

PWO

MAIN FEATURES

Plate Water Oil coolers are the modern variant of the traditional shell and tube coolers.

Unlike other plate coolers on the market mostly produced for water, steam or chemical applications, the internal structure of the OLAER Fawcett Christie PWO is designed to provide the highest efficiency while offering the lowest pressure drop required for the oil in hydraulics and lubrication applications.

WORKING PRINCIPLE

PWO Plate Water Oil coolers are manufactured by layering stainless steel plates between foils of copper. The special embossed pattern of each plate is reversed on every other plate, creating a lattice of contact points between adjacent ridges. The brazing process in a vacuum furnace melts down the copper, producing a compact and pressure resistant cooler package.

Oil and water circulate with a very high level of turbulence between the plates and in an opposite direction. Perfectly tuned flow rates will provide an outlet oil temperature similar to the water temperature. This concept is progressively replacing the shell and tubes models, as it greatly reduces the water consumption in a much smaller package.

HYDRAULICS CONNECTIONS

This range being dedicated to hydraulics applications, OLAER has chosen to use BSP parallel male thread on the oil side. The connectors are internally chamfered and are ideally suited for hose swivel attachments. The water side is fitted a male BSP taper thread suited for hydraulic hose fittings or general purpose connectors available in most hardware stores or plumbing supplies.

LIMITED MAINTENANCE

Even at low flow rate, the high level of turbulence generated in the fluid circulating between the plates prevents the clogging effects from foreign bodies, scale generation and growth of algae. The stainless steel grade 316 provides good corrosion resistance as well as a smooth surface minimizing the risk of particle adhesion.



SPECIAL

OLAER can also deliver special models for specific applications. A wide range of gasketed models is available for different types of materials such as Titanium for applications using sea or brackish water.

Applications

Compressors	Injection molding machines
Die casting machines	Paper Industry
Fixed industrial power units	Steel works
Fluid couplings	Steel works

PWO Cooler Model Code

PWO K 25 - 50

Cooler Series
PWO K

Cooler Size
5, 10, 16, 25, 45

Number of Plates
10, 20, 30, 40, 50, 60, 70, 80, 100
See cooler size for availability. Other configurations available on request.

Example : PWO K45-40

PWO

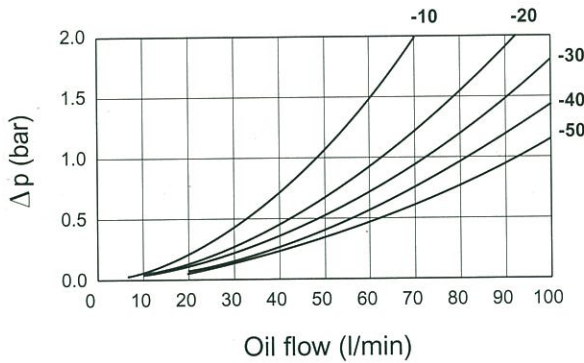
TECHNICAL DATA

The curves are based on
 Oil
 Oil inlet temperature
 Water inlet temperature
 Oil/Water Ratio

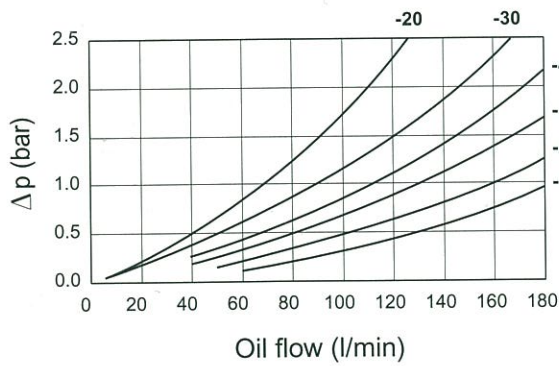
ISO VG68
 60°C
 20°C
 2:1

Note: The diagrams also include non-standard sizes.
 Please contact OLAER for availability.

