VEXO™ | X-POT®

Don’t Protect Premium HVAC Plants with a Commodity Filter Feeder

X-POT is a premium multi-function water conditioning solution for closed-loop hydronic systems, protecting chilled-water and heating hot-water circuits from poor water quality.

Built to reduce warranty risk, commissioning delays, efficiency loss, and maintenance burden.

THE REAL COST OF POOR WATER QUALITY

Water quality is critical to the efficiency, reliability, and long-term performance of closed-loop heating and cooling systems. When systems are neglected, poorly maintained, or incorrectly dosed, water quality can quickly deteriorate - leading to operational issues including, but not limited to:

Common Issues

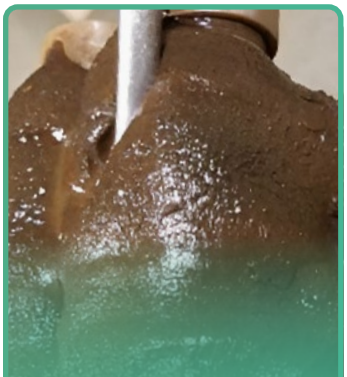
SCALE FORMATION

Leads to energy loss, erosion corrosion, localized heat damage and microbiologically influenced corrosion.

CORROSION

Material degradation causing deposits, pin-holing, blockages and equipment failure.

FOULING



Flow restrictions, blockages, erosion corrosion, bacterial harboring and inhibitor depletion.

MICROBIAL GROWTH

Biofilm formation, inhibitor and glycol losses, pH drift, corrosive conditions, gassing.

Impacts

PUMP ELECTRICAL ENERGY
Solids/corrosion byproducts increase pumping resistance and electrical energy.

BREAKDOWNS AND FAILURES
Corrosion and biological deposits cause premature system failures.

HIDDEN COSTS
Rapid blockages, compromised water quality and costly technician visits.

SUSTAINABILITY RISKS
Poor water quality undermines efficiency, reliability, asset life, and carbon reduction goals.

THE ULTIMATE DEFENSE AGAINST SYSTEM FAILURE

U.S. and Canadian patented multi-technology design
Captures more contaminants than standard filters.

Magnet-only pre-filtration
First-chamber magnetic capture extends filter runtime.

Extends equipment life and prevents failures
Reduces maintenance costs and energy waste.

Industry validation
ASHRAE peer-reviewed technical studies, ASHRAE award-winning performance.

Supports chemical and non-chemical water treatment
Ensuring long-term system protection.

Pump-Energy Evidence

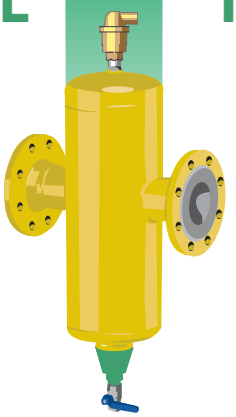
In laboratory testing mechanical filtration removes corrosion debris and slashes pump power demand by more than 80%.

Dr. Amr Suliman et al, 2023 (X-POT chosen for PhD research)

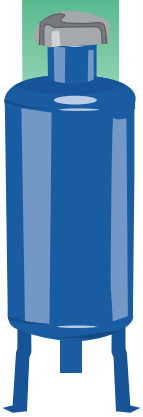
Advanced Filtration with Added Air and Dirt Separation Benefits

ALL IN ONE

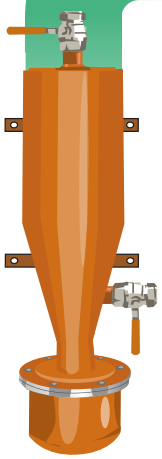
MAGNETIC FILTERS
Magnetite removal only



DIRT AND AIR SEPARATORS
Particle size limitations



SHOT FEEDERS
Only doses additives



SIDE STREAM FILTERS
Blocks rapidly due to magnetite

VEXO® X-POT®
ALL-IN-ONE Solution

Experimental Rig Data Analysis

Side-stream filtration consistently lowered pump power consumption by reducing pump speed and overcoming sludge-related resistance.

