STELSEP
the product of experience

CONDENSATE MANAGEMENT

Oil /Water Separators

Safe, Simple, Reliable, Economical On-Site Treatment of Compressed Air Condensate

Designed to Help You Meet Your Environmental Responsibilities

"the product of experience"

STERLING SEPARATION, INC. · PHOENIX, AZ

CS75i – S200IBC

CS75i

75scfm Oil/Water Separator · Patent Applied For

The **STELSEP® CS75i** is a completely 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 delivering up to **75cfm (2.1 m^3/min)** at <230psi

Key Features

- Quick and secure installation with wall mount plate supplied in the box, and a floor mount option
- Serviceable product - filter cartridge is quickly replaced without need for tools
- Simply rotate the lid and lift off to remove the molded cartridge and clip in a new one
- 10-year warranty on CS75i. see the website for full details
- 'No-overspray' CS75i has five levels of protection to ensure untreated condensate doesn't exit the de-pressurizing 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

> ***"The industry-leading experience of the design team is clear to see in every detail. It's exactly right"***

Why Treat Condensate?

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 15hp compressor could generate nearly 2000 gallons of condensate containing a gallon 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 STELSEP® separator and be sure you meet your legal and environmental responsibilities

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, disposal polybag

CS75i In Detail

Service Life, Specification and Installation

Guide to Maximum Cartridge Life

In a Normal Well-Maintained Compressor System Using Mineral or Mineral-Based Lubricants

Annual Hours Run	40 (1.13)	60 (1.7)	75 (2.1)
2000	24 months	21 months	18 months
4000	18 months	15 months	12 months
8000	12 months	9 months	6 months

System air delivery - cfm (m^3/min)

General Specification

Dims (in), CS75i	**11.4 H × 7.1 W × 7.5 D, 3.1lb**
CS75i boxed	**11.8 H × 7.9 W × 7.9 D, 3.5lb**
Inlet	**1/4" push fit**
Outlet	**3/8" push fit (8mm-10mm adaptor included)**
Material	**All molded parts PE**
Filter medium	**Processed polypropylene with carbon added**
Max capacity of air system	**75cfm @ 230psi**

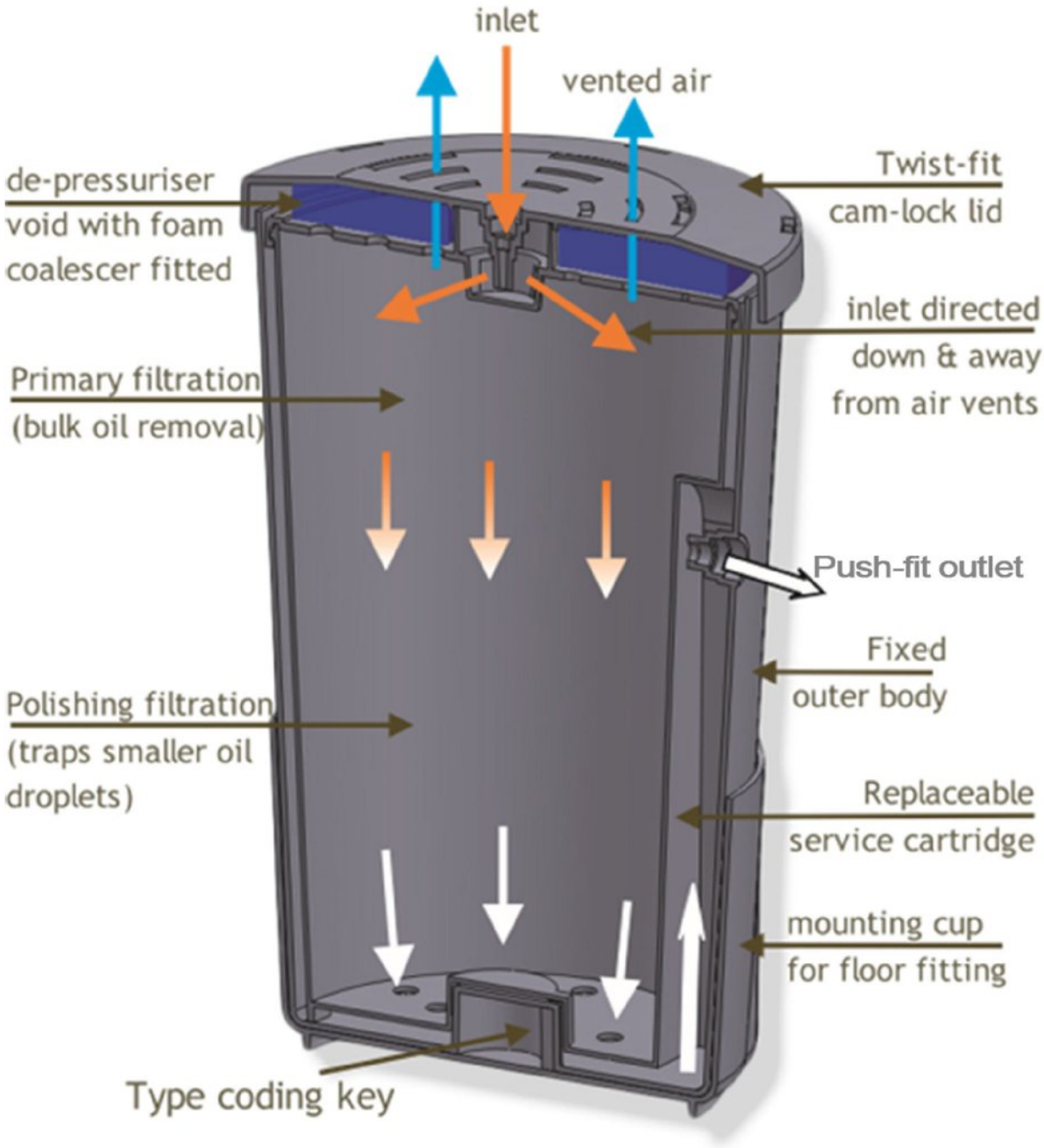
Weights and dimensions are approximate. Never use cartridge longer than 24 months