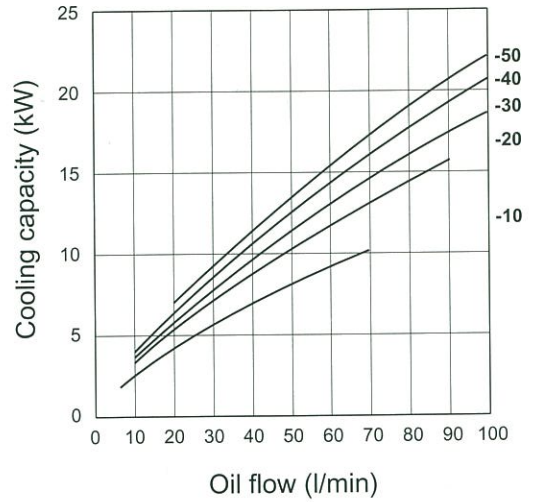
Oil pressure drop - PWO K5



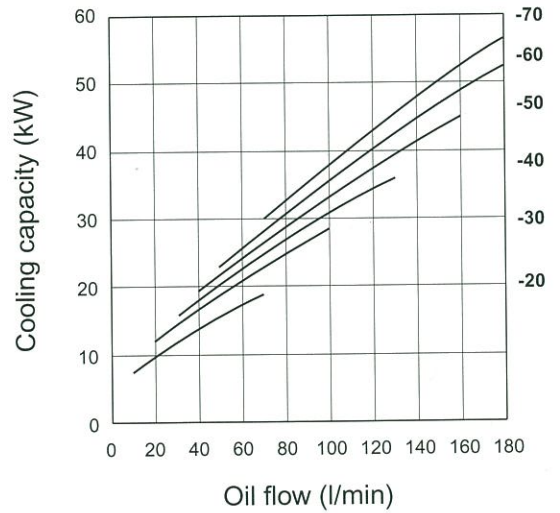
Oil pressure drop - PWO K10



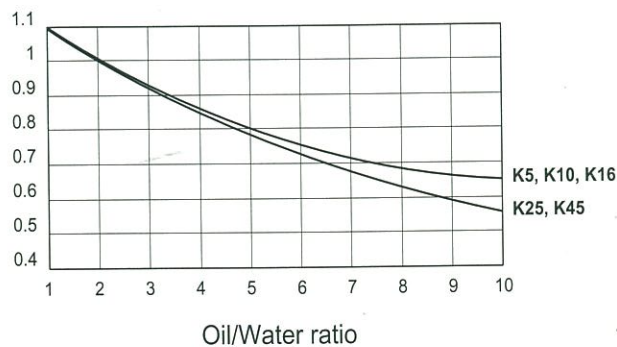
Heat dissipation - PWO K5



Heat dissipation - PWO K10



Correction factor for other oil/water flow ratio

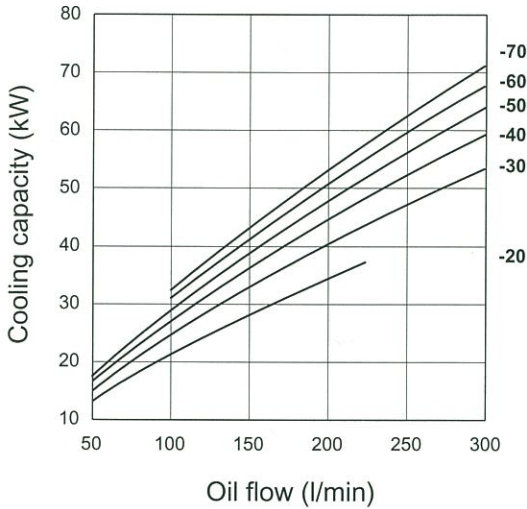


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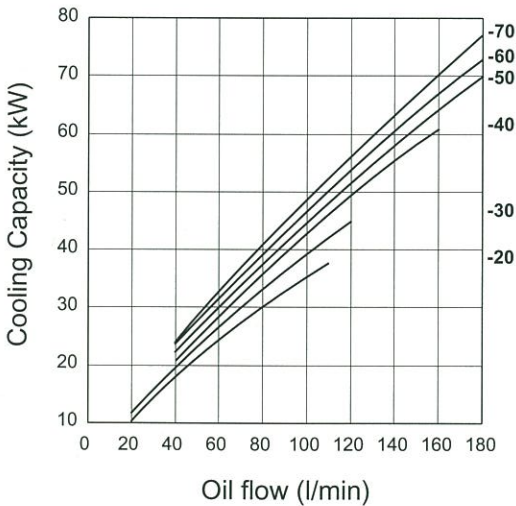
PWO

