

STERLING[®] separation

oil/water separators



“the product of experience”

safe, simple, reliable, economical on-site treatment of compressed air condensate
designed to help you meet your environmental obligations



“The industry-leading experience of the STERLING Separation design team is clear to see in every detail. It’s exactly right”



The STERLING[®] CS75 is a unique concept incorporating a host of features and customer benefits into a single package for the treatment of condensate from any oil lubricated air compressor package or system of up to 75cfm (2.1 m³/min)(35.4 l/s) capacity at <16barg

Key features

- **Quick and secure installation** with wall bracket supplied in the box, and a floor mount option available
- **Serviceable product** - filter cartridge is quickly replaced without need for tools
- **Simply rotate the lid and lift off** to remove the moulded cartridge and clip in a new one
- **10-year warranty** on CS75. see the website for full details
- **‘No-overspray’** CS75 has five levels of protection to ensure untreated condensate doesn’t exit the de-pressurising vents
- **Visual time-in-service indicator** is fully incorporated into the design
- **Service kit** - cartridge type, supplied with replacement coalescing media, new ‘time-in-service’ indicator and disposal bag

Even small compressed air systems are subject to the environmental laws regarding pollution caused by the discharge of untreated compressor condensate.

In a full year (8000 hrs) of operation, even a modest, well maintained 11 kW compressor could generate up to 7,500 litres of condensate containing several litres of oil. That’s enough oil to cover and de-oxygenate several hectares of water, causing loss of plant and animal life.

Such a concentration also inhibits the operation of waste water processing plants, which is why the discharge of condensate is subject to legal controls.

You could have your condensate removed from site by a licensed contractor, but it’s easier and less expensive to treat it on site. Ask your air compressor service company to install a **STERLING[®]** separator and be sure you meet your legal and environmental obligations

Installation summary

CS75 can be either wall or floor-mounted, using one or other of the supplied fixings.

Due to its very compact size, CS75 must always be used in conjunction with one of the supplied fixings.

Always use auto-drains; set any timed drains to open frequently and for the shortest period

Order **STERLING[®]** part no. **CS75SK** from your service company for replacement cartridges

