



**flamco**

# Smart Series

Air & Dirt Separators



# a smart concept

## Air and Dirt Separators

Air bubbles and dirt particles are always present in the water of cooling and heating systems. The dirt can accumulate and cause blockages. The use of filters is not ideal because these do not trap smaller particles, instead they silt up and have to be regularly cleaned or replaced. Traditional deaeration devices extract insufficient gases from the water, leaving microbubbles behind.

### More compact, lighter, cleaner, and efficient

The new Smart series of air and dirt separators are smart products in every aspect and their groundbreaking new design delivers optimal performance, removing even the smallest microbubbles and minuscule dirt particles from the system water. Thanks to the innovative design, the pressure loss in the system is kept to a negligible minimum. Even at flow velocities of 9.8 ft/s, the Smart series delivers the best performance on the market.

### 60% Better Performance Compared to Conventional Air and Dirt Separators

#### Main advantages

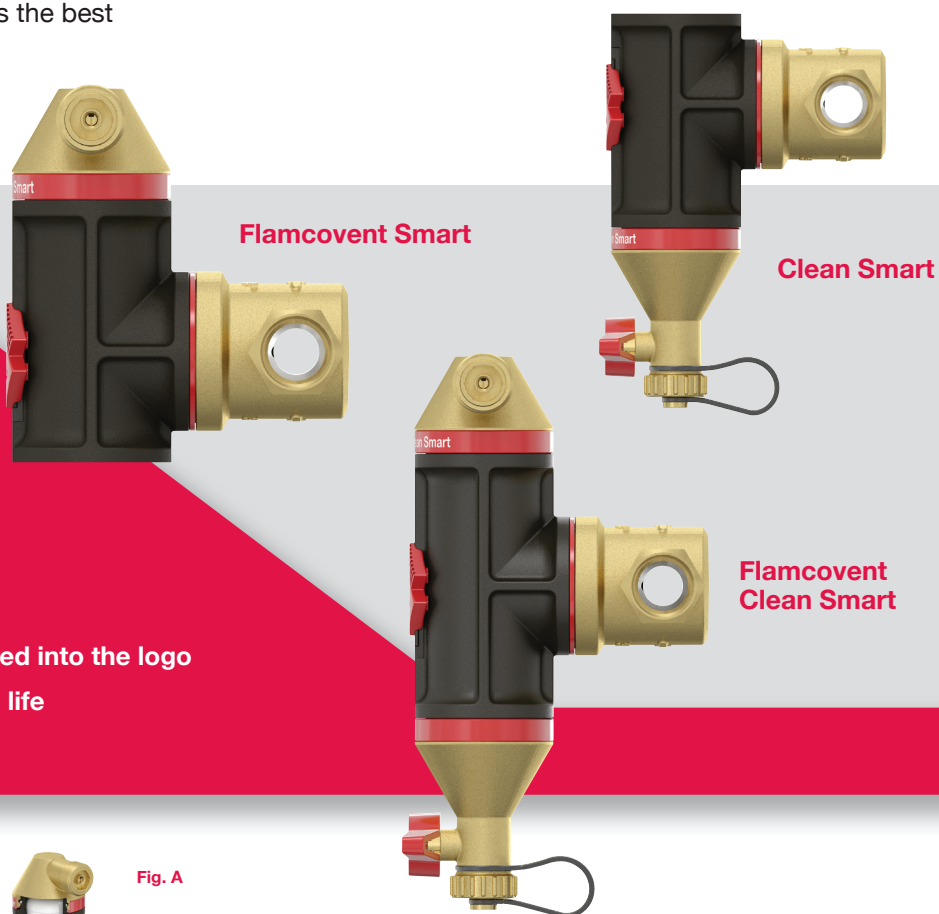
- Extremely low flow resistance and low loss of energy
- Compact dimensions, lightweight
- Insulation kit available
- Available in various sizes up to 2"
- Min/max working temperature: 14°F / 248°F
- Max working pressure: 145 PSI
- Glycol mixture up to 50%
- Unique flow velocities, up to 9.8 ft/s
- Four neodymium supermagnets are incorporated into the logo
- Consistent performance throughout its service life
- Five year warranty

#### Wide product range, flexible assembly

The new air and dirt separators from Flamco are supplied in five connection sizes up to 2". Thanks to the smart use of high-grade composite in the body, these air and dirt separators represent a lower load for the heating system. They can be incorporated in a variety of heating and cooling systems and in every desired direction. The 360° rotating connection and compact dimensions of the Smart series enables them to be easily installed even when space is limited.

