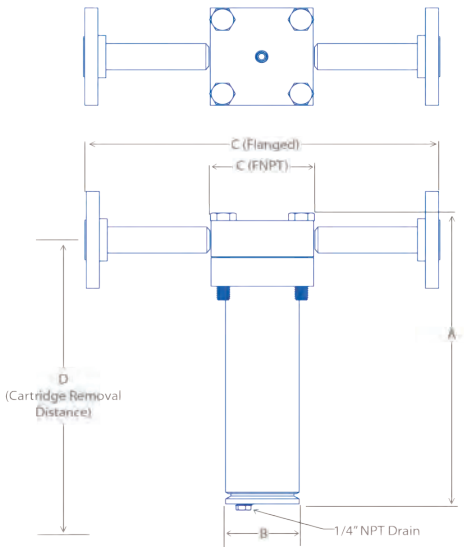
Catalyst Recovery

WesFlo® HP Series cartridge filter vessels are designed to deliver excellent filtration in high pressure applications up to 1610 psi, all aspects of design, materials, construction and workmanship of the HP Vessel Series conform to ASME code. (Also available in non-ASME code design and construction.)



BENEFITS

- T-Style head and shell for ease of installation and servicing
- Non-code design and construction (parallel code standards) available
- Built in accordance with ASME (U or UN stamp) boiler and pressure vessel code
- Maximum design pressure is 1610 psi at 300°F. Higher temperature ratings available
- 1 in. connections for maximum flow capability of filter cartridges
- Available in carbon steel or 316L stainless steel
- Multiple bolt closure with bright zinc plated studs
- Buna-N standard O-ring with optional Viton®, Neoprene, EPDM and elastomers available
- Rigid cartridge support post with threaded end seal for positive double open end (DOE) cartridge seating
- Other materials available



HP

MAX DESIGN TEMPS	
CARBON STEEL	500°F (260°C)
304 SST	300°F (150°C)
316 SST	400°F (204°C)
GASKET	250°F (121°C)

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)**	250°F (121°C)
EPDM (EPR)	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**NITRILE O-ring is standard

MODEL	PRESSURE RATING* (psi)	CONNECTION SIZE (in.)	CARTRIDGE LENGTH (in.)	DIMENSIONS (in.)				MAX GPM	SHIPPING WEIGHT (lbs)
				A	B	C	D**		
HP-11-1	1610	1-NPT	10	14.5	3.5	4.6	22	6	37
HP-1-150	245	1-FLG-150#	10	14.5	3.5	12.6	22	6	45
HP-11-1-300	665	1-FLG-300#	10	14.5	3.5	12.6	22	6	47
HP-11-1-600	1332	1-FLG-600#	10	14.5	3.5	12.6	22	6	47
HP-12-1	1610	1-NPT	20	24.5	3.5	4.6	42	12	46
HP-12-1-150	245	1-FLG-150#	20	24.5	3.5	12.6	42	12	54
HP-12-1-300	665	1-FLG-300#	20	24.5	3.5	12.6	42	12	56
HP-12-1-600	1332	1-FLG-600#	20	24.5	3.5	12.6	42	12	56
HP-13-1	1610	1-NPT	30	34.5	3.5	4.6	62	18	55
HP-13-1-150	245	1-FLG-150#	30	34.5	3.5	12.6	62	18	63
HP-13-1-300	665	1-FLG-300#	30	34.5	3.5	12.6	62	18	65
HP-13-1-600	1332	1-FLG-600#	30	34.5	3.5	12.6	62	18	65

*Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.
**Add 3 in. when using TC internal option for use with TC style 2-222 O-ring cartridges.

Note: NPT maximum pressure is 1610 psi at 300°F with EPR O-ring, 400°F with Viton® and FEP encapsulated Viton® O-ring and 500°F with FEP encapsulated silicone. Flanged units are based on ANSI B16.5 pressure at 250°F

ORDERING INFORMATION

[ ] [ ] **HP** **1** - [ ] - **1** [ ] - [ ]

MATERIAL	
OMIT	CARBON STEEL
6	316 SST

DESIGN SERIES	
OMIT	ASME U-STAMP
N	NON-CODE

HIGH PRESSURE SERIES	
HP	1 CARTRIDGE

CARTRIDGE QTY
1

LENGTH	
1	10 in.
2	20 in.
3	30 in.

INLET / OUTLET	
1	1 in. ANSI

CONNECTION TYPE	
OMIT	FNPT
150	150# FLANGE
300	300# FLANGE
600	600# FLANGE

INTERNAL OPTION	
OMIT	CENTER POST FOR DOE
222	222 O-RING ADAPTER

Note: Buna-N O-ring standard. Other gasket material available.

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HF SERIES

WesFlo® HF Series ASME (U or UM) Larger Diameter Cartridge Filter Vessels for Higher Flow Rates and High Particulate Retention

APPLICATIONS

Cutting Oils

Lubricants

Chemicals

Solvents

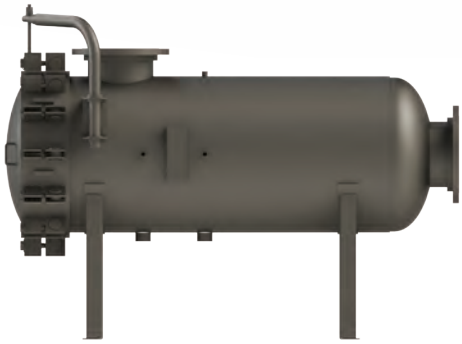
Process Water

Coolants

Edible Oils

Potable Water

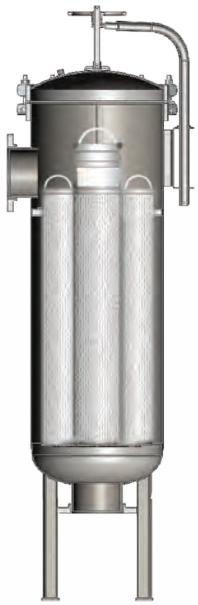
Reverse Osmosis Filtration



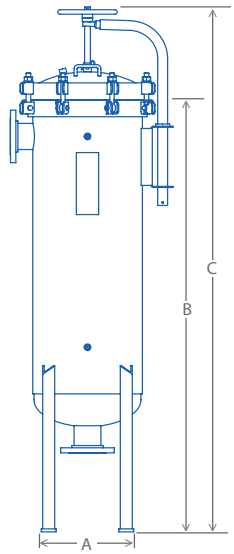
WesFlo® HF Series vessels are designed to utilize cartridges for high flows of up to 500 gpm (1892 lpm) per 60 in. length. They provide significant size and cost reduction compared to conventional size filter cartridges. The horizontal design and coreless cartridge configuration makes cartridge change fast and easy. Vessels accommodate high flow cartridges in lengths of 20 in., 40 in. or 60 in. All aspects of design, materials, construction and workmanship of the HF Vessel Series conform to ASME code. (Also available in non-ASME code design and construction.)

BENEFITS

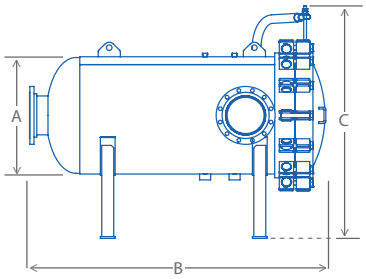
- Horizontal design makes cartridge change easier and quicker without need for elevated platform. Vertical orientation is also available
- Large diameter cartridge yields high flow rate per cartridge resulting in fewer cartridges and smaller, lower cost vessels
- Inside-out flow direction captures contaminates on the inside of the filter to make cartridge change easier
- Available in carbon steel, 304 stainless steel or 316L stainless steel
- Built in accordance with ASME (U or UN stamp) boiler and pressure vessel code
- Non-code design and construction (parallel code standards) available
- Standard design pressure is 150 psi (10.3 bar) or 300 psi (20.7 bar). Higher design pressures available
- Other materials available



HF



HFV



HFH

MAX DESIGN TEMPS	
CARBON STEEL	500°F (260°C)
304 SST	300°F (150°C)
316 SST	400°F (204°C)
GASKET	250°F (121°C)

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)**	250°F (121°C)
EPDM (EPR)	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**NITRILE O-ring is standard

MODEL	MAXIMUM FLOW* (gpm)	CONNECTION SIZE (in.)	CARTRIDGE QTY	CARTRIDGE LENGTH (in.)	OPTIMAL INLET/OUTLET SIZE	DIMENSIONS (in.)			SHIPPING WEIGHT (lbs)
						A	B	C	
HFH14-3	350	3-FLG	1	40	3	8	60.2	43	250
HFH34-6	1050	6-FLG	3	40	6	16	69.8	58.4	694
HFH54-8	1750	8-FLG	5	40	8	20	77	59	935
HFH74-10	2450	10-FLG	7	40	10	22	79.7	60	1106
HFH84-10	2800	10-FLG	8	40	10	24	79.7	61	1248
HFH124-12	4200	12-FLG	12	40	12	30	88.4	64	1672
HFH154-14	5250	14-FLG	15	40	14	32	90.8	65	1938
HFH194-16	6650	16-FLG	19	40	16	36	94.5	67.5	2593
HFH16-4	500	4-FLG	1	60	4	8	81.3	43	325
HFH36-8	1500	8-FLG	3	60	8	16	91.8	58.4	756
HFH56-10	2500	10-FLG	5	60	10	20	99	59	1070
HFH76-10	3500	10-FLG	7	60	10	22	99.7	60	1181
HFH86-12	4000	12-FLG	8	60	12	24	101.9	61	1389
HFH126-14	6000	14-FLG	12	60	14	30	109.7	64	1834
HFH156-16	7500	16-FLG	15	60	16	32	112.9	65	2113
HFH196-18	9500	18-FLG	19	60	18	36	116.5	67.5	2828
HFV14-3	350	3-FLG	1	40	3	8	65.5	69.4	250
HFV34-6	1500	6-FLG	3	40	6	16	81.9	94.25	694
HFV54-8	1750	8-FLG	5	40	8	20	90	106.25	935
HFV74-10	2450	10-FLG	7	40	10	22	98.8	115.25	1106
HFV84-10	2800	10-FLG	8	40	10	24	98.8	115.5	1248
HFV124-12	4200	12-FLG	12	40	12	30	110.25	129	1672
HFV154-14	5250	14-FLG	15	40	14	32	115.8	135	1938
HFV194-16	6650	16-FLG	19	40	16	36	123.5	143.6	2593

*Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.

ORDERING INFORMATION

[ ] HF [ ] [ ] [ ] - [ ] [ ] [ ]

MATERIAL	
OMIT	CARBON STEEL
4	304 SST
6	316 SST

HIGH FLOW SERIES	
HF	1 CARTRIDGE OR MULTIPLE CARTRIDGES

VESSEL ORIENTATION	
H	HORIZONTAL
V	VERTICAL

CARTRIDGE QTY	
1	1
3	3
5	5
7	7
8	8
12	12
15	15
19	19

CARTRIDGE LENGTH	
4	40 in.
6	60 in.

INLET / OUTLET	
3	3 in. ANSI
6	6 in. ANSI
8	8 in. ANSI
10	10 in. ANSI
12	12 in. ANSI
14	14 in. ANSI
16	16 in. ANSI
18	18 in. ANSI

CONNECTION TYPE	
F	150# FLANGE
H	300# FLANGE

FINISH	
OMIT	PAINTED; STANDARD ON CARBON
OMIT	GLASS BEAD BLAST; STANDARD ON STAINLESS STEEL
P*	PASSIVATED

*P valid for stainless design only.

