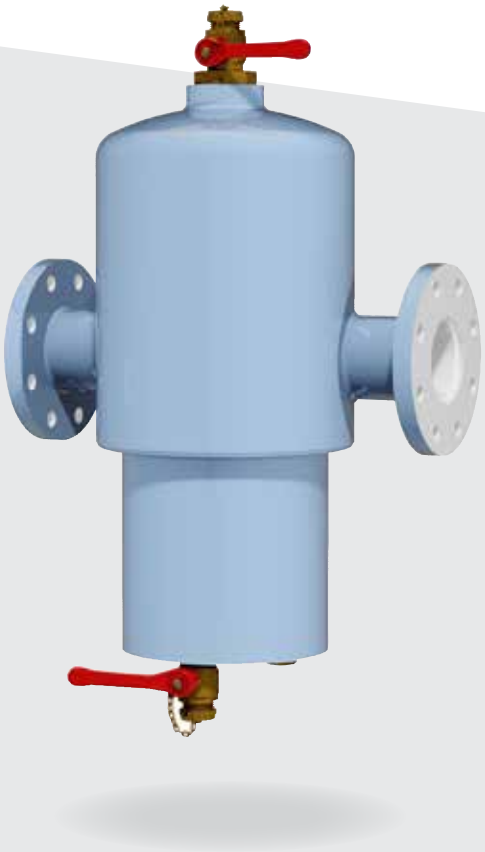
IMI PNEUMATEX

Zeparo G-Force



Automatic air vents and separators

Dirt and magnetite separator with Cyclonic technology

Engineering GREAT Solutions

IMI Hydronic Engineering

Zeparo G-Force

Comprehensive range of products for sludge and magnetite separation in heating and cooling water systems. The number of potential applications as well as their modular construction is unique. Its **new cyclonic technology** takes dirt separation efficiency to the next level

Key features

> **High separation efficiency with Cyclonic technology**
Cleans your system in fewer cycles, each time reducing dirt particles that would normally deposit in the system with each additional cycle. The dirt collected can be easily and quickly flushed out with the help of the drain valve.

> **High efficiency independent of dimension**
Dirt separator efficiency increases as flow velocity increases. The pressure drop remains stable during operation regardless of the amount of dirt collected. Even higher protection for higher flows, e.g. in cooling applications. Suitable for heating and cooling installations.

> **Cleans and protects the installation**
Protects critical investments from malfunction and even failure due to dirt, such as boilers, pumps, valves, chillers, and calorie meters. No clogging risk. Reduces maintenance of equipment needed over system lifetime and associated costs.

> **Magnet Accessory**
Optimizes separation efficiency even further for sludge and magnetite (black iron oxide) deposits which consist of finer magnetic particles. Easy handling and cleaning.

Technical description

Application:
Heating and chilled water systems.

Media:
Non-aggressive and non-toxic system media.
Addition of antifreeze agent up to 50%.

Pressure:
Max. admissible pressure, PS: PN 16 and PN 25 (see each product)
Min. admissible pressure, PSmin: 0 bar

Temperature:
Max. admissible temperature, TS: 110°C
Min. admissible temperature, TSmin: -10°C

Material:
Steel. Color beryllium.

Marking:
Body: flow direction arrow.
Label: DN, PN, TS and TSmin.

Connection:
Flanges according to EN 1092-1.
Welding ends.
Groved ends.

Transportation and storing:
In dry places.

Approvals:
Constructed according to PED/DEP 97/23/EC.

Volumes and Flows

DN	VN [l]	qN [m³/h]	qN_{max} [m³/h]
65	12	10	40
80	25	18	56
100	28	37	95
125	71	68	148
150	78	100	216
200	239	200	375
250	583	345	575
300	624	540	815

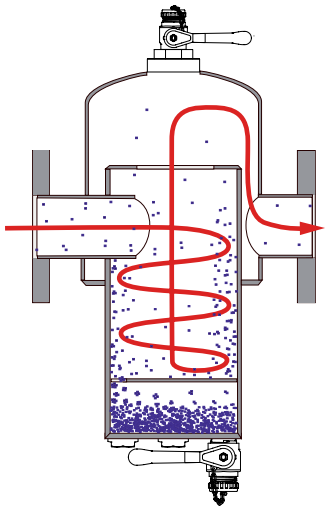
VN = Nominal volume
qN = Nominal flow/flow rate
qN_{max} = Maximum flow

