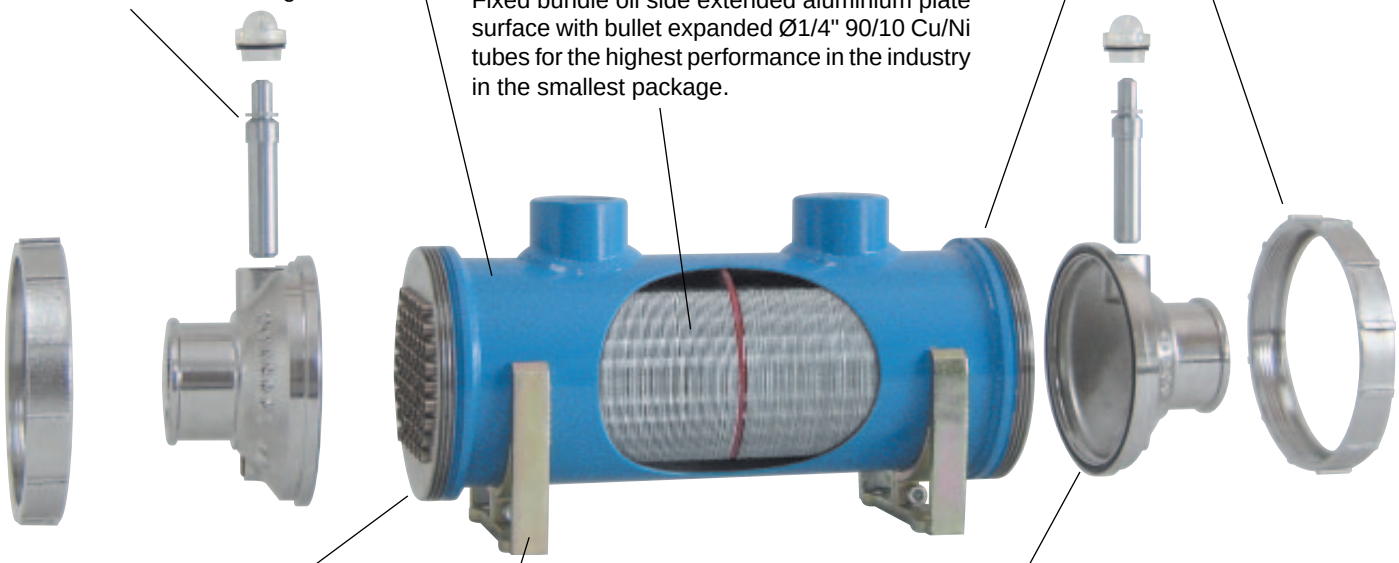
WOULD YOU PROTECT YOUR INVESTMENT WITH ANY OTHER OIL COOLER?

WM coolers are supplied with Zinc anodes fitted. WM single pass models are supplied with 2 sacrificial anodes and WM two pass models with 1 sacrificial anode. Anode cavities are accessed via a clear cap for tell tale anode condition viewing.

Rugged steel shell, electric welded to the tubesheet for resistance to pressure failure. Oil port nozzles are also electric welded to the shell.

End bonnets are all connected to the bundle using the unique threaded gland nut design which secures the bonnets in any radial orientation especially useful when using 90° bend bonnets or difficult anode access. Sealing is by O ring.

Fixed bundle oil side extended aluminium plate surface with bullet expanded Ø1/4" 90/10 Cu/Ni tubes for the highest performance in the industry in the smallest package.



Tubesheets are 11mm thick with expanded connection. WI coolers have steel tubesheets. WM coolers have 316 grade stainless steel tubesheets and 90/10 Cu/Ni tubes, the ultimate in sea water compatibility.

Removable steel mounting brackets are supplied and can be adjusted for a range of mounting spacings.

End bonnets available in Single pass straight, Single pass 90° bend and Two pass. Refer to drawings.

WM251SSS
Single pass Marine Cooler
with straight end bonnets

WM252SSS
2 pass Marine Cooler

WM251SSN
Single pass Marine cooler
with a straight and a 90deg bonnet.

WI - PERFORMANCE - On road or off road torque converter and power shift transmissions

Note. Model WI with its high heat conversion surface, rugged construction and straight or 90° hose tail coolant connections is well suited for use with torque converter and power shift transmissions such as Allison, Clark and Funk etc. If the engine operational water flow exceeds 250 L/m, the WI unit must have a suitable parallel bypass fitted. Refer next page for engine water plumbing. Consult factory for special bypass components.