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www.westank.com

4NCF SERIES

WesFlo® 4NCF Series
Multi-Cartridge Filter Vessels
304 Stainless Steel
Non-ASME code design

APPLICATIONS

Water

Potable Water

Process Water

Lubricants

Solvents

Coolants

Edible Oils

Cutting Oils

Coatings

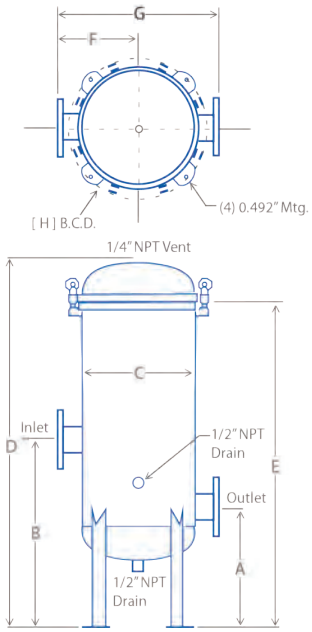
The WesFlo® 4NCF non-code, multi-cartridge filter vessels provide an economically efficient means of filtration for a wide variety of liquid applications. With a lightweight, externally polished stainless steel design, these vessels also include a swing bolt closure and internal positive pressure cartridge alignment and sealing plates.

The 4NCF vessels accommodate double open-end (DOE) and single open-end (SOE) filter cartridges in lengths of 10 in., 20 in., 30 in. or 40 in. These vessels are manufactured from polished and passivated 304 stainless steel and rated for 150 psi (10.3 bar). All hardware is stainless steel for additional corrosion resistance.

BENEFITS

- Non-ASME code design
- Maximum operating pressure is 150 psi at 300°F
- Convertible design allows for use of both double open-end (DOE) and single open-end (SOE) filter cartridges
- Single O-ring seal closure design assures quick, positive cover seal
- Swing bolts with eye nuts for fast, easy access
- Available with NPT or ANSI B16.5 flanged connections
- EPDM seals are offered as standard with other seal materials available
- Standard NPT vents and drains
- Standard stainless steel cartridge support and sealing hardware
- Interior and exterior surfaces are pickled/passivated for enhanced corrosion allowance
- Exterior surfaces are polished for aesthetic purposes
- Designed for minimum pressure drop

4NCF



TYPICAL AQUEOUS FLOW*		
MODEL	CARTRIDGE QTY	CAPACITY (gpm)
4NCF5-1-2	5 x 10"	25
4NCF5-2-2	5 x 20"	50
4NCF5-3-2	5 x 30"	75
4NCF5-4-2	5 x 40"	100
4NCF7-3-2	7 x 30"	105
4NCF7-4-2	7 x 40"	140
4NCF11-3-3F	11 x 30"	165
4NCF11-4-3F	11 x 40"	220
4NCF19-3-4F	19 x 30"	285
4NCF19-4-4F	19 x 40"	380

*Flow based on 5 gpm water per 10 in. length

MATERIAL OF CONSTRUCTION	MAX. ALLOWABLE PRESSURE (MAP)	MAX. ALLOWABLE TEMP. (MAT)
304 SST	150 psi (10.3 bar)	300°F (149°C)

CARTRIDGE CONFIGURATIONS	
222 O-RING SOE	FLAT
	PP SPRING CLOSED END
	FLEX FIN
	FIN
GASKET SOE	PP SPRING CLOSED END
DOE	STANDARD

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)	250°F (121°C)
EPDM (EPR)**	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**EPDM is standard

MODEL	DIMENSIONS (in.)								SHIPPING WEIGHT (lbs)
	A	B	C	D	E	F	G	H	
4NCF5-1-2	9.85	15.75	8.00	29.33	26.00	6.00	12.00	12.40	180
4NCF5-2-2	9.85	19.69	8.00	39.17	35.84	6.00	12.00	12.40	180
4NCF5-3-2	9.85	23.63	8.00	49.00	45.67	6.00	12.00	12.40	200
4NCF5-4-2	9.85	27.56	8.00	59.25	55.91	6.00	12.00	12.40	200
4NCF7-3-2	11.81	27.56	10.00	51.77	47.64	7.00	14.00	14.57	650
4NCF7-4-2	11.81	31.50	10.00	62.00	57.87	7.00	14.00	14.57	670
4NCF11-3-3F	14.17	27.56	12.00	55.71	50.79	9.14	18.27	16.54	720
4NCF11-4-3F	14.17	35.43	12.00	65.16	60.24	9.14	18.27	16.54	740
4NCF19-3-4F	15.75	31.50	15.91	58.47	52.56	11.90	23.79	23.79	700
4NCF19-4-4F	15.75	35.43	15.91	67.52	61.61	11.90	23.79	23.79	1105

ORDERING INFORMATION

4	N	CF			-	

MATERIAL	
4	304 SST

RATING	
N	Non-ASME

SERIES	
CF	CARTRIDGE FILTER

CARTRIDGE QTY.	CARTRIDGE LENGTH			
	10 in.	20 in.	30 in.	40 in.
5	1	2	3	4
7	1	2	3	4
11	-	-	3	4
19	-	-	3	4

INLET / OUTLET	
2	2 in. NPT
2	2 in. NPT
3F	3 in. ANSI
4F	4 in. ANSI

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4NBF SERIES

WesFlo® 4NBF Series Single & Multi-Bag Filter Vessels
304 Stainless Steel
Non-ASME code design

APPLICATIONS

Water

Cutting Oils

Lubricants

Solvents

Process Water

Coolants

Coatings

Potable Water

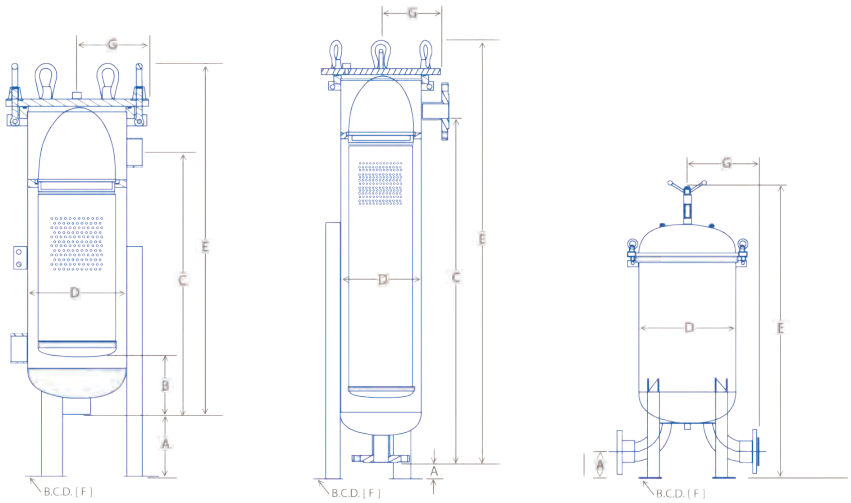
The WesFlo® 4NBF non-code single and multi-bag filter vessels provide an economically efficient means of filtration for a wide variety of liquid applications. With a lightweight, externally polished stainless steel design, these vessels also include a swing bolt (quick opening) closure and an internal positive pressure bag hold down device.

The 4NBF vessels are designed to accommodate common industrial filter bag sizes 1, 2, 3 and 4. These vessels are manufactured from polished and passivated 304 stainless steel and rated for 150 psi (10.3 bar). All hardware is stainless steel for additional corrosion resistance.

BENEFITS

- Non-ASME code design
- Maximum operating pressure is 150 psi at 300°F
- Single O-ring seal closure design assures quick, positive cover seal
- Swing bolts with eye nuts for easy access
- Stainless steel closure hardware
- Available with NPT or ANSI B16.5 flanged connections
- NPT models can be interchanged between a side-in/side-out or side-in/bottom-out configuration
- Standard NPT vents and drains
- EPDM seals are offered as standard with other seal materials available
- Standard stainless steel filter bag support basket
- Interior and exterior surfaces are pickled / passivated for enhanced corrosion allowance
- Exterior surfaces are polished for aesthetic purposes
- Designed for minimum pressure drop

4NBF



MAX DESIGN TEMPS	
304 SST	300°F (150°C)

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)	250°F (121°C)
EPDM (EPR)**	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**EPDM O-ring is standard

MODEL	BAG DIMENSIONS (in.)					VESSEL DIMENSIONS (in.)							
	STYLE	QUANTITY	DIAMETER (in.)	MAXIMUM FLOW (gpm)	CONNECTION SIZE / TYPE	A	B	C	D	E	F	G	SHIPPING WEIGHT (lbs)
ORDERING CONFIGURATIONS (SIZE 1 & 2 BAGS ONLY)													
4NBF11-2	1	1	7	80	2 in. NPT	19*	5.7	22.5	8.6	30.1	12.3	5.65	64
4NBF12-2	2	1	7	160	2 in. NPT	19*	6.3	36.3	8.6	43.9	12.3	5.65	82
4NBF12-2F	2	1	7	160	2 in. FLANGE	19*	N/A	37.8	8.6	45.4	12.3	7.1	82
4NBF12-3F	2	1	7	160	3 in. FLANGE	19*	N/A	37.8	8.6	45.4	12.3	7.1	90
4NBF42-4F	2	4	7	640	4 in. FLANGE	6.0	N/A	N/A	21.9	62.0	27.8	16	419
4NBF62-6F	2	6	7	960	6 in. FLANGE	7.1	N/A	N/A	27.8	70.7	34.0	17.4	660
ORDERING CONFIGURATIONS (SIZE 3 & 4 BAGS ONLY)													
4NBF13-1	3	1	4	15	1 in. NPT	6.0*	5.1	13.5	4.5	20.4	8.8	3.65	24
4NBF14-1	4	1	4	30	1 in. NPT	6.0*	5.1	13.5	4.5	25.9	8.8	3.65	29

* Maximum - adjustable leg fully extended

Materials: 304 SST with EPDM closure o-ring. 150 psi and 300°F rated. Multi-bag vessels standard offering with mechanical lift. Optional vessel and o-ring materials available.

MATERIAL	MAX. ALLOWABLE PRESSURE (MAP)	MAX. ALLOWABLE TEMP. (MAT)
304 SST	150 psi (10.3 bar)	300°F (149°C)

- EPDM O-ring is standard (optional material available)
- Multi-bag vessels come standard with mechanical cover lift
- 316 SST material of construction available upon request

ORDERING INFORMATION

4	N	BF			-	

MATERIAL	
4	304 SST

DESIGN SERIES	
N	Non-ASME

BAG FILTER SERIES	
BF	1 BAG OR MULTIPLE BAGS

BAG QTY	BAG	BAG LENGTH	INLET / OUTLET	
1	1	16.5 in.	2, 2F or 3F	2 in. NPT, 2 in. ANSI or 3 in. ANSI
	2	32 in.	2, 2F or 3F	2 in. NPT, 2 in. ANSI or 3 in. ANSI
	3	8 in.	1	1 in. NPT
	4	14 in.	1	1 in. NPT
4	2	32 in.	4	4 in. NPT
6	2	32 in.	6	6 in. NPT

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GB SERIES

WesFlo® GB Series ASME (U or UM) Multi-round Bag Vessels Accommodate High Flow Rates & High Particulate Retention

APPLICATIONS

Water

Food & Beverage

Oil

Cutting Oils

Lubricants

Chemicals

Solvents

Electronics

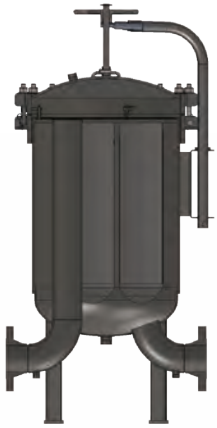
Inks/Paints/Coatings

Pulp & Paper

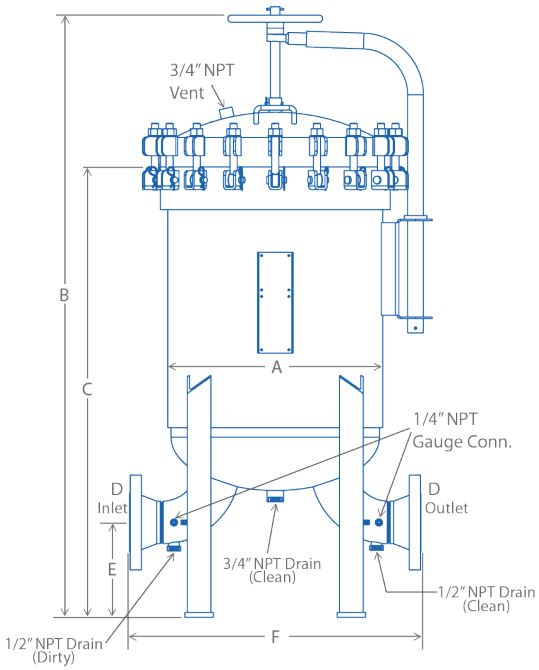
Designed to handle flow rates of up to 4,200 gpm (15,900 lpm), the WesFlo® GB Series bag and strainer filter vessels provide excellent filtration in a wide range of industrial and chemical applications. All aspects of design, materials, construction and workmanship of the GB Vessel Series conform to ASME code. (Also available in non-ASME code design and construction.)

