

**CARDEV**

Oil Filtration and Coolant Handling Specialists



# 3S-24V900

*Removes Contaminants*

*Extends Oil Life*

*Reduces Component Wear*

*Removes all Water*

*Saves Machine Downtime*

*Reduces Disposal Costs*

*Simple to Install & Use*

*Low Maintenance Costs*

*Built in Sampling Points*



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# 3S-24V 900



Industrial Filtration



Biodegradable Lubricants

OSCAR 3S-24V 900 SPECIFICATION		
Electric Motor (Permanent Magnet)	Volts	24v DC
	Kws	0.37
	Amps	18
	RPM	1500
	Protection	IP55
Pump Performance	ISO VG 46	900 ltr/hr
Pump Suction Lift	Self Priming to 5.5 metres	
Operating Temperature	10 - 95°C	
Rig Dimensions	Length :	816mm
	Width:	526mm
	Height:	465mm
Rig Weight	85kg	
Filtration System	3 x SDU-H8	
Cartridge Type	3 x SDFC—Fitted as standard Supplied in boxes of 6	
Accessories	8 metres of reinforced hose with quick release couplings	
Options	SDFC-P cartridges for water based fluids	

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## Description

The 3S24V 900 Micron Filtration System is a compact free standing off line oil cleaning and filtration system, capable of removing fine dirt particles and totally removing water. Filter cartridges are also available for use on water based fluids

## Set Up Operation

1. Cut hose to suit IN or OUT requirements and connect as appropriate to the fluid reservoir.
2. Mount unit as near to reservoir as possible using optional magnets or anti-vibration mounts as appropriate or by bolting or welding.
3. Prime pump before use - pour oil down inlet hose.
4. Connect isolator switch to vehicle electrics.

Blue — Neutral  
Brown - Live

*Note: The unit has a diode built in to stop reverse operation of motor.*

## Starting

Turn ON/OFF switch to position 1.

## Cold Starting

If oil is thick, pressure may rise and the oil will by-pass through the pressure control valve at approx. 4 bar. As the oil warms up, the pressure control valve will automatically close.

## Cartridge Change Intervals

- When the oil pressure is more than 1.5 bar above the normal operating pressure
- When the 4 bar pressure relief valve is active, during normal operating not during start up or cold oil.
- When the red light is activated-at the pre-set filter change timing interval-after the filter change, the timer needs to be re-set using the black re-set button on the control panel.

## Cartridge Change Procedure

1. Switch off motor
2. Remove "IN" hose
3. Depress nodule on inlet coupling and run motor for 30 secs. to purge the units of oil.
4. Release lid securing bolt.
5. Remove cartridge using attached straps.
6. Change the cartridge and replace lid seal.
7. Replace lid and tighten firmly by hand.
8. Check for leaks.
9. Run for 10 mins. and confirm lid bolt secure.

## Performance Guide

To achieve optimum cleanliness, the contents of each tank should pass through the filter a minimum of 4-5 times.

E.g. a 500 litre tank at 40°C will take approximately 4-5 hours to clean.

*Note: the above is a guide only, and results will depend on the contamination levels in each tank.*

## Electrical Switch

Position "1" - system running  
Position "2" - system stopped

## Protection

Automatic pressure relief valve at 4.0 bar.

## Trouble Shooting

System pumps slowly

- a. Check inlet hose is below oil level
- b. Check quick release couplings — remove to clean
- c. Check inlet hose for leaks and blockages
- d. Ensure cartridge has been changed
- e. If none of the above, check pump stator

## Contamination Monitoring

The 3S-24v 900 is fitted with 2 sample points for use with portable PMB 4000 particle counter or similar device.

Connect the appropriate pipes:

Red: high pressure - IN  
Yellow: low pressure - return

This will enable an ISO rating/particle count to be taken whilst the system is in operation.

## Oil Sampling

To take an oil sample, connect only to the red sample point. Wait for a steady flow before sampling.