E. Dimitris Tseno, 2025 (X-POT chosen for PhD research)

Field Study

Following X-POT activation, the study recorded a 1,056 kWh reduction over the first 7 days, equivalent to 3.5% of total energy consumed across the 62-day study period.

J. Cripps et al MSc, 2020 (X-POT chosen for MSc research)

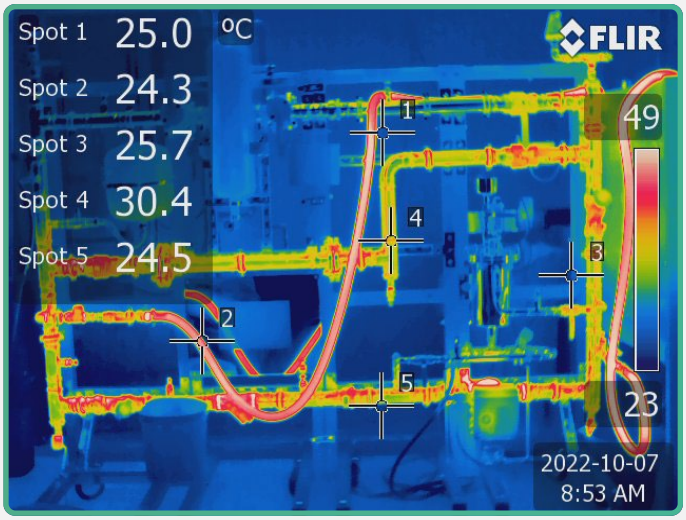
> Every day we've been able to catch something and it's made our building performance that much better by removing all the material that's being caught by the X-POT. The better the water quality, the more efficiently the system will perform.
>
> **Brett Fowler**, Maintenance Supervisor
> The Pennsylvanian Apartments

At VEXO, we understand that each sector faces unique challenges and demands specific solutions. Our expertise in water treatment and hydronic system management has enabled us to develop and refine solutions that cater to various industries, ensuring optimal performance, sustainability, and efficiency.

CASE STUDIES AND WHITE PAPERS
Including customer testimonials and success stories.

PROVEN RESULTS
Facilities reduced costs and extended asset life.

INDEPENDENT DATA
Validation of superior filtration and energy savings.



Thousands of installations worldwide supported by case studies and independent validation, showcasing the effectiveness of the X-POT in real-world applications.

SCAN HERE TO SEE OUR X-POT TESTIMONIALS

See what our clients have to say about installations worldwide.

PROTECT YOUR HVAC INVESTMENT WITH PROVEN TECHNOLOGY.

Go to our website: **www.vexoint.com**

SIMPLE SIZING RULE: VOLUME OR FLOW SHARE?

Select Your Conditioning Standard

1x system volume in 24 hours
Minimum recommended sizing for most closed-loop HVAC heating and cooling systems.

2x system volume in 24 hours
Robust sizing for critical systems such as data centers, hospitals, heat pump systems, district energy systems, and high-flow plants.

Where required, scale capacity using a larger X-POT, parallel units, or a dedicated side-stream pump.

1. Determine System Volume

- Use documented system content where available.
- If unknown: cooling estimate = total chiller capacity (tons) × 15 = gallons.
- If unknown: heating estimate = total boiler output (Btu/h) × 0.0012 = gallons.
- Refine later if a site verification gives a better figure.

2. Select X-POT by Turnover, GPM and Pressure

- Choose turnover target first: **1x in 24h = minimum**, **2x in 24h = robust**.
- Select the first model that meets the required GPM and maximum system working pressure.
- Use the model guide on pages 8-9 for the full model range.

3. Set Flow Rate

- 1× in 24h set point = system volume ÷ 1440 = GPM.
- 2× in 24h set point = system volume ÷ 720 = GPM.
- Balance the X-POT outlet (clean return) line to the target GPM.

4. Decide On Accessories

- **PD-Monitor:** Recommended filter condition monitoring with service alert indication.
- **No PD-Monitor?:** Install pressure transducers with BMS integration to provide filter condition/service alerts.
- **Insulation Jacket:** Optional thermal, condensation, and finish upgrade.
- **PIBV:** Required for best-practice installation to accurately set, balance, and verify the X-POT flow rate. Supplied by others.