BENEFITS

- Accepts standard #2 size bag filters or mesh-lined baskets
- Built in accordance with ASME (U or UM stamp) Boiler and Pressure vessel code
- Non-code design and construction (parallel code standards)
- Standard design pressure is 150 psi (10.3 bar) or 300 psi (20.7 bar)
- Available in carbon steel, 304 or 316L stainless steel
- Single O-ring seal closure design assures quick, positive cover seal
- Swing bolts with hex nuts for easy closure
- Buna-N standard O-ring with optional Viton®, Neoprene, EPDM and fluoropolymer elastomers available
- O-ring sealed baskets to prevent bypass
- Floating spring loaded bag compression plate seal to prevent bypass
- Bags located near vessel opening for ease of accessibility
- Cover locating pin for quick and accurate cover alignment
- In-line inlet and outlet for uniform piping elevation
- Bottom inlet for even flow distribution
- Stainless steel perforated basket
- Other materials available
- Customizable designs available (per specifications)



GB



GB

MAX DESIGN TEMPS	
CARBON STEEL	500°F (260°C)
304 SST	300°F (150°C)
316 SST	400°F (204°C)
GASKET	250°F (121°C)

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)**	250°F (121°C)
EPDM (EPR)	300°F (149°C)
FKM (VITON®)	400°F (204°C)

**NITRILE O-ring is standard

Note: Wessels also offers non-code cartridge filter vessels. For more information, please refer to the 4NBF datasheet.

MODEL	NO. OF BAGS	MAXIMUM FLOW* (gpm)	DIMENSIONS (in.)						SHIPPING WEIGHT (lbs)
			A	B	C	D (IN/OUT)	E	F	
GB22-4FBBK1	2	400	57.75	40.50	16.50	4	8	27.31	450
GB32-4FBBK1	3	400	60.56	43.38	18.50	4	8	27.50	475
GB42-6FBBK1	4	800	64.94	47.00	22.50	6	10	35	570
GB62-6FBBK1	6	900	65.19	47.50	24.50	6	10	40	600
GB72-8FBBK1	7	1400	70.88	52.50	28.50	8	12	46	760
GB82-8FBBK1	8	1600	71.94	52.63	30.75	8	12	46	850
GB102-8FBBK1	10	1600	72.63	53.00	32.75	8	12	48	1000
GB122-10FBBK1	12	2400	79.25	58.50	36.75	10	14	56	1200
GB162-10FBBK1	16	2450	79.63	58.50	40.88	10	14	60	1650
GB172-12FBBK1	17	3400	85.38	63.63	42.88	12	16	67	2200
GB232-12FBBK1	23	3500	86.44	63.75	49.00	12	16	75	2600
GB302-14FBBK1	30	4300	95.38	70.13	55.00	14	18	85	3400

*Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.
GB10 and larger have closure bolts with hex nuts in lieu of eye nuts.

ORDERING INFORMATION

[ ] [ ] GB [ ] 2 - [ ] F [ ] [ ]

MATERIAL	
OMIT	CARBON STEEL
4	304 SST
6	316 SST

DESIGN SERIES	
OMIT	ASME / 150 psig
H	ASME / 300 psig
N	Non-ASME

BAG FILTER SERIES	
GB	MULTIPLE BAGS (7.06 in. O.D.)

OF COLUMNS
2
3
4
6
7
8
10
12
16
17
23
30

BAG LENGTH	
2	32 in.

INLET / OUTLET	
4	4 in.
6	6 in.
8	8 in.
10	10 in.
12	12 in.
14	14 in.

CONNECTION TYPE	
F	ANSI SORF

INLET/OUTLET CONFIGURATION	
BB	BOTTOM IN/BOTTOM OUT
BS	BOTTOM IN/SIDE OUT
SB	SIDE IN/BOTTOM OUT
SS	SIDE IN/SIDE OUT

COVER LIFT	
K1	MECHANICAL
K2	HYDRAULIC

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101 Tank Street Greenwood, IN 46143
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TC SERIES

WesFlo® TC Series Cartridge Filter Vessel Stainless Steel Non-ASME code design

APPLICATIONS

Solvents

Chemicals

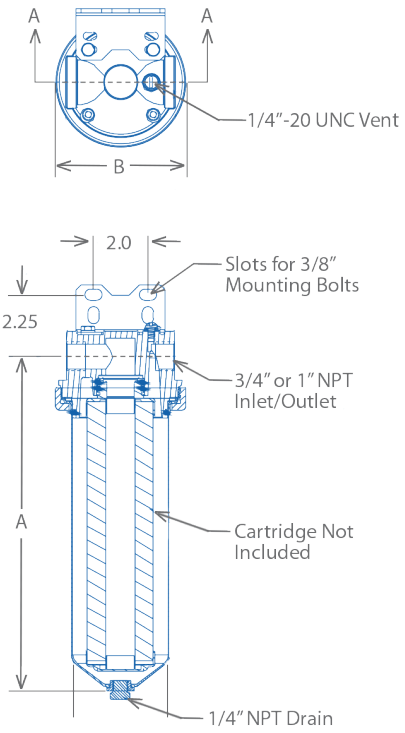
Potable Water

Parts Washer

The models have a 316 stainless steel shell and a four-boss 316 stainless steel head for applications where an all-stainless steel construction is required. The vessels feature a head which accepts SOE TC style filter cartridges and eliminates the possibility of fluid bypass.

BENEFITS

- Vessels are sealed using a ring type thread closure which requires no special tools to change the cartridges (quick cartridge change)
- 222 seal cup for TC and competitive cartridge sealing (M3, Code 3, Code 0)
- Integrally cast holes for easy mounting
- Buna-N standard O-ring with optional Viton®, EPR and silicon available
- Available for use with 10”, 20” and 30” cartridge lengths
- Vessel has no internal parts
- Cartridge seating is positive and can be checked prior to closing
- All components have electropolished finish



TC

CLOSURE O-RING GUIDE	
MATERIAL	MAX TEMP
NITRILE (BUNA-N)**	250°F (121°C)
EPDM (EPR)	300°F (149°C)
FKM (VITON®)	400°F (204°C)
SILICON	400°F (204°C)

**NITRILE O-ring is standard

MODEL	FLOW (gpm)	MAXIMUM PRESSURE (psi)	CARTRIDGE LENGTH (in.)	DIMENSIONS (in.)			SHIPPING WEIGHT (lbs)
				A	B	PIPE SIZE (NPT)	
TC10-075	5	200	10	12.25	3.94	.75	7.8
TC20-075	10	200	20	22.38	3.94	.75	9
TC30-075	15	200	30	32.50	3.94	.75	10.2
TC10-100	5	200	10	12.25	3.94	1	7.8
TC20-100	10	200	20	22.38	3.94	1	9
TC30-100	15	200	30	32.50	3.94	1	10.2

ORDERING INFORMATION

TC [ ] - [ ]

CARTRIDGE SEAL*
222 O-RING/FLAT CAP

CARTRIDGE LENGTH	
10	10 in.
20	20 in.
30	30 in.

FNPT CONNECTION SIZE	
075	3/4 in.
100	1 in.

*Note: Buna-N is standard seal.

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RESIDENTIAL/SMALL COMMERCIAL HYDRONIC SYSTEM FEEDERS

GMP-6/GMP-18 • Residential/Small Commercial Hydronic System Feeders

The Wessels Co. GMP-6 and GMP-18 are economical yet rugged, compact and easy to use fluid feeders for smaller 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, radiant heating or process control system, to insure that minimum system pressure levels are maintained. The optional remote alarm panel kit will provide an audible and visual indication of a system leak.

ADVANTAGES OF USING AUTOMATIC SYSTEM FEEDERS

Prevents Major Floods • In the event of a major system leak, only the contents of the storage tank will be pumped into the system.

No Direct Connection to Potable Water Supply • Eliminates the need for backflow prevention devices.

Provides Leak Detection • Dropping solution level in the storage tank warns of developing system leak.

Treatment Chemicals • Allows mixing of treatment chemicals in make-up water, if desired.

Audible and Visual Alarm • The optional remote alarm kit alerts the user if there is a system leak, allowing quick corrective actions.

FEATURES

- Two sizes: GMP-6, 6.0 USG (22.7 L) and GMP-18, 18 USG (68.1 L)
- 120 Vac/1 ph/60 Hz, standard plug with 6 ft (1.8 m) cord
- Level float switch with piggyback plug
- Rugged self-priming diaphragm pump which can run dry
- Level switch stops the pump if fluid level in the tank is too low
- Easy to adjust PRV to maintain system pressure — up to 60 psig (412.8 kPa)

OPTIONS

- Remote alarm panel kit: low level switch and remote panel with 9 V battery backup
- Float and auxiliary dry contact (NO) for remote low level alarm (alarm panel by others)
- Wall mounting shelf for GMP-6: WMS

TECHNICAL INFORMATION

CAPACITIES
GMP-6: 6.0 USG (22.7 L)
GMP-18: 18 USG (68.1 L)

ELECTRICAL
120 Vac/1 ph/60 Hz plug, 1.0 amp

PUMP
1.6 gpm (1.0 L/s) at free flow

DISCHARGE CONNECTION
3/8" FPT

WEIGHTS
GMP-6: Empty 16 lbs (7.4 kg)/Full 66 lbs (30 kg)
GMP-18: Empty 25 lbs (11.4 kg)/Full 175 lbs (79.5 kg)

TYPICAL SPECIFICATION

The automatic hydronic system feeder shall be a model GMP __. The system shall be compatible with solutions containg up to 50% glycol. The system shall be factory assembled and complete with: a storage tank with a 5 in. (127mm) opening with cover, liquid level gauge, pump suction hose with strainer, pressure pump with check valve, cutout piggybacck level float switch, adjustable PRV for setting of system pressure from 0 to __ psig (0 to __ kPa) and pressure gauge.
The unit shall be warranted for one (1) year.

FOR SYSTEMS WITH REMOTE ALARM PANEL KIT (GMP-__A)

Remote alarm panel kit: The kit shall include a low level float switch and an alarm panel. The float shall be factory installed and include a 10' (3 m) cable for connection to the remote panel. The alarm panel shall include: NEMA 1 indoor enclosure, 6' (1.8 m) power cord with 120 V plug, 12 VAC control circuit with 9 Volt battery back-up (battery not included), power and alarm indicator lights, silence and test buttons. The panel shall include auxiliary alarm contacts (1-NO, 1-NC)

OPTIONS

- Float switch and auxiliary dry contact (NO) for remote low level alarm (Alarm panel by others). (Add suffix R to model number without remote alarm panel kit. Example: GMP-6R).
- Wall mounting shelf for GMP-6: WMS.

