

Diacom INOX

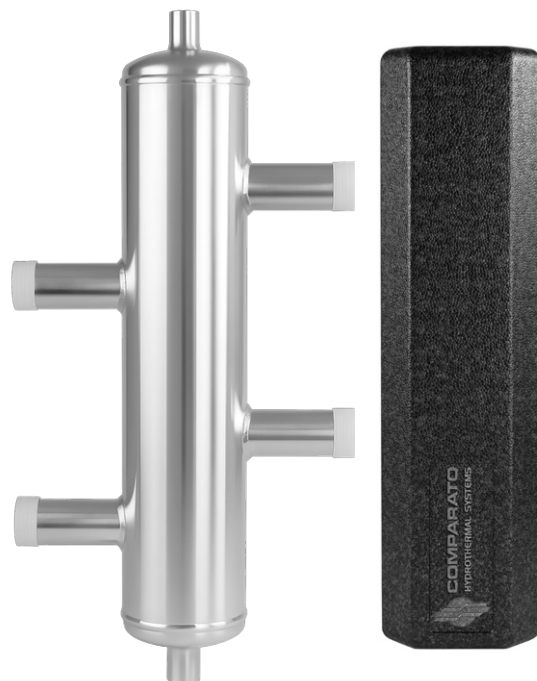
HYDRAULIC SEPARATOR WITH ADDITIONAL FUNCTION
OF AIR AND DEPOSIT SEPARATOR IN AISI 304

USE

Heating / cooling plants.

FUNZIONI

The purpose of the **Diacom INOX** hydraulic compensator is to hydraulically separate the generating circuit and the utilization circuit, when they have different water flow needs. In general, the application is the interface between the primary and secondary system, when the utilization circuit flow is variable and delivers values which are not compatible with the generator needs. Moreover, it has to be used when an anti-condensation function is needed, because it raises the return flow temperature before it gets to the boiler inlet, mixing the outlet and the return flows. Moreover, the **Diacom INOX** compensator has an additional function: in fact it creates a slow vertical path aimed at helping the upflow air separation and the accumulation of dirt and sludge in the lower part, for an easier discharge to sewers. **The connection position has been carefully designed in order to ease the above mentioned functions.**



PECULIARITY

The outlet temperature to the user's units should be equal to the temperature of the flow coming out of the generator: therefore, it is necessary that the G1 flow in the primary circuit is higher than the G2 flow (see diagrams below) in any condition of use. Otherwise, the outlet temperature to the user's units would be lower than the temperature of the flow coming out of the generator.

Diacom INOX TECHNICAL FEATURES

- Maximum fluid temperature: 90°C
- Minimum fluid temperature: 5°C
- Maximum fluid pressure: 5 bar
- Fluid type: water (maximum glycol percentage 30%)
- Material: AISI304 stainless steel

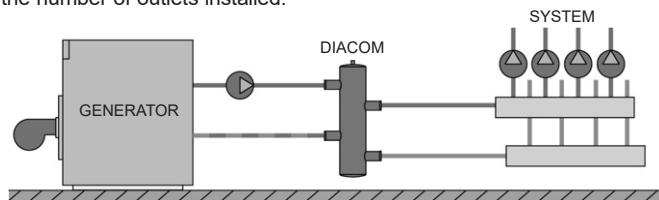
INSULATION TECHNICAL FEATURES

- Material: polypropylene (EPP) (density 30 Kg/m³)
- Type: Snap-in shell.

APPLICATION EXAMPLES

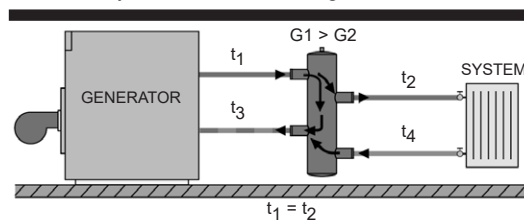
The circuit below ensures that the flow recommended by the manufacturer gets to the production circuit for a proper functioning.