How To Use Step 3

Example A: 22,824 gal system at 1× / 24h
Required flow = 22,824 ÷ 1440 = 15.85 gpm

Select X-POT 6 if 150 psi max pressure is acceptable.

Balance the clean return to 15.85 gpm.

Example B: Same system at 2× / 24h

Required flow = 22,824 ÷ 720 = 31.7 gpm

Move to XP/XP+/XXP because the required flow exceeds X-POT 6.

Right-sizing means the side-stream is matched to both the system's water volume and how fast that water is moving.

If the side-stream is less than ~2% of the circulating flow, we typically scale it toward ~4% in high-flow applications.

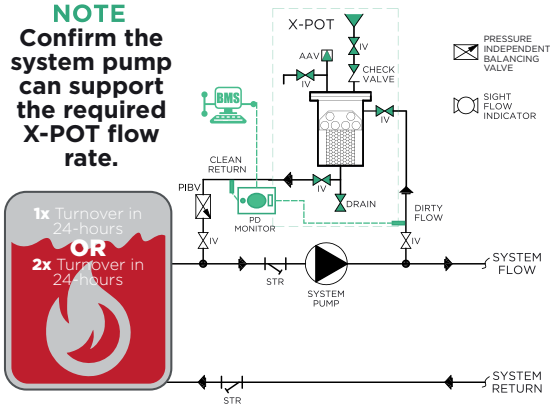
This ensures meaningful continuous treatment without relying on assumptions that don't fit every system.

Different manufacturers may publish maximum flow differently; VEXO publishes application-led limits intended to mitigate risk of cavitation, ensuring long-term system performance and asset life.

TYPICAL INSTALLATION LAYOUT FOR STANDARD UNITS

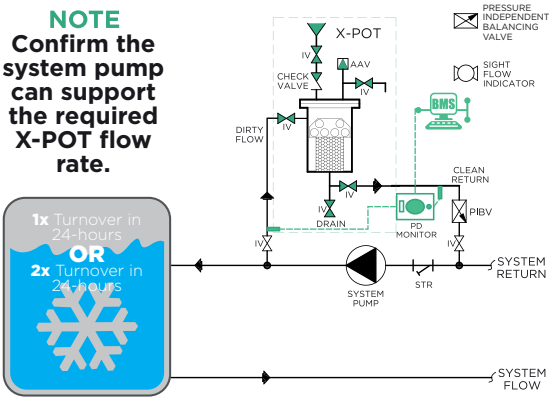
HEATING SYSTEMS

NOTE
Confirm the system pump can support the required X-POT flow rate.



COOLING SYSTEMS

NOTE
Confirm the system pump can support the required X-POT flow rate.



The X-POT™ supports multiple installation arrangements. The examples shown are for guidance only. For complex systems or non-standard configurations, please contact the VEXO™ Technical Team:
SALES.USA@VEXOINT.COM

- Isolation Valve
- Check Valve
- Strainer
- Auto Air Vent
- Pressure Gauge
- Temperature Gauge
- Pressure Relief Valve
- Flex Connection
- Pump
- VEXO® PD-Monitor®
- Pressure Independent Dynamic Balancing Valve
- Commissioning Valve
- 3-Port Valve

1 **PIBV (Not Supplied)**

2 **Packaged Differential Pressure Monitor (PD-Monitor)**

Install the X-POT™ on the secondary circuit for full-system water quality protection.

Product Code: #58760-PD

Flow rate set point and pipe connection calculations

Connection size and flow rate set point are based on the total system volume and selected conditioning target: once every 24-hour or 12-hour period.

24-hour example:

$$\frac{\text{SYSTEM VOLUME}}{1{,}440} = \text{Gal/min}$$

1.00 - 6.34 GPM = 1/2" Connection
6.34 - 9.5 GPM = 3/4" Connection
9.5 - 15.8 GPM = 1" Connection
15.8 - 19 GPM = 1 1/4" Connection
19 - 33.2 GPM = 1 1/2" Connection
33.2 - 55.4 GPM = 2" Connection

For a 12-hour cycle, divide system volume by 720 = GPM.