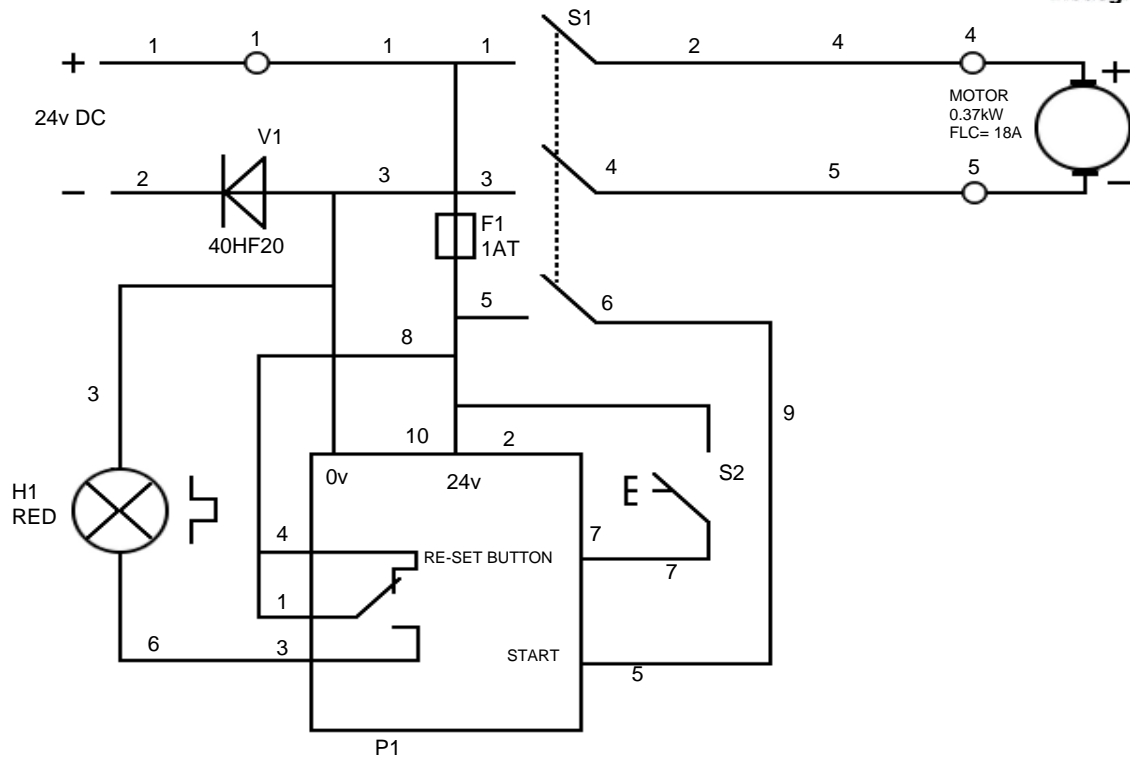
## Filtration Levels

Through a CARDEV filter SDFC, the level of filtration is ISO 4406, ISO <13/9 and the equivalent NAS 1638 class 4/5. Water is removed to below 0.05%.

