


HSK 390 PR Combination Thermal Store

	Main Features	
	Application	Combination thermal store with DHW heating in an integrated stainless-steel heat exchanger, fitted with a tight separating metal plate that increases seasonal coefficient of performance (SCOP) of a heat pump and the efficiency of a solar thermal system, with a solar heat exchanger in the lower tank section below the plate.
	Working fluid	Water (heat exchanger), water; water-glycol mixture (max. 1:1) or water/glycerine mixture (max. 2:1 (thermal store)).
	Thermal store code	14172
	Insulation code	18723

Energy Efficiency Data (as per EC Regulation No. 812/2013)

	valid for a thermal store with insulation
Energy efficiency class	C
Static loss	81 W
Storage volume	385 l

Technical data

Total thermal store volume	394 l
Fluid volume in thermal store	364 l
Fluid volume above separating plate	214 l
Fluid volume below separating plate	150 l
Fluid volume of DHW heat exchanger above the separating plate	21.0 l
Fluid volume in solar heat exchanger	9.0 l
Surface area of DHW heat exchanger above the separating plate	6.0 m ²
Solar heat exchanger surface area	1.5 m ²
Max. working temperature in thermal store	95 °C
Max. working temperature in DHW heat exchanger	95 °C
Max. working temperature in solar heat exchanger	95 °C
Max. working pressure in thermal store	4 bar
Max. working pressure in DHW heat exchanger	10 bar
Max. working pressure in solar heat exchanger	10 bar
Thermal store diameter	550 mm
Thermal store diameter with insulation	750 mm
Thermal store overall height	1905 mm
Tipping height without insulation	1940 mm
Thermal store perimeter insulation thickness	100 mm
Thermal store bottom insulation thickness	50 mm
Thermal store top insulation thickness	120 mm
Empty weight without insulation	110 kg

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Materials	
Thermal store material	S235JR
Thermal store perimeter insulation	fleece
Thermal store outer surface insulation	hard polystyrene
Top and bottom thermal store insulation	fleece
DHW heat exchanger	AISI 316 L
Solar heat exchanger	S235JR+N

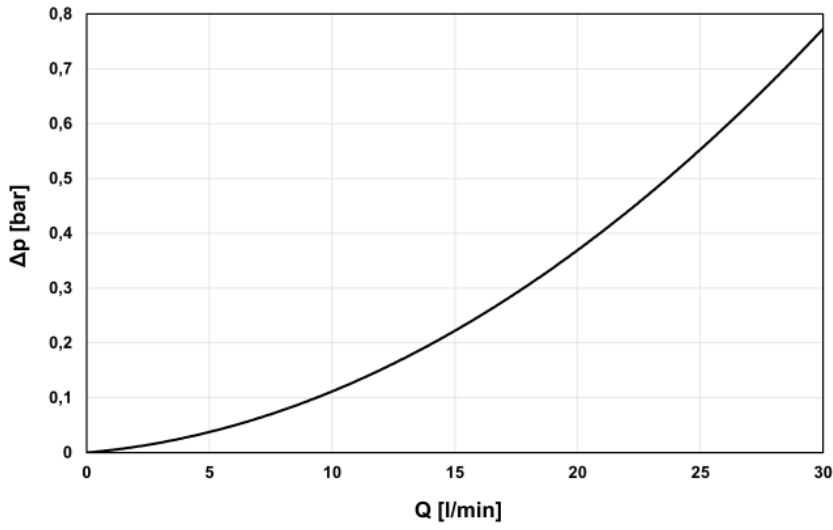
Insulation thermal conductivity $\lambda \leq 0.037$ W/mK, thermal resistance (short/long term) 150/100 °C, fire class E.

Accessories	
Electric heating element	types ETT-C, P, M, U
Heating element max. length	555 mm