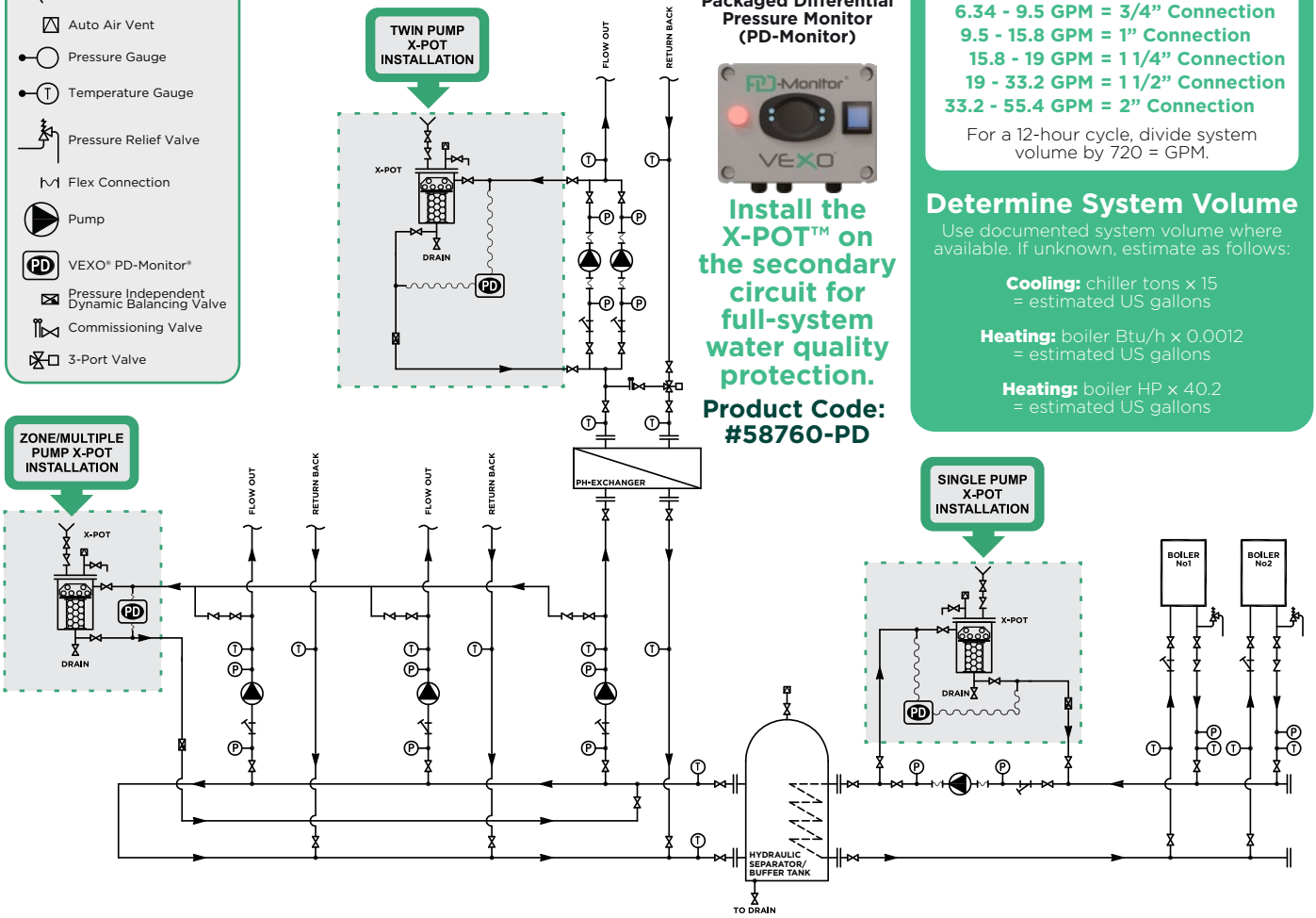
Determine System Volume

Use documented system volume where available. If unknown, estimate as follows:

