SPIROVENT® DIRT

AIR ELIMINATORS

DIRT SEPARATORS

STANDARD VELOCITY

SPIROTHERM

THE ULTIMATE IN DISTRIBUTION EFFICIENCY

AIR- AND DIRT-FREE SYSTEM WATER THROUGH A SINGLE UNIT

The life and efficiency of a heating or cooling system are greatly dependent on the quality of the system water. Air and dirt problems cause frequent breakdowns and increased customer complaints. Corrosion, cavitation, and component wear are consequences of air-saturated, dirty water.

Recurring problems and increased maintenance results in unnecessary costs and dissatisfied owners.

There is a solution!

A system without air and dirt is possible! There is a unique dual-purpose device that will remove air and dirt down to the smallest particle, keeping the system free from air and dirt, permanently. It requires little maintenance, and works without strainers or filters. Less maintenance, fewer costs, satisfied owners!

The name:

SPIROVENT DIRT

4" Threaded Dirt

4" Flanged Dirt

4" Flanged Drain

THE KEY DIFFERENCE

The unique construction of this combined unit allows for the removal of both entrained air and dirt particles. The patented Spirotube®, the core of the Spirovent Dirt unit, causes dirt particles of all sizes to sink to the bottom of the unit and collect in the dirt chamber, eliminating any blockage concerns. The air bubbles rise and collect in the air chamber before being released via an integral automatic valve. The dirt can be flushed through the drain while the system remains fully operational. The large dirt collection chamber ensures infrequent flushing.
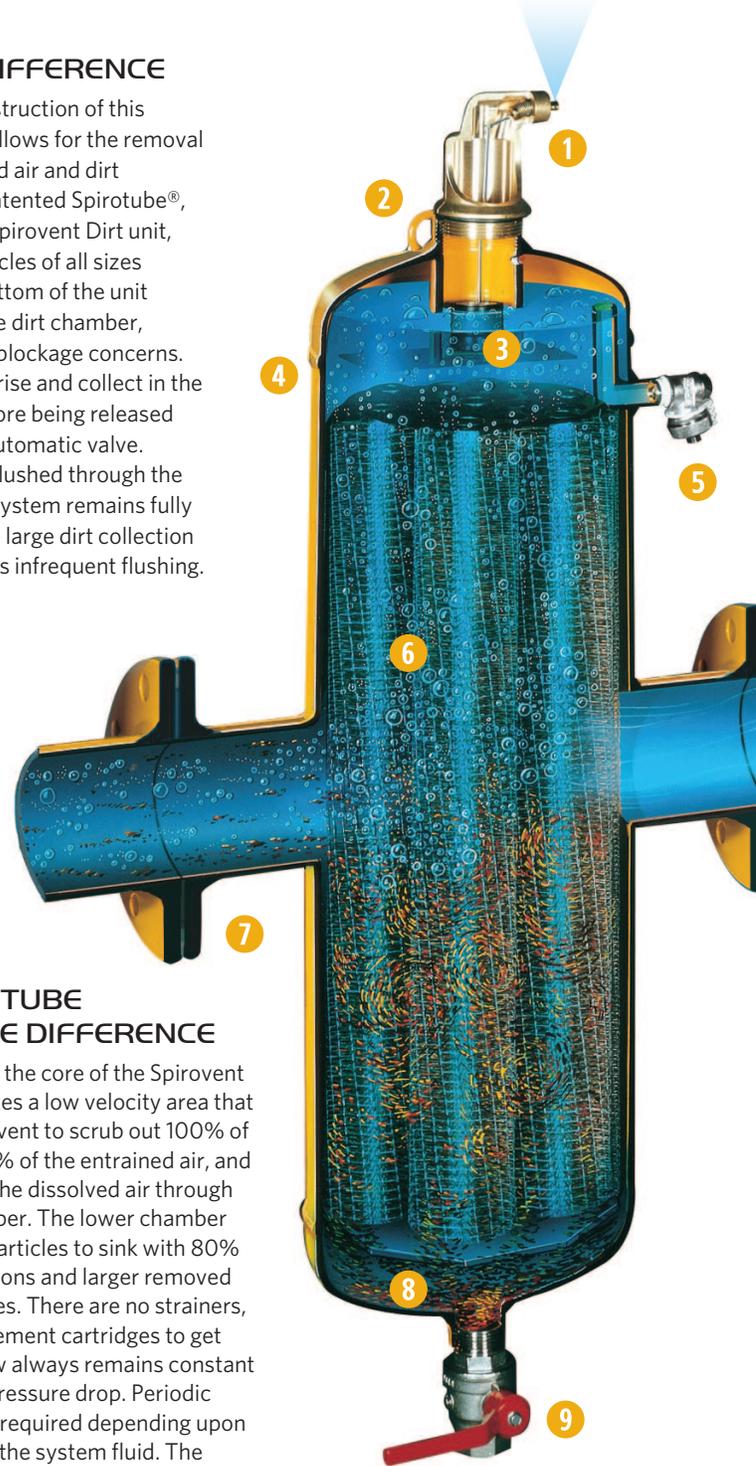
THE SPIROTUBE MAKES THE DIFFERENCE

