

SINGLE PHASE - DESIGN
HEAT EXCHANGER: B28x76

SWEP SSP™

Date: 13/05/2026

SSP Alias: B28

DUTY REQUIREMENTS		Side 1	Side 2
Fluid		Water	Water
Flow type		Counter-Current	
Circuit		Inner	Outer
Heat load	kW		170.0
Inlet temperature	°C	85.0	50.0
Outlet temperature	°C	53.0	70.0
Flow rate	kg/s	1.268	2.031
Pressure drop (Design PD)	kPa	8.13 (20.00)	18.8 (20.00)
Thermal length		4.29	2.68

PLATE HEAT EXCHANGER		Side 1	Side 2
Total heat transfer area	m ²		4.44
Heat flux	kW/m ²		38.3
Mean temperature difference	K		7.5
Overall heat transfer coefficient required	W/m ² , °C		5140
Pressure drop - total*	kPa	8.13	18.8
- in ports	kPa	1.07	2.74
Port diameter (up/down)	mm	33.0/33.0	33.0/33.0
Number of channels per pass		37	38
Number of plates			76
Oversurfacing	%		10
Fouling factor	m ² , °C/kW		0.018
Reynolds number		1479	2026
Port velocity (up/down)	m/s	1.51/1.51	2.42/2.42
Channel velocity	m/s	0.155	0.241
Shear stress	kPa	0.0150	0.0341
Average wall temperature	°C	64.3	63.5
Largest wall temperature difference	K		1.5
Min./Max. wall temperature	°C	51.5/77.3	51.2/75.8

*Excluding pressure drop in connections.

PHYSICAL PROPERTIES		Side 1	Side 2
Reference temperature	°C	69.0	60.0
Dynamic viscosity	cP	0.410	0.467
Density	kg/m ³	978.3	983.2
Heat capacity	kJ/kg, °C	4.191	4.185
Thermal conductivity	W/m, °C	0.6623	0.6544
Film coefficient	W/m ² , °C	11100	14500

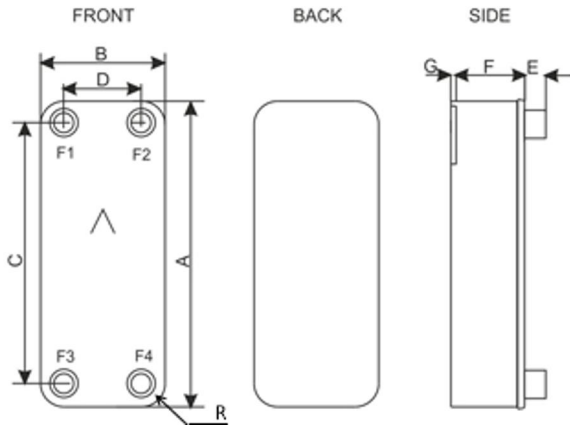
TOTALS		Side 1	Side 2
Total weight empty (no connections)*	kg	14.56 - 39.42	
Total weight filled (no connections)*	kg	23.09 - 47.95	
Hold-up volume (Inner Circuit)	dm ³	4.29	
Hold-up volume (Outer Circuit)	dm ³	4.41	
Port size F1/P1	mm	33	
Port size F2/P2	mm	33	
Port size F3/P3	mm	33	
Port size F4/P4	mm	33	

*Weight depends on the selected product.

DIMENSIONS



DIMENSIONS



A*	mm	526 - 562 ±2
B*	mm	119 - 155 ±1
C	mm	470 ±1
D	mm	63 ±1
E*	mm	27 - 45 / 45 ±1
F*	mm	174.24 - 195.16 ±2.5%
G	mm	6 ±1
P	mm	15
R*	mm	15 - 23

*Dimensions depend on the selected product.

*This is a schematic sketch. For correct drawings please use the order drawing function or contact your SWEP representative.

CARBON FOOTPRINT

	Unit	Value
Sweden - Landskrona	kg CO ₂ e	75.0 - 203.0
USA - Tulsa	kg CO ₂ e	78.6 - 212.9
Slovakia - Košice	kg CO ₂ e	85.2 - 230.8
Malaysia - Kuala Lumpur	kg CO ₂ e	118.7 - 321.4
China - Suzhou	kg CO ₂ e	203.6 - 551.4

Legal notice:

By using the SSP/SWEP SSP™ software the Licensee confirms that the input data is not subject to export control laws including ITAR (International Traffic in Arms Regulations). Licensee further agrees and confirms that the configured products are not subject to export control laws including ITAR and do not qualify as "specially designed" for export control purposes. If you would like to discuss configuration of export controlled products including ITAR-qualifying products, or if your data is export controlled, please reach out to your SWEP representative or email info@swepgroup.com.

Disclaimer:

Data used in this calculation is subject to change without notice. SWEP strives to use "best practice" for the calculations leading to the above results. Calculation is intended to show thermal and hydraulic performance, no consideration has been taken to mechanical strength of the product. Product restrictions - such as pressure, temperatures and corrosion resistance- can be found in SWEP product sheets and other technical documentation. SWEP may have patents, trademarks, copyrights or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from SWEP, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property. To the maximum extent permitted by applicable law, the software, the calculations and the results are provided without warranties of any kind, whether express or implied. No advice or information obtained through use of the software (including information provided in the results), will create any warranty not expressly stated in the applicable license terms. Without limiting the foregoing, SWEP does not warrant that the content (including the calculations and the results) is accurate, reliable or correct. SWEP does not warrant that any system comprising heat exchanger and other components, installed on the basis of calculations in this software, will meet your requirements or function to your satisfaction or expectations.