General specification

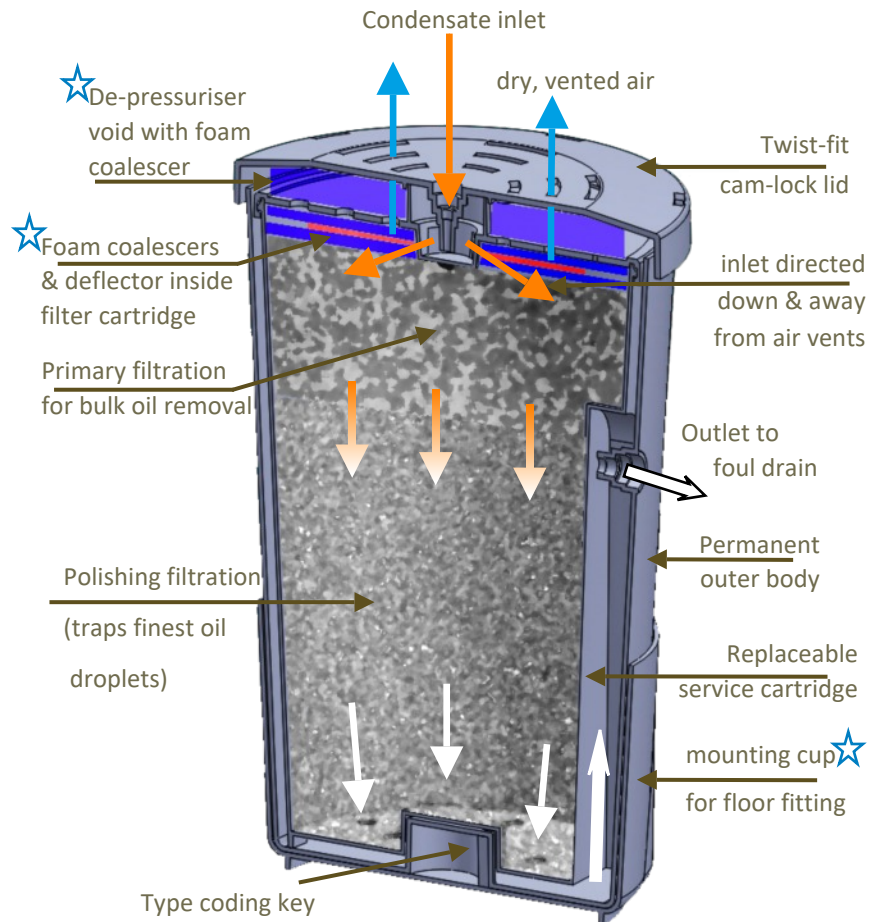
weights and dimensions are approximate

Dims (mm)	Height	Width	Depth	Weight
CS75	290	180	190	1.4kg
CS75 Boxed	300	200	200	1.6kg
Inlet: 6mm push fit		Outlet: 8mm push fit (8mm-10mm adaptor included)		
MATERIAL: All moulded parts PE Filter medium - processed polypropylene with carbon added				
Max capacity of air system - 75cfm @ 16barg Never use cartridge longer than 24 months				

Guide to maximum cartridge life

in a normal well-maintained compressor system using mineral or mineral-based lubricants

Annual Hours Run	System air delivery - cfm (m ³ /min) (l/s)		
	40 (1.13)(18.9)	60 (1.7)(28.3)	75 (2.1)(35.4)
2000	24 months	21 months	18 months
4000	18 months	15 months	12 months
8000	12 months	9 months	6 months



CS75 cross section



Time In Service (TIS) indicator

Clipped into the lid, it gives guidance regarding the need to observe and/or service the unit.

A new TIS is supplied with every replacement service kit

What's in the box?

Outer body and lid with service cartridge & foam disc fully assembled.

Wall-mount plate, floor standing cup (Option), TIS indicator, polybag and manual



CSR 150/450/1000/2000/3000 oil/water separators

STERLING®
separation

overview

The STERLING® CSR takes the concept of a classic oil/water separator design and brings it up-to-date with a host of improvements. Three models are available, having capacities of 150, 450, & 1000 cfm. Multiple installation of CSR1000s is easy using the new custom built 1 x 3 ported manifold - available late 2017

As with all STERLING® separators, there's no weir to set or adjust, and there's no stagnant water to act as a breeding ground for bacteria. Gravity keeps things moving so that condensate passes constantly through the generous light-weight filters and out to drain.

The flared bases offer stability, while their careful internal design ensures that the filter bags cannot deform to block the deep outlet channels.

With a quality finish that includes brass threaded inserts, well positioned twin test points, sample jar holder and 'time-in-service' indicator the STERLING® separators will enhance the appearance of any compressor installation.

CSR2000 & CSR3000 units are built from either 2 or 3 CSR1000s connected by our CSEQ3 manifold to ensure equal flow through the individual towers for efficiency

There are no plastic screw threads in CSR range, just quality brass inserts

Twin test points draw samples direct from the filter bed, not the outlet feed



Easy, effective, efficient, economical excellence STERLING® the product of experience

- **Quality build** with brass fittings and excellent finish
- **10-year warranty** on CSR range. See the website for full details
- **No tools required for servicing.** Simply lift off the lid, detach the internal push fit connector, lift, drain and replace filters
- **3-part filters** fitted in CSR1000 for ease of lifting during servicing
- **Visual time-in-service indicator** is fully incorporated into the design
- **Wide base** improves stability of the installation minimising the possibility of spills
- **Up to 4000 hours service life** allowing best possible fit with system service schedules
- **Active Filter** option available. Some condensates can't be cleaned in a passive filter - even with STERLING's excellent filter media. For stable emulsions or other hard-to-treat condensates (caused by local factors or PAG lubricants), STERLING® active filters can be a practical alternative to costly emulsion splitters.