The Spirotube is the core of the Spirovent Dirt unit. It creates a low velocity area that allows the Spirovent to scrub out 100% of the free air, 100% of the entrained air, and up to 99.6% of the dissolved air through the upper chamber. The lower chamber allows the dirt particles to sink with 80% of those 30 microns and larger removed within 100 passes. There are no strainers, filters, or replacement cartridges to get clogged and flow always remains constant without a high pressure drop. Periodic blow downs are required depending upon the condition of the system fluid. The result: increased component life and heat transfer efficiency; decreased oxygen-based corrosion and pump cavitation; the elimination of air related noises such as gurgling and cascading; and the need for continual "routine" maintenance to vent, bleed, and purge.

## THE ULTIMATE IN DISTRIBUTION EFFICIENCY

ADVANTAGES TO THE SPECIFIER, INSTALLER AND OWNER

- No bypass, isolating valves or replacement filters to clog and reduce flow
- Dirt can be flushed while the system is in full operation.
- Quiet operation
- Minimum pressure drop; always constant
- Increased component life
- Reduced oxygen-based corrosion and pump cavitation
- Provides optimum heat transfer
- Optional removable head for bundle inspection

Spirovent Dirt
Air Eliminator & Dirt Separator

Boiler
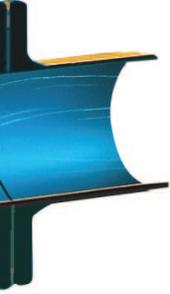
1. The automatic air vent is guaranteed not to leak and can only be closed by the installer for a pressure test.

2. Lifting eyes make installation easy.

3. The air chamber has been designed so that dirt cannot reach the valve.

4. Welded steel construction guarantees long life.

5. Valve for releasing large amounts of air during filling and for skimming off floating dirt.

6. The unique Spirotube is the core of the Spirovent. Designed to trap the smallest microbubble and microscopic dirt particle, yet it offers little resistance to flow.

7. Threaded or flanged connections available. Threaded 2"- 4" (not available on units with removable head) ; Flanged 2" and up.

8. Large capacity collection chamber reduces the need for frequent draining.

9. Drain valve for flushing out the dirt.
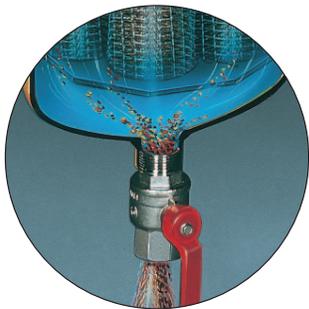
When the drain valve is opened the system pressure flushes out the collected dirt. This only takes a few seconds.
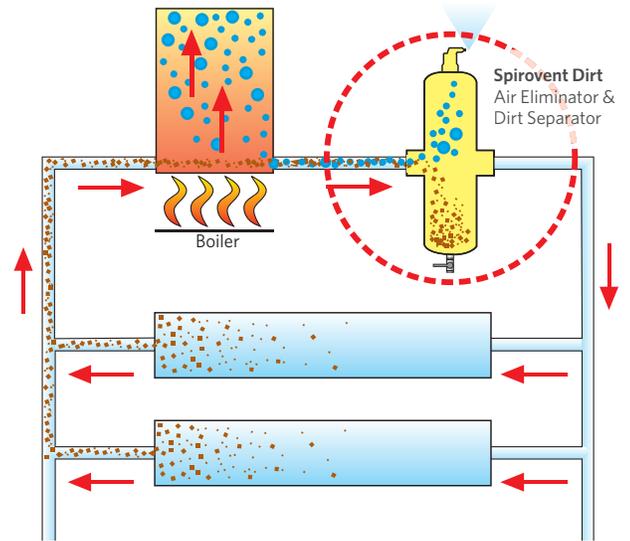
INSTALL THE SPIROVENT DIRT FOR OPTIMUM PERFORMANCE

