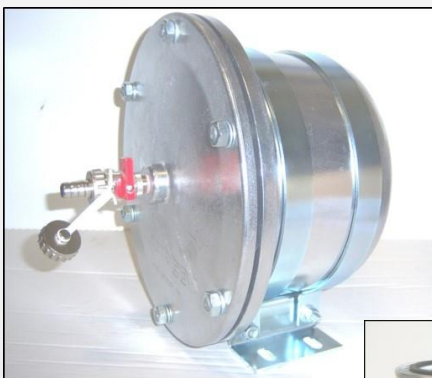


Water filter systems in engine cooling systems

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Water treatment for optimum protection



Why CORACON water filters?

Over 25 years CORACON filters have proven to

- Reduce operating costs
- Prolong the lifetime of engines

What are the filter features?

CORACON filters help to achieve optimum protection by

Mechanical Filtration

Particles such as foundry sand and oxidation products get filtered – abrasion at high water speeds, blockages and sludge deposits are avoided

Prevention of Scale

Water-hardening minerals are filtered to prevent scale formation, thereby avoiding damage due to overheating

Where are CORACON water filters used?

- CORACON water filters are suitable for all **water-cooled engines** used in light or heavy duty vehicles, ships, engine test stations or in power-generations with cooling volume from 20-5,000 liters
- CORACON- water filters can be used for any closed hot water systems
- As bypass installation the filters confirm in constant tests their effectiveness at working pressures up to 4 bar and temperatures up to 125°C
- Each engine can be upgraded with a CORACON filter system to arise the life cycle



High soiled and slummed filter element

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Pot filters

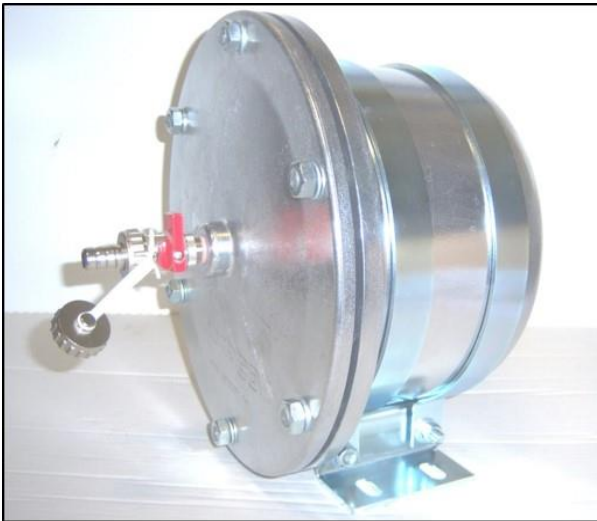
New range

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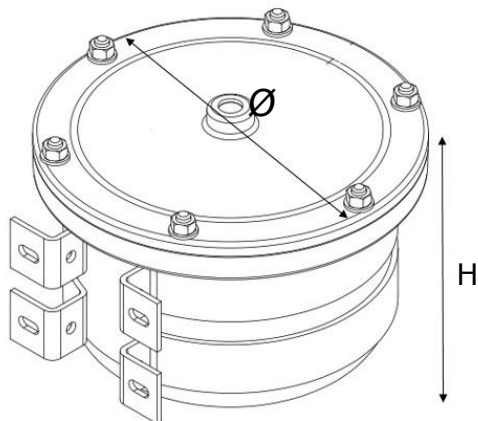
CORACON Pot filters can be used in water systems of 100 up to 1'000 liters in capacity. Their main advantage is the modular design which enables a quick filter cartridge replacement without disposal of the housing. Thereby, costs and environmental compact are kept at minimum level.

CORACON Pot filters are delivered with housing, filter cartridge and connection pieces for installation.