TECHNICAL DATA

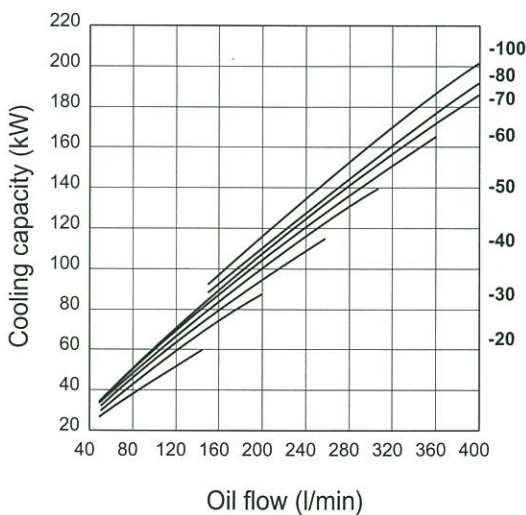
Heat dissipation - PWO K16



Heat dissipation - PWO K25



Heat dissipation - PWO K45

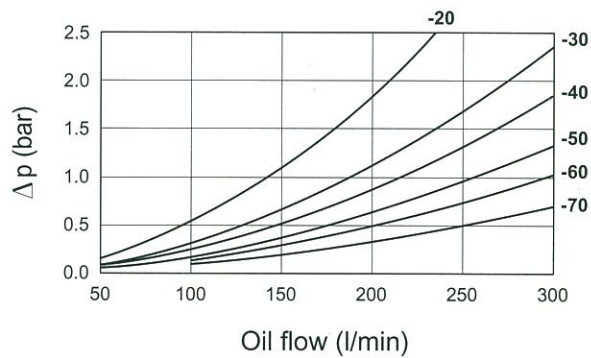


The curves are based on

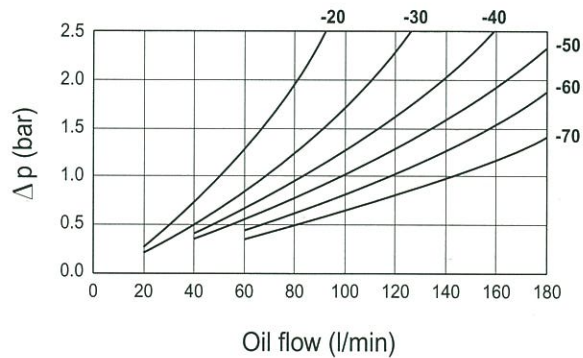
Oil	ISO VG68
Oil inlet temperature	60°C
Water inlet temperature	20°C
Oil/Water Ratio	2:1

Note: The diagrams also include non-standard sizes. Please contact OLAER for availability.