Cooling: chiller tons x 15 = estimated US gallons

Heating: boiler Btu/h x 0.0012 = estimated US gallons

Heating: boiler HP x 40.2 = estimated US gallons



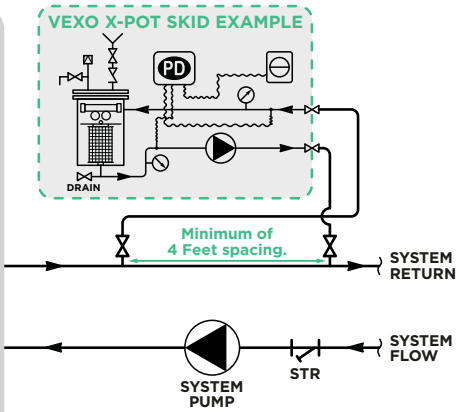
TYPICAL INSTALLATION LAYOUT FOR SKID UNITS

X-POT SKID INSTALLATION EXAMPLES

Faster Turnover with Skid Units

X-POT skid units include an integral pump, allowing higher flow rates and faster system conditioning where required. Ideal for critical buildings, high-flow systems, and dirty systems that need accelerated cleanup.

1x Turnover in 24-hours
OR
2x Turnover in 24-hours
SYSTEM VOLUME



The X-POT™ supports multiple installation arrangements. The examples shown are for guidance only. For complex systems or non-standard configurations, please contact the VEXO Technical Team:

SALES.USA@VEXOINT.COM

Connection Size by Required Flow Rate

The size of the connections to the X-POT is determined by the total system volume being circulated through the X-POT in either a 24-hour or 12-hour period.

24-hour period
SYSTEM VOLUME / 1,440min = **GPM**

12-hour period
SYSTEM VOLUME / 720min = **GPM**

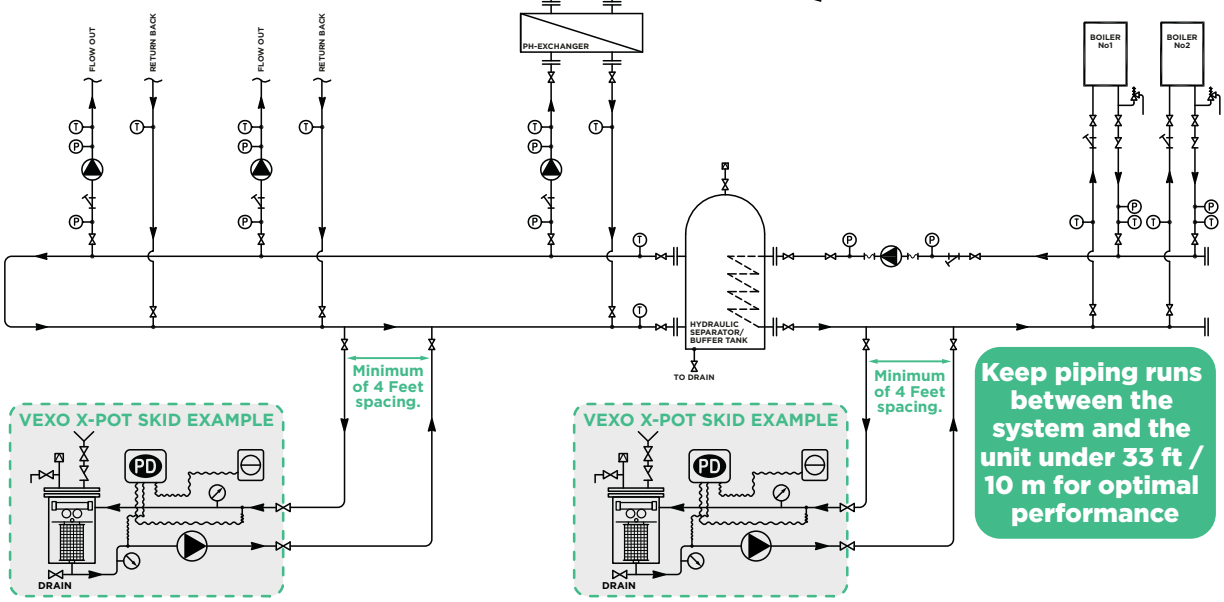
1.00 - 6.3 GPM	= 1/2" Connection
6.3 - 9.5 GPM	= 3/4" Connection
9.5 - 15.8 GPM	= 1" Connection
15.8 - 19 GPM	= 1 1/4" Connection
19 - 33.2 GPM	= 1 1/2" Connection
33.2 - 55.4 GPM	= 2" Connection
55.4 - 75 GPM	= 2 1/2" Connection
75 - 115 GPM	= 3" Connection
115 - 200 GPM	= 4" Connection
200 - 312 GPM	= 5" Connection
312 - 475.5 GPM	= 6" Connection
475.5 - 780 GPM	= 8" Connection
780 - 1,188 GPM	= 10" Connection

