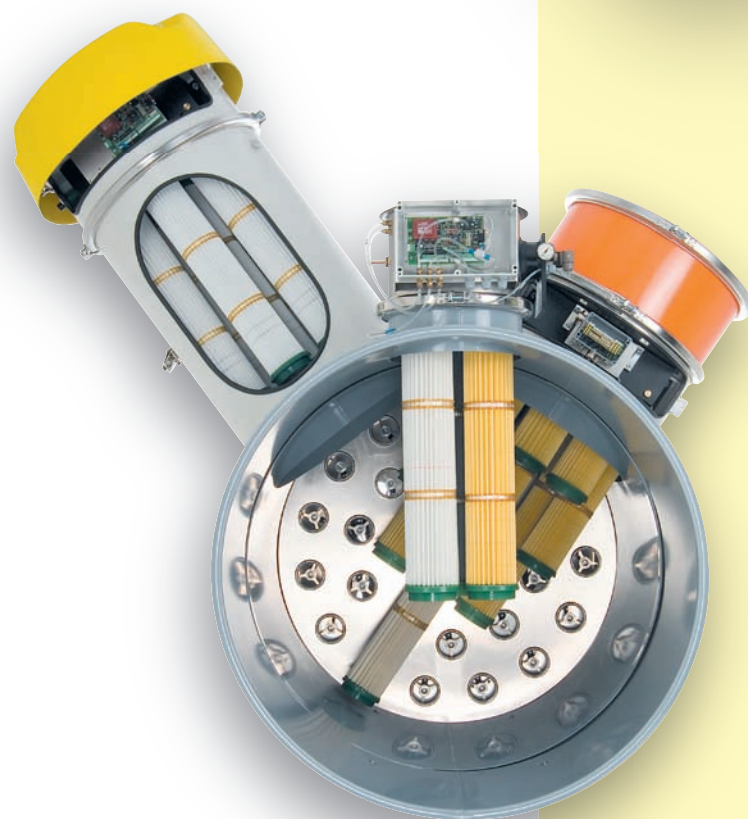


innovations
in dedusting

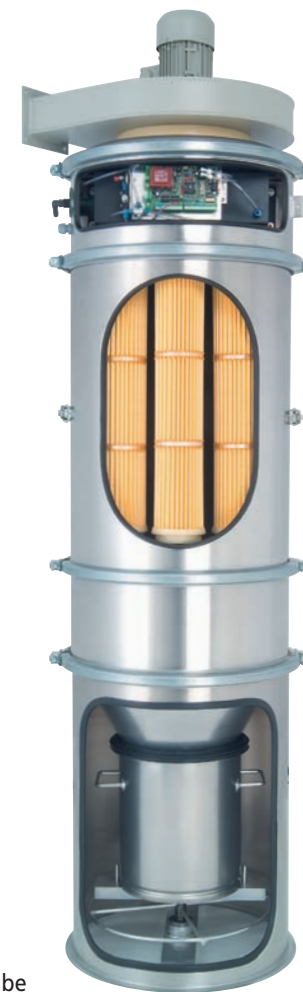


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To go from left to right.
Pressure-shock resistant
product separator for use in
category II 1GD (shown without
the housing door and the cover
of the housing for filter head).

Filter apparatus to protect
the exhauster the dust contain-
er can be changed quickly.

Stand filter apparatus with
dust container for use in poten-
tially explosive areas.



Customised solutions

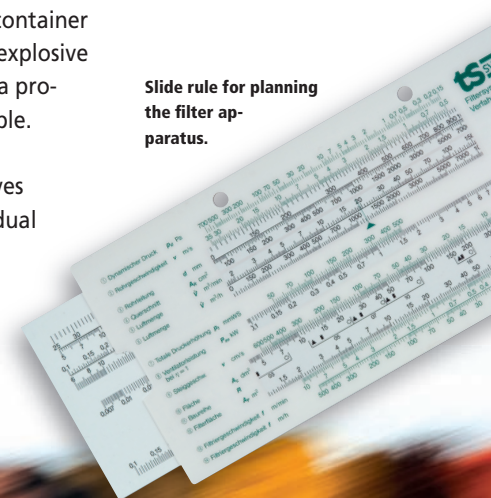
The rectangular filter can be integrated directly in the machine, e.g. in a can coating plant to remove dust by suction. The high cycle time requires the perfect functioning of the filter to avoid interruptions in production. This filter with a filter area of 1,5 m² has been designed for an air volume of 90 m³/h. Polyester was selected as filter medium. The bursting device on the clean air side reduces the explosion pressure to 1 bar. The product separator, (picture top left) used when product is transported pneumatically from a silo to a weighing machine and is highly suitable for product separation and small batch storage. The discharge is regulated by a rotary valve, spiral conveyor, flap or slide gate. This example shows a filter apparatus with a housing diameter of 530 mm. Star filters with