On the other hand, there will be variable flows in the utilization circuit, according to the number of outlets installed.



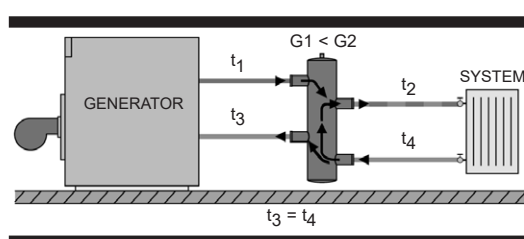
COMMON APPLICATION

Raising the return temperature from the user's units in order to avoid any condensation in the generator.



SPECIFIC APPLICATION

Lowering the flow temperature towards the users' units.



CALCULATION OF THE TEMPERATURE DIFFERENCE

The temperature difference on the primary and secondary circuits are calculated as follows:

$$\Delta t_1 = (t_{a1} - t_{r1}) = Q_1 \cdot 0,86 / G_1 \quad \Delta t_2 = (t_{a2} - t_{r2}) = Q_2 \cdot 0,86 / G_2$$

where:

- Q_1 [W] is the useful thermal power of the generator;
- G_1 [kg/h] is the water flow in the primary circuit;
- Q_2 [W] is the thermal power exchanged by the utilization circuit;
- G_2 [kg/h] is the water flow in the utilization circuit;
- t_a [°C] is the outlet temperature;
- t_r [°C] is the return temperature.



COMPARATO NELLO s.r.l.

UNI EN ISO 9001:2015 CERTIFIED COMPANY

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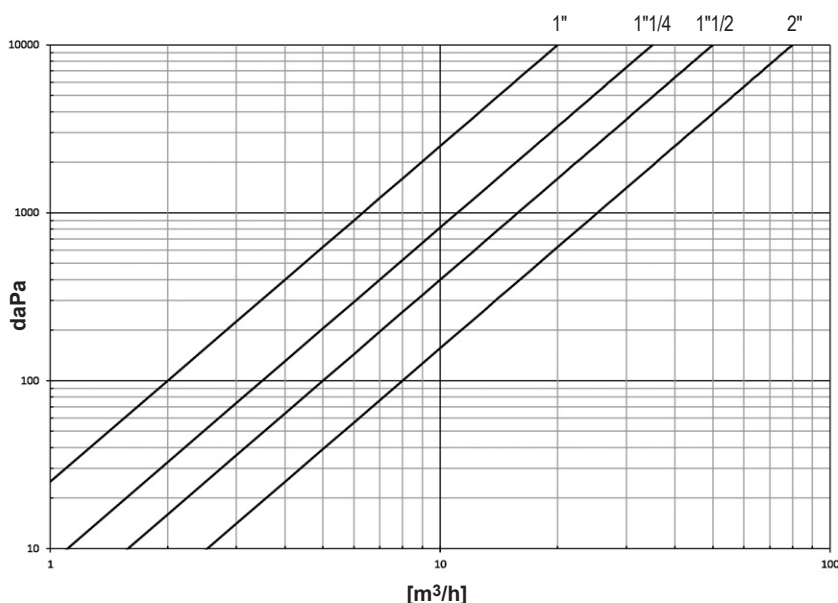
THE HYDRAULIC COMPENSATOR IS NECESSARY IN THE FOLLOWING CASES:

Type of generator	Compensator	
	YES	NO
NORMAL GENERATORS HIGH EFFICIENCY	It is necessary in order to preserve the system and in particular if the system flow and the return temperature reach too low values, which are not compliant with the type of generator (because of thermal exchange needs on the water side or in order to avoid any condensation on the fumes side).	If the system flow is constant and compliant with the type of generator (installation recommended).
GENERATOR SLIDING TEMPERATURE		
CONDENSING BOILER	It is necessary in order to preserve the system and in particular if the generator cannot operate at low flows (please note that in this case the generator is protected but there will be a loss of performance).	If the generator can operate with low flows or no flow at all and therefore with cold returns (in condensating generators, the lower the return temperature, the higher the performance).