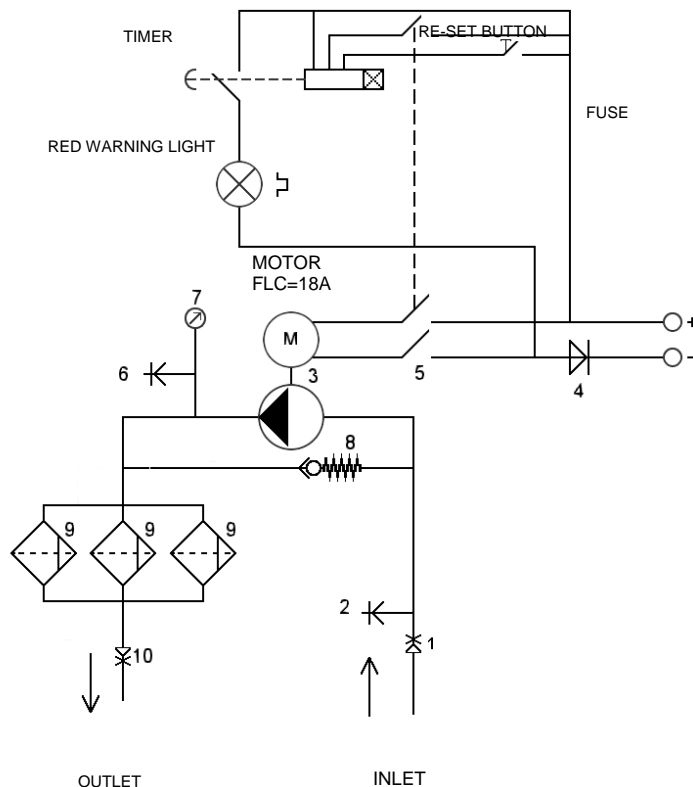
## Guarantee

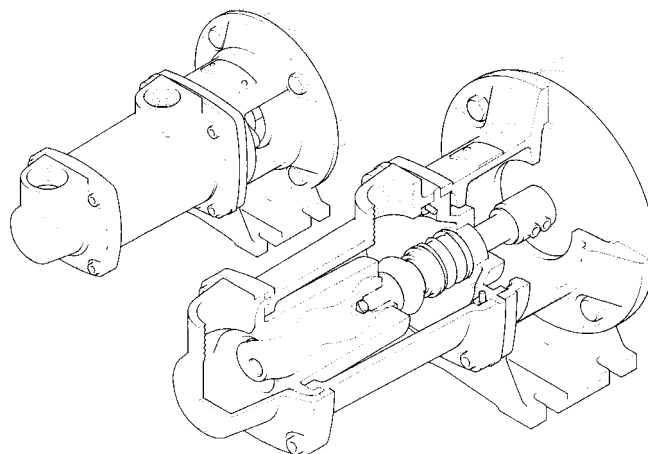
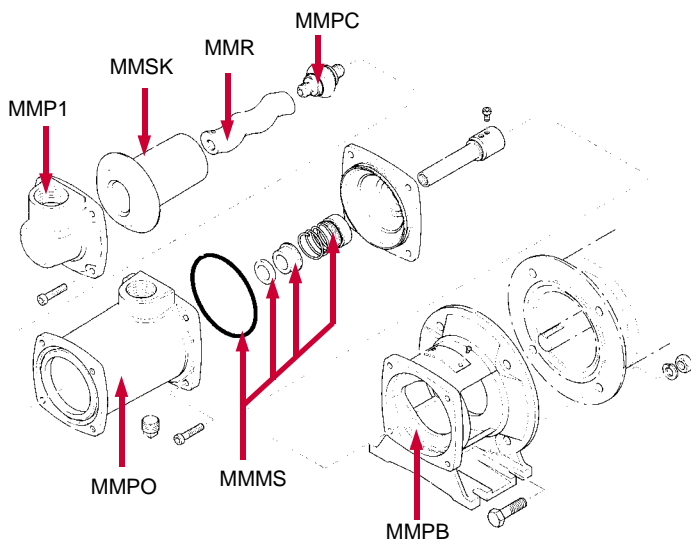
The 3S-24V-900 system carries a 12 month warranty on all parts. Full details are given on the guarantee attached to the system.





**SCHEMATIC**





### Maintenance

Under normal working conditions, this range of pumps should require little attention, but when required the following procedure can be adapted.

### Stator

This is removed by undoing the four caphead screws and removing the end cover. This exposes the stator which can then be pulled off the end of the rotor. This can be helped by inserting the blade of a screwdriver under stator flange to lift it away from the barrel.

### Rotor and Coupling

Having removed the end cover and stator, undo the four caphead screws securing the barrel to the body. The barrel can now be withdrawn from the body to expose the rotor, coupling and seal housing for disassembly.