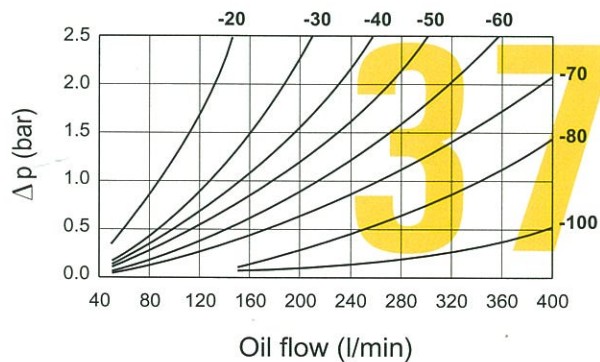
Oil pressure drop - PWO K16



Oil pressure drop - PWO K25

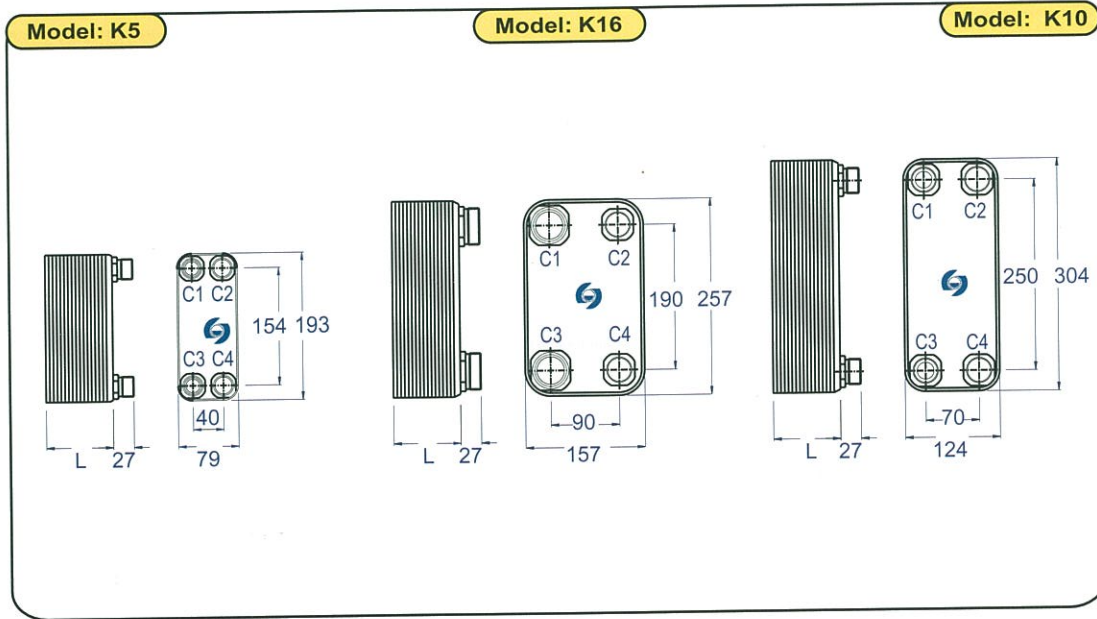


Oil pressure drop - PWO K45



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TECHNICAL DATA



K5

Number of plates	Connectors		L(mm)	Weight (kg)
	C1/C3	C2/C4		
10			38	1.9
20			61	2.4
30	3/4" BSPP	3/4" BSPT	84	2.8
40			107	3.3
50			130	3.8

K10

Number of plates	Connectors		L(mm)	Weight (kg)
	C1/C3	C2/C4		
20			64	6.5
30			88	8
40	1" BSPP	1" BSPT	112	9.5
50			135	11
60			159	12.5
70			182	14

K25

Number of plates	Connectors		L(mm)	Weight (kg)
	C1/C3	C2/C4		
20			64	10
30			88	12.5
40	1 1/4" BSPP	1" BSPT	112	15
50			135	17.5
60			159	20
70			182	22.5

K16

Number of plates	Connectors		L(mm)	Weight (kg)
	C1/C3	C2/C4		
20			76	7
30			104	8.5
40	1 1/2" BSPP	1" BSPT	133	10
50			161	11.5
60			190	15
70			218	14.5