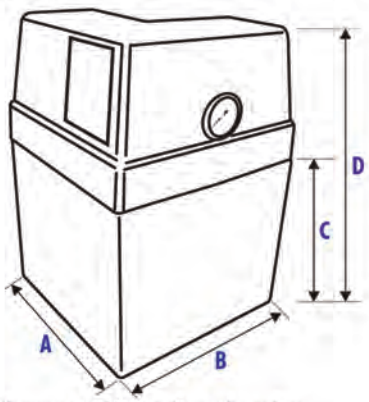
Models & Dimensions

Pressure: 0 - 12 psig (0 - 172 kPa)
GMP-6
GMP-6A (With remote alarm panel kit)
GMP-18
GMP-18A (With remote alarm panel kit)

Pressure: 0 - 60 psig (0 - 412.8 kPa)
GMP-6H
GMP-6HA (With remote alarm panel kit)
GMP-18H
GMP-18HA (With remote alarm panel kit)

All Models	A in (mm)	B in (mm)	C in (mm)	D in (mm)
GMP-6	12 (305)	12 (305)	10 (254)	17.5 (445)
GMP-18	12 (305)	12 (305)	31.75 (807)	39.25 (997)

Consult factory for higher pressure systems



Clearances: 12" (305 mm) on sides and top

SINCE 1908
wessels company

GLYCOL MAKE-UP PACKAGES

MADE WITH PRIDE
USA
IN AMERICA

GMP Systems

The Wessels GMP Glycol/Water Make-up Package is a complete fully automated and autonomous system. Its function is to automatically supply pressurized water or water-glycol mixture to a closed-loop space heating, chilled water, snowmelt, radiant heating, or process control system, to insure that critical minimum system pressure levels are maintained. The basic GMP consists of a solution reservoir and a pump pressurization control station. The premixed fluid stored in the reservoir is manually maintained and isolated from the building's plumbing, ensuring that there is no potential for cross-contamination into the building's potable supply. The pump pressurization control station stores a portion of the fluid under pressure and meters it to the heating or process control system at the precise pressures required.

A low fluid level sensor is utilized to shut down the pump operation and sounds an alarm to the operator to investigate the GMP.

GMP FEATURES

FULLY AUTOMATIC FILL PACKAGES
Maintains water/glycol solution or water solution levels in closed loop heating or cooling systems at optimum design pressures. Pressure is adjustable. Pump only operates to re-pressurize solution contained in the Pressurization Control Station.

PRE-WIRED, PRE-PIPED PACKAGE
Tank, pump, and all controls packaged for easy connection to closed loop systems requiring filling, mixing, and storage of make-up solutions.

PREVENTS MAJOR FLOODS
In the event of a system rupture, only the contents of the storage tank will be pumped into the system.

NO DIRECT CONNECTION TO POTABLE WATER SUPPLY
Eliminates the need for backflow prevention devices.

PROVIDES LEAK DETECTION
Dropping solution level in storage tank warns of developing system leak.

FREEZE LEVEL PROTECTION
Maintains predetermined glycol/water solution mixture to closed loop systems.

TREATMENT CHEMICALS
Allows mixing of treatment chemicals in make-up water, if desired.

EPA PROTECION AND EXCESSIVE PRESSURE CONTROL
Piping relief valve to the solution reservoir eliminates EPA concerns of solution disposal.

SOLUTION RESERVOIR
- Visible solution level with scale
- Hypoallergenic
- Easy access for re-filling

LOW FLUID ALARM
- Safety shut-off shuts system down if solution level gets low
- Notifies operator with audible and visual alams

PRESSURIZATION CONTROL STATION
- Excessive pressure protected by cut-off switch
- Low liquid level audible alarm (can be silenced)
- Low liquid level visible alarm
- Pump protection alarm

PRESSURE REGULATING VALVE
- Maintains optimum system design pressure

STURDY BASE
- Steel construction
- Easy access to components

Single System GMP Units

The single system GMP is designed to automatically service one closed-loop space heating, chilled water, snowmelt, radiant heating, sprinkler, or process control system. This GMP series is available with 50 or 100-gallon reservoir capacities and 1/3 or 1/2 HP pump pressurization control station with magnetic starter. The 1/3 HP station is used for systems requiring up to 50 PSI metering pressure and the 1/2 HP station is used for systems up to 70 PSI.

MODELS

GMP-13050: 1/3 HP Pump with 50-gallon reservoir
GMP-13100: 1/3 HP Pump with 100 gallon reservoir
GMP-15050: 1/2 HP Pump 50 gallon reservoir
GMP-15100: 1/2 HP Pump 100 gallon reservoir

Duplex GMP Units

The Duplex GMPD is designed to automatically service two separate closed-loop space heating, chilled water, snowmelt, radiant heating, sprinkler, or process control systems. This GMPD-series is available with 50 or 100-gallon reservoir capacities and with two (2) 1/3 or (2) 1/2 HP pump pressurization control stations with two (2) magnetic starters. The 1/3 HP stations are used for systems requiring up to 50 PSI metering pressure and 1/2 HP stations is used for systems up to 70 PSI.

MODELS

GMP-23050: (2) 1/3 HP Pump with (1) 50-gallon reservoir
GMP-23100: (2) 1/3 HP Pump with (1) 100 gallon reservoir
GMP-25050: (2) 1/2 HP Pump with (1) 50 gallon reservoir
GMP-25100: (2) 1/2 HP Pump with (1) 100 gallon reservoir

Twin GMP Units

The Twin GMPT is designed to automatically service one closed-loop space heating, chilled water, radiant heating, sprinkler, or process control system. This GMPT series is available with 50 or 100-gallon reservoir capacities and with one (1) pump pressurization control station with two (2) 1/3 or two (2) 1/2 HP pumps. A control panel with alternator and two (2) magnetic starters is used to alternate between the two (2) pumps. The 1/3 HP station is used for systems requiring up to 50 PSI metering pressure and the 1/2 HP station is used for systems up to 70 PSI.

MODELS

GMP-33050: (2) Alternating 1/3 HP Pump with (1) 50-gallon reservoir
GMP-33100: (2) Alternating 1/3 HP Pump with (1) 100 gallon reservoir
GMP-35050: (2) Alternating 1/2 HP Pump with (1) 50 gallon reservoir
GMP-35100: (2) Alternating 1/2 HP Pump with (1) 100 gallon reservoir

Regardless of the application, there is a Wessels make-up package to do the job.

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DIMENSIONAL DATA

Model Number	DIMENSIONS		Pump HP	Pressure Range (psi)	Make-up Capacity (gpm@psi)	Approx. Weight (lbs.)
	Width (in.)	Height (in.)				
GMP GLYCOL/WATER MAKE-UP SYSTEMS						
GMP-13050	28	42	1/3	10-70	1.8@70	90
GMP-13100	28	67	1/3	10-70	1.8@70	105
GMP-15050	28	42	1/2	10-70	1.8@70	95
GMP-15100	28	67	1/2	10-70	1.8@70	110
DUPLEX GMP GLYCOL/WATER MAKE-UP SYSTEMS						
GMPD-23050	28	55	1/3	10-70	1.8@70	153
GMPD-23100	28	78	1/3	10-70	1.8@70	166
GMPD-25050	28	55	1/2	10-70	1.8@70	153
GMPD-25100	28	78	1/2	10-70	1.8@70	166
TWIN GMP GLYCOL/WATER MAKE-UP SYSTEMS						
GMPT-33050	28	55	1/3	10-70	1.8@70	153
GMPT-33100	28	78	1/3	10-70	1.8@70	166
GMPT-35050	28	55	1/2	10-70	1.8@70	153
GMPT-35100	28	78	1/2	10-70	1.8@70	166

TYPICAL SPECIFICATION

• The contractor shall supply and install, as indicated on the plans and in the specifications, a prefabricated, automatic and autonomous make-up package for each glycol system.

• The package shall be designed to occupy a minimum amount of floor space to operate on a 110V motor, 60 Hz electrical circuit, and to maintain a fill pressure in the glycol system of _____psi. The pumping assembly shall be mounted on a sturdy steel frame with legs to keep it off the floor.

• It shall include a _____(US GMP) at _____(psi) pump a 1/2 or 1/3 HP motor, a magnetic starter, a pressure tank with pressure control, a priming valve, a shut-off valve and a pressure gauge. It shall be connected to the system with a 1/2" NPT connection. It shall feature a cut-off and alarm arrangement which will stop the pump in case of excessive presure or low suction level and activate an audible (which can be silenced) and a visual alarm. A 110V dry contact shall also be available for a remote alarm.

• A translucent polyethylene (50) or (100) gallon solution resevoir complete with lid shall be mounted on the pumping assembly and shall include a strainer and a shut-off valve. A _____ in. NPT glycol solution recovery line shall be piped in from the system relief valve outlet to the solution container through its lid in such a way that the lid can be removed for filing and mixing.

• The make-up package shall be Wessels model GMP-_____ with discharge pressure factory preset at 12 psi and field adjustable as sold by _____.

For Duplex GMP Systems replace paragraph 3 with:

• The system shall consist of two independent pressurization modules for two glycol/water applications. Each module shall include a _____(US GMP) at _____(psi) pump a 1/2 or 1/3 HP motor, a magnetic starter, a pressure tank with pressure control, a priming valve, a shut-off valve and a pressure gauge. It shall be connected to the system with a 1.2" NPT connection. It shall feature a cut-off and alarm arrangement which will stop the pump in case of excessive presure or low suction level and activate an audible (which can be silenced) and a visual alarm. A 110V dry contact shall also be available for a remote alarm.

For TwinGMP Systems replace paragraph 3 with:

• It shall include two _____(US GMP) at _____(psi) pump a 1/2 or 1/3 HP motor, a magnetic starter, a pressure tank with pressure control, a priming valve, a shut-off valve and a pressure gauge. It shall be connected to the system with a 1/2" NPT connection. It shall feature a control panel equipped with H-O-A switches for each pump starter and a fail safe alternator that allows one pump to operate if the other pump malfunctions. It shall feature a cut-off and alarm arrangement which will stop the pump in case of excessive presure or low suction level and activate an audible (which can be silenced) and a visual alarm. A 110V dry contact shall also be available for a remote alarm.

