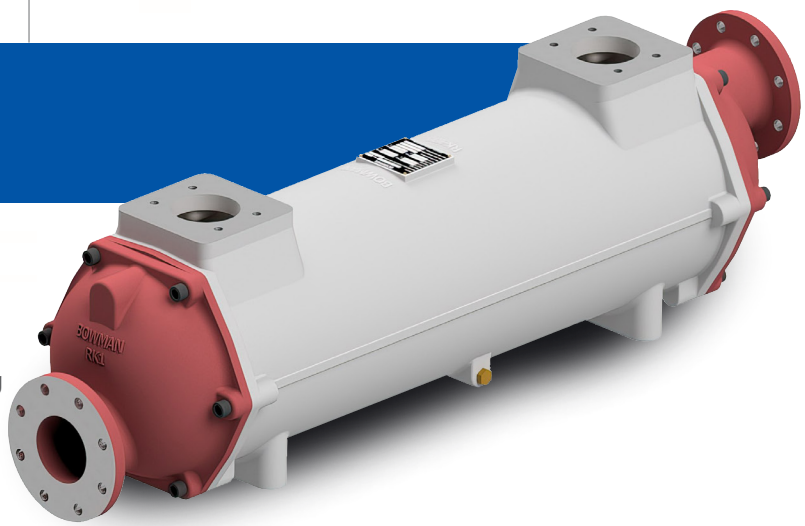
PRODUCT PROFILE

RK Series
Hydraulic Oil Coolers



Introduction

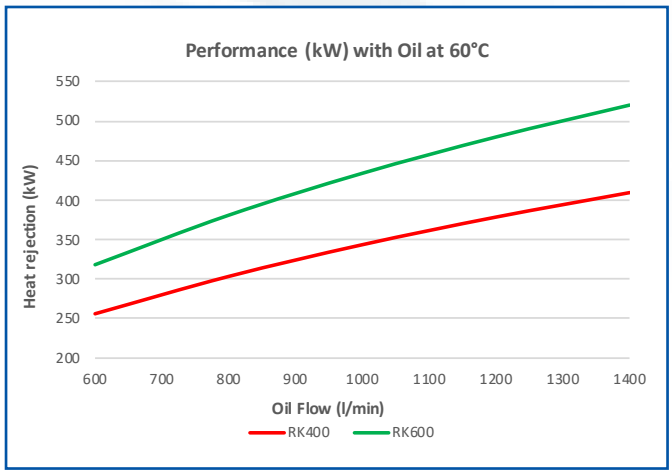
Bowman hydraulic oil coolers offer efficient, reliable heat transfer performance for a wide range of cooling requirements. Suitable for cooling a variety of oils, using either fresh or sea water, they have become the unit of choice for hydraulic engineers the world over.

Typical Performance

Bowman RK oil coolers can remove from around 256kW up to 851kW of heat and the tables and graphs below show examples of their cooling performance throughout the range, using different water flow rates and oil temperatures.

The figures show typical heat transfer performance and any changes in temperature, flow rate or fluids will significantly alter their performance, so whilst this information is provided for guidance, specific application details should be sent to Bowman, or an authorised distributor, to ensure the correct unit is specified.

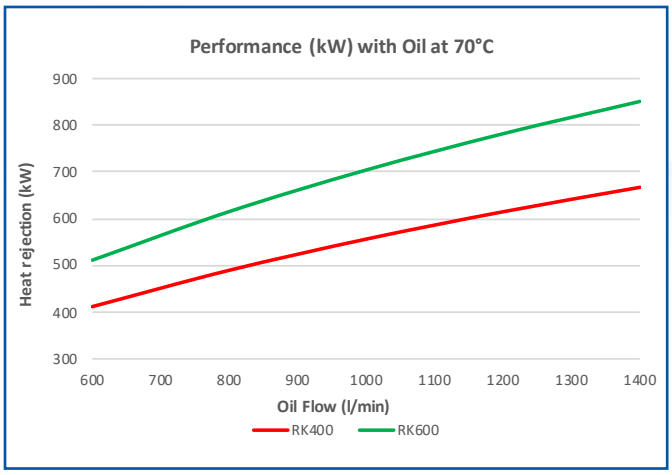
ISO 46 Oil at 60°C on inlet to the cooler
Water inlet temperature: 30°C at 725 l/min