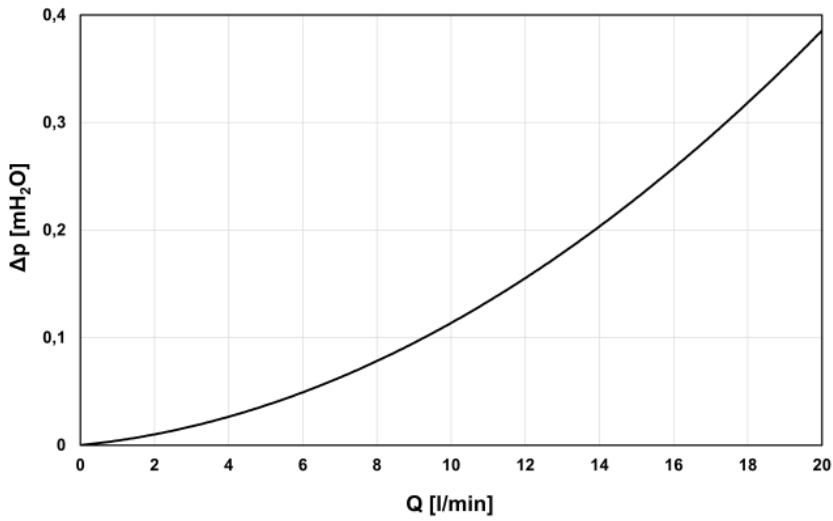
Volume of supplied DHW (heated from 10 °C to 40 °C)				
Heated volume	Temperature in thermal store	Backup heater	Flow rate [l/min]	Hot water volume [l]
Entire	50 °C	10 kW	8	363
			12	237
			20	120
Entire	50 °C	none	8	222
			12	187
			20	101
Above metal sheet	50 °C	10 kW	8	195
			12	132
			20	106
Entire	60 °C	10 kW	8	534
			12	359
			20	268
Entire	60 °C	none	8	321
			12	290
			20	266
Above metal sheet	60 °C	10 kW	8	253
			12	235
			20	208
Entire	80 °C	none	8	567
			12	528
			20	516

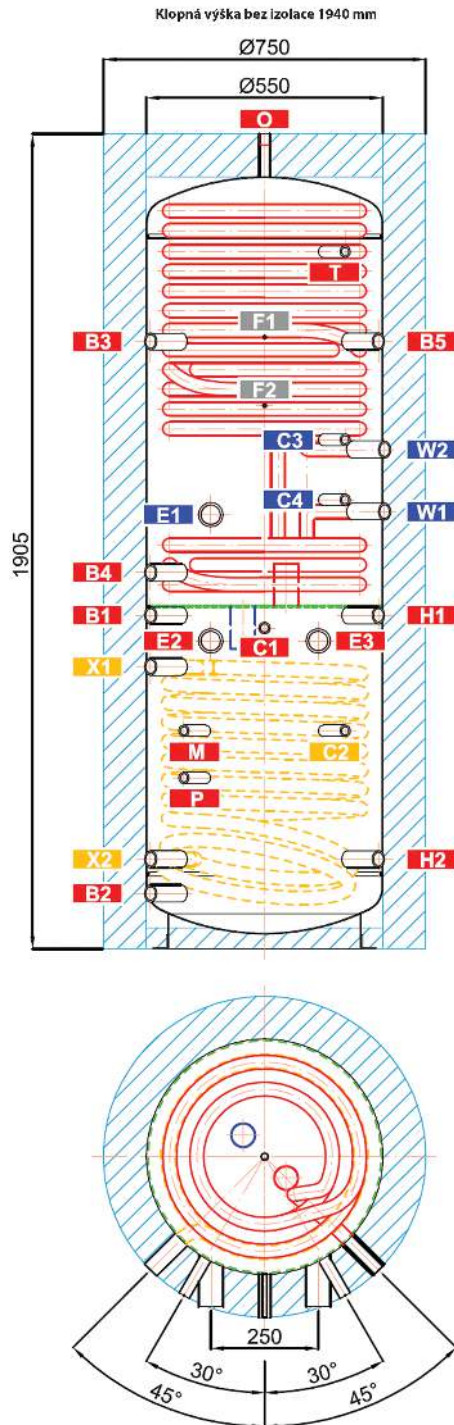
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DHW heat exchanger pressure drop graph



Solar heat exchanger pressure drop



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Dimensions

CONNECTIONS

pos.	description	connection	height [mm]
Heat sources			
B1	Supply from heat source	G 1" F	780
B2	Return to heat source	G 1" F	130
B3	Supply from heat source	G 1" F	1420
B4	Return to heat source	G 1" F	880
B5	Supply from heat source	G 1" F	1420
Heating system			
H1	Flow to heating system	G 1" F	780
H2	Return from heating system	G 1" F	210
Solar thermal system			
X1	Supply from solar collectors	G 1" F	660
X2	Return to solar collectors	G 1" F	210
Electric heating element			
E1	El. heating element (DHW)	G 6/4" F	1015
E2	El. heating element (space heating)	G 6/4" F	720
E3	El. heating element (space heating)	G 6/4" F	720
DHW heating			
W1	Cold water	G 1" M	1022
W2	Domestic hot water	G 1" M	1167
Control and safety			
C1	Temperature sensor	G 1/2" F	750
C2	Temperature sensor	G 1/2" F	510
C3	Temperature sensor	G 1/2" F	1190
C4	Temperature sensor	G 1/2" F	1050
T	Thermometer	G 1/2" F	1630
M	Pressure gauge	G 1/2" F	510
P	Safety valve	G 1/2" F	400
Air discharge			
O	Air vent valve	G 1/2" F	1905
Pump station support			
F1	Pump station support – upper	M6	1270
F2	Pump station support – lower	M6	1430