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WESS-VENT

AIR & DIRT SEPARATORS

SINCE 1908
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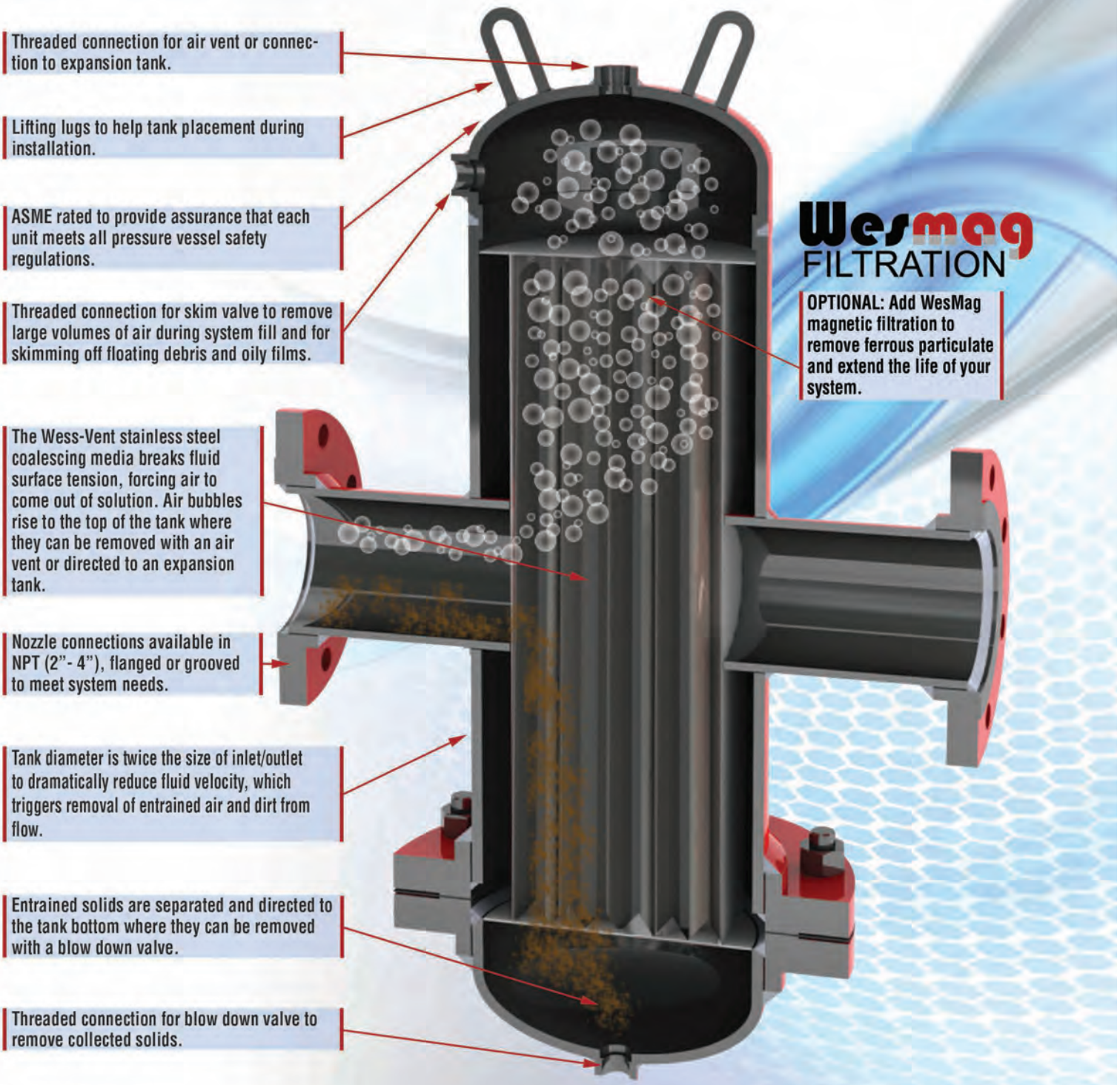
Model WVA

WESS-VENT AIR & DIRT SEPARATOR

Wessels WVA Air & Dirt Separators are designed to eliminate entrained air and separate debris associated with start-up and continuous operation of any hydronic system. The design incorporates a removable end cover for access to the coalescing media, a skim valve (optional) used to eliminate floating debris, and an air vent (optional) to automatically release air from the separator. The design and construction is manufactured to conform to ASME Section VIII, Div 1. Non-ASME also available.



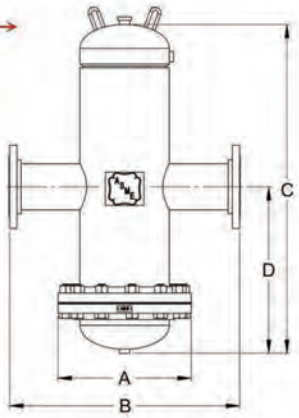
STANDARD: Carbon Steel | Coalescing Media: Stainless Steel | Maximum Design Temperature: 250°F | Maximum Design Pressure: 150 PSIG

OPTIONAL: Stainless Steel | Coalescing Media: Copper Mesh | **Blow Down Valve:** Bronze | **Skim Valve:** Bronze | **Air Vent:** Cast Iron | **Wesmag:** Filtration

Choose High Velocity (WVA-HV) for Optimum Performance

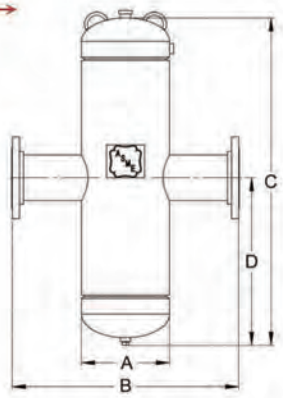
Air and Dirt Separator (WVA)

				Standard Velocity (WVA)			High Velocity (WVA-HV)		
MODEL	FLANGE SIZE	A (in.)	B (in.)	C (in.)	D (in.)	FLOW GPM	C (in.)	D (in.)	FLOW GPM
WVA-2	2	9	15-1/4	23	11-1/2	69	33	16-1/2	105
WVA-2-NPT	2	9	9	23	11-1/2	69	33	16-1/2	105
WVA-2.5	2.5	10	15-3/4	23	11-1/2	108	33	16-1/2	155
WVA-2.5-NPT	2.5	10	10-1/2	23	11-1/2	108	33	16-1/2	155
WVA-3	3	11	20-1/4	29	14-1/2	144	42	21	225
WVA-3-NPT	3	11	12-3/4	29	14-1/2	144	42	21	225
WVA-4	4	13-1/2	20-5/8	29	14-1/2	255	42	21	405
WVA-5	5	16	4	39	19-1/2	398	59	29-1/2	630
WVA-6	6	19	27-3/4	39	19-1/2	570	59	29-1/2	910
WVA-8	8	23-1/2	33-5/8	49	24-1/2	945	75	37-1/2	1610
WVA-10	10	27-1/2	37-1/2	65	32-1/2	1440	92	46	2450
WVA-12	12	32	42-1/2	76	38	2100	110	55	3500



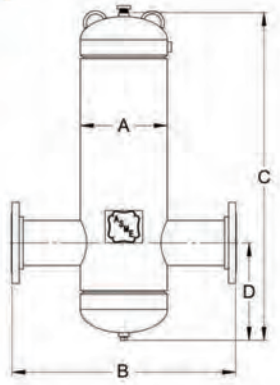
Non-Removable (WVAN)

				Standard Velocity (WVA-N)			High Velocity (WVA-N-HV)		
MODEL	FLANGE SIZE	A (in.)	B (in.)	C (in.)	D (in.)	FLOW GPM	C (in.)	D (in.)	FLOW GMP
WVAN-2	2	4-1/2	15-1/4	23	11-1/2	69	33	16-1/2	105
WVAN-2-NPT	2	4-1/2	9	23	11-1/2	69	33	16-1/2	105
WVAN-2.5	2.5	5-1/2	15-3/4	23	11-1/2	108	33	16-1/2	155
WVAN-2.5-NPT	2.5	5-1/2	10-1/2	23	11-1/2	108	33	16-1/2	155
WVAN-3	3	6-1/2	20-1/4	29	14-1/2	144	42	21	225
WVAN-3-NPT	3	6-1/2	12-3/4	29	14-1/2	144	42	21	225
WVAN-4	4	8-1/2	20-5/8	29	14-1/2	255	42	21	405
WVAN-5	5	10	27-3/4	39	19-1/2	398	59	29-1/2	630
WVAN-6	6	12	27-3/4	39	19-1/2	570	59	29-1/2	910
WVAN-8	8	16	33-5/8	49	24-1/2	945	75	37-1/2	1610
WVAN-10	10	20	37-1/2	65	32-1/2	1440	92	46	2450
WVAN-12	12	24	42-1/2	76	38	2100	110	55	3500



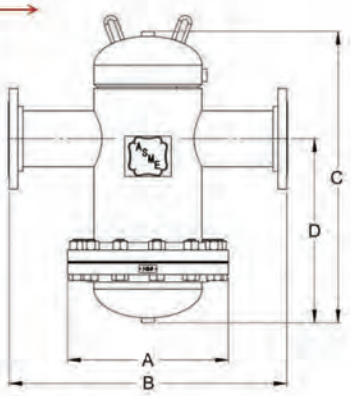
Air Separator (WVAA)

				Standard Velocity (WVAA)			High Velocity (WVAA-HV)		
MODEL	FLANGE SIZE	A (in.)	B (in.)	C (in.)	D (in.)	FLOW GPM	C (in.)	D (in.)	FLOW GMP
WVAA-2	2	4-1/2	15-1/4	18-1/2	7	69	23	6-1/2	105
WVAA-2-NPT	2	4-1/2	9	18-1/2	7	69	23	6-1/2	105
WVAA-2.5	2.5	5-1/2	15-3/4	18-1/2	7	108	23	6-1/2	155
WVAA-2.5-NPT	2.5	5-1/2	10-1/2	18-1/2	7	108	23	6-1/2	155
WVAA-3	3	6-1/2	20-1/4	23	8-1/2	144	30	9	225
WVAA-3-NPT	3	6-1/2	12-3/4	23	8-1/2	144	30	9	225
WVAA-4	4	8-1/2	20-5/8	23	8-1/2	255	30	9	405
WVAA-5	5	10	27-3/4	31	11-1/2	398	41	11-1/2	630
WVAA-6	6	12	27-3/4	31	11-1/2	570	41	11-1/2	910
WVAA-8	8	16	33-5/8	36	11-1/2	945	49	11-1/2	1610
WVAA-10	10	20	37-1/2	46	13-1/2	1440	60	14	2450
WVAA-12	12	24	42-1/2	54	16	2100	71	16	3500

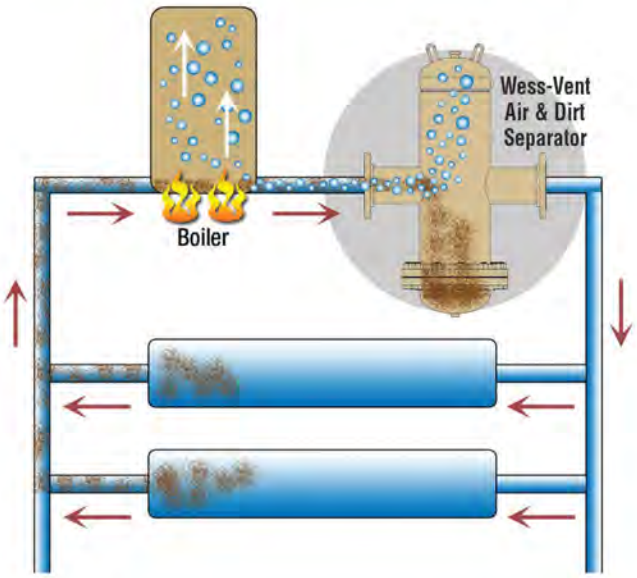


Dirt Separator (WVAD)