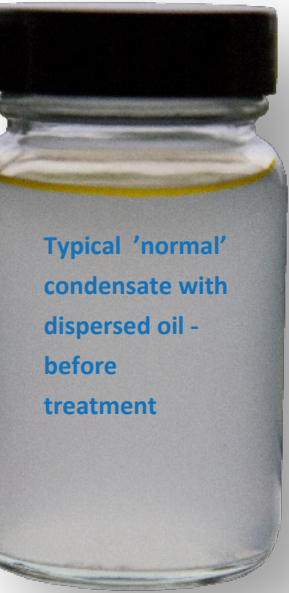
Contact your supplier about conversion of existing separators or supply of new active filter 'AF' units

CSR 150/450/1000/2000/3000 oil/water separators

STERLING
separation

Are you treating 'normal' condensate?

The **STERLING**® CSR separator is designed to clean 'normal' dispersed condensates from almost all compressor systems that run on mineral or mineral-based lubricants - giving outlet quality of better than 20ppm from installation through to end-of-life. That's up to 4000 running hours



Typical 'normal' condensate with dispersed oil - before treatment

or is it emulsified?

★ The CSR 'AF' option handles this task.

For a variety of reasons including high compression temperatures or pressures; solvents or chemicals in the atmosphere; or the lubricant in use, the oil and water in the condensate emulsify.

Stable emulsions present a challenge to any oil/water separator, but **STERLING**® Active Filter units are up to the job. With an active biological component that actually digests oil, the CSR 'AF' range is the answer to problem condensates



Heavily emulsified condensate before treatment

optional accessories

Pedestal base for CSR150 or CSR450. Raises the outlet by approx 300mm. Useful where there is a long distance to the foul drain or insufficient slope.



Condensate splitter used to divide incoming condensate feed into 2 or 3 streams for CSR2000 & CSR3000. Levelling device ensures equal flow to each unit.