### Motorised Pump

Disassembly of the rotor and coupling is perhaps best effected by unscrewing the shaft extension to the motor shaft. The whole assembly can then be withdrawn from the pump (Rotor, coupling, seal housing and shaft extension) to facilitate the ease of dismantling. By holding the rotor in the soft jaws of a vice, the coupling/shaft extension can be unscrewed (standard right hand threads) to separate the individual components for replacement if necessary, taking particular care not to damage the seal faces.

### Electric Motor

When fitting a replacement motor to an assembled pump, ensure the motor shaft and flange are clean and free from burrs. The pump shaft extension should be pressed home on to the motor shaft before tightening the locking capscrews down into the key slot location.

### Re-fitting

This should be done in exactly the reverse order to the dismantling sequence, always ensuring parts are clean and free from burrs and other defects.

## START-UP PROCEDURE

Pumps must be filled with liquid before starting. The initial filling is not for priming purposes, but to provide the necessary lubrication of the stator until the pump primes itself.

When the pump is stopped, sufficient liquid will normally be trapped in the rotor/stator assembly to provide lubrication upon re-starting. If, however, the pump has been left standing for an appreciable time, moved to a new location, or has been dismantled and re-assembled, it must be refilled with liquid and given a few turns before starting.



PUMPE UND MOTOR  
CM3S24

MOTOR  
CM3S24M

3S-24V 900

# SPARE PARTS



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ELECTRICAL CONTROL UNIT (COMPLETE)  
SW3/4S24



ELECTRICAL SWITCH  
PSW3/424V



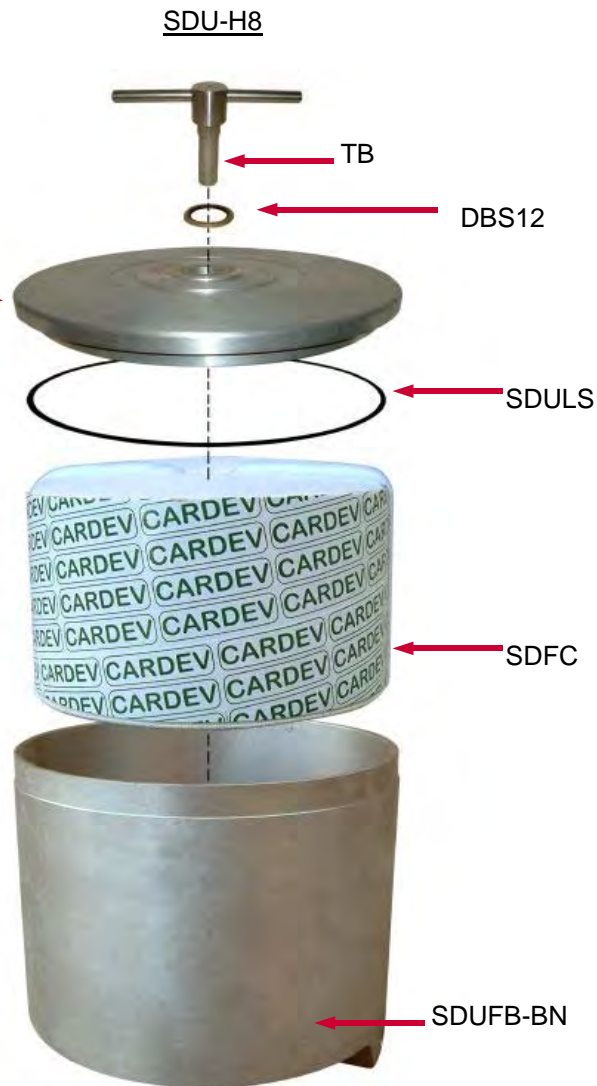
TIMER  
TIMER24- 12/24V



RED WARNING LIGHT  
BEA24DC : 24V



HOSE & COUPLING SET (COMPLETE)  
OST1/2DRS



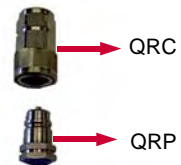
PRESSURE RELIEF VALVE  
DV12 4.0BAR



PRESSURE GAUGE  
PG160F



BRUSH SETS  
BRUSH-3/4S24



QUICK RELEASE COUPLING SET  
QRS12