### Low maintenance

The absence of obstructions in the main flow ensures that clogging and blockage is prevented which guarantees superior and continuous operation over its service life. Moreover, this feature also considerably prolongs the service life of the product, extending periods between necessary maintenance.



### Supermagnets

Four neodymium supermagnets are incorporated into the logo on the outside of the Flamcovent Clean Smart (fig. A). The magnetic rating per magnet is 5,855 Gauss. The logo/magnet holder is situated opposite the outflow opening, through which all ferrous particles are directly attracted and held. By pushing the logo/magnet holder downward, the dirt particles are drawn to the underside of the dirt separator (fig. B) where they can be removed via the blowdown.



# groundbreaking innovation

## Exceptional air and dirt removal performance

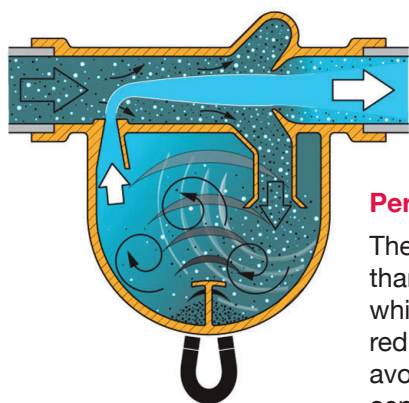
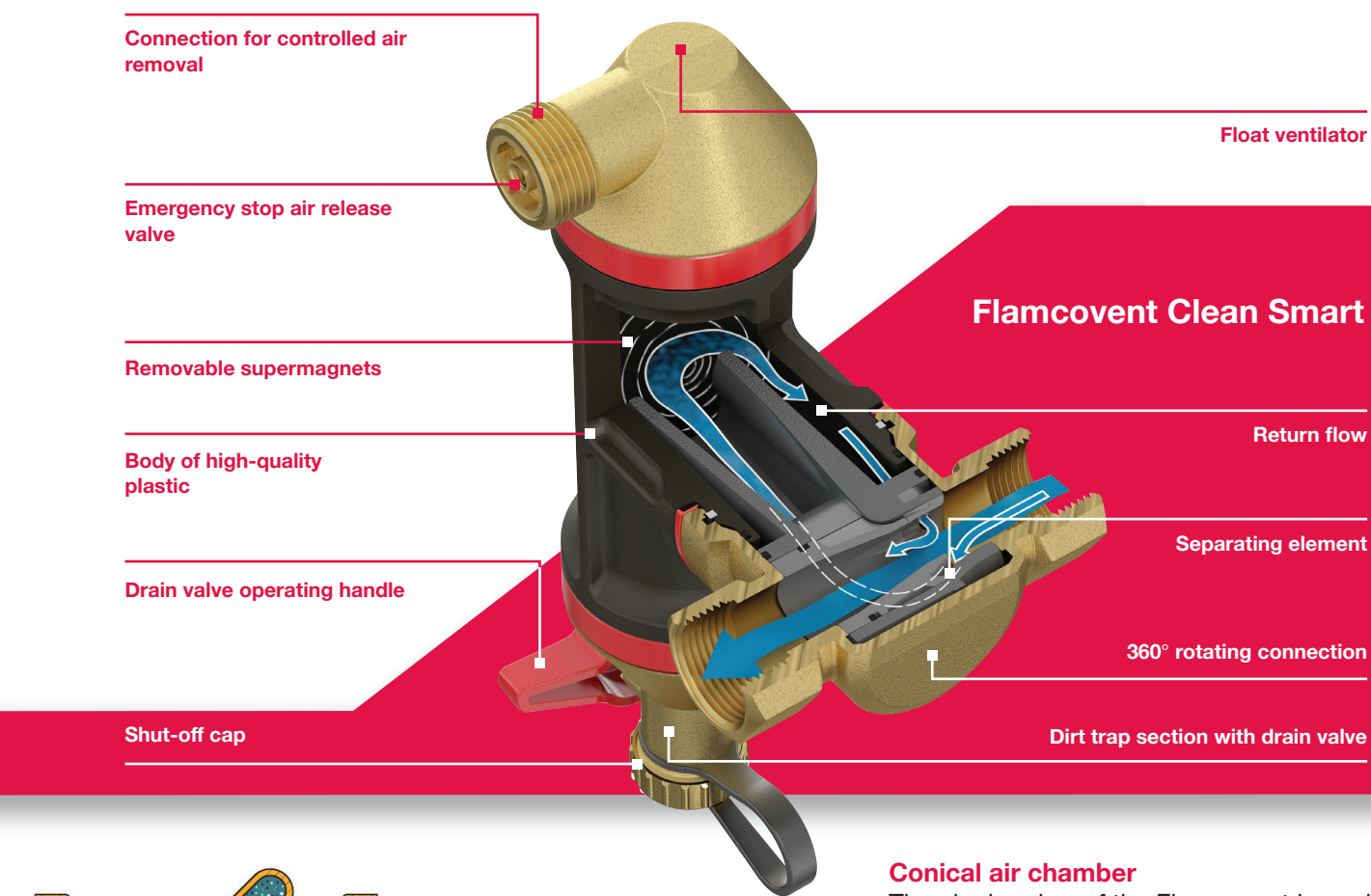
The separation element combined with the return flow ensure efficient air & dirt separation. An exceptional rate of 40% of the air and dirt is separated per cycle while using only 10% isolation of the main flow.

