



KCS Separator

Mechanical-centrifugal

1 – 5.600 m³/h



ISO 9001:2015

Definition

KRONE KCS separator filters are used for filtering out all particles and solids of any type of liquid medium by mechanical centrifugal filtration.

Notice:

The compatibility between medium and vessel or sealing material is the responsibility of the operator.

The design of the pressure vessel is based on a quasi-static operation (load cycle number ≤ 1000 according to AD 2000 Merkblatt S1, section 1.4). Max. Differential pressure inlet - outlet 2 bar.

Approvals

3.1. Certificate, DGRL/TÜV, GL, LS, DNV, ABS, TR TF/TR CU Certificates (EAC), ASME U-Stamp



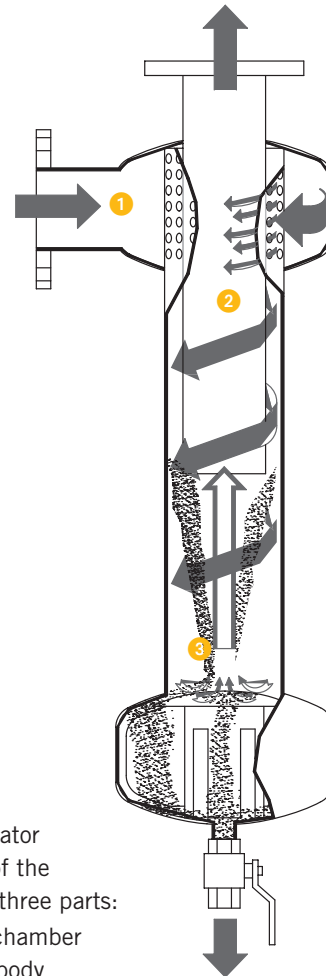
General features

- Flow rate: 1–5,600 m³/h (special versions on request)
- Maximum working pressure: 10 bars
- Maximum pressure drop: 0.2 bar
- Filter capacity: 40–70 microns
- Maximal permissible particle size: 1 cm (DN dependent)
- Maximum wall thickness: 6 mm (in accordance with international standards)

The entire body can be manufactured of carbon steel, stainless steel 304 or stainless steel 316. If carbon steel is used the outside of the body is provided with an epoxy paint finish to prevent aging due to weather influences.

Krone separators are designed for continuous operation without routine shutdown for cleaning or maintenance purposes. Reversible flow is not necessary to clean the filter. Suspended particles are flushed out of the collecting chamber at intervals through the drain pipe and continuity of flow is ensured during the flushing process.

KCS Separator filter



The separator consists of the following three parts:

- ① Inlet chamber
- ② Main body
- ③ Collecting chamber

Optional accessories available

- **Automatic flushing system:** 220 V/24 V for each programmable electric switch panel with which the intervals between flushing cycles and the duration are controlled by an electrically actuated ball valve. Because flush-out of the suspended solids is automatic, no personnel are required. Models with pneumatically actuated devices are also available.
- **Inspection cover:** Allows inspection of the collecting chamber. Preferred for high flow rates and applications with high solids load.
- **Removable hood:** Fastened to the inlet chamber with a screwed flange system. It is possible to take off the cover of the filter body and to look inside the filter.

Principles of operation

- Liquid is fed to the separator tangentially through the inlet pipe, which initiates the gyroscope movement in the inlet chamber.
- The gyroscope movement is reinforced by tangential slotted openings in the main body that generate a nozzle effect.
- The tangential slotted openings also prevent ingress of particles that are larger than 1 cm in size. In other words liquid in the system with suspended particle size down to 1 cm should be diverted upstream from the SEPARATOR FILTER.
- The gyroscope movement of the liquid continues in the main body, which results in the suspended particles accumulating closer to the wall surfaces.
- The suspended particles are trapped in the collecting chamber. The special version allows extremely efficient separation of solids and particles from the inlet down into the collecting chamber.
- The particles that have collected on the floor of the collecting chamber are either removed manually or automatically (see the appropriate article on the Automatic flushing system).
- The filtered water is forced upward from the pressure system through the pipe mounted in the interior that runs through the main body and the inlet chamber.
- Krone has specially designed the membrane plate and the particle spreader in such a manner that the efficiency of the separation process could be improved.
- The system operates without any interruption.

Some applications

Water

Deep wells, surface water, lakes, rivers, salt water, fire protection systems for oil jetties/refineries, pre-filters for injection water for oil production.

Circulation processes

Upstream of cooling towers, air conditioners and heat exchangers, upstream of oil/water separators, upstream from membrane filters (such as micro-filtration, ultra-filtration & inverse osmosis) upstream/downstream from sand filters upstream of cartridges and bag filters, protection of spray nozzles for all operating processes, protection of pumps.

Water for washing and transport

For vegetable preparation, for washing & transporting sugar beets, for potato preparation for automatic industrial washing processes, for machines for washing out bottles & crates.

Degreasing bath, pump protection, coolant filtration

For all grinding processes, motor parts, axles, shafts, compressors.

Wastewater

Removal of sand from sewer systems/overflow tanks.

Food production

Filtering hot frying oil.

Steelworks

Water for quenching & cooling.

Refineries & oil production

Fire extinguishing systems, pipeline filters, removal of sand & gravel downstream from 3-phase separators, protection of motor-powered centrifuges.

Sugar industry, power plants

Removal of filter cake particles, filtering cooling water, cleaning of cooling sumps.

