



## Magnetic Hydraulic Separators

### HYDROSEP-1XX

#### SUBMITTAL SHEET

Job Name	
Engineer	
Mechanical Contractor	
Contractor's P.O. No.	
Representative	
Notes	

Model(s)				
	Qty.		Notes	
	Qty.		Notes	
	Qty.		Notes	
	Qty.		Notes	
Approval				
Service				
Tag No.				

### APPLICATION

In modern hydronic installations, the HYDROSEP-1 magnetic hydraulic separator performs the following functions:

- **Hydraulic separator:** Makes connected hydraulic circuits independent, preventing any flow influence between circulators installed in series and balancing the difference of flows through the circuits, all according to the characteristics of their corresponding circulator.
- **Dirt separator:** Separates and eliminates any debris inside the circuits thanks to the combined action of a magnet and a metallic mesh surface which allow for the separation to take place. The impurities can subsequently be removed by the discharge valve.
- **Deaerator:** Separates and eliminates the air inside the circuits through the air vent placed on the separator's upper connection. The hydraulic separators are equipped with insulation to minimize thermal loss.

### OPERATING SPECIFICATIONS (UNION VERSION)

**Temperature Range:** 32-230 °F (0-110 °C)

**Max. Working Pressure:** 145 psi. (10 bar)

**Max. Pressure of Air Vent Operation:** 102 psi. (7 bar)

**Fluids Used:** Water, glycol-based solution (max. 50% glycol concentration)

**Separator Connections:** See Table 2.

**Air Vent Valve Connection:** 1/2 in. ISO228

**Drain Tap Connections:** 3/4 GHT and threaded cap

**Additional Frontal Connections:** 1/2 in. ISO228

Table 1. Dimensions for Union Versions (in Inches).

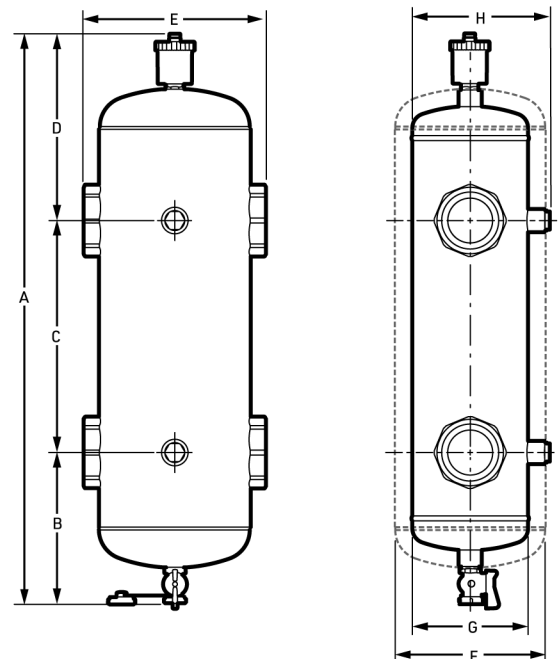
Model Number	Size	A	B	C	D	E	F	G	H
HYDROSEP-102-U/U	1 in.	21.5	5.6	8.7	7.3	5.8	4.6	3	4
HYDROSEP-103-U/U	1-1/4 in.	23.3	6	9.4	7.8	6.5	5.1	3.5	4.5
HYDROSEP-104-U/U	1-1/2 in.	25.3	6.6	10.2	8.4	7.7	6.1	4.5	5.5
HYDROSEP-105-U/U	2 in.	27	7.1	11	8.9	8.7	7.1	5.5	6.5

Table 2. Required Adapters (Union Versions).

Model Number*	Description
HS-NPT-102/U	1 in. Union NPT Threaded Adapter, 2 NPT Fittings
HS-NPT-103/U	1-1/4 in. Union NPT Threaded Adapter, 2 NPT Fittings
HS-NPT-104/U	1-1/2 in. Union NPT Threaded Adapter, 2 NPT Fittings
HS-NPT-105/U	2 in. Union NPT Threaded Adapter, 2 NPT Fittings
HS-PRESS-102/U	1 in. Union Press Adapter, 2 Press Fittings
HS-PRESS-103/U	1-1/4 in. Union Press Adapter, 2 Press Fittings
HS-PRESS-104/U	1-1/2 in. Union Press Adapter, 2 Press Fittings
HS-PRESS-105/U	2 in. Union Press Adapter, 2 Press Fittings
HS-SWEAT-102/U	1 in. Union Sweat Adapter, 2 Sweat Fittings
HS-SWEAT-103/U	1-1/4 in. Union Sweat Adapter, 2 Sweat Fittings
HS-SWEAT-104/U	1-1/2 in. Union Sweat Adapter, 2 Sweat Fittings
HS-SWEAT-105/U	2 in. Union Sweat Adapter, 2 Sweat Fittings

\* Each vessel requires 4 union fittings.