Inside the enclosure of the separator the water velocity is heavily reduced to less than 1% which efficiently separates microbubbles and dirt particles. The air particles automatically rise to the air release valve device at the top. Particles are passed along bulkheads and trapped in the enclosure thanks to the low flow velocity.

## Double thrust function

Two thrust functions ensure efficient dirt removal and deaeration of the system water. The first function is achieved by the action of the separating element built into the body in the path of the water flow through the unit. Contaminated water is diverted through the separating element.

The second thrust is achieved by combining the increased return flow of clean water from the plenum opposite the separation element back into the main stream. This forces the micro-bubbles and dirt particles towards the sides of the body and into the plenum chamber to be removed.

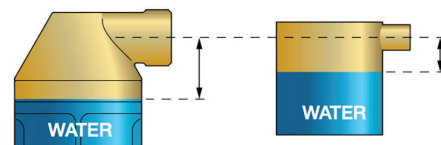


## Performs 60% better

The Smart series performs better than conventional dirt separators while the flow resistance has been reduced to a negligible level. This avoids wear on the pump of the central heating boiler and reduces energy costs.

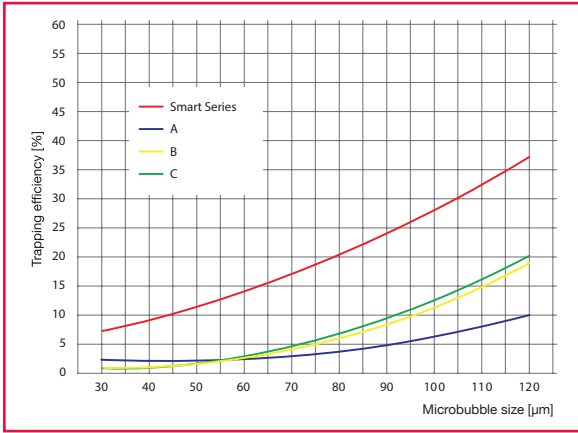
## Conical air chamber

The air chamber of the Flamcovent is conical in shape, meaning the distance between the water level and the venting valve is larger than in a straight chamber providing little chance of contamination. The venting valve forms an integral part of the cap so that is impossible to damage the float vent mechanism from the outside.