Airports

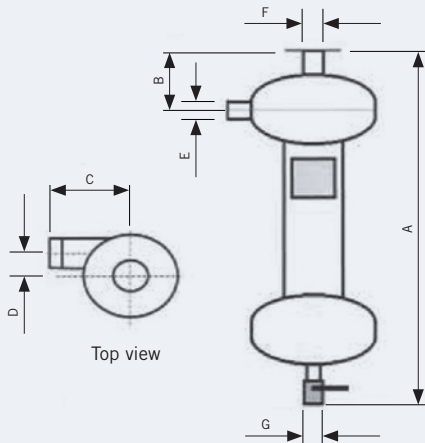
Pre-filter for spreaders or the preliminary stage for superfine filtration of kerosene.

Types & technical data

Capacity diagram

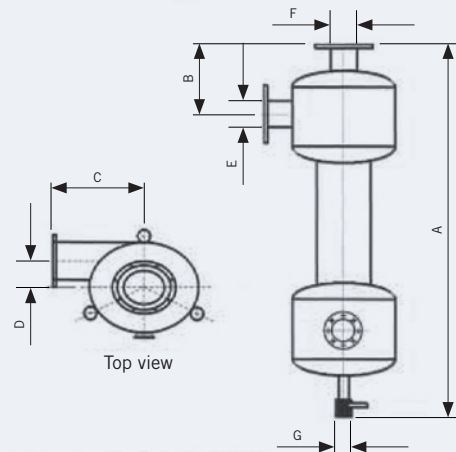
Connection	Nominal diameter	Capacity (m³/h)
Tread	G 3/4"	1–4
Tread	G 1"	2–7
Tread	G 1 1/4"	7–10
Tread	G 1 1/2"	10–16
Tread	G 2"	16–24
Tread	G 2 1/2"	24–35
Tread	G 3"	35–65
Flange	DN 100	65–90
Flange	DN 125	90–110
Flange	DN 150	110–200
Flange	DN 200	100–380
Flange	DN 250	375–700
Flange	DN 300	560–900
Flange	DN 350	650–1.200
Flange	DN 400	860–1.600
Flange	DN 450	1.100–2.000

KCS with threaded connection



Capacity: 1–65 m³/h
Inlet/outlet: 3/4–3" BSP thread
Material: Carbon steel (outside with epoxy paint finish), stainless steel 304/316

KSC with flanges



Capacity: 65–2.000 m³/h
Inlet/outlet: DN 100–500 DIN flanges
Material: Carbon steel (outside with epoxy paint finish), stainless steel 304/316

Nominal diameter	A	B	C	D	E	F	G
G 3/4"	600	110	130	67	3/4"	3/4"	3/4"
G 1"	690	110	130	63	1"	1"	1"
G 1 1/4"	760	125	165	89	1 1/4"	1 1/4"	1"
G 1 1/2"	760	130	170	86	1 1/2"	1 1/2"	1"
G 2"	860	135	175	80	2"	2"	1"
G 2 1/2"	880	155	195	72	2 1/2"	2 1/2"	1"
G 3"	1.040	167	215	80	3"	3"	1"

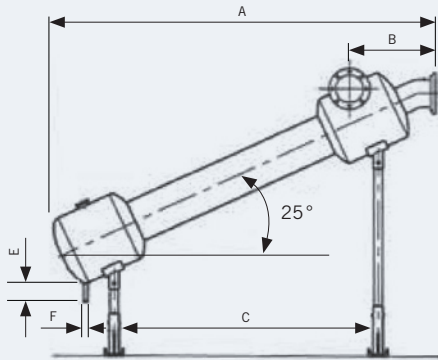
Nominal diameter	A	B	C	D	E/F	G
DN 100	1.110	167	260	93	DN 100	1"
DN 125	1.310	225	270	80	Dn 125	1 1/4"
DN 150	1.700	255	345	143	DN 150	1 1/2"
DN 200	2.300	355	345	165	DN 200	1 1/2"
DN 250	2.850	470	545	188	DN 250	2"
DN 300	4.380	660	610	240	DN 300	2"

Sizes to DN 500 available on request.

Types & technical data

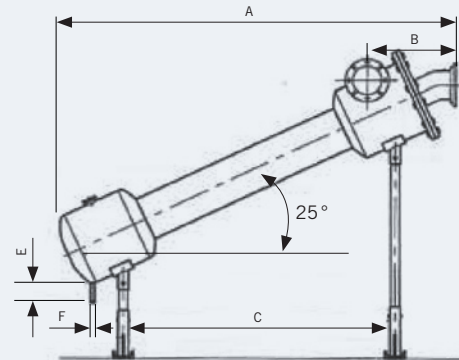
25° profile type separator

KCS with flanges



Capacity: 65–2.000 m³/h
Inlet/outlet: DN 100–500 DIN flanges
Material: Carbon steel (exterior with epoxy paint finish), stainless steel 304 oder 316
Standard: 25° version 1 inspection opening in the lower chamber

KCS with flanges



Capacity: 65–2.000 m³/h
Inlet/outlet: DN 100–500 DIN flanges
Material: Carbon steel (exterior with epoxy paint finish), stainless steel 304 oder 316
Standard: 25° version 1 inspection opening in the lowerchamber, detachable hood for inspection purposes

Nominal diameter	A	B	C	E	F
DN 100	1.180	350	750	100	1 1/4"
DN 125	1.240	350	790	100	1 1/4"
DN 150	1.600	384	1.010	100	1 1/2"
DN 200	2.142	586	1.320	100	1 1/2"
DN 250	2.753	715	1.790	100	2"
DN 300	4.180	930	2.850	100	2"
DN 350	4.148	942	2.856	150	3"
DN 400	4.148	942	2.586	150	3"
DN 450	4.287	1.029	2.995	150	3"

Nominal diameter	A	B	C	E	F
DN 100	1.180	350	750	100	1 1/4"
DN 125	1.240	350	790	100	1 1/4"
DN 150	1.600	384	1.010	100	1 1/2"
DN 200	2.142	586	1.320	100	1 1/2"
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