VERSIONS

THREADED MALE	CONNECTIONS			
	1"	1"1/4	1"1/2	2"
Separator code	A001	A114	A112	A002
Insulation code	CBC001	CBC114	CBC112	CBC002

FLUID-DYNAMIC FEATURES • (calculate the losses in primary and secondary circuits separately)



Kv and INDICATIVE FLOW RATES			
THREADED			
Ø	Kv	Q	Q
1"	20	2 m³/h	2,8 m³/h
1"1/4	35	3,5 m³/h	5 m³/h
1"1/2	50	5 m³/h	7,1 m³/h
2"	80	8 m³/h	11,3 m³/h

$\Delta p = 100 \text{ daPa}$

$\Delta p = 200 \text{ daPa}$

$$\Delta p = (Q / Kv)^2$$

Δp : pressure drop in [bar]

Q : flow rate in [m³/h]

Kv : hydraulic characteristic in [m³/h]



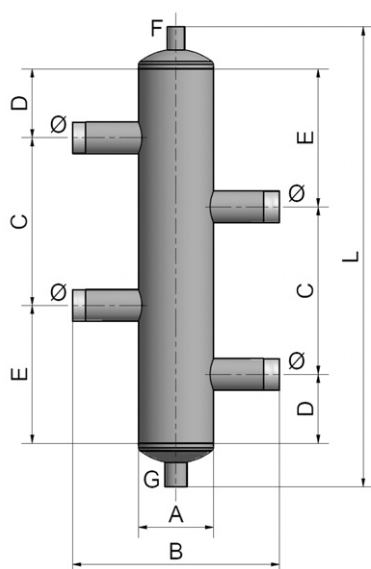
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OVERALL SIZE



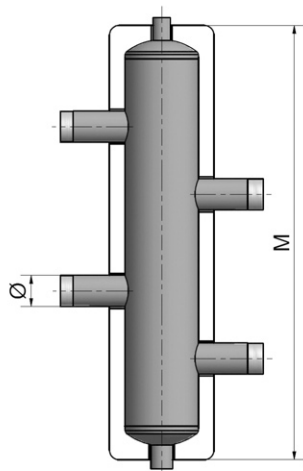
THREADED SEPARATOR SIZES - GAS (UNI EN 10226-1)

Ø	A	B	C	D	E	F	G	L
R1"	DN 80	289	150	65	125	Rp1/2" F	Rp3/4" F	450
R1"1/4	DN 100	314	220	90	180	Rp1/2" F	Rp3/4" F	625
R1"1/2	DN 100	314	255	105	210	Rp1/2" F	Rp3/4" F	705
R2"	DN 125	341	320	135	270	Rp1/2" F	Rp1" F	875

VOLUME AND WEIGHT

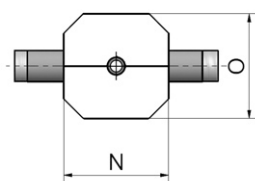
Ø	volume [l]	weight [kg]
1"	2,2	5
1"1/4	5	8
1"1/2	6	9
2"	12	13