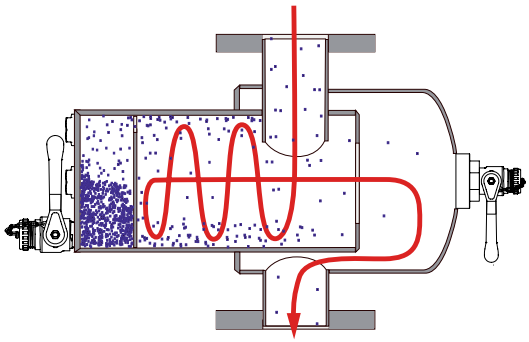
Separation principle

Cyclonic principle

The Zeparo G-Force is based on a variety of principles that guarantee its high separation efficiency:

- Centrifugal forces - the cyclone creates a rotation within the Zeparo which results in additional forces on the dirt particles. The combination of gravitational and centrifugal forces result in high efficiency.
- Compared to the low gravity forces the centrifugal forces are significantly higher based on the speed inside the separator.
- The difference in density between the water and dirt particles (which have higher density) pushes the dirt particles to the outer wall of the Zeparo.
- Downwards stream: the downwards movement created within the Zeparo guides the dirt particles to the bottom and finally into the dirt collection chamber to be flushed out.
- In addition the ZGM magnetic rod will effectively increase the magnetite separation.



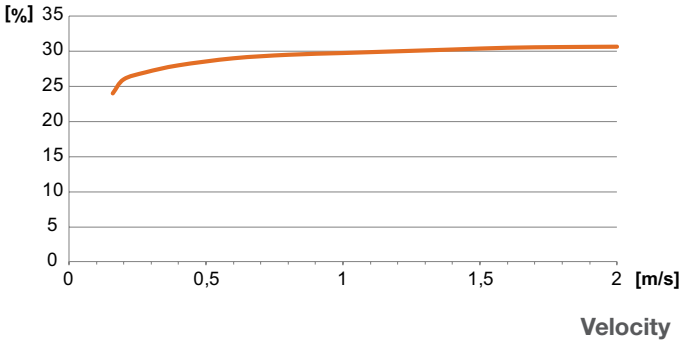


The cyclonic principle works independent from the position. The separator can be mounted horizontal and vertical in any position.

Separation efficiency

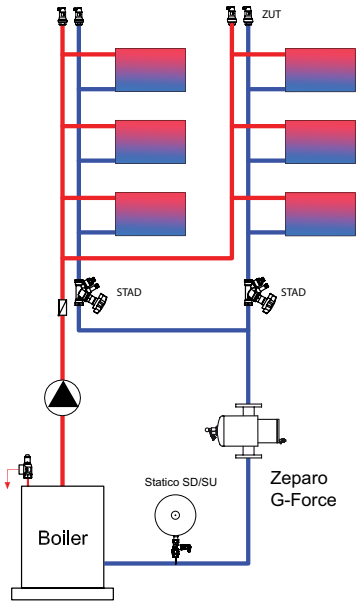
Typical curve

Efficiency

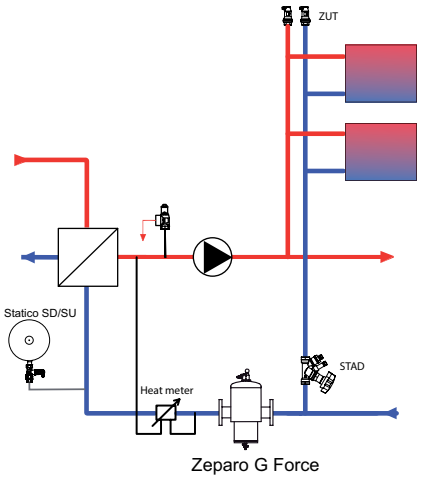


Application examples

System with boiler

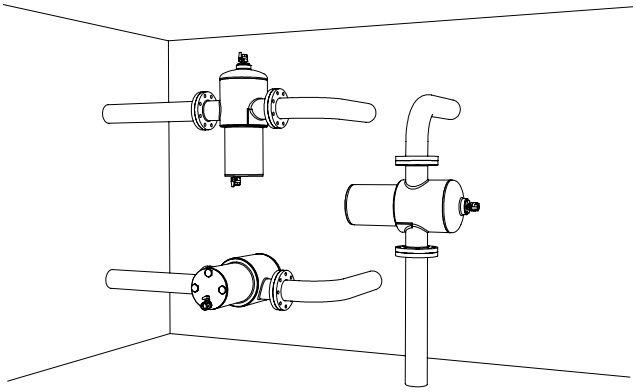


System with heat exchanger



The Zeparo G-Force should be mounted either on the return in front of the unit to be protected or directly in front of the energy source.
There is no minimum distance required to pipe bends etc. before or after the Zeparo G-Force.