Ideal placement of a Spirovent unit is based on microbubble separation and Henry's Law. Simply put, Henry's Law states that air is released from water as the temperature increases or the pressure decreases*. For this reason, the Spirovent is typically installed in the hottest point in the system. For a heating installation, this is in the supply from the boiler. In a chilled water circuit, the warmest point is in the return to the chiller.

*For more detailed technical information, ask about our Spirotism booklet .

DIRT SEPARATION EFFICIENCY

Water Velocity at 3.5 ft/sec

Particle Mesh Sizes in Microns:	
—	30
—	60
—	100
—	150
—	210

Residual Mass — Number of System Circulations

SPIROVENT® DIRT

PRESSURE DROP

Pressure drop chart: Pressure Drop (Feet of Head) vs Water Velocity at Inlet Nozzle (Feet/sec), with lines labeled 2", 2.5", 3", 4", 5", 6", 8", 10", 12".

Water Velocity at Inlet Nozzle (Feet/sec)
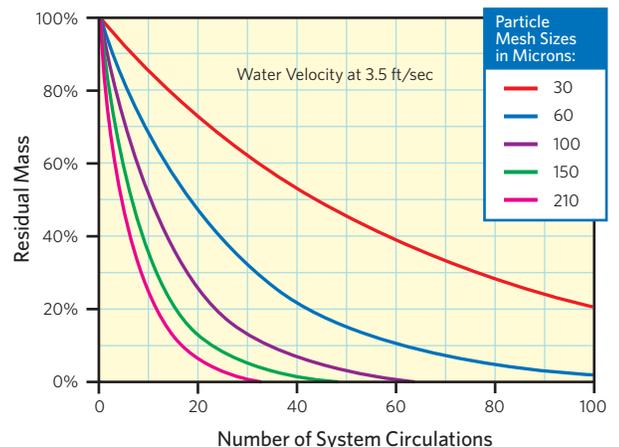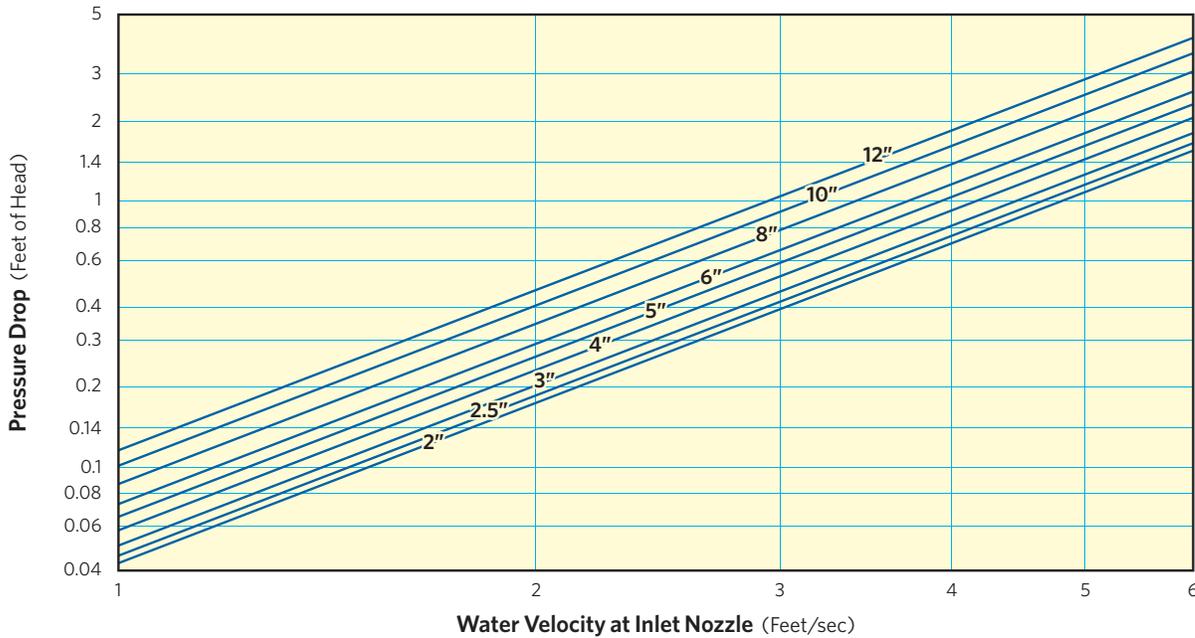
TECHNICAL SPECIFICATIONS