CORACON KF 100-750



CORACON Alu-Potfilters can be used in water systems of 100 Ltr. up



- with venting ball valve
- with mud ball valve drain
- 3/8" winding
- mounting plate

H: 196 mm
Ø: 266 mm

Filter sets

Filter cartridges



CORACON pot filters can be purchased alternatively

without anticorrosion protection chemicals for
OAT-/Hybrid-Engine cooling
(type WOC ...)

or

including anticorrosion protection chemicals for
nitrate-Engine cooling
for example Liquid BL 1
(type WE ...)

It is only allowed to fill in **CORACON Liquid BL 1** in pot filters including anticorrosion chemicals

It is possible to install 2 filters parallel to get the double filter capacity.



Coracon filter cartridge



Filter set: filter cartridge, cover gasket, sacrificial anode, underlay ring

KF 100-750					
	pot	cartridge			
part	KF 100-750 pot without cartridge	WOC 100/200 cartridge till 300 liter capacity	WOC 750 cartridge till 1000 liter capacity	WE 200 cartridge with anticorrosion protection till 300 liter capacity	WE 750 cartridge with anticorrosion protection till 1000 liter capacity
part No.	421502	421855	421858	421706	421310

Spare parts old range

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old range
CORACON
BT...
BTOC...

In principle, the corresponding cover seals of housing and the sacrificial anodes should be replaced with a filter change the old series. The respective parts are already included in the filter sets



spare parts		filter type	filter set	cartridge	cover seal	sacrificial anodes
		with chemical	BT 100	421 718	1 x 421 705	421 707
BT 200	421 719		1 x 421 706			
BT 400	421 720		2 x 421 706	2 x 421 240		
BT 750	421 442		1 x 421 310	421 238	1 x 421 240	
BT 1500	421 445		2 x 421 310		2 x 421 240	
BT 2250	421 448		3 x 421 310		3 x 421 240	
PERRY M100/200/300 : WE 450/32			1 x 421 343	421 234		
without chemical	BTOC 100	421 721	1 x 421 855	421 707	1 x 421 240	
	BTOC 400	421 722	2 x 421 855		2 x 421 240	
	BTOC 750	421 723	1 x 421 858	421 238	1 x 421 240	
	BTOC 1500	421 724	2 x 421 858		2 x 421 240	
	BTOC 2250	421 725	3 x 421 858		3 x 421 240	
	PERRY M100/200/300 : WOC 450		1 x 421 857	421 234		
	WOC 2000		1 x 421 000			

CORACON Spin-on Filters are easy in handling and are used for water treatment in closed hot water systems. Application examples include engine cooling for heavy trucks and power generation and engines in agritechnology.

CORACON spin on filter can be purchased alternatively
without anticorrosion protection chemicals for OAT-/Hybrid-Engine cooling
 (type WOC ...)
 or
including anticorrosion protection chemicals for nitrate-Engine cooling
 for example Liquid BL 1
 (type WE ...)



capacity in liter	with chemical		without chemical	
	filter type	article nr.	filter type	article nr.
10 - 20	BS 20	421 241		
20 - 40	BS 40	421 247	BOC 40	421 362
40 - 60	BS 60	421 243		
60 - 80	BS 61 M	421 245		
60 - 80	BS 80	421 249	BOC 80	421 361
80 - 100	BS 100	421 248	BOC 100	421 360
150 - 200	2 x BS 100	2 x 421 248	2 x BOC 100	2 x 421 360

CORACON-spin-on-filter BS **including** anticorrosion protection chemicals for nitrate-Engine cooling liquids

Filter type	Article nr.	A / mm	H / mm	B / mm	C / mm	Filter face mm ²	G
BS 20	421241	93	112+2	62,5	71,5	1243	11/16 -16 UNS
BS 40	421247	93	112+2	62,5	71,5	1243	11/16 -16 UNS
BS 60	421243	93	141+2	62,5	71,5	1672	11/16 -16 UNS
BS 61 M	421245	93	141+2	62,5	71,5	1672	M16 x 1,5
BS 80	421249	93	141+2	62,5	71,5	1672	11/16 -16 UNS
BS 100	421248	93	175+2	62,5	71,5	2072	11/16 -16 UNS