	Heat Dissipation (kW) vs Oil Flow Rate (l/min)				
Model	600 l/min	800 l/min	1000 l/min	1200 l/min	1400 l/min
RK400	256.1	303.3	343.4	378.3	409.2
RK600	318.1	380.7	433.6	479.5	519.8

	Oil Outlet Temp (°C) vs Oil Flow Rate (l/min)				
Model	600 l/min	800 l/min	1000 l/min	1200 l/min	1400 l/min
RK400	45.1	46.8	48.0	49.0	49.8
RK600	41.4	43.3	44.8	46.0	47.0

ISO 46 Oil at 70°C on inlet to the cooler
Water inlet temperature: 25°C at 900 l/min



	Heat Dissipation (kW) vs Oil Flow Rate (l/min)				
Model	600 l/min	800 l/min	1000 l/min	1200 l/min	1400 l/min
RK400	411.8	489.6	556.3	614.9	667.2
RK600	511.3	615.3	704.2	782.0	851.0

	Oil Outlet Temp (°C) vs Oil Flow Rate (l/min)				
Model	600 l/min	800 l/min	1000 l/min	1200 l/min	1400 l/min
RK400	46.1	48.7	50.7	52.2	53.5
RK600	40.1	43.1	45.4	47.3	48.8

Computer Selection Programme

Given specific details including oil type and flow rate, temperatures of oil and water and heat dissipation required we can use computer aided selection software to accurately select the ideal unit for your application. Please contact our technical sales team or your local Bowman distributor for assistance.

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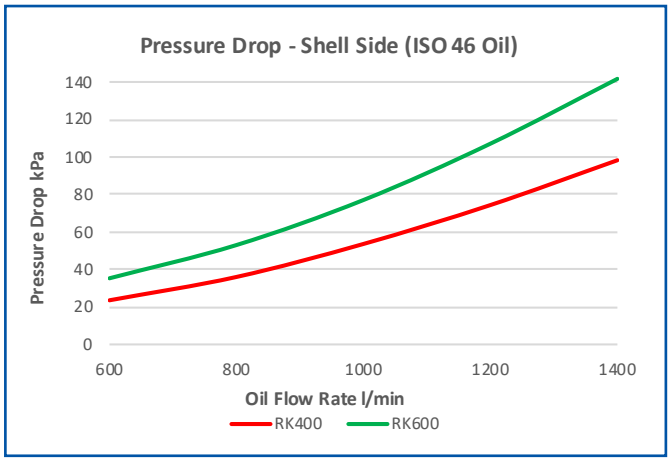
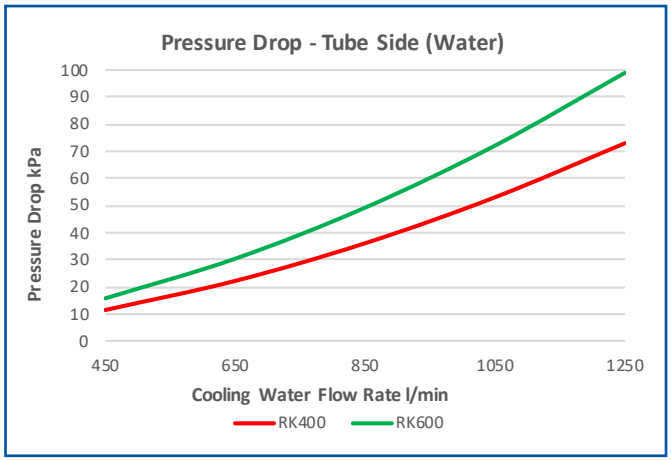
Pressure Drop

The graphs show the typical pressure drop that is expected when using a normal flow, three pass, RK series oil cooler. Where flow rates or pressure drops are too high, we may be able to offer alternative configurations such as high flow, single pass or two pass models which can accept higher flow rates with reduced pressure drop. Alternatively, a different size cooler can be selected. If detailed pressure drop information for specific flows, fluids or temperatures is required, please contact a distributor or our technical sales team.