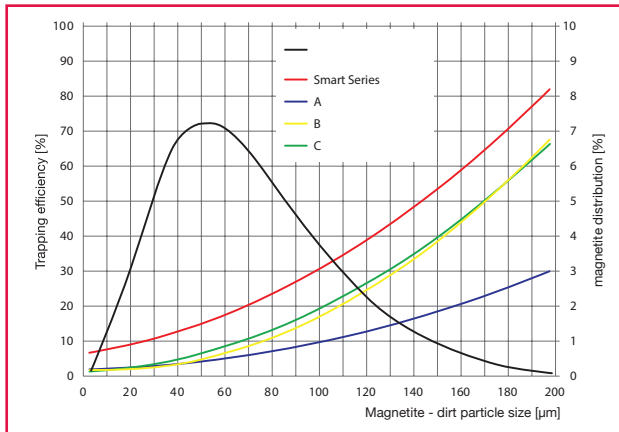


# optimal performance

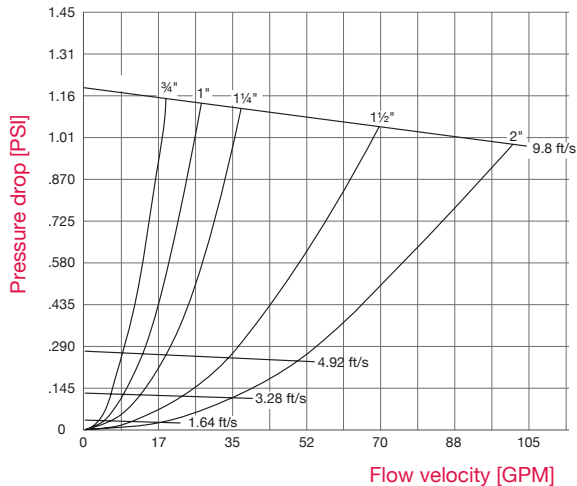
## Efficient air separation



## Efficient dirt separation



## Selection table for Flamcovent & Clean Smart series



## Installation

Depending on the primary function (dirt or air separation), the air, dirt, and combined air/dirt separators can be installed in a variety of ways (see fig. 1A, 1B, 1C, 1D). Place the product upstream of the boiler in the return line, if dirt separation is the primary function. If the primary function is air separation or if a combined air/dirt separator is being used, the optimum location is immediately downstream of the boiler or mixing valve, and upstream of the circulation pump. This traps bubbles produced immediately after heating the water. In a cooling system that is just before the chiller.

The bleeding devices and dirt separators are manufactured with a 3/4" connection to enable the connection to any drain line. Do not use these connections for filling the system.