- Isolation Valve
- Check Valve
- Strainer
- Auto Air Vent
- Pressure Gauge
- Temperature Gauge
- Pressure Relief Valve
- Flex Connection
- Pump
- VEXO® PD-Monitor®
- Pressure Independent Dynamic Balancing Valve
- Commissioning Valve
- 3-Port Valve

DIFFERENTIAL PRESSURE MONITOR

X-POT® SKID UNITS ARE SUPPLIED WITH PRESSURE DIFFERENTIAL MONITORING INCLUDED AS STANDARD.

Product Code: #58760-PD



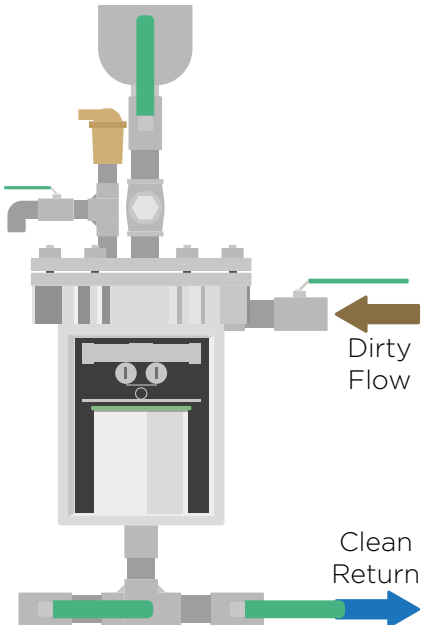
Keep piping runs between the system and the unit under 33 ft / 10 m for optimal performance

Supply should ideally be taken from the bottom of the main system header to capture heavy solids.

X-POT STANDARD UNIT OVERVIEW

X-POT keeps hydronic systems clean, efficient, and protected.
Each model combines magnetic capture, fine filtration, air separation, and dosing in one compact unit, removing sludge, magnetite, air and debris before they can harm your system.

From small commercial loops to high-pressure, high-flow industrial plants, the full X-POT range improves heat transfer, reduces pump strain, stabilizes water quality, and extends equipment life.



X-POT COMPACT

- Compact footprint
- Wall mounted
- Small systems

X-POT 6

- Compact footprint
- Wall mounted
- Medium systems

X-POT XP

- Compact footprint
- Floor standing
- Large systems

ASME BPVC Section VIII, Div. 1, U-stamped

304 stainless steel pressure vessel, with 316 stainless steel internal components alongside a nameplate showing MAWP and temperature rating. Made-to-order units are all 316 stainless steel.