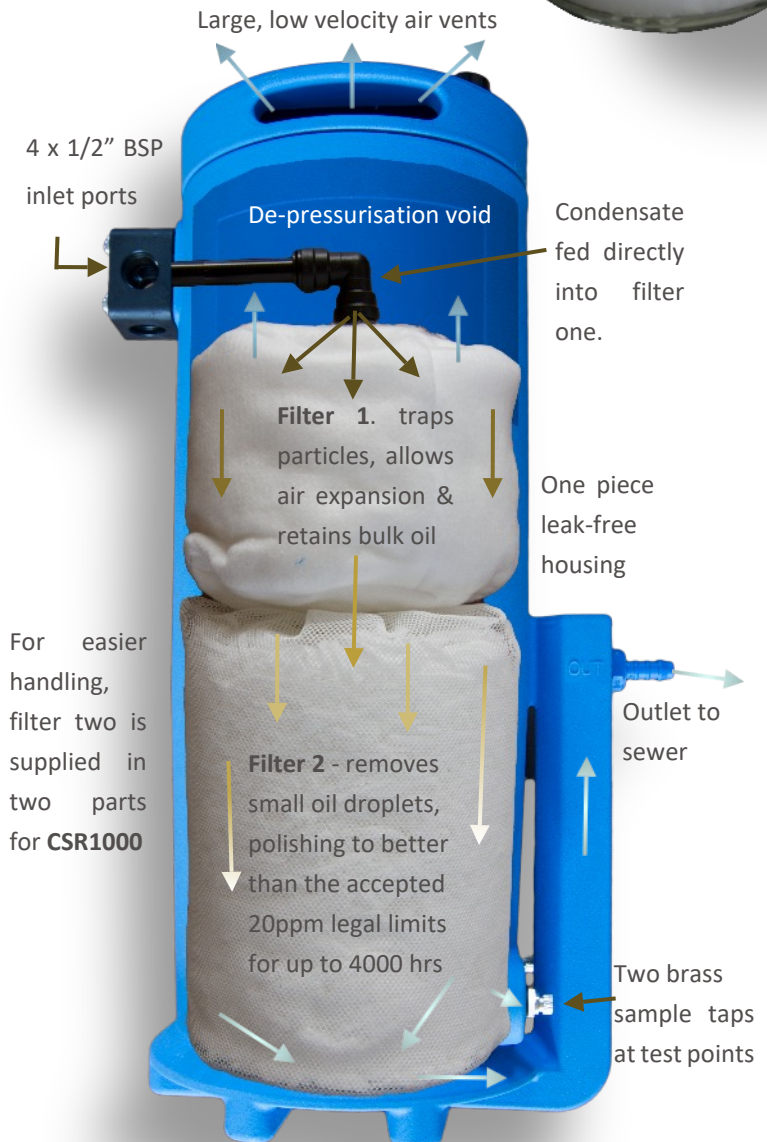


Two details that make a difference

The sampling jar housing and 'Time In Service' strip are built into the lid as standard



How it works - standard and 'AF'



CS100IBC & CS200IBC

oil/water separators

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Same problem - bigger solution

Offering unique user benefits, CS100IBC & CS200IBC are reliable and uncompromising allies in the fight against pollution and the battle for legislative compliance for users of large compressed air systems.

These large **STERLING**[®] cleaners are designed to remove oil from compressed air condensate down to levels that are sufficiently low that discharge of treated condensate to the foul sewer is allowed.

Key features

- Environmentally clean, lightweight filter medium
- No moving parts - no floats, weirs or oil containers or sensors
- No pre-soaking of filtration medium
- No power consumption, small footprint
- No maintenance required (except weekly quality check) for up to 16,000 hours
- Cartridge-type replacement filter ensures quick & clean service routine.
- Economically engineered—Lowest 'cost of ownership' of all possible solutions
- Works on mineral oils and mineral-based synthetics
- Availability is usually better than 10 working days
- Up to 2 years between services at capacities of **(100 or 200 m³/min)**
3500 or 7000 cfm



Functional description

Condensate discharged from the air system (together with any compressed air also released) is fed into the substantial pressure relief chamber, allowing calm entry of condensate into the filter chamber.

The chamber comprises a standard container (IBC) of either 600 or 1000 litres (model dependent).

The IBC contains balanced proportions of coarse polypropylene shred to remove bulk oil, and **STERLING's** oil-adsorbing PP wool. The result is a discharge quality that betters the legal limit for oil in the discharge to a sewer (limit typically 20ppm)

Oil is adsorbed onto the filter material as condensate passes through the filter bed.

A drainage channel collects cleaned condensate at the base of the filter bed, feeding it out through push-fit pipe-work, .

A 'tee' piece and tap provide an outlet condition monitoring point. The end-of-life outlet quality should be well below 20ppm in normal operation.

At the end of its 2-year service life, the complete IBC with filter material and oil residues inside should be taken for disposal at a registered site, as a one-off operation. The pressure relief chamber and outlet pipes are retained to be connected to a new container filled with clean **STERLING**[®] material.

Simple, inexpensive, and made in Britain by **STERLING**[®]

The need for oil/water separation

Environment - legislation - conscience

All compressed air systems form condensate in the air flow, downstream of the compressor. The source is atmospheric humidity that's converted to water after compression and cooling.

Oil-lubricated compressors produce oil-contaminated condensate. For the protection of tools, machines and product, this condensate must be removed from the system, but disposal options are controlled - by law.

One option is have it removed from site by a licensed contractor, but given that an 18kW compressor can produce 10,000 litres in a year, that's the expensive choice!

However, treatment on site can be both simple and cost effective if you install a **STERLING[®]** separator.

With no moving parts and nothing to adjust, **STERLING[®]** separators use gravity to feed the condensate through

an adsorbent filter bed that can remove oil down to well below the legal limit. The cleaned condensate can be discharged to a convenient foul drain or sewer.

Oily water in, cleaned water out.
That's the **STERLING[®]** way

Catering for compressed air systems from the smallest workshop to the largest capital installations **STERLING[®]** offers a range of solutions developed from testing in the laboratory and in real world environments so that you can meet your relevant quality targets.