Allison Transmissions up to 275 engine HP.*
WT (World Transmission) Series MD 300 & B 300
Old models AT540, AT1540 and MT 600/300 Conv.
Use WI Oil Coolers selected by engine input HP.
WI151 max 120 HP, **WI251** max 180HP, **WI401** max 275HP.

FUNK Powershift up to 225 engine HP.*
400 Series. 1700 Series, 1000 Series
2000 Series, DF Series
Use WI Oil Coolers selected by engine input HP.
WI151 max 110 HP. **WI251** max 150HP, **WI401** max 225HP.

*Above selections are based on engine water entering cooler at 82°c (180°F) and oil entering at 143°c (290°F) using latent heat phase assuming steam thermal expansion characteristics.

W SERIES MATERIALS

Description	WM coolers (BLUE)	WI coolers (ORANGE)
Shell & Ports	Steel	Steel
Shell & Port finish	Zinc powder prime & powder coat	Zinc powder prime & powder coat
Tubes	90/10 Copper/Nickel	90/10 Copper/Nickel
Tubesheets	Stainless Steel	Steel
Baffles	Steel	Steel
Fins	Aluminium	Aluminium
Mounting Brackets	Zinc Plated Steel	Zinc Plated Steel
End Caps	Stainless Steel or Bronze	Zinc Plated Steel
Gaskets	Nitrile Rubber	Nitrile Rubber
Nameplate	Aluminium Foil	Aluminium Foil

Note:WM Coolers must be grounded to ships electrical earth system.

W SERIES RATINGS

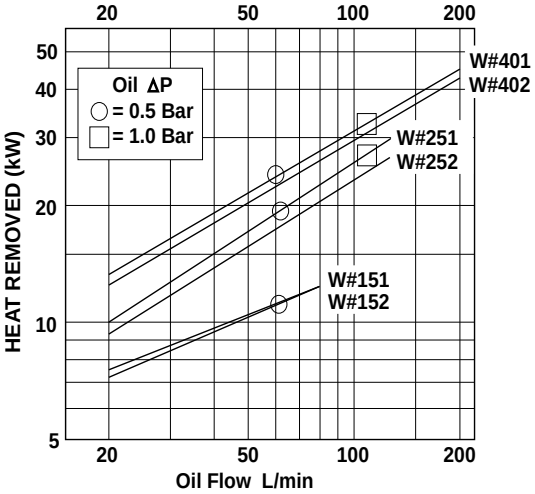
Maximum Flow Rates

Unit Size	Oil Side Litres/Min.	Water Side Litres/min.	
		One Pass	Two Pass
W#15	80	170	80
W#25	130	170	80
W#40	200	170	80

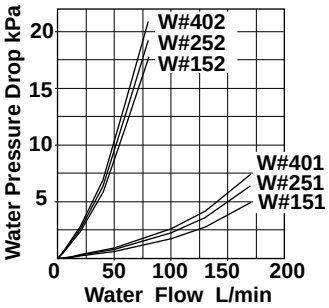
Ratings

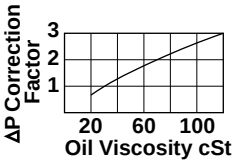
Maximum oil/shell side pressure ..... 26 Bar
Maximum water/tube side pressure ..... 10 Bar
Maximum oil temperature..... 150°C
Maximum viscosity ..... 80cSt actual

W SERIES PERFORMANCE



Performance curves are based on ISO 68 oil entering the cooler 40°C higher than the incoming water temperature used for cooling. This is also referred to as a 40°C entering temperature difference (ETD).
For single pass models Oil to Water flow ratio is 1:1
For two pass models Oil to Water flow ratio is 2:1.
DYNACOOL computer selection program is available to size units at other operating conditions.





ORDERING CODES

WI = INDUSTRIAL - 4" Shell with 1/4" Copper Nickel tubes, aluminium fins, steel tube plate.
WM = MARINE - 4" Shell with 1/4" Copper Nickel tubes, aluminium fins, 316SS tube sheet.