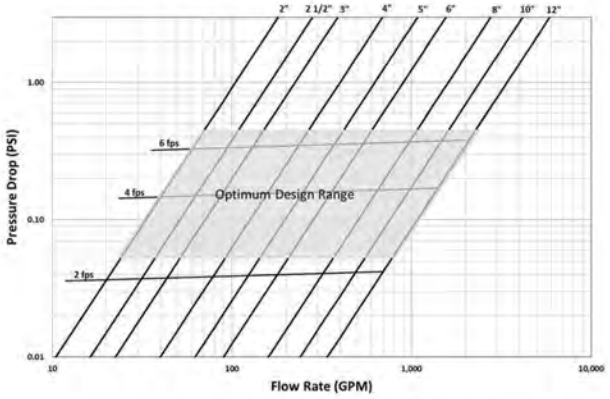
				Standard Velocity (WVAD)			High Velocity (WVAD-HV)		
MODEL	FLANGE SIZE	A (in.)	B (in.)	C (in.)	D (in.)	FLOW GPM	C (in.)	D (in.)	FLOW GMP
WVAD-2	2	9	15-1/4	18-1/2	11-1/2	69	23	16-1/2	105
WVAD-2-NPT	2	9	9	18-1/2	11-1/2	69	23	16-1/2	105
WVAD-2.5	2.5	1	15-3/4	18-1/2	11-1/2	108	23	16-1/2	155
WVAD-2.5-NPT	2.5	1	10-1/2	18-1/2	11-1/2	108	23	16-1/2	155
WVAD-3	3	11	20-1/4	23	14-1/2	144	30	21	225
WVAD-3-NPT	3	11	12-3/4	23	14-1/2	144	30	21	225
WVAD-4	4	13-1/2	20-5/8	23	14-1/2	255	30	21	405
WVAD-5	5	16	27-3/4	31	19-1/2	398	41	29-1/2	630
WVAD-6	6	19	27-3/4	31	19-1/2	570	41	29-1/2	910
WVAD-8	8	23-1/2	33-5/8	36	24-1/2	945	49	37-1/2	1610
WVAD-10	10	27-1/2	37-1/2	46	32-1/2	1440	60	46	2450
WVAD-12	12	32	42-1/2	54	38	2100	71	55	3500



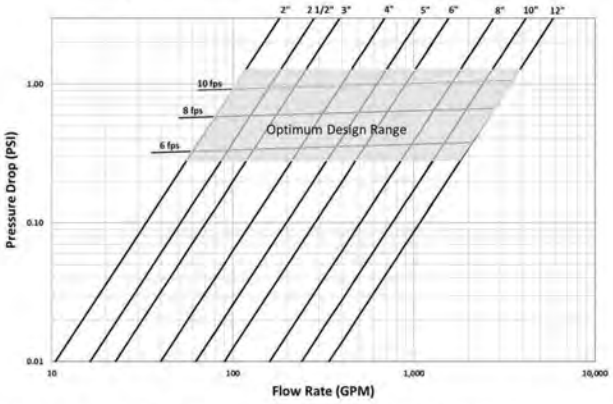
PREMIUM PERFORMANCE



WESS-VENT AIR & DIRT SEPARATOR
Performance Data for Standard Units



Performance Data for High Velocity Units



AIR REMOVAL

Independent third party laboratory testing has concluded that Wessels WVA Air & Dirt separator will eliminate air to a level of greater than 99.5%. This testing was accomplished with measurements of dissolved oxygen and observation of bubbles over time. Results concluded that within 45 minutes, 50% of the dissolved oxygen was removed. With sufficient time (less than two hours), the dissolved oxygen level was reduced to less than 0.05%.

DIRT REMOVAL

Dirt flowing with the system water is diverted to the WVA Air & Dirt Separator. As this flow enters the unit, dirt particle removal (dependent on system cycles) is measured according to particle size. Results from testing are revealed in Charts A and B below. From Chart A. 91% of dirt (in the 10 to 75 micron size) is separated and diverted to the bottom of the Wess-Vent. With continual system cycling, dirt removal will approach 99%. Chart B reveals the particle size removal percentage in 24 hours of operation. For example, more than 97% of particles in the 10 to 75 micron size range were separated within 24 hours.

Chart A • Solids Removal
(15 to 75 micron particle mix)

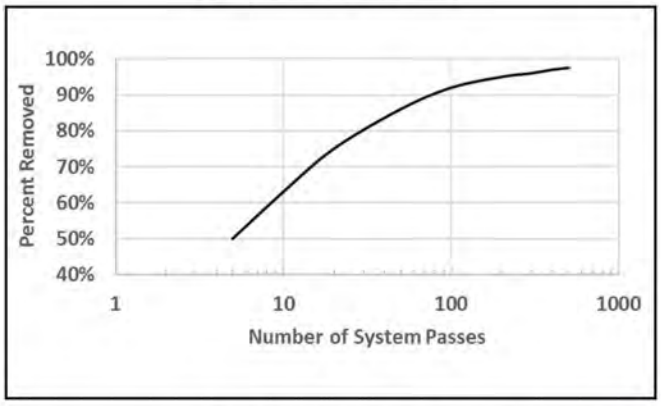
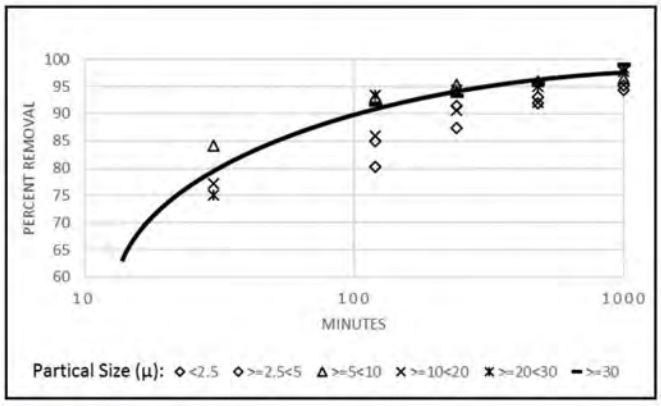


Chart B • Solids Removal



**Performance verified by independent third party. Please contact for more information.*

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PSA - PRIMARY/SECONDARY HEADER

Hydraulic Separation Solutions

MADE WITH PRIDE
USA
IN AMERICA

MODELS
PSA & PSAV

Primary/Secondary Header

Wessels Primary / Secondary Headers are used in heating and cooling systems that require the primary and secondary loop of their system to be interlocked. The PSA is designed to keep both connected hydraulic circuits completely independent from one another and to provide a means for system air elimination. The PSAV builds on that functionality with the inclusion of Internal coalescence coils in the tank that eliminate entrained air and separate debris associated with start-up and maintenance of the system. As a result, the PSAV replaces the need for an air/dirt separator.

- **Separates Primary and Secondary loop hydraulically**
- **Removes air from system**
- **Separates and collects sediments**
- **Easy installation**
- **Add WesMag magnetic filtration to remove ferrous particulate and extend the life of your system**

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Wesmag FILTRATION

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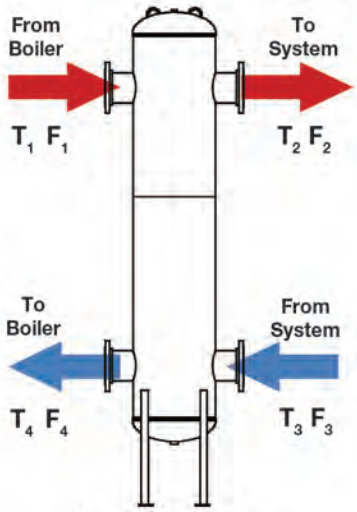
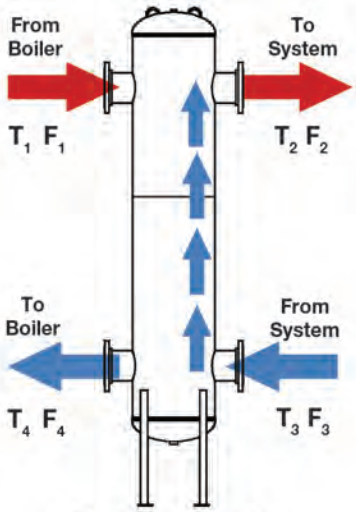
How it Works • 3 Possible Flow Paths



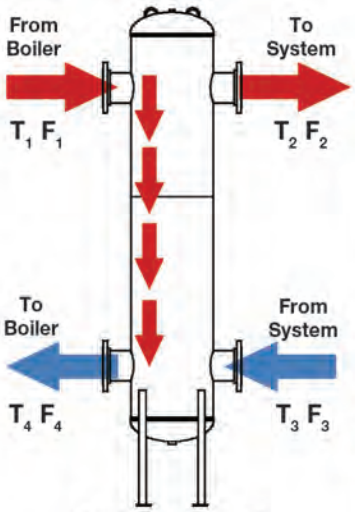
$T_1=T_2$ $F_1=F_4$
$T_3=T_4$ $F_2=F_3$

Equal Flow: Temperature (T) from boiler and distribution system is equal and flow (F) is balanced with minimal mixing in the center PSA body.



$T_1>T_2$ $F_1=F_4$
$T_3=T_4$ $F_2=F_3$

Greater Secondary Flow: System demand is greater than boiler output, which results in mixing in the center PSA body and decreased temperature of water delivered to system (T2).



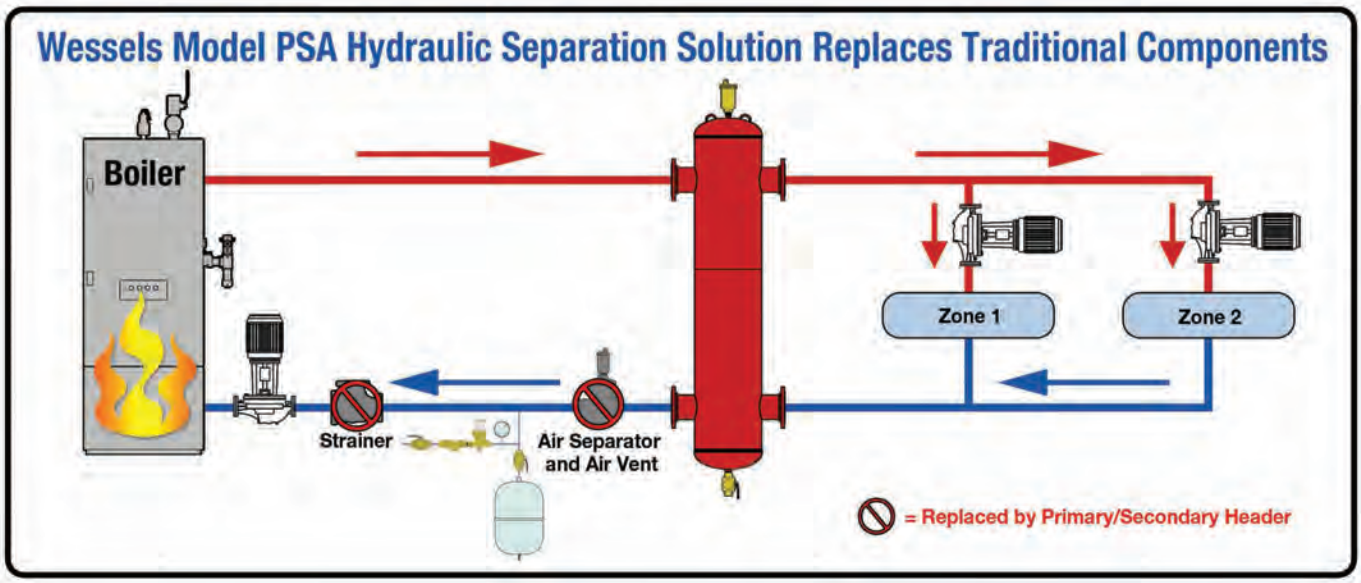
$T_1=T_2$ $F_1=F_4$
$T_3<T_4$ $F_2=F_3$

Greater Primary Flow: System demand is less than boiler output, which results in mixing in the center PSA body and increased temperature of water returned to boiler (T4).