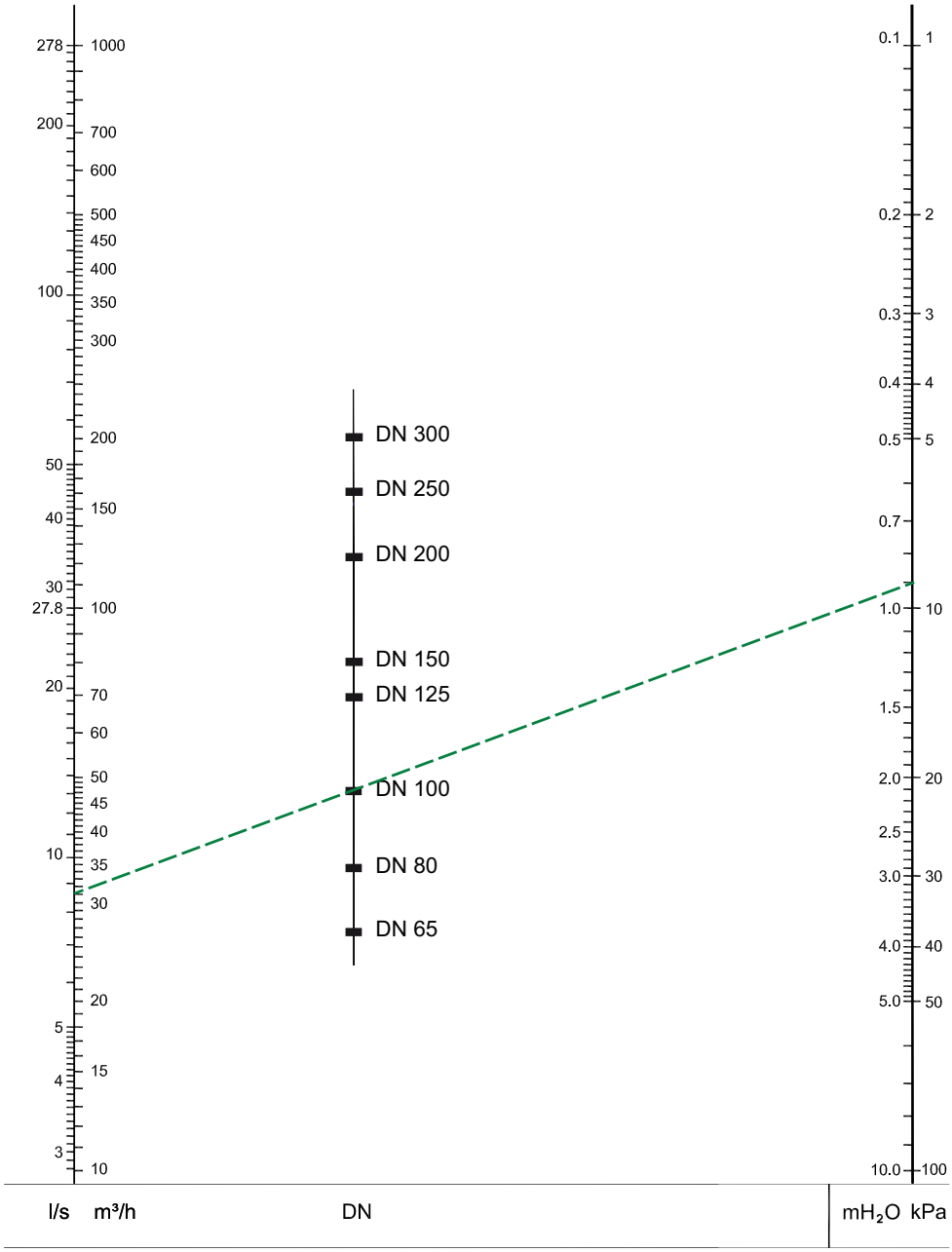
Installation



Quick selection

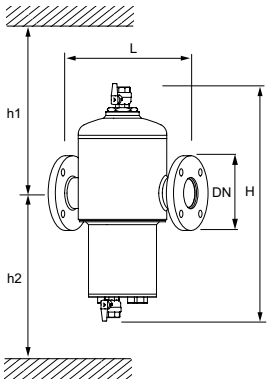
Heating

Example:
Heating system with a pipe DN 100 and 31 m^3/h flow. Draw a line from the point 31 m^3/h to required dimension DN100 and read on the line for pressure drop 9 kPa.



For an exact calculation please use HySelect software.

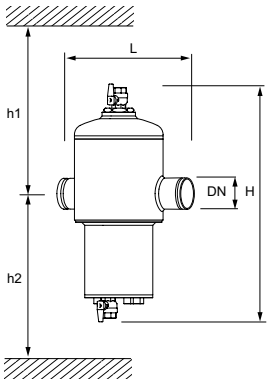
Articles



Flanged
Horizontal, vertical and lying installation.

PN 16

Type	S [DN]	H	h1	h2	L	q_{nom} [m³/h]	q_{max} [m³/h]	m [kg]	EAN	Article No
ZG 65	65	595	640	625	350	10	40	23	7640161631489	303041-11000
ZG 80	80	675	655	685	470	18	56	37	7640161631496	303041-11100
ZG 100	100	745	670	740	475	37	95	40	7640161631502	303041-11200
ZG 125	125	988	920	840	635	68	148	108	7640161631519	303041-11300
ZG 150	150	1057	920	920	635	100	216	118	7640161631526	303041-11400
ZG 200	200	1258	950	1085	900	200	375	238	7640161631533	303041-11500
ZG 250	250	1488	1000	1270	1100	345	575	443	7640161631540	303041-11600
ZG 300	300	1638	1020	1400	1100	540	815	490	7640161631557	303041-11700



Welded Connection
also suitable for grooved ends
Horizontal, vertical and lying installation.

PN 16

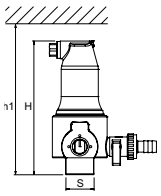
Type	S [DN]	H	h1	h2	L	q_{nom} [m³/h]	q_{max} [m³/h]	m [kg]	EAN	Article No
ZG 65 W	65	595	640	625	350	10	40	17	7640161631564	303041-21000