WM 15 1 S S S

COOLING STACK LENGTH
15 = 150mm - 3/4" BSPP Ports
25 = 250mm - 1" BSPP Ports
40 = 400mm - 1 1/2" BSPP Ports

NUMBER OF WATER SIDE PASSES
1 = Single pass, 2" hose tail and 1 1/4" BSPP
2 = Two pass, 1" BSPP

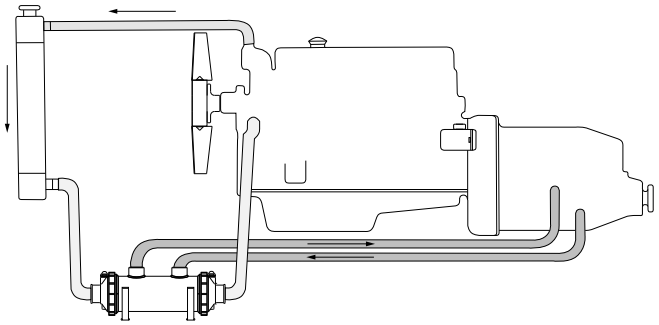
END BONNET MATERIALS
F = Steel - WI cooler as standard, available as 1 pass in straight or 90° and 2 pass.
S = Stainless - WM cooler. 1 pass in straight or 90° and 2 pass.
B = Bronze - WM cooler. 1 pass in straight only.

END BONNET COMBINATIONS
S = Straight.
N = 90° Elbow - SS316 only - single pass unit only - 2" hose tail.

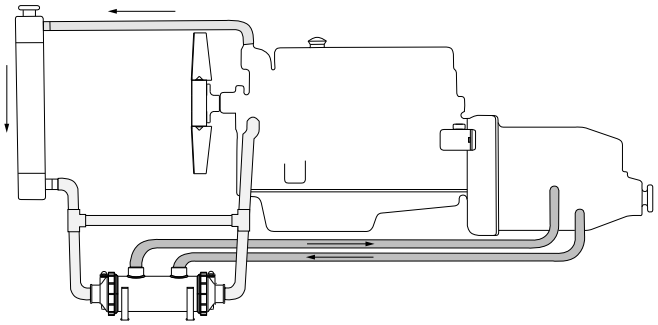
Replacement anode kits for WM series -73/01/05965.

WI COOLER - TRANSMISSION COOLING INSTALLATION

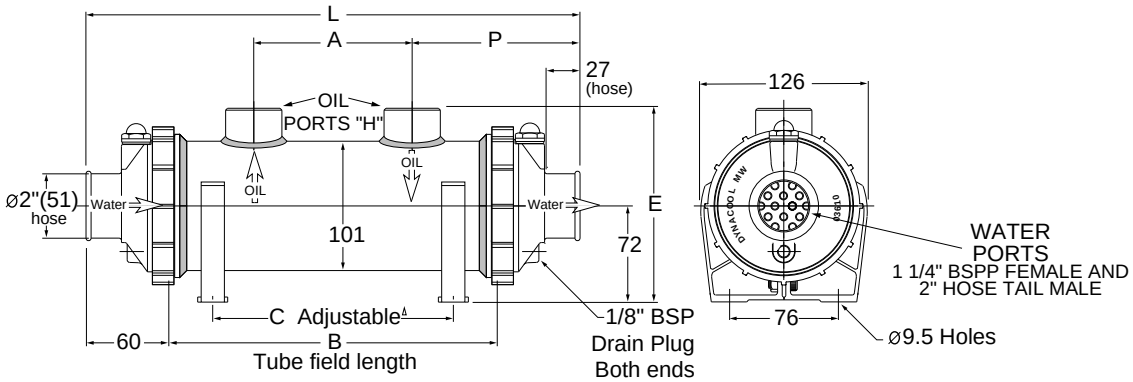
Without bypass water flow less than 250 L/m