SPIROVENT SENIOR

DIRT Part Number		VDT200	VDT250	VDT300	VDT400	VDT500	VDT600	VDT800	VDT1000	VDT1200
DRAIN Part Number		VDN200	VDN250	VDN300	VDN400	VDN500	VDN600	VDN800	VDN1000	VDN1200
Pipe Size	Inch	2	2.5	3	4	5	6	8	10	12
O.D.	Inch	2.375	3	3.5	4.5	5.5	6.625	8.625	10.75	12.75
Thread	NPT	2	2.5	3	4	—	—	—	—	—
D	Inch	6.3	6.3	8.6	8.6	12.8	12.8	16.0	20.0	24.0
H2	Inch	25.3	25.3	31.4	31.4	41.7	41.7	51.8	67.5	79.7
h2	Inch	10.4	10.4	13.6	13.6	18.9	18.9	24.2	32.1	38.2
L (Threaded)	Inch	10.2	10.2	14.6	14.6	—	—	—	—	—
LF (Flanged)	Inch	15.2	15.7	20.2	20.6	27.7	27.7	33.6	37.5	42.5
e	Inch	1	1	1	1	1	1	1	1	1
Volume	Gal.	1.8	1.8	6.6	6.6	19.8	19.8	39.6	79.3	132.1
Weight: Dirt										
Threaded	Lbs.	55	56	105	120	—	—	—	—	—
Flanged	Lbs.	66	75	139	149	238	260	436	718	1250
Weight: Drain**										
Flanged	Lbs.	107	150	202	233	325	355	686	990	1483
Recom. Flow*	GPM	60	90	140	240	370	540	940	1470	2090
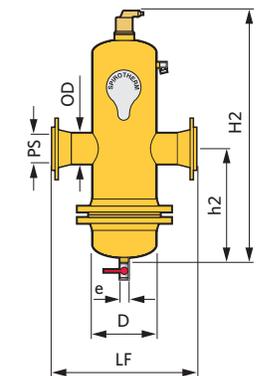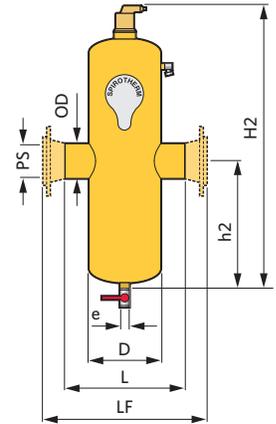
*Approximately 6 ft. per second inlet velocity.

**Spirovent Drain models are available with flanged connections only and feature a removable lower head to facilitate cleaning.

All Spirovents fabricated and stamped in accordance with ASME Section VIII, Division 1 for unfired pressure vessels.

Standard rating is 150 psi at 270°F. Consult local sales office for special requirements.

Custom dimensions available for space limitations.

Refer to High Velocity models for higher flows and web site Submittal Data for models up to 36".

SPIROTHERM

A SPIRO ENTERPRISES COMPANY

Spirotherm, Inc.
25 N. Brandon Drive
Glendale Heights, IL 60139

Tel.: 630-307-2662
Fax: 630-307-3773
www.spirotherm.com
E-mail: info@spirotherm.com