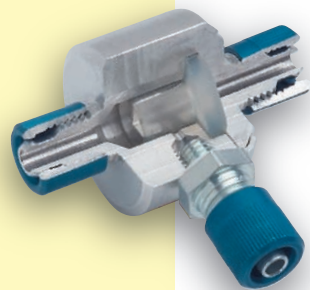
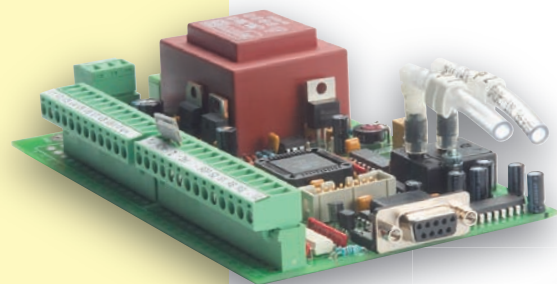


Rectangular filter apparatus for integration into
a can coating plant.

a filter area of 6,3 m² made of cellulose are implemented in this case. As a standard, all filter units of the series 05 can be equipped with a filter area of up to 22 m². The filterapparatus protects the exhauster from too much dust exposure and collects the deposited product in the 80-liter dust-container. The three leg arrangement allows easy changing of the dust-container. Optionally rollers can be attached to it. The stand filter apparatus with a dust container (picture top right) can be used for the de-dusting of powder coating equipment. The dust produced in the coating process quickly disappears inside the filter. Both metal or plastic models of the dust container are available. For use in potentially explosive areas metal is used. When height is a problem the low frame option is available. Well proven for more than 25 years ts-systemfilter's modular system leaves nothing to be desired for the individual design of your filter apparatus.

Slide rule for planning
the filter ap-
paratus.





Differential pressure control with pressure sensor for use in ts-filter apparatus for dust Ex-zone 20 patent no.: DE 100 25 234.6.

Sensor with measuring line cleaning patent no.: DE 38 15 396.3.

Rotary valve with changeable sluice coat patent no.: DE 36 11 583.5.

ts-systemfilter product range

Since 1978, ts-systemfilter gmbh has been developing filter units for process engineering. More than 55 innovations have been patented during this period of time. The filter units made by ts-systemfilter gmbh separate bulk material from the carrier gas in various industrial sectors, e. g. chemical, pharmaceutical, food, colour or building material industry. The filter units are designed for an air volume up to 14.000 m³/h with emission level of less than 1 mg/m³. The company's in-house production of star filters is capable of processing any kind of pleatable filter media and produces individual star filters.



Internationally patented valve-membrane patent no. DE 38 37 366 1, EP 0367287, US 5,108,067.

Space-saving jet with optimal leads for compressed air.

Pressure-relief on the clean air side to prevent the emission of dust and diversion of zones in case of explosion.

Regeneration unit of the series 03 with differential pressure control for use in dust Ex-zone 20.



More than 55 international patent applications by ts-systemfilter gmbh.

can be designed to be-compression proof for up to 10 bar or to work under vacuum. The modular filter units meet the European ATEX guidelines (RL 94/9EC) and can be used in potentially explosive areas of the category II 1D and II 1GD (dust Ex-zone 20 and gas Ex-zone 0). Upon request the filter units are equipped according to FDA conformity and custom-designed to match the appearance of your installation.

Innovations inside apparatus

One of ts-systemfilter's oldest patented inventions is the tubular star filter, patent

no. DE 34 39 194. This star filter is screwed into the filter plate complete with a reusable support tube. Integrally cast bottom plates seal the clean air side from the dirty air side. On the dirty air side of the filter housing large openings for maintenance permit an easy replacement of the filter elements and prevent the contamination of the clean air side. A modified variation of the star filter is the multi-functional star filter ts-x with its self-sealing plug-in connection. It can be installed from the dirty air side as well as from the clean air side and doesn't require a support tube. The filter area yields to differential pressure and promotes regeneration by compressed air. The hose filter ts-s was developed for use with especially sticky bulk material. A mobile spring serves as support inside this type of filter. The filter element can be installed either from the dirty or from the clean air side. The unique pressure relief system with its tested canal on the clean air side reduces the explosive pressure. A bursting disk activated on the clean air side prevents the emission of dust into the working area.

A patented sensor with automatic measuring line cleaning regulates the differential pressure of the filter. It can be used in filter units of the category II 1D/1DG. Further patents have been issued e. g. for the rotary valve with its self-sealing and changeable sluice case, a ball flap permitting a sparing discharge of the bulk material and for the maintenance-free valve-membrane.

Compression-proof filter apparatus for integration in a machine.



They vary in their number and size of pleats as well as in their length, bottom plates and geometry. The construction of the filter apparatus is determined by its place of installation and purpose of use. The selection ranges from housings up to one meter in diameter from our standard line to special models larger in diameter or of angular shape. A clamping-ring system developed by ts-systemfilter connects the components of the filter apparatus. The standard type of the series 05 is compression-proof up to 2 bar. Optionally the filter apparatus

Left. Various generations of star filters: star filter with separate support tube (see front page) to screw in, »ts-e ..0« [1978] patent-no.: DE 34 39 194, »ts-e ..4« [1994], »ts-p ..5« [1997], plug-in star filter without or with integrated support tube »ts-e ..1« [1985], »ts-x ..2« [2002] patent-no. DE 102 30 319.



Hose filter with flexible support spring patent no. DE 199 15 441.4.

Support tube to mount star filters.

Star filter with integrated screw thread.

