Description

ICMA C304 hydraulic compensators are devices installed between a primary hydraulic circuit and the delivery point with several secondary circuits, each one with its own circulation pump.

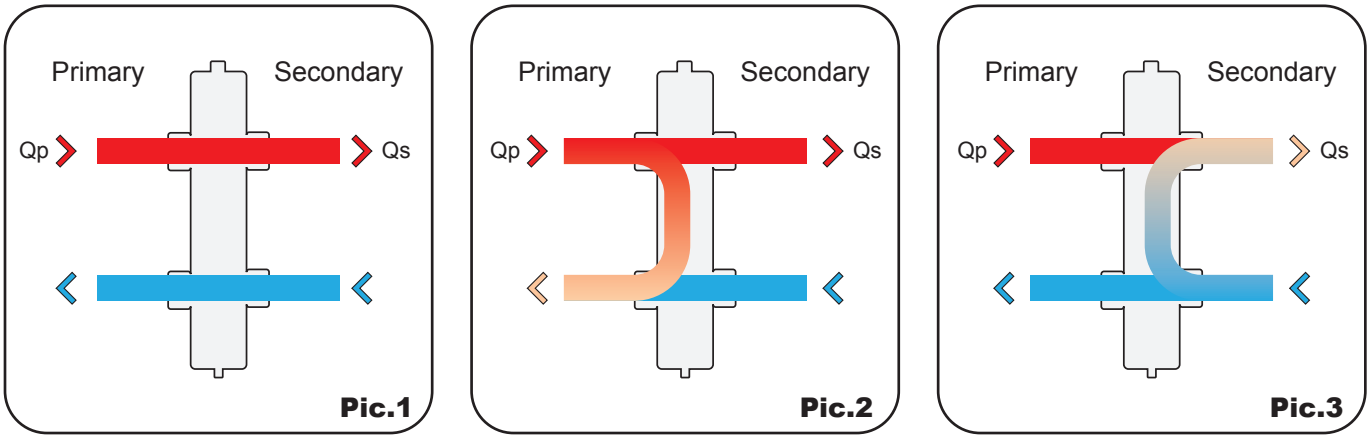
When inside of the same heating system there is a primary circuit with its own pump, and a secondary circuit with one pump or more, the pumps may interact with each other, thus creating variations in the circuit flow rate and pressures.

The use of hydraulic compensators allows, in fact, by recreating a reduced area of load losses, to convey two flows in the same area, making them hydraulically independent from each other. This use allows a variable flow rate in the distribution circuit to be met at constant flow of the production circuit.

In case the flow rates in the primary and the secondary circuit are identical (pic. 1), the compensator does not perform any function. Whereas, if a flow has a superior rate than the other one, thanks to the compensator, part of the flow rate will be directed to the primary (pic. 2) or to the secondary circuit (pic. 3), thus balancing the two flow rates. In this way, the functioning of each pump of the hydraulic circuits will be indipendent from the functioning of the other pumps.

Therefore, thanks to the compensator, the cavitation phenomenon is also prevented.

Operating Scheme



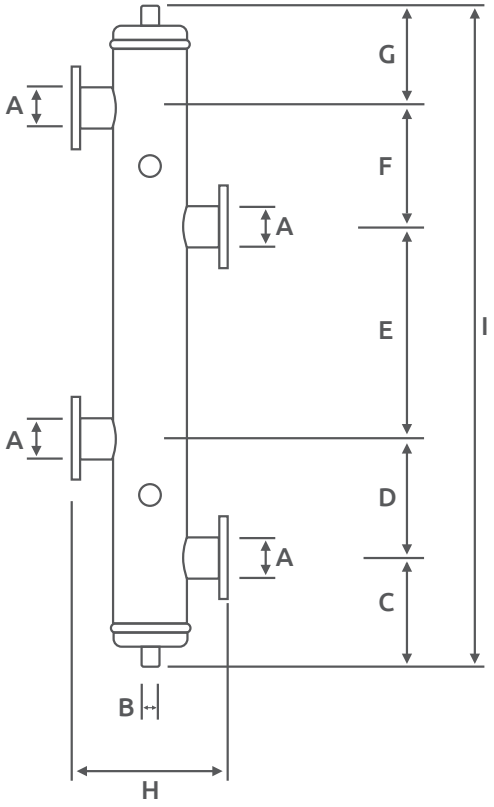
Qprimary = **Qs**econdary

Qprimary > **Qs**econdary

Qprimary < **Qs**econdary

Q = Flow rate

Dimensions



Code	A	B	C	D	E	F	G	H	I
92C304AJ06	DN50	1/2"	163	150	350	150	172	314	985
92C304AK06	DN65	1/2"	163	150	350	150	172	314	985
92C304AL06	DN80	1/2"	222	200	300	200	231	340	1153
92C304AN06	DN100	1/2"	237	200	300	200	246	368	1183
92C304AP06	DN125	1"	303	300	600	300	303	623,9	1806
92C304AR06	DN150	1"	350	300	600	300	350	655,6	1900
92C304AS06	DN200	1"	448	350	650	350	398	706	2196
92C304AT06	DN250	1"	465	450	650	450	465	808	2480

Technical features

Working fluids:	Water and glycol solutions
Maximum percentage of glycol:	50%
Maximum temperature:	100°C
Max. working pressure:	10 bar

Materials

Body:	Stainless steel

Sizing

Table for a quick sizing of hydraulic compensators assuming primary and secondary circuits of equal section, flow rate and thermal jump

Internal diameter of side connections	Max. Flow rate (mc/h)	Internal diameter of hydraulic compensator (cm.)
DN 50	~ 9,0	~ 9,3
DN 65	~ 18,0	~ 12,1
DN 80	~ 28,0	~ 14,2
DN 100	~ 56,0	~ 18,4
DN 125	~ 75,0	~ 22,6
DN 150	~ 110,0	~ 27,4
DN 200	~ 180,0	~ 36,2
DN 250	~ 300,0	~ 44,1
DN 300	~ 420,0	~ 54,1
DN 400	~ 800,0	~ 68,2
DN 500	~ 1450,0	~ 85,8

Accessories

1. Flow discharge valve Art.150 - Art.152;
2. Automatic air vent valve Art. 700, 707, 708, 709
3. Thermomanometer with retention valve Art.259 0-10bar.