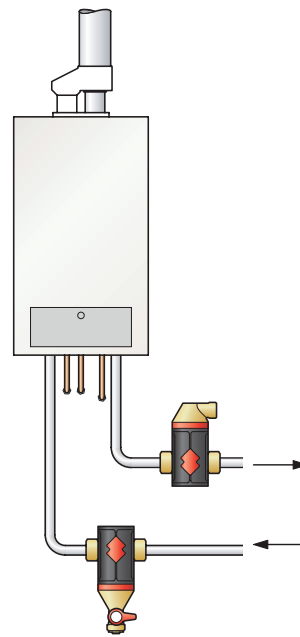


Fig. 1A

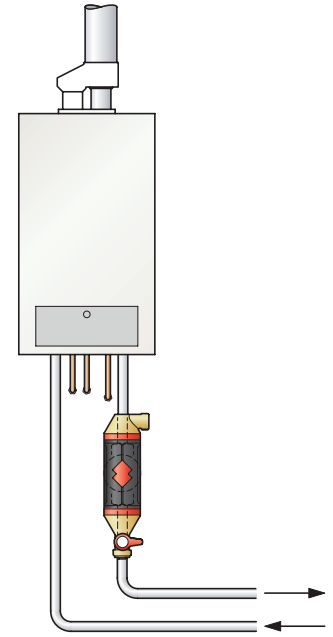


Fig. 1B

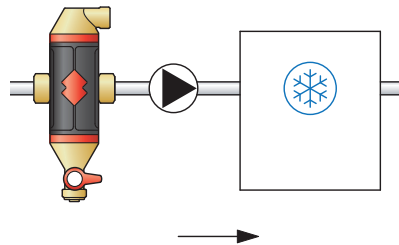


Fig. 1C

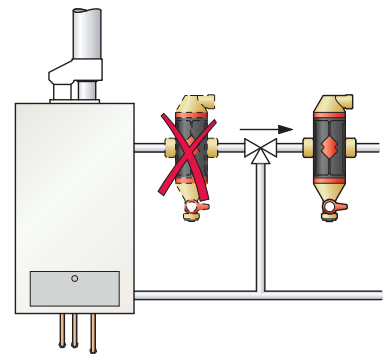
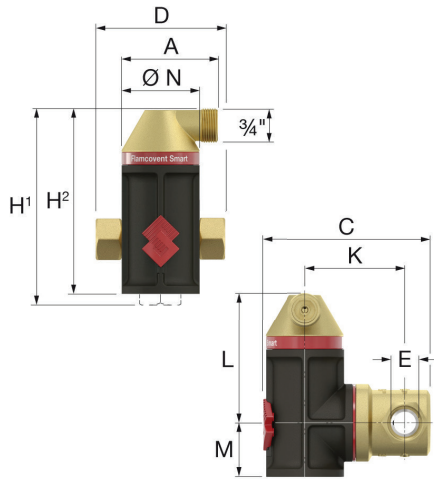


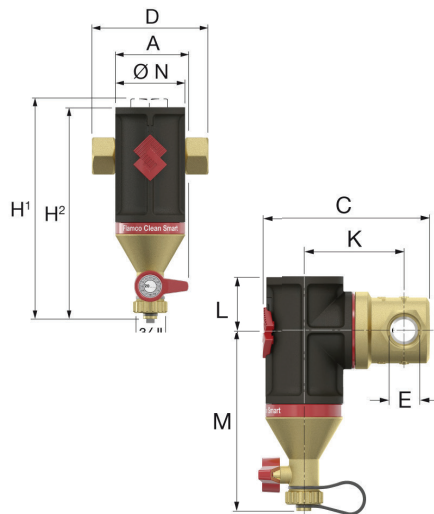
Fig. 1D

# the complete series



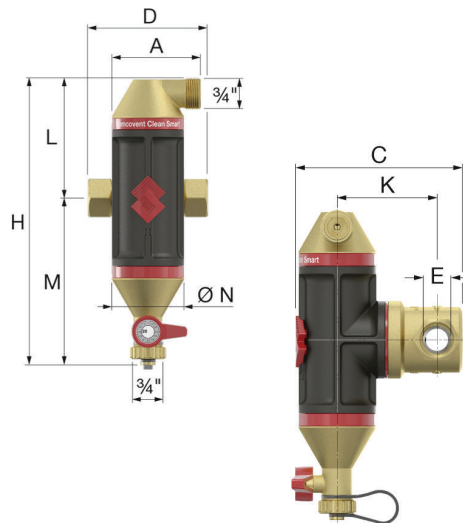
## Flamcovent Smart

Type	Air Connection	Dimensions in inches									Weight (pounds)	Order Code
		A	C	D	K	L	M	H/H1	H2	Ø N		
Flamcovent Smart 3/4	3/4"	2.90	5.19	3.93	3.08	3.97	1.46	5.94	5.43	2.36	1.98	FSAS-075
Flamcovent Smart 1	1"	3.22	6.10	4.17	3.58	5.47	1.77	7.56	7.24	2.95	2.47	FSAS-100
Flamcovent Smart 1¼	1¼"	3.22	6.49	4.33	3.78	5.47	1.77	7.63	7.24	2.95	2.80	FSAS-125
Flamcovent Smart 1½	1½"	3.70	7.60	5.07	4.29	6.81	2.12	9.37	8.93	3.69	3.81	FSAS-150
Flamcovent Smart 2	2"	3.70	8.11	5.51	4.60	6.81	2.12	9.56	8.93	3.62	4.76	FSAS-200