Installation Summary

- CS75i can be attached either to wall or floor, using one or other of the mountings.
- Due to its very compact size, CS75i should not be used without one of the mounting options.
- Always use auto-drains; set any timed drains to open frequently and for the shortest period.
- Order STELSEP® part no. **CS75SK** from your service company for replacement cartridges

CS75i Cross Section

How the CS75i Treats Condensate



CSR 150, 450 & 1000

Easy, Effective, Efficient, Economical Excellence

STELSEP® CSR takes the concept of a classic oil/water separator design and brings it up-to-date with a host of improvements. Five models are available, having capacities of 150, 450, 1000, 2000 & 3000 cfm. 2000 & 3000 cfm separators utilise the new custom designed multi-ported manifold to efficiently connect CSR1000 units

As with all STELSEP® 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 lightweight 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 STELSEP® separators will enhance the appearance of any compressor installation.

- There are no plastic threads in CSR range, we use quality brass inserts
- Twin test points draw samples direct from the filter bed
- The sampling jar housing and 'Time In Service' strip are built into the lid as standard

Brass outlet insert and twin brass test points

CSR Key Features

Quality Build, No-Tools Servicing, Active Filter Option

- 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 service
- Visual time-in-service indicator is fully incorporated into the design
- Wide base improves stability of the installation minimizing the possibility of spills
- Up to 4000 hours service life allowing best possible fit with system service schedules
- Active Filter option available. Some condensates just can't be cleaned in any passive filter - even ours!. For stable emulsions or other hard-to-treat condensates (usually caused by environmental factors). STELSEP® 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

Optional Accessories

Pedestal base for CSR150 or CSR450. Raises the outlet by approx 12". Useful where there is a long distance to the sewer drain or insufficient slope.

Condensate splitter used to divide incoming condensate feed into 2 or 3 streams for multiple separators. The device ensures equal flow to each unit.

Are You Treating 'Normal' Condensate?

Or Is It Emulsified?

The STELSEP® 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 that exceeds US EPA standard through to end-of-life. That's up to 4000 running hours

Or Is It Emulsified?

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 STELSEP® 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

The CSR 'AF' option handles this task.

Left: typical 'normal' condensate with dispersed oil - before treatment

Right: heavily emulsified condensate before treatment

How They Work

Standard and 'AF'

1. Condensate fed directly into filter 1 via 4 x 1/2" NPT inlet ports
2. Filter 1. traps particles, allows air expansion & retains bulk oil
3. Filter 2 - removes small oil droplets, polishing to better than the accepted 20ppm legal limits for up to 4000 hrs
4. Condensate can be tested via two brass sample taps

1 primary filter · **2** polishing filter

Design Features

- De-pressurization void
- Large, low velocity air vents
- For easier handling, filter two is supplied in two parts for CSR1000
- One piece leak-free housing
- Outlet to sewer
- Wide, stable base with deep free-flow drainage

S100IBC & S200IBC

Same Problem - Bigger Solution

Offering unique user benefits, **S100IBC & S200IBC** 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 STELSEP® cleaners are designed to remove oil from compressed air condensate down to levels that are sufficiently low that discharge of treated condensate to the sewer is allowed.