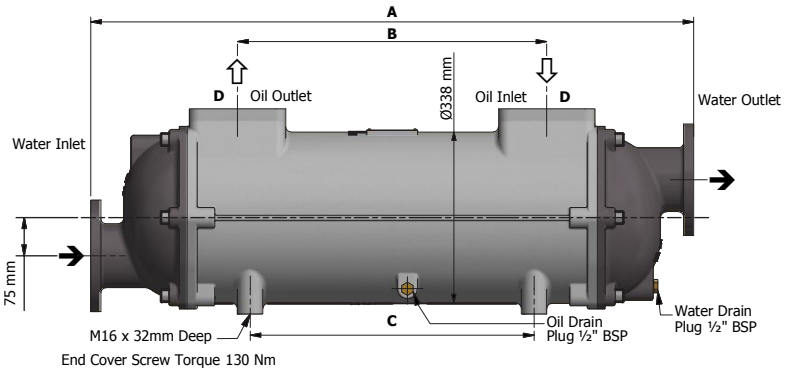




	Pressure Drop (kPa) - Shell Side (ISO 46 Oil)				
Model	600 l/min	800 l/min	1000 l/min	1200 l/min	1400 l/min
RK400	23.6	36.0	53.6	74.4	98.3
RK600	35.4	53.1	77.1	107.1	141.7

	Pressure Drop (kPa) - Tube Side (Water)				
Model	450 l/min	650 l/min	850 l/min	1050 l/min	1250 l/min
RK400	11.4	22.2	36.1	53.0	73.0
RK600	15.8	30.4	49.2	72.1	99.0

Specification / Materials



Body Diameter 338 mm

	Standard	Marine	Other options
Tube	90/10 Cupro Nickel	90/10 Cupro Nickel	Copper, 70/30 Cupro Nickel, Titanium
Shell	Aluminium	Aluminium	N/A
End Covers	Cast Iron	C coat or Brass / Bronze	N/A
Seals	Nitrile	Nitrile	Viton, EPDM

Model	Max Flow	Number of Tubes	Surface Area	Volume(litres)		Weight	A	B	C	D	D*
	Shell side		(m^2)	Shell	Tube	kg	mm	mm	mm	BSP	mm
RK400	1450	1027	20.67	43.4	37.9	186	1392	812	762	Ø 102	Ø 127
RK600	1240	1027	31.08	65.2	50.1	246	1900	1320	1270	Ø 102	Ø 127

Please note: dimensions marked D* are for high flow versions only.

Flow rates – Tube Side

Flow rate is important to the performance of the oil cooler but it is also crucial that minimum and maximum flow rates are adhered to in order to ensure longevity of the unit in service. Please refer to the following table for minimum and maximum flow rates.

	Minimum Flow Rate (l/min) Based on 1m/s Velocity			Maximum Flow Rate (l/min) Sea Water - Based on 2m/s Velocity			Maximum Flow Rate (l/min) Fresh Water - Based on 3m/s Velocity		
Model	1 Pass	2 Pass	3 Pass	1 Pass	2 Pass	3 Pass	1 Pass	2 Pass	3 Pass
RK Series	1400	700	450	2800	1400	900	4300	2150	1400

EJ Bowman (Birmingham) Ltd
Chester Street, Birmingham B6 4AP, UK
Tel: +44 (0) 121 359 5401 Fax: +44 (0) 121 359 7495
Email: sales@ej-bowman.com www.ej-bowman.com

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