THE CONNECTIONS ARRANGEMENT HELPS AIR SEPARATION AND DEPOSIT OF DEBRIS/SLUDGE



INSULATION SIZE

Ø	M	N	O
1"	433	135	135
1"1/4	594	162	162
1"1/2	674	162	162
2"	854	186	186



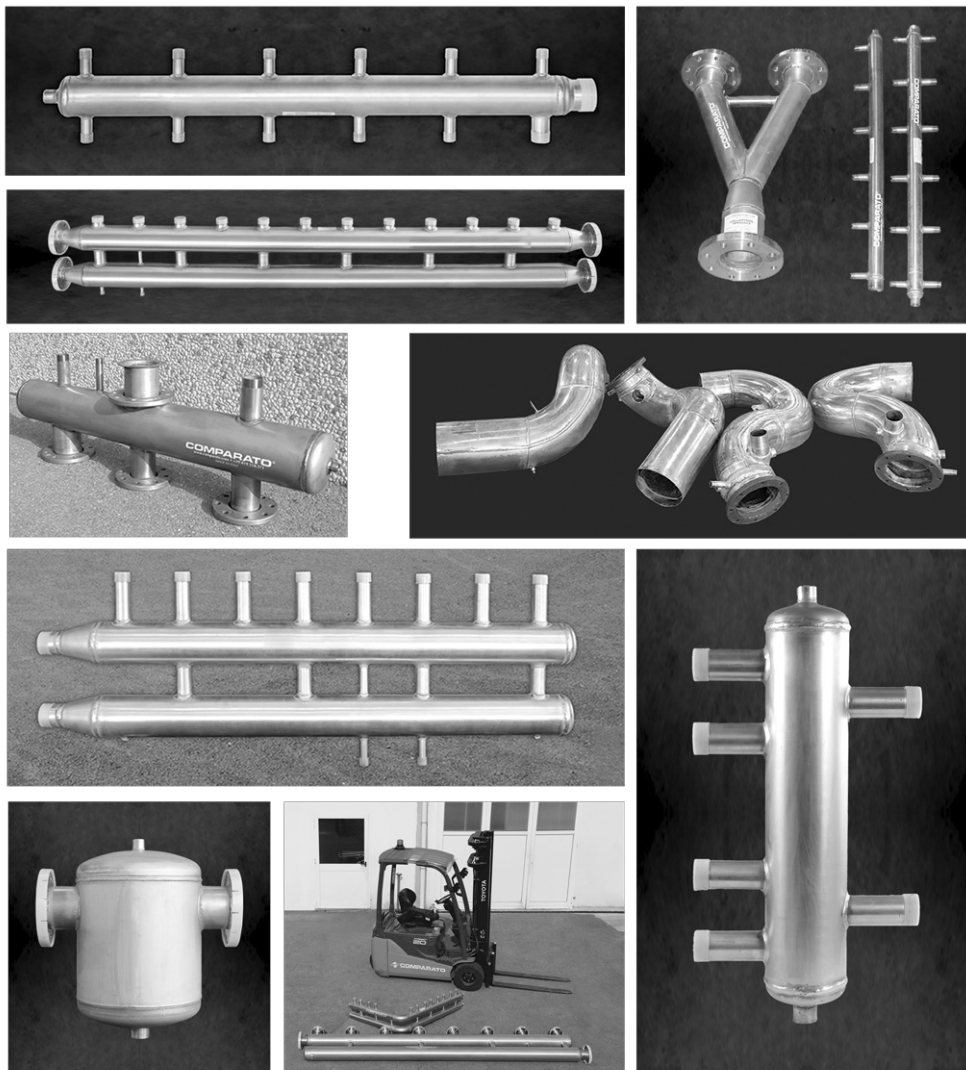
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SPECIAL SEPARATORS

Upon request, components for central heating systems in AISI 304 or AISI 316L stainless steel can be manufactured with non-standard dimensions based on the customer's design.

Some examples.



EXAMPLE OF SPECIFICATIONS

DIACOM STAINLESS STEEL HYDRAULIC SEPARATOR FOR CENTRAL HEATING SYSTEMS, made of AISI 304 stainless steel, with additional air-separator and dirt-separator functions, 2" M threaded connections, 1/2" F sleeve for air vent valve, 1" F sleeve for drain valve, maximum temperature 90 °C, minimum temperature 5 °C, maximum pressure 5 bar.

Brand: **COMPARATO**

Code: **A002**

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