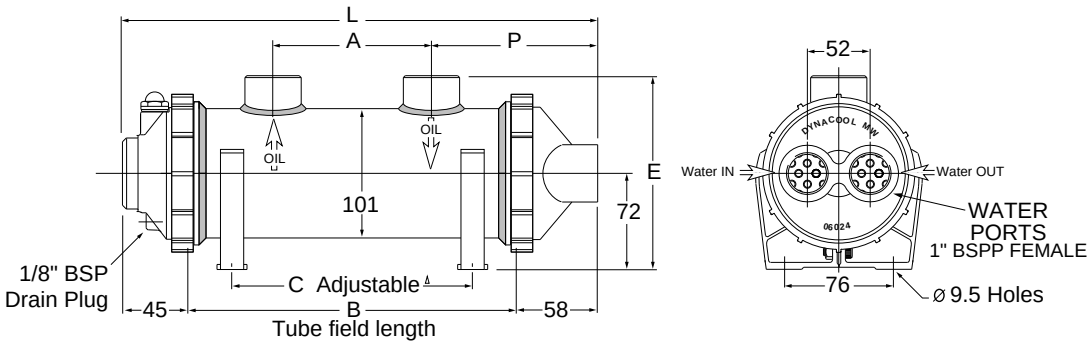
With bypass water flow exceeds 250 L/m



DIMENSIONS - W Series 1 Pass

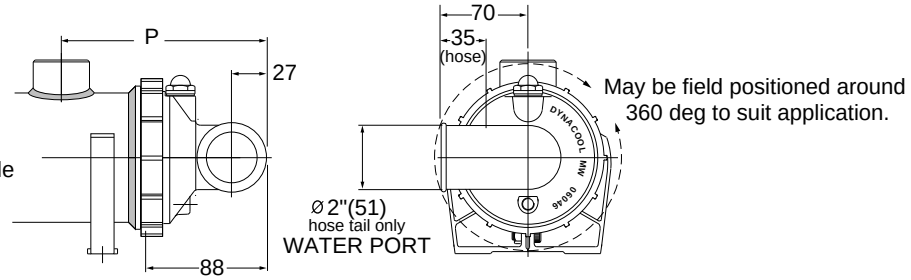


DIMENSIONS - W Series 2 Pass



DIMENSIONS - W Series 90° End bonnet

90Deg End Bonnet may be rotated to allow hose to be connected from any angle



COMMON DIMENSIONS						Single Pass Models			90° (Both ends)		Two Pass Models			Weight
Model	A	B	C Δ	E	H*		L	P	L^	P		L	P	kg
W#15	75	172	76	148	3/4"	W#151	291	108	348	136	W#152	275	106	5
W#25	125	272	190	148	1"	W#251	391	133	448	161	W#252	375	131	6
W#40	200	422	288	154	1 1/2"	W#401	542	171	598	199	W#402	525	169	9

* All ports are BSPP female pipe thread to ISO 228/1G Tolerance ± 3mm

^ Overall length for units that have 1x90° and 1xstraight bonnet is L - 28mm.

Δ Dimension C is factory preset. Mounting feet location may be adjusted to suit your application. Units may also be rotated and clamped allowing mounting in various positions e.g. -floor, wall or ceiling mounting.

WATER COOLED

TECHNICAL SPECIFICATIONS

Materials

Shell ..... Copper
Tubes ..... Copper/Nickel
Tubesheets ..... Copper/Nickel
End Caps ..... Bronze
Nameplate ..... Aluminium

NEW

Anode available. Part No. **WSANODE 1/8NPT**

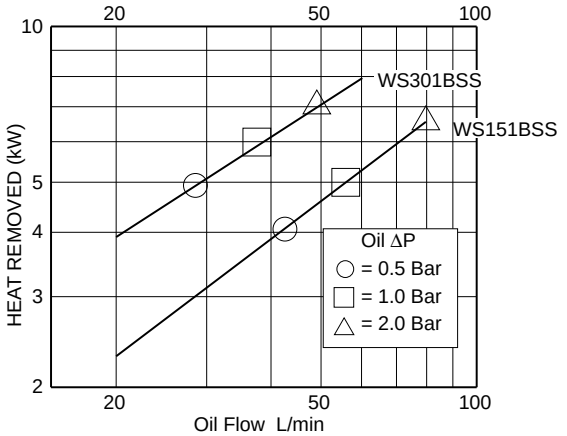
Ratings

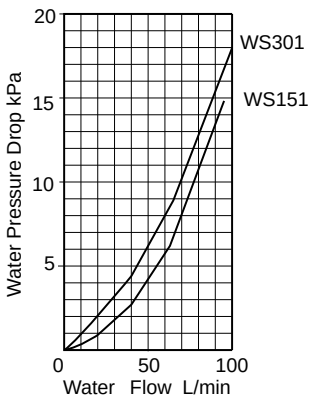
Maximum oil (shell) side pressure	10 Bar
Maximum water (tube) side pressure	10 Bar
Maximum temperature	145°C

Maximum Flow Rates

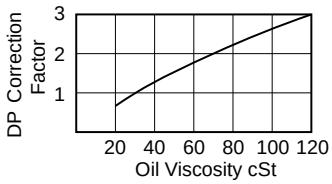
Unit Size	Shell Side l/min	Tube Side l/min
WS151	80	80
WS301	60	80