FORMULAS TO DETERMINE TEMPERATURE

$$T_2 = \left(\frac{(F_3-F_1)T_3 + (F_1)T_1}{F_3} \right)$$

$$T_4 = \left(\frac{(F_1-F_2)T_1 + (F_3)T_3}{F_1} \right)$$



PSA PRIMARY/SECONDARY HEADER

WITH INTERNAL BAFFLE – 150 PSI

Model	Part No.	Conn.	Dia.	Height	Width	Flow (GPM)	Wt. (Lbs.)
PSA-2	71002020	2	6 5/8	34 1/4	14 3/4	65	90
PSA-2.5	71002025	2.5	6 5/8	39 1/4	14 3/4	68	115
PSA-3	71002030	3	10 3/4	49 1/2	18 3/4	175	225
PSA-4	71002040	4	10 3/4	70 1/4	22 3/4	180	330
PSA-5	71002050	5	14	80 1/2	26	300	215
PSA-6	71002060	6	18	93 3/4	30	500	320
PSA-8	71002080	8	24	122 3/4	36	900	575
PSA-10	71002100	10	30	149 1/4	42	1420	935
PSA-12	71002120	12	30	179 1/2	42	1425	1165
PSA-14	71002140	14	42	199.25	54	1650	2430
PSA-16	71002160	16	48	224.25	60	2200	3260

Materials = Steel Shell; Coalescing Medium = Stainless Steel; Maximum Pressure = 150 psig; Maximum Temperature = 450°F; Finish = Primer Painted Exterior
Legs come standard with 6" connection models and above.

PSAV PRIMARY/SECONDARY HEADER • WessVent

WITH AIR/DIRT SEPARATION – 150 PSI

Model	Part No.	Conn.	Dia.	Height	Width	Flow (GPM)	Wt. (Lbs.)
PSAV-2	71102020	2	6 5/8	34 1/4	14 3/4	65	120
PSAV-2.5	71102025	2.5	6 5/8	39 1/4	14 3/4	68	145
PSAV-3	71102030	3	10 3/4	49 1/2	18 3/4	175	270
PSAV-4	71102040	4	10 3/4	70 1/4	22 3/4	180	380
PSAV-5	71102050	5	14	80 1/2	26	300	280
PSAV-6	71102060	6	18	93 3/4	30	500	375
PSAV-8	71102080	8	24	122 3/4	36	900	635
PSAV-10	71102100	10	30	149 1/4	42	1420	995
PSAV-12	71102120	12	30	179 1/2	42	1425	1250
PSAV-14	71102140	14	42	199.25	54	1650	2480
PSAV-16	71102160	16	48	224.25	60	2200	3310

Materials = Steel Shell; Coalescing Medium = Stainless Steel; Maximum Pressure = 150 psig; Maximum Temperature = 450°F; Finish = Primer Painted Exterior
Legs come standard with 6" connection models and above.

ASME SETTING THE STANDARD

Model PSA and PSAV comes ASME certified, meeting rigorous standards of construction and insurance compliance. Non-ASME also available (Models PSN and PSNV).

OTHER PRODUCTS BY wessels company

Thermal Expansion Vessels

- Fixed Diaphragm Tanks
- Replaceable Bladder Tanks
- ASME and Non-ASME in stock

Wess-Vent Air & Dirt Separators

- Coalescing Media Separators
- Up to 36" available
- ASME standard in stock

Hydro-Pneumatic Vessels

- Fixed Diaphragm Tanks
- Replaceable Bladder Tanks
- ASME and Non-ASME in stock

Air Elimination Equipment

- Tangential Air Separators
- Inline Air Purgers
- In stock

Severe Service Products

- All models available in stainless steel
- Purgers
- Air Purgers
- Air Separators
- Compression Tanks
- Replaceable Bladder Tanks
- Epoxy-lined designs available

Hydronic Accessories

- Chilled Water Buffer Tanks
- Primary/Secondary Headers
- Chemical Pot Feeder Tanks
- Flash Tanks
- Blowdown Tanks

Custom Vessels

- Stainless Steel Tanks
- Glass-lined
- Epoxy-lined
- Cement-Lined
- Rubber-lined
- Galvanized
- Insulated
- Up to 25,000 gallons

Storage Tanks

- Insulated and Jacketed Tanks
- Glass-Lined, Epoxy-Lined, and Non-Jacketed Tanks
- ASME in stock

Shock & Surge Vessels

- ASME Shock & Surge Tanks
- Fire protection an municipal engineered vessels
- Bladder and Epoxy-lined designs available

Glycol Make-Up Packages

- Glymatic Package
- Glycol Make-Up Package
- In stock

Hydronic Expansion Vessels

- Fixed Diaphragm Tanks
- Replaceable Bladder Tanks
- Compression Tanks
- ASME and Non-ASME in stock

WESSELS CONDENSATE NEUTRALIZER

SINCE 1908
wessels company

Model WCN

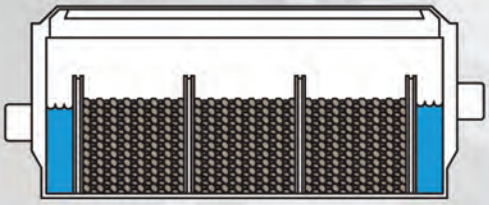
WESSELS CONDENSATE NEUTRALIZER

QUALITY • INNOVATION • RELIABILITY

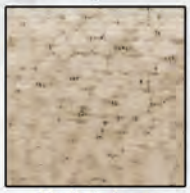
HOW THE NEUTRALIZER WORKS

The Wessels Neutralizer is an amazing innovation in the field of acidic condensate neutralization for HVAC systems. The unit is divided into three sections with easy-to-replace bags of neutralizing media in each chamber. The media bags feature convenient expiration labels so you can track their performance and replace only when necessary.

Use only what you need! The Wessels Neutralizer's patented 3-chamber design means you can place one, two, or three media bags in the unit depending on the volume of condensate that needs to be treated.



Model WCN Box (6.3 GPH / 24 LPH) shown.



Media in bags

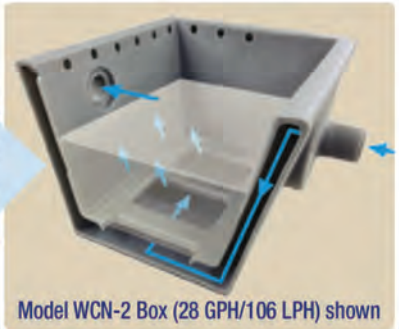
FEATURES

- No by-pass necessary
- No messy media replacement
- No disconnection needed to replace media
- The only condensate neutralizer that can be hard piped
- Date-tracking labels on conveniently bagged media

Model	Length		Width		Height		Inlet/	SIZING								Unit Max
	in	cm	in	cm	in	cm	Outlet	1 SECTION TREATS				2 SECTIONS TREAT				3 SECTIONS TREAT				Condensate
								MBH	kWh	gal/h	L/h	MBH	kWh	gal/h	L/h	MBH	kWh	gal/h	L/h	Flow Rate
WCN	12	30.5	4 3/4	12	5 1/2	14	1/2" NPT	525	154	2.1	8	1050	308	4.2	16	1575	461	6.3	24	6.3 GPH (24 LPH)
								1 UNIT TREATS				2 UNITS TREAT				3 UNITS TREAT				
WCN-2	16 1/4	41 1/4	10 1/2	26 5/8	7 1/2	19	1" NPT	3500	1025	28	106	7000	2050	56	212	10500	3075	84	318	84 GPH (318 LPH)

WCN: The outlet (right side) is 3 in. | The inlet (left side) 2-3/8 in.
WCN-2: Units can be combined with connectors.

Boost Your Capacity
Choose the WCN-2 for maximum treatment capacity thanks to its modular design.



Model WCN-2 Box (28 GPH/106 LPH) shown

SINCE 1908 wessels company
HEADQUARTERS 101 Tank Street, Greenwood, IN 46143
TELEPHONE 317-888-9800 FAX 317-888-9988
WEBSITE www.wesselscompany.com

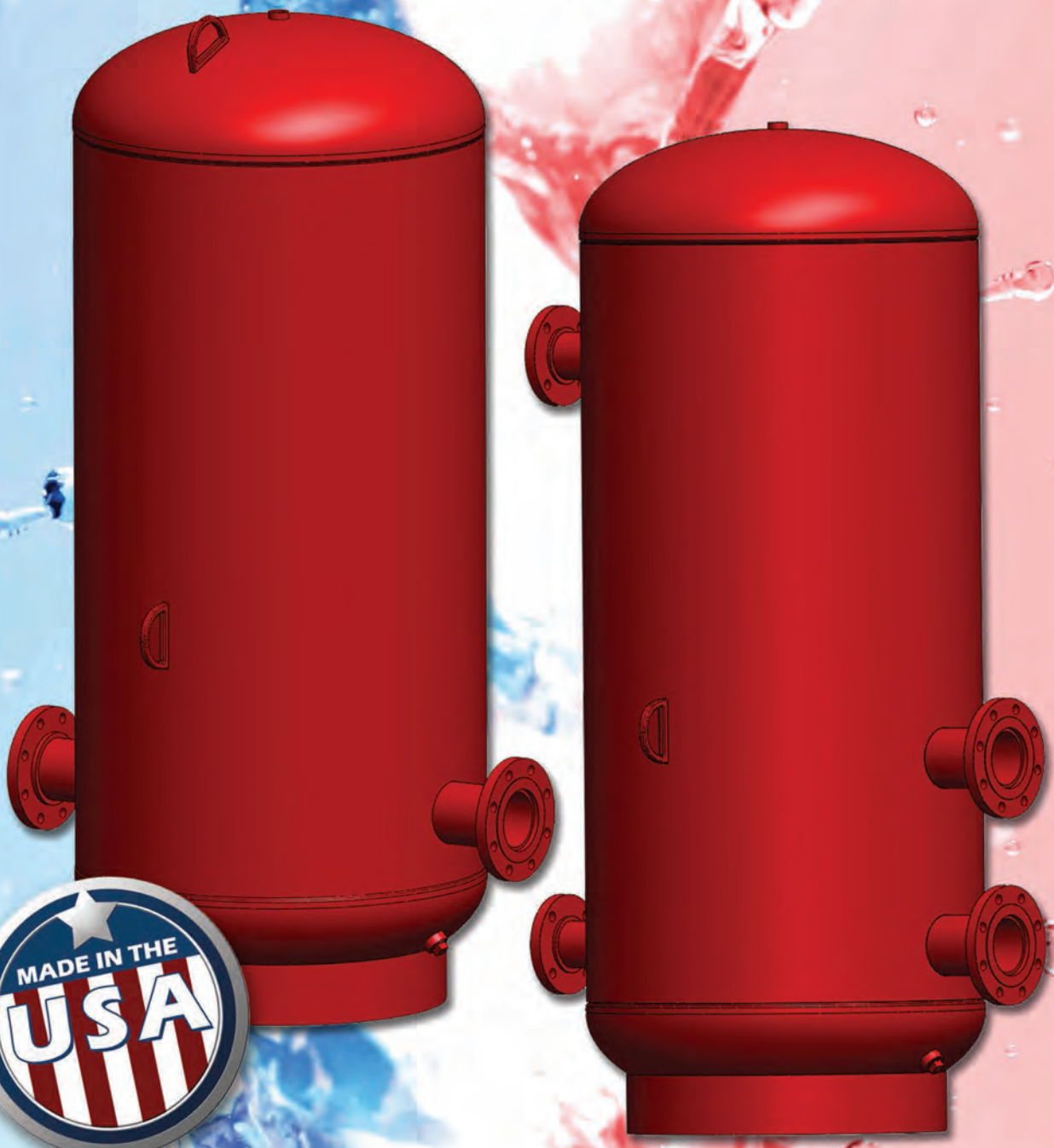
Model WCN

SINCE 1908

wessels company

BUFFER TANKS

For Chilled & Hot Water Applications



MADE IN THE USA

Models CBT & HBT

CBT
CHILLED WATER BUFFER TANK

Wessels ASME Chilled Water Buffer Tanks (CBT) are designed for use in chilled water systems with insufficient water volume capacity, in relation to the chiller capacity. CBT-Series buffer tanks effectively increase system volume and reduce the rate of temperature change (ΔT) in the return water, resulting in improved temperature control, consistent system operation, and controlled compressor cycling.