X-POT MODEL	X-POT COMPACT	X-POT6	X-POTXP
MAX. WORKING PRESSURE	150 PSI	150 PSI	232 PSI
MAX. SYSTEM VOLUME (24 HRS)	9,130 US gal	22,824 US gal	79,885 US gal
MAX. SYSTEM VOLUME (12 HRS)	4,565 US gal	11,412 US gal	39,943 US gal
MAX. SYSTEM Btu/h (24/12 HRS)	7.61/3.80 MMBtu/h	19.02/9.51 MMBtu/h	66.57/33.29 MMBtu/h
MAX. SYSTEM HP (24/12 HRS)	227/114 HP	227/114 HP	1,987/994 HP
MAX. COOLING TONS (24/12 HRS)	609/304 TONS	1,522/761 TONS	5,326/2,663 TONS
MAX. FLOW RATE	Up to 6.34 GPM	Up to 15.85 GPM	Up to 55.47 GPM
PIPE CONNECTION	1/2" NPT	1" NPT	2" NPT
FILTRATION RATE	Down to 0.5 micron	Down to 0.5 micron	Down to 1 micron
FILTER TYPE	Cartridge	Cartridge	Bag
MAGNETIC GAUSS	4No. 8000 Gauss Neodymium Magnets	6No. 8000 Gauss Neodymium Magnets	13No. 8000 Gauss Neodymium Magnets
VESSEL VOLUME	1.18 US gal	2.6 US gal	6.6 US gal
MIN. WORKING TEMPERATURE	32°F	32°F	32°F
MAX. WORKING TEMPERATURE	203°F	203°F	203°F
PRODUCT CODE	#58760-1-1	#58761-1-1	#58762-1-1

X-POT XP+ (SKID) AND HIGH-PRESSURE UNIT OVERVIEW

X-POT XP+

- Integrated pump and DP alarm
- BMS compatibility
- Large systems

X-POT XXP

- Made-to-order
- High-pressure
- Large systems

X-POT HFHP

- Made-to-order
- High-pressure/high-flow
- XL systems

X-POT TITAN

- Made-to-order
- High-pressure/high-flow
- XXL systems

FIND OUT MORE AND VIEW OUR SPECIFICATIONS

Go to our website: **www.vexoint.com**

X-POT MODEL	X-POT XP+	X-POT XXP	X-POT HF HP	X-POT TITAN
MAX. WORKING PRESSURE	232 PSI	435 PSI	150 or 435 PSI	150 or 435 PSI
MAX. SYSTEM VOLUME (24 HRS)	79,885 US gal	79,885 US gal	684,734 US gal	1,711,834 US gal
MAX. SYSTEM VOLUME (12 HRS)	39,943 US gal	39,943 US gal	342,367 US gal	855,917 US gal
MAX. SYSTEM Btu/h (24/12 HRS)	66.57/33.29 MMBtu/h	66.57/33.29 MMBtu/h	570.61/285.31 MMBtu/h	1,426.53/713.26 MMBtu/h
MAX. SYSTEM HP (24/12 HRS)	1,987/994 HP	1,987/994 HP	17,033/8,517 HP	42,583/21,291 HP
MAX. COOLING TONS (24/12 HRS)	5,326/2,663 TONS	5,326/2,663 TONS	45,649/22,824 TONS	114,122/57,061 TONS
MAX. FLOW RATE	Up to 55.47 GPM	Up to 55.47 GPM	Up to 475.51 GPM	Up to 1,188 GPM
PIPE CONNECTION	2" NPT	2" NPT	6" ANSI Class 300 Flanged	10" ANSI Class 600 Flanged
FILTRATION RATE	Down to 1 micron	Down to 1 micron	Down to 1 micron	Down to 1 micron
FILTER TYPE	Bag	Bag	Bag	Bag
MAGNETIC GAUSS	13No. 8000 Gauss Neodymium Magnets	13No. 8000 Gauss Neodymium Magnets	52No. 8000 Gauss Neodymium Magnets	91No. 8000 Gauss Neodymium Magnets
VESSEL VOLUME	6.6 US gal	6.6 US gal	55.4 US gal	132 US gal
MIN. WORKING TEMPERATURE	32°F	32°F	32°F	32°F
MAX. WORKING TEMPERATURE	203°F	203°F	203°F	203°F
PRODUCT CODE	#XPOTXPSKID	#58770-435	150 PSI: #58771-150 435 PSI: #58771-435	150 PSI: #58772-150 435 PSI: #58772-435

X-POT UNIT FILTERS AND ACCESSORY OPTIONS

X-POT Cartridge and Bag Filters

Our range of high-performance filters down to 0.5 micron (Cartridge Filters), allowing you to use step-down filtration methods to get your system as clean as possible.