**⚠ Note:** Product/accessories/parts are to be used for closed heating systems only.



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# MATERIALS

## Union Version

**Separator Body:** FE360 varnished steel

**Automatic Air Vent Valve:**

Body and Cap: ASTM B124 UNS C37700 (CW617N EN 12165) brass  
O-Ring: EPDM  
Shutter Spring: Inox  
Internal Float: PP-H

**Connection Fitting Adapters:**

Body: ASTM B124 UNS C37700 (CW617N EN 12165) brass  
Gaskets: PTFE

**Plug:**

Body: ASTM UNS C38500 (CW614N EN 12164) brass  
Gasket: EPDM

**Drain Tap:** ASTM B124 UNS C37700 (CW617N EN 12165) brass

**Insulation:**

Shell: open cell PE foam with embossed aluminum lining  
Thickness: 0.78 in. (20 mm)  
Density: 0.001 lb/in<sup>3</sup> (30 kg/m<sup>3</sup>)  
Thermal Conductivity: 0.038 W/m K  
Fire reaction (DIN 4102): Class B2

**Magnet:** AlNiCo (AlNiCo magnet provides higher operating temperature and does not corrode.)

## Flanged Version

**Separator Body:** FE360 varnished steel

**Automatic Air Vent Valve:**

Body and Cap: ASTM B124 UNS C37700 (CW617N EN 12165) brass  
O-Ring: EPDM  
Shutter Spring: Inox  
Internal Float: TPX

**Drain Ball Valve:** ASTM B124 UNS C37700 (CW617N EN 12165) brass

**Insulation:**

Shell: Polypropylene  
Thickness: 0.78 in. (20 mm)  
Density: 0.001 lb/in<sup>3</sup> (30 kg/m<sup>3</sup>)  
Thermal Conductivity: 0.039 W/m K  
Fire Reaction (DIN 4102): Class B2

**Magnet:** AlNiCo (AlNiCo magnet provides higher operating temperature and does not corrode.)

**Table 3. Dimensions for Flanged Hydraulic Separator (in Inches).**

Model Number	Size	A	B	C	D	E	F
HYDROSEP-105-F/U	2 in.	36.5	12	11	13.5	13	7.1
HYDROSEP-106-F/U	2-1/2 in.	41.2	12.8	14.2	14.2	14.1	8.3
HYDROSEP-107-F/U	3 in.	47.5	14.4	17.3	15.8	17.7	10.2
HYDROSEP-108-F/U	4 in.	52	15.4	19.7	17	19.7	12.4
HYDROSEP-109-F/U	5 in.	58.3	15.7	23.6	19	21.7	14.4
HYDROSEP-110-F/U	6 in.	66.1	17.7	27.6	20.9	23.6	15.6

**Table 4. Replacement Parts.**

Model Number	Description
HS-VENTFLANGED/U	Replacement vent for flanged hydraulic separator.
HS-VENTUNION/U	Replacement vent for union hydraulic separator.

**Table 5.**

Model Number	Version	Connections	Max. Flow Rate GPM (m <sup>3</sup> /h)	Weight lbs (kg)	Volume gal (l)
HYDROSEP-102-U/U	Union	1 in.	11 (2.5)	5.95 (2.7)	0.39 (1.5)
HYDROSEP-103-U/U		1-1/4 in.	17.6 (4)	8.15 (3.7)	0.66 (2.5)
HYDROSEP-104-U/U		1-1/2 in.	26.41(6)	12.56 (5.7)	1.18 (4.5)
HYDROSEP-105-U/U		2 in.	39.62 (9)	15.87 (7.2)	1.9 (7.2)
HYDROSEP-105-F/U		Flanged	2 in.	46.23 (10.5)	41.88 (19)
HYDROSEP-106-F/U	2-1/2 in.		77 (17.5)	55.11 (25)	4.49 (17)
HYDROSEP-107-F/U	3 in.		110 (25)	79.36 (36)	9.51 (36)
HYDROSEP-108-F/U	4 in.		184.92 (42)	105.8 (48)	17.43 (66)
HYDROSEP-109-F/U	5 in.		286.18 (65)	160.9 (73)	27.73 (105)
HYDROSEP-110-F/U	6 in.		418.27 (95)	213.84 (97)	28.79 (109)

## OPERATING SPECIFICATIONS (FLANGED VERSION)

**Temperature Range:** 32-266 °F (0-130 °C)

**Max. Working Pressure:** 145 psi. (10 bar)

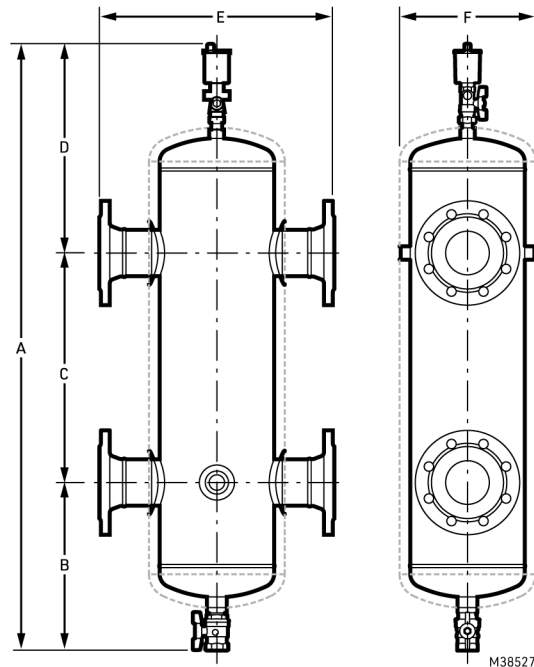
**Max. Pressure of Air Vent Operation:** 72 psi. (5 bar)

**Fluids Used:** Water, glycol-based solution (max. 50% glycol concentration)

**Separator Connections:** ASME 150 lb flange

**Air Vent Valve Connection:** 1/2 in. ISO228

**Discharge Valve Connection:** 1 in.



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