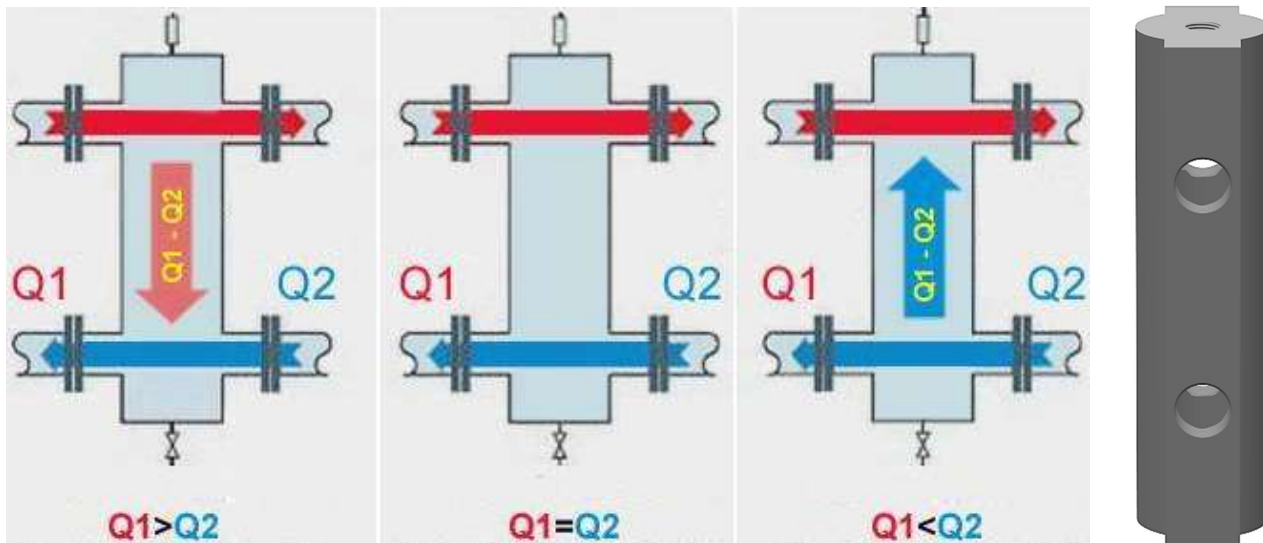


MANUR

HYDRAULIC SEPARATORS *Series HS* FOR HEAT PUMPS



The hydraulic separator is necessary for the hydrodynamic balancing of the heating system and serves as an additional unit. It enables the protection of heat pumps against possible thermal shocks. This can happen during the initial start-up of the heat pump, technical checks or maintenance work, which are followed by the mandatory shutdown of the circulation pump for hot water. Also, the use of a hydraulic separator will protect the reliability of your heating system during automatic shutdown of hot water, underfloor heating, etc. During the installation of the heating system, in order to comply with the manufacturer's warranty on the equipment, the installation of a hydraulic separator is a prerequisite.

Also, the hydraulic separator equalizes the pressure at unequal flow rates in the main circuit of the heat pump and the total consumption of the secondary heat circuits. A hydraulic separator will be useful in the case of multi-circuit heating systems (heating radiators, boiler, underfloor heating, etc.). Respecting hydrodynamic standards, our MANUR brand device allows 100% elimination of the influence of circuits on each other and guarantees their smooth operation in certain modes.

With an accurate calculation of dimensions and hydro-mechanical parameters, the MANUR HS series hydraulic separator will act as a reservoir and remove mechanical impurities such as rust, sludge and scale from the liquid. This will significantly extend the working time of all moving and erosive elements of the heating system, such as pumps, shut-off valves, meters and sensors.

The hydraulic separator performs the important role of removing air from the liquid. This will significantly reduce the amount of oxidized metal parts of the heating system.

In the hydraulic separator, a small mean flow velocity occurs, i.e. a negligible pressure drop between the supply and return lines. This achieves complete hydraulic separation. The mutual influence of the primary and secondary volume flow is thereby excluded.

In order to avoid the problem of supplying the consumer with a sufficient amount of water, a hydraulic separator is installed between the heat pump and the consumer and it provides the necessary water flow for the different heating circuits. A hydraulic separator is essential in today's heating installations with one or more heat pumps. Thanks to the low water content in the new generation of central heating heat pumps, the set heat pump temperature is reached very quickly without heat removal.

All threads of heat pump and consumer connections and the threads of the venting and fill/drain/flush connections in the standard MANUR hydraulic separator are internal G ISO 228-1 threads. MANUR hydraulic separators are made of high-quality black thermoplastic.

- Available in various modular flow configurations, individual customer solutions are developed and manufactured at an attractive price/performance ratio.

Series	KR			
Flow-max m ³ /h	9			
Working pressure bar	up to 4			
Working temperature °C	up to 70			
Inlet/outlet	G 3/4"	G 1"	G 5/4"	G 3/2"
Venting/fill/drain/flush	1/2"			
Axis distance of ports mm	120	150	192	240

Example, for ordering, marking of the MANUR hydraulic separators for heat pumps: HS-1 3.3

1 (3/4, 5/4, 3/2) - internal G thread of connections

3.3 - flow rate, m³/h