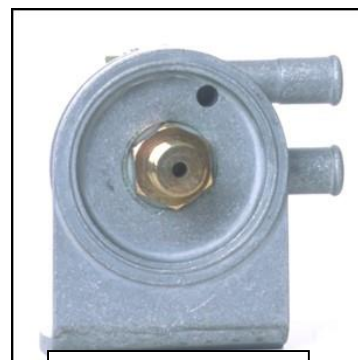
CORACON-spin-on-filter BOC **without** anticorrosion protection chemicals for OAT-/Hybrid-Engine cooling liquids

Filter type	Article nr.	A / mm	H / mm	B / mm	C / mm	Filter face mm ²	G
BOC 40	421362	93	112+2	62,5	71,5	1243	11/16 -16 UNS
BOC 80	421361	93	141+2	62,5	71,5	1672	11/16 -16 UNS
BOC 100	421360	93	175+2	62,5	71,5	2072	11/16 -16 UNS



Mounting head connection on the right side, 2 integrated block valves

Mounting head



Art Nr. 421 026

Corrosion titration box alcalinity test BL 1, BL 2, BL 3, BL 6



Art Nr. 482 010

Indirect and fast method to indicate the concentration of anti-corrosion inhibitors from **BL1, BL2, BL3, BL6**

Corrosion titration box alcalinity test BL AL



Art Nr. 482 003

Indirect and fast method to indicate the concentration of anti-corrosion inhibitors from **BL AL**

Corrosion test stripes Nitrite test for BL 1, BL AL



Art Nr. 421 363

Test stripes 100 pieces for dipping. Indication of **anti-corrosion inhibitors** by colour comparison

Corrosion tester refractometer gefo



Art Nr. 422 300

Refractometer tester for indicating the concentration of **anti-corrosion inhibitors** by refractive index

pH-value test stripes Measurement range 0-14



Art Nr. VS010177-0

Test stripes 100 pieces for dipping. Indication of **pH-value** by colour comparison

Microbes test Easicult determining colony count



Art Nr. D 3500100

Fast method for indicating the number of microbes in water (germs, yeast, fungi), contents: 10 pieces

Water hardness titration box 0,5 – 30 °dH



Art Nr. D 3100701

Easy and fast method for indicating the water hardness in °dH

Conductivity tester ECTEST 11



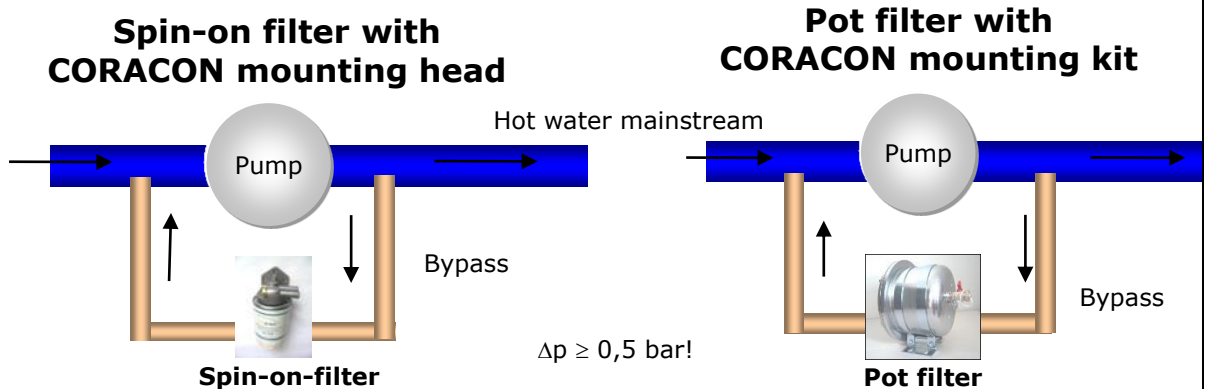
Art Nr. D 5510215

Electronical tester for measuring the conductivity. Measurement range: 0 - 2000 $\mu\text{S}/\text{cm}$