STANDARD FEATURES

- ASME Rated (125 PSI @ 450°F)
- Integral Ring Stand for Vertical Installation
- Top Air Vent Connection
- Internal Baffle

OPTIONAL FEATURES

- ½" Elastomeric Insulation
- Weather Resistant Coating

QUICK SIZING

To properly size a chilled water buffer tank, three critical pieces of information are required:

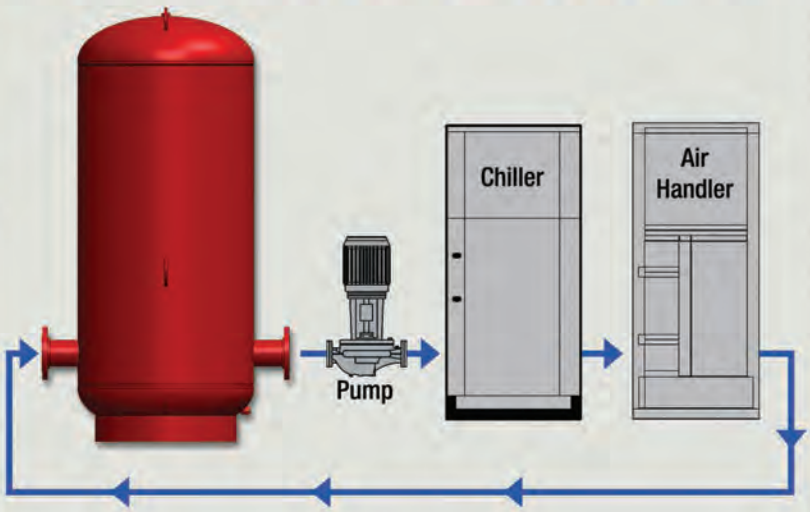
- **Total Chiller Capacity (Tons)**
- **Chiller Manufactuer's Recommended System Volume***
- **Actual System Volume (in gallons)**

Total Chiller Capacity		Manufacturer's recommended system volume per ton		Critical System Volume
	x		=	
Tons		Gal./Ton		Gallons

Critical System Volume		Actual System Volume		Total Buffer Tank Size
	-		=	
Gallons		Gallons		Gallons

**Chiller manufacturers recommend between 3 to 6 gallons per ton for typical HVAC and 6 to 10 gallons per ton for nominal cooling when temperature accuracy is critical.*

HOW IT FITS IN THE SYSTEM



Model	Part No.	Gal.	Dia.	Ht.	Max. Ship Wt.
CBT-120	55240120	120	24	60	425
CBT-200	55300200	200	30	72	597
CBT-300	55360300	300	36	72	793
CBT-500	55420500	500	42	90	1391
CBT-850	55540850	850	54	96	2718
CBT-1040	55601040	1040	60	96	3873

Available with 1" to 2- 1/2" NPT Connections.
1" to 20" flange connections also available.
Materials: Carbon Steel
Maximum Pressure: 125 PSIG; Maximum Temperature: 450°F
Finish: Red Oxide Primer
Auxiliary Connections: ¾" NPT Top Vent; 1" NPT Bottom Drain
Consult factory for higher working pressures and larger system connections.

HBT
HOT WATER BUFFER TANK

Wessels ASME Hot Water Buffer Tanks (HBT) are designed for use with today's high efficiency systems that incorporate small, modular low-mass boilers. A properly sized Wessels Hot Water Buffer Tank adds necessary thermal mass to the system to dampen fast transitions and minimize boiler cycling that occurs during zero or low domestic load conditions.

STANDARD FEATURES

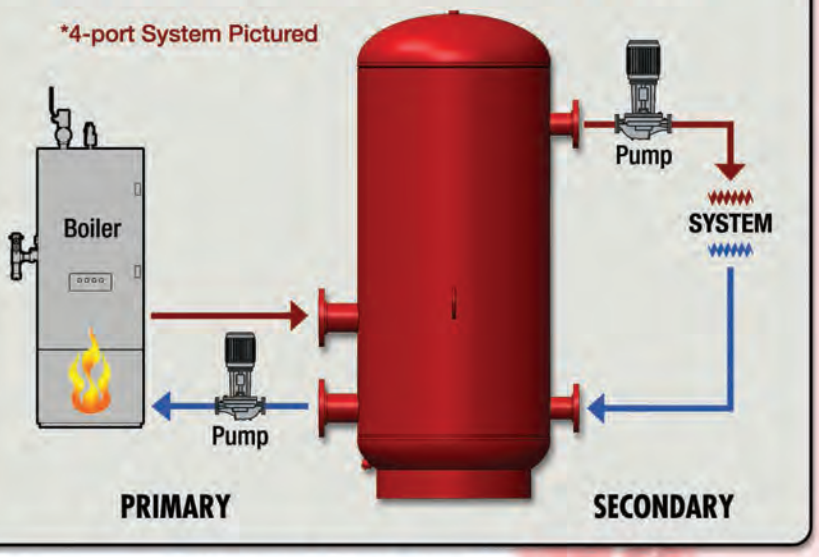
- ASME Rated (125 PSI @ 450°F)
- Integral Ring Stand for Vertical Installation
- Top Air Vent Connection

OPTIONAL FEATURES

- ½" Elastomeric Insulation
- Weather Resistant Coating

HOW IT FITS IN THE SYSTEM*

*4-port System Pictured



HOT WATER BUFFER TANKS – 2 PORTS

Model	Part No.	Gal.	Dia.	Ht.	Max. Ship Wt.
HBT-120	55621200	120	24	60	248
HBT-210	55622100	210	30	75	459
HBT-300	55623000	300	36	72	781

Available with 1" to 2- 1/2" NPT Connections.
1" to 20" flange connections also available.
Materials: Carbon Steel
Maximum Pressure: 125 PSIG; Maximum Temperature: 450°F
Finish: Red Oxide Primer
Auxiliary Connections: ¾" NPT Top Vent; 1" NPT Bottom Drain
Consult factory for higher working pressures and larger system connections.

See back page for information about Wessels 4-Port Hot Water Buffer Tanks

QUICK SIZING

To properly size a hot water buffer tank, four critical pieces of information are required:

- **Minimum Boiler Output (in BTU/hr)**
- **Minimum Rate of Heat Extraction from tank (LOAD in BTU/hr)**
- **Temperature Differential**
- **Boiler Cycle Time**

$$\frac{\text{Manufacturer's recommended minimum boiler cycle time* (Minutes)} \times (\text{Minimum Boiler Output (BTU/Hr.)} - \text{Minimum System Load** (BTU/Hr.)})}{\text{Temperature differential within tank*** (°F)} \times 500} = \text{Total Buffer Tank Size (Gallons)}$$

*Typically 1-5 Minute range
**Assume to be 0 if no system load or if rate is unknown
***Temperature dfferential can range between 5 to 25°F, 10°F is typical

HOT WATER BUFFER TANKS – 4 PORTS

MODEL	PART NO.	GAL.	DIA.	HT.	CONNECTION SIZES PRIMARY	CONNECTION SIZES SECONDARY	SHIP WT.
HBT-120-22	55641222	120	24	60			206
HBT-210-22	55642122	210	30	75	2" NPT	2" NPT	408
HBT-300-22	55643022	300	36	72			739
HBT-120-23	55641223	120	24	60			228
HBT-210-23	55642123	210	30	75	2" NPT	3" FLG	426
HBT-300-23	55643023	300	36	72			759
HBT-120-24	55641224	120	24	60			235
HBT-210-24	55642124	210	30	75	2" NPT	4" FLG	435
HBT-300-24	55643024	300	36	72			768
HBT-120-26	55641226	120	24	60			254
HBT-210-26	55642126	210	30	75	2" NPT	6" FLG	454
HBT-300-26	55643026	300	36	72			787
HBT-120-34	55641234	120	24	60			255
HBT-210-34	55642134	210	30	75	3" FLG	4" FLG	455
HBT-300-34	55643034	300	36	72			788
HBT-120-36	55641236	120	24	60			274
HBT-210-36	55642136	210	30	75	3" FLG	6" FLG	574
HBT-300-36	55643036	300	36	72			807
HBT-120-33	55641233	120	24	60			246
HBT-210-33	55642133	210	30	75	3" FLG	3" FLG	546
HBT-300-33	55643033	300	36	72			779
HBT-120-44	55641244	120	24	60			264
HBT-210-44	55642144	210	30	75	4" FLG	4" FLG	546
HBT-300-44	55643044	300	36	72			797
HBT-120-46	55641246	120	24	60			283
HBT-210-46	55642146	210	30	75	4" FLG	6" FLG	583
HBT-300-46	55643046	300	36	72			816

Available With 1" to 2-1/2" NPT System Connections.
1" to 20" flange connections also available.
Materials: Steel
Maximum Pressure: 125 PSIG; Maximum Temperature: 450°F
Finish: Red Oxide Primer
Auxiliary Connections: ¾" NPT Top Vent Connection; 1" NPT Bottom Drain
Consult factory for higher working pressures and larger system connections.

OTHER PRODUCTS BY wessels company

SINCE 1908

Typhoon Solid from Liquid Cartridge Filter System

- Remove solids from liquids
- Revolutionary filter performance
- Stainless Steel

Centrifugal Solids Seperator

- In-line or slip-stream low flow filtration
- Achieves the removal of 50 micron
- Carbon Steel

Hydronic Expansion Vessels

- Fixed Diaphragm Tanks
- Replaceable Bladder Tanks
- Compression Tanks
- ASME and Non-ASME in stock

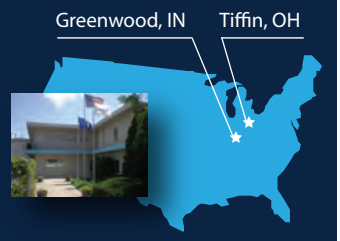
Wess-Vent Air & Dirt Separators

- Coalescing Media Separators
- Up to 36" available
- ASME standard in stock

SINCE 1908

wessels company

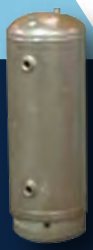
Wessels Company is an international supplier and manufacturer of custom and specialty pressure vessels servicing the hydronic and HVAC industries worldwide. Headquartered in the US Midwest, Wessels employs a 110,000 square foot facility in Greenwood, Indiana responsible for the manufacture of tanks up to 36" diameter and a 60,000 square foot Large Tank Division in Tiffin, Ohio capable of building vessels up to 144" dia-meter. ASME and Non-ASME specification available.



PRODUCT LINE OVERVIEW

REPLACEABLE BLADDER

FIXED DIAPHRAGM



COMPRESSION

GLYCOL MAKEUP PACKAGE

AIR & DIRT SEPARATOR

BUFFER TANK

SHOCK & SURGE ARRESTOR

PLATE & FRAME HEAT EXCHANGER

SHELL & TUBE HEAT EXCHANGER

BRAZED PLATE HEAT EXCHANGER

MEDIA BLAST POT

STORAGE

FLASH

BLOWDOWN

PRIMARY/ SECONDARY HEADER

AIR PURGER

FILTRATION

FULL-FLOW

CONDENSATE NEUTRALIZER

CUSTOM FABRICATION

SINCE 1908 wessels company

Wessels Company
101 Tank Street
Greenwood, IN 46143

Phone: 317-888-9800
Fax: 317-888-9988
www.wesselscompany.com

AHRI CERTIFIED www.ahridirectory.org Liquid to Liquid Heat Exchangers AHRI Standard 400

ASME SETTING THE STANDARD

MADE IN USA