SCAN HERE TO FIND OUT MORE ABOUT OUR RANGE OF CARTRIDGE & BAG FILTERS

- Data Sheets
- Filtration Level
- Applicable Models
- Product Codes

Technician On-Site Water Analysis Test Kits & Lab Services

RELIABLE WATER ANALYSIS – ANYWHERE, ANYTIME

VEXO™ offers a full range of professional testing solutions to help HVAC technicians, facility managers, and water treatment specialists keep closed-loop systems clean, efficient, and protected. Whether you need a quick on-site check or in-depth laboratory diagnostics, our products and services are built for accuracy, compliance, and ease of use – all available to order online with free U.S. delivery:

Our Categories

Lab Tests – Independent laboratory analysis for chemistry, metals, microbiological, and corrosion parameters. Get a clear, verified picture of your system water health, backed by expert interpretation.

On-Site Water Analysis Test Kits – Portable kits for fast on-site checks of pH, conductivity, inhibitor levels, glycol concentration, and more. Designed for field reliability and easy data logging.

VEXO Dip Slide Incubators – Compact incubators for accurate on-site bacterial growth assessment, helping you detect biofilm and microbial risk before it impacts system performance.

Reagents – A full range of high-grade reagents for VEXO™ kits, ensuring consistent, accurate readings every time.

From the initial fill to preventive maintenance, VEXO™ testing tools help you verify system condition, guide treatment decisions, and protect equipment service life. Order today – test with confidence tomorrow.

www.vexoint.com/us/shop **Trusted by HVAC Professionals Nationwide**

Complete Your Installation With:

PD-Monitor
Proactive filtration performance monitoring.

Insulation Jackets
Compliant with ASHRAE 90.1.

Full methodology documents available to download at: **vexoint.com/us**

System Additives
Core treatment solutions.

SEE WHAT X-POT CAN DO IN REAL WORLD SCENARIOS

X-POT - The King of Heavy Lifting and Protection

A reassuringly premium ancillary product to protect your hydronic heating, cooling assets and warranties.





For Maximum Benefit: Install on existing systems more than 3 months before replacing boilers or chillers.
New Systems: Is it worth value-engineering down to a standard shot feeder/filter?

Why X-POT Is Non-Negotiable (Dirt and Air vs Side-Stream Fine Filtration)

An inline dirt separator is valuable, but it does not provide 100% protection, nor does it perform the same role as side-stream filtration. The separator provides point protection by slowing flow and allowing heavier debris to settle, while magnetic elements help capture magnetite. Side-stream filtration is used to keep the overall suspended solids burden low across the whole system over time, including very fine non-magnetic material that contributes to sedimentation, under-deposit corrosion, biofilm persistence, heat-transfer loss, control instability and premature plant wear.

The two devices are complementary, not equivalent.

CRITERION	INLINE DIRT SEPARATOR / MAGNETIC ROD + MESH	SIDE-STREAM FILTRATION
Primary Function	Separates heavier debris and captures magnetic particles at a single point in the main circuit.	Continuously removes suspended solids from the circulating water over time and can combine magnetic, non-magnetic, air and fine-media filtration.
Particle Capture	Good first-line protection for coarse debris and magnetite capture; not all debris is magnetic, and capture of very fine non-magnetic solids is limited.	Can use cartridge or bag media with progressively finer pore sizes to remove mobile contaminants and polish the system water.
Typical Positioning Role	Point protection / bulk separation in the circuit.	Ongoing whole-system maintenance and polishing, typically after correct cleaning and dosing.
Best Use in Practice	Retain as first-line protection.	Use to preserve low suspended solids, reduce deposition risk and support long-term system cleanliness.


Fine biofilm settled after 24 hours


Moderately agitated


X-POT 0.5 micron filter

PROVEN ENERGY SAVINGS | OVER 18,000 X-POTS INSTALLED GLOBALLY | PREMIUM PRODUCT

Contact Us

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