Anti-freeze tester Ethylenglycol-Test



Art Nr. 421 835



Important guidelines for installing pot filters:

1. The filters are mounted so that the lid screwed up and a simple filter change is possible. The vent hole is on the top. The connectors are on the lower side. The return connection from the filter is always the centre hole.
2. The filter must be in a position lower than the expansion tank.
3. The bypass for the filter should be as possible short and should be near the cooling pump entry and
4. The pressure difference inlet/outlet should be 0,5 bar at the minimum.
5. Pot filters must be fitted with shut-off valves for easy changing of filter elements.

Additional Information:

- The higher the pressure difference for the bypass the more efficient will be the filtration effect, as more water passes through the filter, but not more than 3% of the cooling water
- Winter operations: CORACON filter chemicals may only be used in conjunction with pure ethylene or propylene glycol.

1 Do CORACON Filter Cartridges fit into Perry filter housings?

Yes, the CORACON Filter Cartridges WE 450 and WOC 450 are designed to fit for PERRY M100, M200 and M300 filter housings.

CORACON-Wechselement	Artikel Nr.
WE 450/32 (mit Korrosionsschutz)	421 343
WOC 450 (ohne Korrosionsschutz)	421 857

2 May CORACON Filter Systems be used for applications other than engine cooling?

Although **CORACON Filter Systems** have proven to be very protective for engines in ships, trucks or small power stations they fit perfectly into any closed water system which is used for heating or cooling, with operating pressures up to 4 bar and temperatures up to 125 °C.

3 Do CORACON Filter Systems have any negative impact on heat transfer rates?

Since **CORACON Filter Systems** operate as by-pass installations only, no more than 2-3% of the circulating water flows permanently through the filter. Therefore, no negative impact on heat transfer rates is known.

4 May CORACON Pot Filters or Spin-On Filters be installed in parallel?

Yes, by using standard mounting parts filters can be installed side-by-side, thereby doubling the capacity. No more than 2 filters should operate in parallel, though.

5 Does water quality make any difference for CORACON Filter Systems?

Yes, the softer the water the better in terms of scale prevention and life time. Prior water treatment is needed only if hardness exceeds 30° dGH (please refer to product brochure). Desalted water and water with ethylene/ propylene glycol is more protective in combination with **CORACON Anti-Corrosive Agents** than standard drinking water.

6 What is the CORACON filter maintenance interval for utility vehicles such as tractors?

In this case the CORACON filter maintenance interval is defined at 500 operating hours or half a year.

Water quality:



Drinking water or desalted water should be used for cooling, with chloride and sulphate ions together not exceeding 200 mg/l. Don't use sea water or brackwater. The following points concerning water hardness must be observed:

- 0 – 15° dGH: may be used without restrictions
- 16 – 30° dGH: change filter after the first 100 operating hours if extensive fresh water amounts have been filled
- > 30° dGH: the water must be softened or mixed with soft water in order to reduce hardness to below 15° dGH

Environmental Safety Requirements:

*Water containing **CORACON chemicals** must be disposed of in the proper way, i.e. via a sewage system with treatment facility. Moreover, local legislation on water economy must also be observed.*

***CORACON chemicals** is alkaline. Avoid contact with your skin. Any splashes should be washed off immediately with soap and water. Wash eyes with plenty of water. If irritation persists, consult your doctor. If swallowed, consult your doctor immediately. Keep out of the reach of children.*

***CORACON chemicals** will not adversely affect oil separation and no emulsification takes place*

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coracon is a registered brand of **Aqua-Concept GmbH** that only provides engine cooling products.

coracon emerged from the **BEDIA** filter systems and **BEDIA** corrosion protection concentrates that **Aqua-Concept** took over from the company **BEDIA Motorentchnik** at the end of 2000.

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