PERFORMANCE

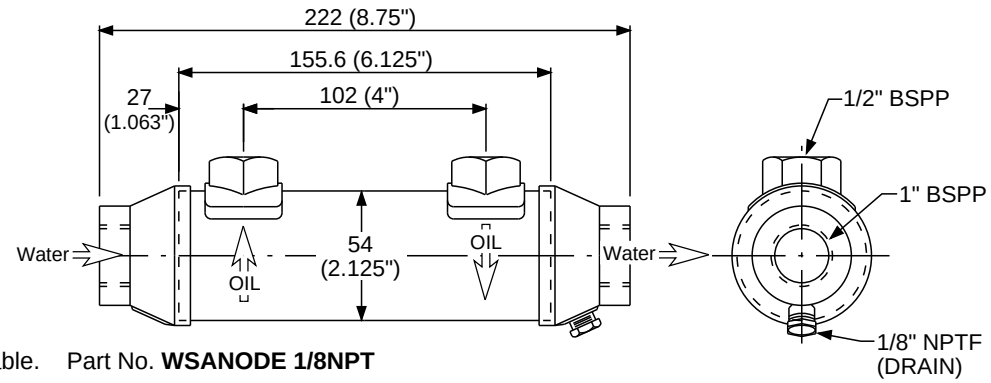




Performance curves are based on ISO 68 oil entering the cooler 40°C higher than the incoming water temperature used for cooling. This is also referred to as a 40°C entering temperature difference (ETD). DYNACOOL computer selection program is available to size units at other operating conditions.

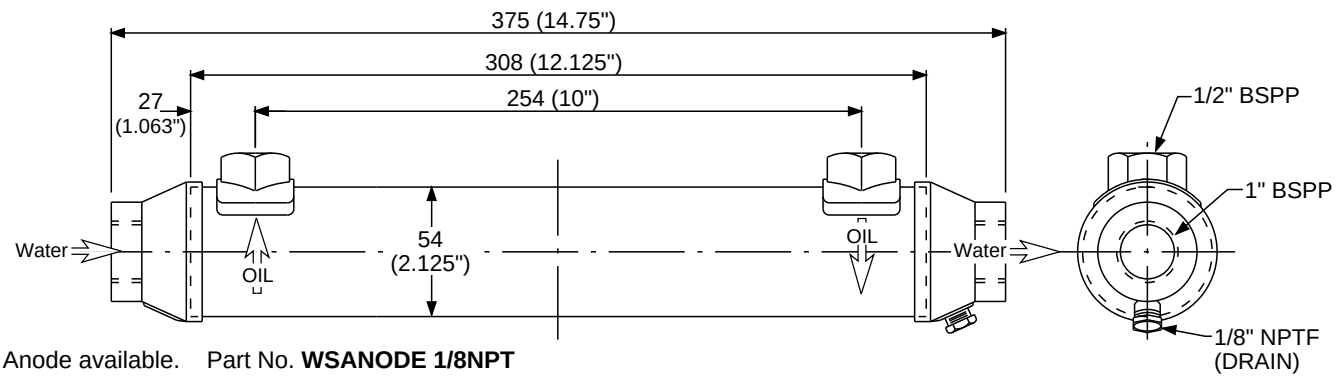


DIMENSIONS - WS151BBS weight 1.6kg



Anode available. Part No. **WSANODE 1/8NPT**

DIMENSIONS - WS301BBS weight 2.1kg



Anode available. Part No. **WSANODE 1/8NPT**

All dimensions in mm unless noted otherwise 0-50 are ± 1. 50-1500 are ± 3.

Cooling Elements For Add-On or Replacement

MODEL 3712 - BRAZED PLATE IMMERSION COOLER

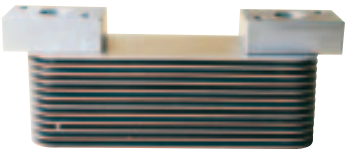
APPLICATION

Open plate structure permits use in fresh water with moderate amount of solids in suspension. Not suitable for use with seawater or where high salt content exists. Suitable for use to cool hydraulic circuits on tanker vehicles by mounting inside tank. Also for use in water delivery pipes or for bottom radiator tank cooling of diesel engine or transmission oil.

INSTALLATION

Port blocks are flat with 23 mm drilled port hole. For tank mount applications make template of ports and fixing threads and drill holes through tank from template. Weld 3/4" BSP Sockets on outside of tank over port holes making sure that sufficient space is left for use of 3/8" UNF cap screws.

Apply gaskets supplied to port faces and bolt to tank with 3/8" UNF cap screws supplied. Air test to make sure that sockets or gaskets are not leaking. Max Operating Oil Pressure Rating 11Bar.

