Hydraulic compensator
C303

Description

ICMA C303 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.

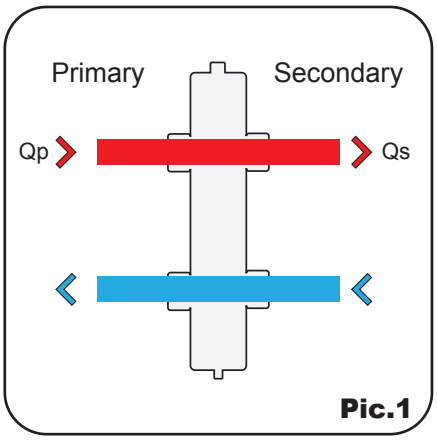
When inside of the same heating system there is a primary circuit with its own pump, and a secondary circuit with one pump or more, the pumps may interact with each other, thus creating variations in the circuit flow rate and pressures.

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.

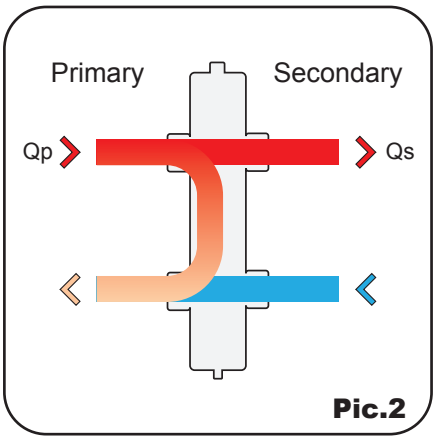
Therefore, thanks to the compensator, the cavitation phenomenon is also prevented.

Operating Scheme



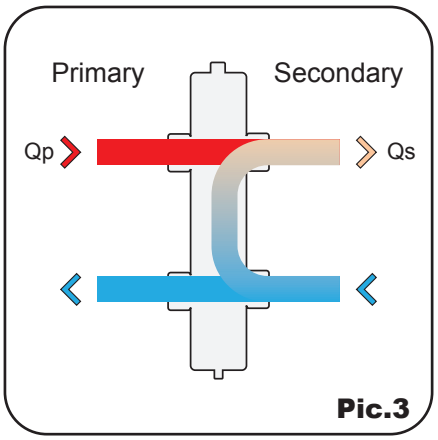
Pic.1

Qprimary = **Qs**econdary



Pic.2

Qprimary > **Qs**econdary

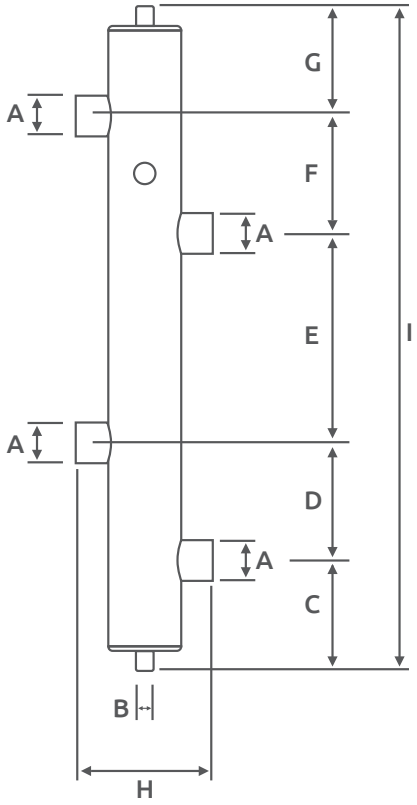


Pic.3

Qprimary < **Qs**econdary

Q = Flow rate

Dimensions



Code	A	B	C	D	E	F	G	H	I
92C303AF06	1”	3/8”	127	150	150	150	127	135	704
92C303AG06	1”/4	3/8”	127	150	250	150	127	175	804
92C303AH06	1”1/2	3/8”	127	150	250	150	127	175	804
92C303AJ06	2”	3/8”	127	150	350	150	127	201	904

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.)
1”	~ 2,5	~ 4,8
1”1/4	~ 4,0	~ 6,3
1”1/2	~ 6,0	~ 7,4
2”	~ 8,5	~ 9,3

Accessories

1. Flow discharge valve Art.150 - Art.152;
2. Automatic air vent valve Art. 700, 707, 708, 709
3. Pipe union plain seat Art.818;
4. Thermomanometer with retention valve Art.259 0-10bar.