ZG 80 W	80	675	655	685	470	18	56	30	7640161631571	303041-21100
ZG 100 W	100	745	670	740	475	37	95	31	7640161631588	303041-21200
ZG 125 W	125	988	920	840	635	68	148	97	7640161631595	303041-21300
ZG 150 W	150	1057	920	920	635	100	216	102	7640161631601	303041-21400
ZG 200 W	200	1258	950	1085	900	200	375	218	7640161631618	303041-21500
ZG 250 W	250	1488	1000	1270	1100	345	575	415	7640161631625	303041-21600
ZG 300 W	300	1638	1020	1400	1100	540	815	452	7640161631632	303041-21700

Accessories

Magnet Attachment
Heating, solar and cooling water systems.
Addition of antifreeze agent up to 50%.

Zeparo G-Force Magnet ZGM
Magnet Attachment. For retrofitting to mounting on site in the range Zeparo G-Force.
T-branch with magnetic rod and pocket. To increase the magnetite capture.

Type	m [kg]	m [kg] (incl. Magnet)	EAN	Article No
ZGM 65-100	2,5	3,1	7640161632301	303051-11000
ZGM 125-150	2,8	3,6	7640161632318	303051-11300
ZGM 200-300	3,0	4,0	7640161634794	303051-11500



Automatic air vent, version Top
Zeparo ZUTX eXtra-lockable
Male thread. Vertical installation.

Type	H	h1	m [kg]	S	dpu [bar]	EAN	Article No
ZUT X 25	159	184	1,3	R1	10	7640148632485	789 1325

dpu = Working pressure range

Pressure class reduced to PN 10 when ZUT is mounted on the Zeparo G-Force

RSZ EN Zeparo G-Force v.3 10.2016