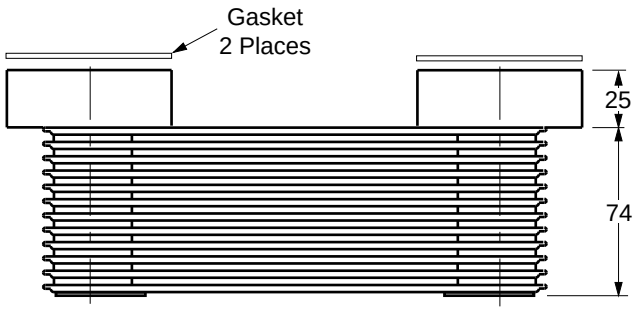


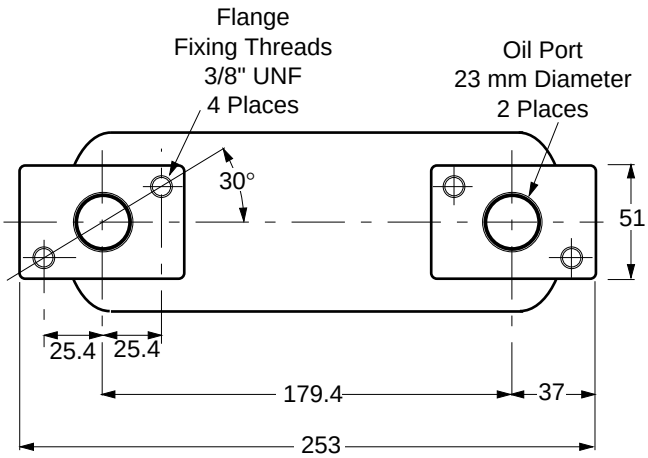
MATERIAL

304 Stainless Steel.

ORDERING

Part Number **DC070312P** Shipping Weight 4 Kg





All dimensions in mm unless noted otherwise
0-50 are ± 1. 50-1500 are ± 3.

PERFORMANCE					
OIL FLOW - L/m	19	38	57	75	95
Heat Removed kW/°C at 80 Lm Water Flow	0.22	0.35	0.45	0.51	0.57
Heat Removed kW/°C at 200 Lm Water Flow	0.36	0.58	0.75	0.85	0.96
Pressure Drop BAR at 30 cSt Operating (ISO 68 oil at 58° C)	0.30	0.76	1.52	2.50	3.80

WATER COOLED

Water Cooled Exchanger Accessories

"DONUT" ENGINE LUBE OIL COOLER - WATER COOLED

Application

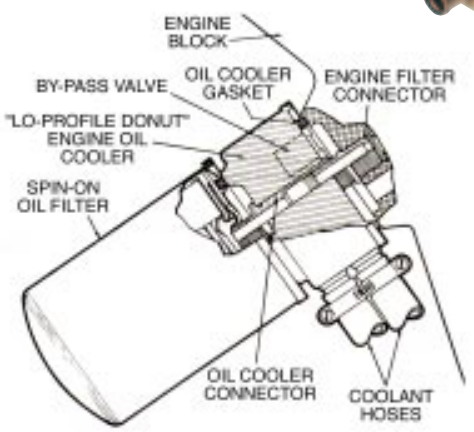
Our popular oil filter mounted water-cooled engine oil cooler with its distinctive "donut" shape, satisfies the lube oil cooling requirements of both diesel and petrol engines on most types of vehicular applications. The cooler is a plate type with a high level of efficiency. Applications include passenger cars, rally and race cars, four wheel drives, trucks, tractors, agricultural equipment, engine power packs and construction equipment. Not suitable for use with seawater or where high salt content exists.

Hydraulics. Also available for hydraulic applications using special connection for hydraulic oil filters such as UCC and LHA.

Installation

The cooler is installed under the engine oil filter using a threaded connector. Connectors are available to fit engines such as GM, Ford, Toyota, Perkins, Nissan, Mazda, Mitsubishi, Izuzu, Subaru etc. The design eliminates the need for external oil lines which could fail and cause loss of engine oil. Water connection is 5/8" hoses from the water cooling system. On vehicles with cab heaters, the connection may be made by series or parallel plumbing in to the heater hot water hoses. The stock 10 plate model has a sandwich thickness of 58 mm.

Refer to our leaflet DC7 for full details of selection and installation of the Donut for your application.



Ordering

Basic Field
63/01/00180

GM 13/16" Connector
5A37267A

Other 3/4" Connector
5A37266A

Complete Assembly with 25 micron filter
63/01/01498