## Clean Smart

Type	Dirt Connection	Dimensions in inches									Weight (pounds)	Order Code
		A	C	D	K	L	M	H/H1	H2	Ø N		
Clean Smart 3/4	3/4"	2.48	5.24	3.94	3.07	1.46	5.51	7.48	6.97	2.36	2.07	FSDS-075
Clean Smart 1	1"	3.00	6.10	4.17	3.58	1.73	7.05	9.10	8.78	2.95	2.45	FSDS-100
Clean Smart 1¼	1¼"	3.00	6.50	4.33	3.71	1.73	7.05	9.17	8.78	2.95	2.45	FSDS-125
Clean Smart 1½	1½"	3.7	7.6	5.08	4.29	2.13	8.35	10.91	10.47	3.62	3.79	FSDS-150
Clean Smart 2	2"	3.7	8.11	5.51	4.61	2.00	8.35	11.10	10.47	3.62	4.74	FSDS-200



## Flamcovent Clean Smart

Type	Air & Dirt Connection	Dimensions in inches									Weight (pounds)	Order Code
		A	C	D	K	L	M	H/H1	Ø N			
Flamcovent Clean Smart 3/4	3/4"	2.91	5.24	3.94	3.07	3.98	5.51	9.49	2.36	2.65	FSADS-075	
Flamcovent Clean Smart 1	1"	3.23	6.10	4.17	3.58	3.78	7.05	12.52	2.95	2.45	FSADS-100	
Flamcovent Clean Smart 1¼	1¼"	3.23	6.49	4.33	3.78	3.78	7.05	12.52	2.95	2.45	FSADS-125	
Flamcovent Clean Smart 1½	1½"	3.30	7.50	5.08	4.29	6.81	8.35	15.16	3.62	3.79	FSADS-150	
Flamcovent Clean Smart 2	2"	3.30	8.11	5.51	4.60	6.81	8.35	15.16	3.62	4.74	FSADS-200	

## Flamcovent Smart Press



Type	Air & Dirt Connection	Dimensions in inches			Order Code
		Length	Width	Depth	
Flamcovent Smart Press	¾"	16.5	9.5	5	FSAS -075P
Flamcovent Smart Press	1"	16.5	9	5	FSAS -100P
Flamcovent Smart Press	1¼"	14.5	8	4	FSAS -125P
Flamcovent Smart Press	1½"	13.5	7.5	4	FSAS -150P
Flamcovent Smart Press	2"	10.5	6.5	3.5	FSAS -200P

## Clean Smart Press



Type	Air & Dirt Connection	Dimensions in inches			Order Code
		Length	Width	Depth	
Clean Smart Press	¾"	15	9.5	5	FSDS -075P
Clean Smart Press	1"	14.5	9	5	FSDS -100P
Clean Smart Press	1¼"	13	8	4	FSDS -125P
Clean Smart Press	1½"	13	7.5	4	FSDS -150P
Clean Smart Press	2"	10.5	6.5	3.5	FSDS -200P

## Flamcovent Clean Smart Press



Type	Air & Dirt Connection	Dimensions in inches			Order Code
		Length	Width	Depth	
Flamcovent Clean Smart Press	¾"	16.5	9.5	5	FSADS -075P
Flamcovent Clean Smart Press	1"	16.5	9	5	FSADS -100P
Flamcovent Clean Smart Press	1¼"	14.5	8	4	FSADS -125P
Flamcovent Clean Smart Press	1½"	13.5	7.5	4	FSADS -150P
Flamcovent Clean Smart Press	2"	10.5	6.5	3.5	FSADS -200P