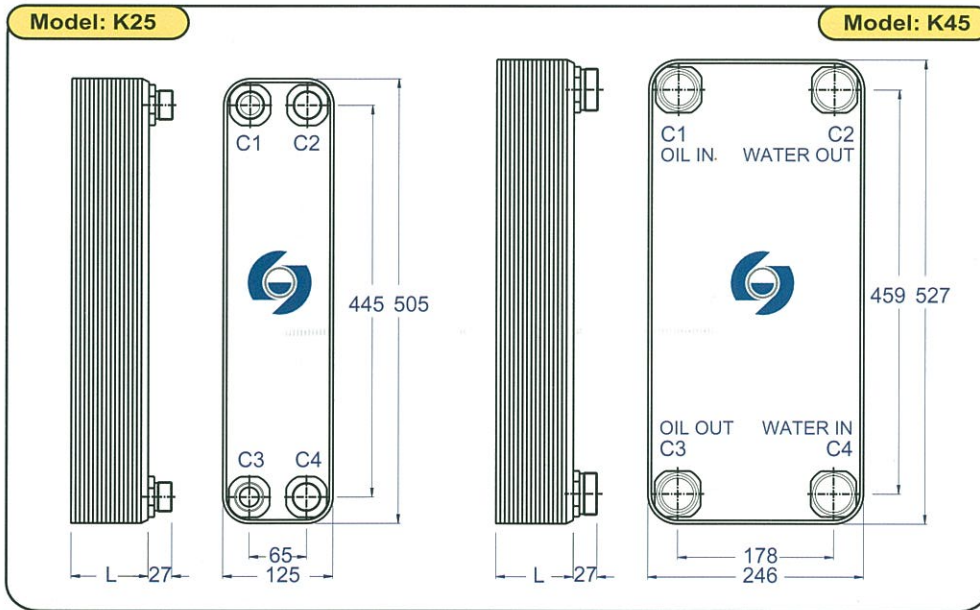
K45

Number of plates	Connectors		L(mm)	Weight (kg)
	C1/C3	C2/C4		
20			65	20
30			89	25
40			112	30
50	1 1/2" BSPP	1 1/2" BSPT	136	35
60			159	41
70			183	46
80			206	51
100			253	56

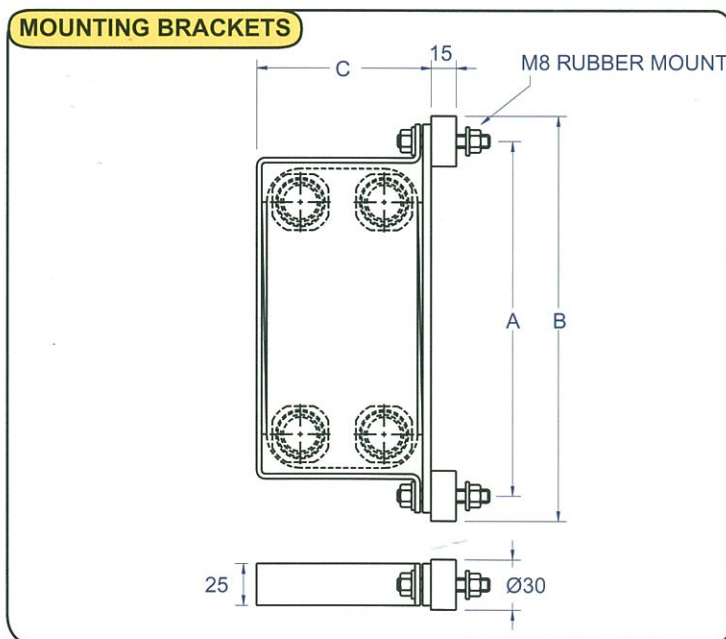
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TECHNICAL DATA



Size	A	B	C	N° brackets	N° plates	N° brackets	N° plates	N° brackets	N° plates
K5	225	255	90	1	< 50				
K10	335	366	135	1	< 40	2	< 70		
K16	289	319	168	1	< 40	2	< 70		
K25	537	567	136	1	< 40	2	< 70		
K45	559	589	257	1	< 40	2	< 60	3	< 100



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