Key Features

- Environmentally clean, lightweight filter medium
- No moving parts - no floats, weirs, 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

Functional Description

S100IBC & S200IBC

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

The IBC contains balanced proportions of coarse polypropylene shred to remove bulk oil, and STELSEP's oil-adsorbing PP wool. Oil is adsorbed onto the filter material as condensate passes through the filter bed. The result is a discharge quality that betters the legal limit for oil in the discharge to a sewer (limit typically 15 ppm)

The chamber is a standard container (IBC) of either 160 or 265 gal (600 or 1000 liters) model dependent.

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 15 ppm 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 media from STELSEP®

Simple, inexpensive, STELSEP®

The Need for Oil/Water Separation

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 any 25hp compressor can produce 2500 gallons in a year, that's the expensive choice!

However, treatment on site can be both simple and cost effective if you install a STELSEP® separator.

With no moving parts and nothing to adjust, STELSEP® 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 sewer drain.

Oily water in, cleaned water out. That's the STELSEP® way

Catering for compressed air systems from the smallest workshop to the largest capital installations STELSEP® 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, STELSEP® 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 specialized media - and developing new and exciting solutions for the future.
- STELSEP® 'Active Filter' media kits introduced to handle stable emulsions

Filter media on test in the STELSEP® laboratory

Customer Service Partnership

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

- STELSEP® specializes 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

Because You Deal With People

STELSEP is a privately owned manufacturing and distribution company with roots in the UK and USA

In 2008 the owners focused exclusively on oil/water separation, and the business has developed to encompass significant research, design, development and manufacturing activities, with of course an emphasis on sales & marketing.

The company ethos is a simple one. We know it makes sense to do the the basic things well, to learn from and to share experience, and to be the kind of company that we ourselves would be happy to do business with.

It's a cliché, but it remains true that people buy from people. So it's important to us that as we grow, new members of the team share the STELSEP® ethic. We know that no matter how good the product is, customers won't buy unless they like and trust the supplier.

STELSEP® will always offer a great product, excellent value and support from a knowledgeable and ethical team.

STELSEP® "the product of experience"

Specifications

Model	Capacity cfm (m^3/min)	Max Service Life (hrs)	Height (in)	Width (in)	Depth (in)	Height to Outlet c/l (in)	Weight (lb)	Service Kit
CS75i	75 - (2.1)	4000	10.6	7.3	7.7	7.3	4.4	**SK75**
CSR150	150 - (4.2)	4000	22	8.7	10	9.4	8	**CSR150SK**
CSR450	450 - (12.7)	4000	29.5	12.2	13.2	13.9	11	**CSR450SK**
CSR1000	1000 - (28.3)	4000	38.6	15.7	16.9	17	36	**CSR1000SK**
CSR2000		Comprises 2 of CSR1000 + CSEQ3 condensate flow splitter						**2 x CSR1000SK**
CSR3000		Comprises 3 of CSR1000 + CSEQ3 condensate flow splitter						**3 x CSR1000SK**
CSR150-AF	150 - (4.2)	2000-4000	22	8.7	10	9.4	8	**CSR150SKAF**
CSR450-AF	450 - (12.7)	2000-4000	29.5	12.2	13.2	13.9	11	**CSR450SKAF**
CSR1000-AF	1000 - (28.3)	2000-4000	38.6	15.7	16.9	17	36	**CSR1000SKAF**
CSR2000-AF		Comprises 2 of CSR1000AF + CSEQ3 condensate flow splitter						**2 x CSR1000SKAF**
CSR3000-AF		Comprises 3 of CSR1000AF + CSEQ3 condensate flow splitter						**3 x CSR1000SKAF**
S100IBC	3500 - (100)	16000	53.1	31.5	50	25.6	1430	**S100IBCK**
S200IBC	7000 - (200)	16000	59.8	39.4	50	29.5	2332	**S200IBCK**

Accessories

CSR150STD & CSR450STD — Stand raises CSR150 or CSR450 by ~12” 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. For PAG lubricants, reduce stated capacity by 50%

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