



APV Zephyr

For general heating and cooling duties

Multiple design options for general heating and cooling.

APV Zephyr is a 400 mm (16") ported plate heat exchanger offering two different plate designs – "DuraFlow" and "EnergySaver" - and 8 plate lengths. The large variety of design options means that the APV Zephyr can be dimensioned to meet specific customer needs, delivering high thermal efficiency and large flow capacity.

Application

Designed to meet general heating and cooling duties in a wide range of industries, including chemical, marine, metallurgy, oil & gas, petrochemical and power.

Standard design

The APV Zephyr plate heat exchanger is available in a range of frame designs complying with ASME and EN PED rules, manufactured in materials and with mechanical strengths matching design conditions.

The carbon steel materials are provided with protective coating in alternate high grade painting systems, including customized painting.

Nozzles are studded and available in carbon steel or with metal linings identical with or compatible to plate materials. All flange connections are normally at the head (fixed cover) but optionally available at the follower (moveable cover) as well.

Stud bolts and nuts for flange connections are included.

The follower includes roller bearings for easy movement along the carrying bar and guide bar, which are optionally available with stainless steel contact surface. The design eliminates all pressure-loaded or media-exposed weldings.

Tie bars are provided in full length for future expansion to maximum plate capacity of frames and are optionally available as electro-galvanized. Galvanized footplates are provided with variable fixing position for anchor bolts.

Plates are selected for the specific duty in high-grade corrosion resistant metals. The plate design maximises pressure performance versus plate thickness.

Gaskets employ the latest polymer technology and are selected for best performance in relation to media and duty. Gaskets are fixed using the patented APV Easyclip feature.

Working principle

The APV Zephyr plate heat exchanger transfers heat between warm side and cold media. The media are separated by a metal plate wall with polymer gasket seals. The compressed plates form flow channels through which the medium passes. Heat transfer takes place through the plate wall.

The counter current flow together with a plate design that induces evenly distributed turbulent flow in the liquid streams, thin plate material and plate-to-plate contact ensure highly efficient heat transfer and minimum pumping costs.



Standard Materials:

Frame types	
Head & follower	Carbon steel material, protective coating
Tie bars & nuts	Carbon steel material, optionally coated by galvanization
Stud bolts & nuts	Carbon steel material coated by galvanization
Carrying & guiding bar	Carbon steel material, protective coating, optionally clad with stainless steel band

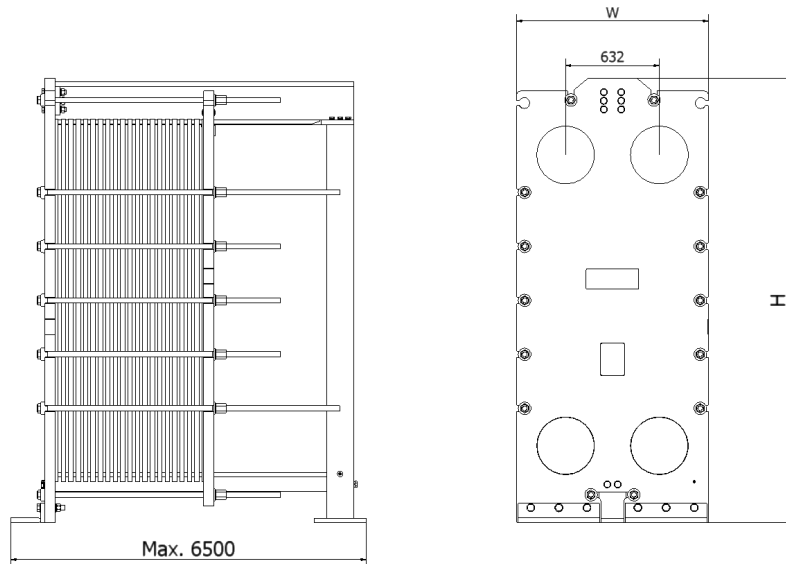
Frame type	Approx. height (H)		Approx. width (W)		Max. length	
	mm	inches	mm	inches	mm	inches
Z155	2690	106	1284	51	6500	256
Z195	2995	118	1284	51	6500	256
Z230	3302	130	1284	51	6500	256
Z270	3608	142	1284	51	6500	256
Z310	3914	154	1284	51	6500	256
Z350	4220	166	1284	51	6500	256
Z390	4527	178	1284	51	6500	256
Z430	4833	190	1284	51	6500	256

Dimensions are for guidance only. For specific application, refer to the drawing supplied with the order.

Material	Plates	Gaskets
	Stainless grades 316; 316L; 304, 317L Titanium, Incoloy 27-7Mo. Hastelloy C22, C276, C2000 254SMO, AL6XN	Nitrile, EPDM and Fluoroelastomers
Plate thickness	0.4; 0.5; 0.6; 0.7; 0.8 mm	
Gasket attachment	EasyClip glue free	

Ports & connections		Mechanical design parameters	
Porthole size	400 mm (16")	Design temp.	Up to 200°C (392°F)
Lining	Unlined; AISI316L; Ti; C276, etc.	Min. design temp.	Down to -29°C (-20°F)
Connection type	NW400 studded DIN2501 NPS16 studded CL. 150 ANSI B16.5	Design pressure	Up to 16 barg (232 Psi)
Connection load	Allowable connection load according to API 662, Table 2 (ASME rating 150)	Approvals	PED ASME VIII division 1 APV

Typical capacities:	Flow rate up to 3,000 m ³ /h (13,200 USgpm) - based on 6m/sec. (20 ft/s), depending on media, allowed pressure drop and temperature profile.
Max. heat transfer area	Up to 2,900 m ² (31,000 sq.ft)
Other design options available on request	



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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

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