Easy to install and maintain, **STERLING[®]** separators offer an economical, effective solution to the condensate problem; protecting the environment, your legal compliance and your conscience.



Years of experience

and new ideas

STERLING[®] has decades of condensate management experience; great credentials for present and future products.

- The company has invested in many new ideas founded on practical expertise.
- We've developed the smallest, lowest cost, serviceable oil/water separator
- Our new mid-range separators are elegantly designed and functional
- We're using environmentally sound and highly-adsorbent specialised media - and developing new and exciting solutions for the future.
- **STERLING[®]** 'Active Filter' media kits introduced to handle stable emulsions

Customer service

partnership

No two condensates are alike - and no two condensate management suppliers are alike either

- **STERLING[®]** specialises in condensate management and shares its knowledge in support of its partners
- The team understands that you need great product *and* outstanding service to win and keep customers
- We offer FREE condensate management training to our customers and their people
- We will tailor our stock holding to our customers' individual needs where appropriate



Filter media on test in the **STERLING[®]** laboratory

STERLING® “the product of experience”

STERLING® oil/water separator specifications								
Model	Capacity Cfm (m ³ /min) (l/s)	Max service life (hrs)	Height (mm)	Width (mm)	Depth (mm)	Height to outlet c/l (mm)	Weight (kg)	Service kit
CS75	75 (2.1) (35.4)	4000	270	185	195	185	2	CS75SK
CSR150	150 (4.2) (70.8)	4000	560	220	255	240	3.4	CSR150SK
CSR450	450 (12.7) (212)	4000	750	310	335	352	4.5	CSR450SK
CSR1000	1000 (28.3) (472)	4000	980	400	430	433	16	CSR1000SK
CSR2000	2000 (56.6) (944)	4000	980	900appx	430	433	35	2x CSR1000SK
CSR3000	3000 (85) (1416)	4000	980	1400app x	430	433	51	3x CSR1000SK
CSR150-AF	150 (4.2) (70.8)	2000-4000	560	220	255	240	3.4	CSR150SKAF
CSR450-AF	450 (12.7) (212)	2000-4000	750	310	335	352	4.5	CSR450SKAF
CSR1000-AF	1000 (28.3) (472)	2000-4000	980	400	430	433	16	CSR1000SKAF
CSR2000-AF	2000 (56.6) (944)	2000-4000	980	900appx	430	433	35	2x CSR1000SKAF
CSR3000-AF	3000 (85) (1416)	2000-4000	980	1400app x	430	433	51	3x CSR1000SKAF
CS100IBC	3500 (100) (1652)	16000	1350	800	1270	650 appx	650	CS100IBCK
CS200IBC	7000 (200) (3304)	16000	1520	1000	1270	750appx	1060	CS200IBCK
Accessories								
CSR150STD & CSR450STD		Stand raises CSR150 or 450 by ~300mm where access to drain requires extra slope						
CSEQ3	*Splits condensate flow into 2 or 3 equal streams for successful multiple installations.							
* Designed to meet or exceed current environmental legislation when correctly selected and installed; all sizes are based on well maintained compressor plant using mineral or mineral-based lubricants.								
** Achieves normal filter life (up to 4000 hours) even when operating 24/7 (see separate table on page 3 for CS75 extended life)								
*** Tested and proven to work on systems using 8000 hr synthetics with 24/7 operation at up to 4000 hours filter service life								
**** For PAG lubricants, stable emulsions or difficult condensates use the AF version - talk to your STERLING supplier for details								

STERLING’s other products include 3rd party service kits for oil/water separators, all types of condensate drains, compressed air filters, 3rd party filter cartridges and refrigerated compressed air dryers



STERLING Separation Ltd, Unit 24 Longford Ind Est, Longford Rd, Cannock, Staffs, WS11 0DG, ENGLAND

tel:+44 (0)1543 502010 e: sales@sterlingsep.com www.sterlingsep.com