Suction belt filter
TSE 500 - 1500
with endless filter cloth

Bär + Co. supplies belt filters with endless filter belts in a standard series of 500 - 1500 l/min. Units for larger throughput volumes available upon request.

Use

Cleaning contaminated liquids. The filtration performance listed on our measurement sheet are based on liquids with a viscosity of up to 4 mm²/s and 20 mm²/s when using a 50 µ filter cloth. Fluids with a higher viscosity or significantly different mesh size of filter cloth must be covered from time to time.

Main fields of application

Filtration of cutting fluid in individual machines or entire production areas in the metal industry.

Equipment options

Retrofittable filter fabric allows temporary operation using filter fabric, e.g. for bath maintenance during rest periods or when processing special materials.
For stand-alone operation, the suction pump filter is fitted with a rinsing pump (14) for irrigation fluid as well as for recirculation using a quick-suctioning immersion pump (15).

Design features

Suction pump speed control as required Drying area with suction and blower support Extremely effective dedusting of filter cloth via rotating round brush at output and regeneration unit with high performance spray nozzles.

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Benefits

• No filter fabric consumption
• Continuous operation without regeneration interruption
• Low operational and ancillary costs
• Degassing of coolant
• Reliable separation with high cleaning efficiency
• Chip removal with low residual moisture
• Floating chips are dealt with
• Easy to maintain due to modular device setup
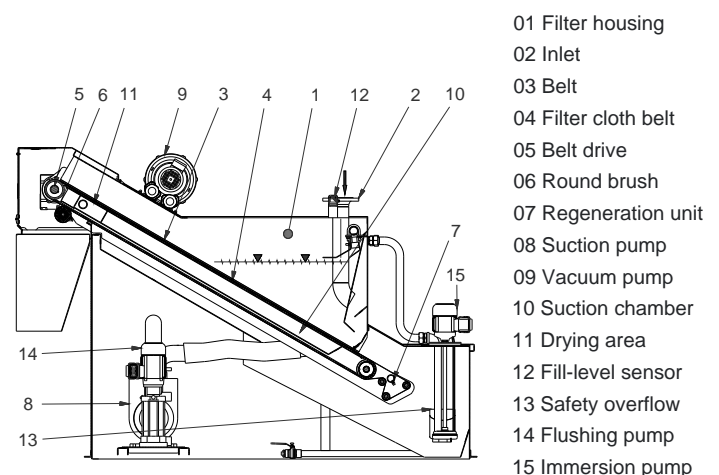
Description of function

Bär + Co. Suction belt filters with endless filter cloths are characterised by their simple, robust and reliable device setup. The filter cloth (4) runs as an endless belt through the filter housing (1) supported by the belt (3). The contaminated liquid reaches the filter cloth (4) via the soft-closing device (2). This retains the dirt particles while the cleaned medium is conveyed from the suction chamber (10) into the cutting fluid container by the suction pump (8).

With increased contamination of the filter belt the liquid level in the filter housing (1) climbs. At the same time the rotational speed of the suction pump increases (8). When the maximum possible filling level and the maximum rotational speed for the suction pump have been reached, the gear motor (5) for the cloth transport automatically starts.
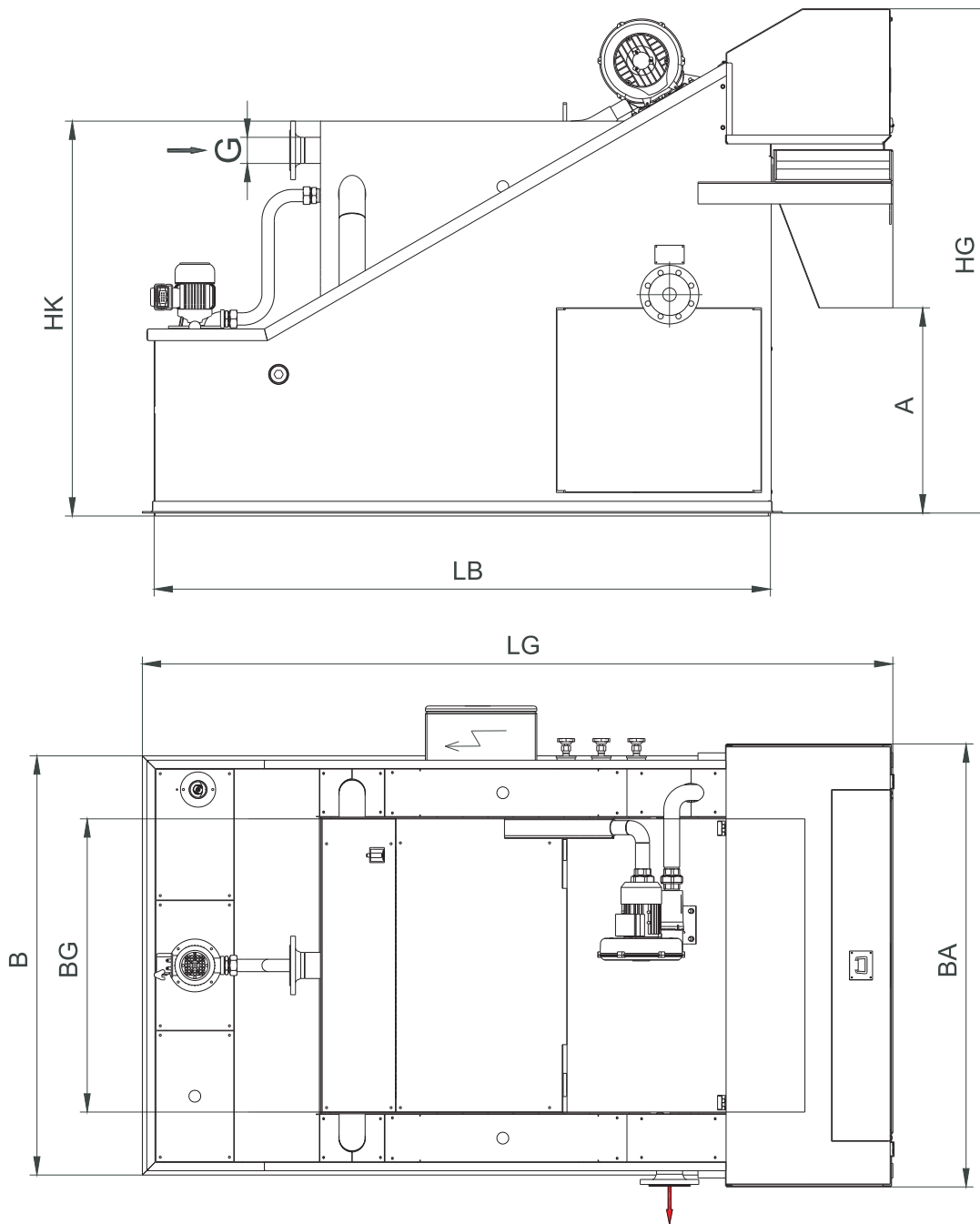
The contaminated cloth reaches the discharge area via the drying path (11), where it is freed of the contamination adhering to the surface by a rotating round brush (6). At the same time clean filter cloth (4) is fed into the filtration zone. As a result the flow resistance of the filter belt is reduced, the level of the liquid drops and the fill level sensor (12) ends the feed cycle.

With the feed cycle the filter cloth backwash is activated. The cleaned fluid is pressed through the filter cloth (4) from the clean to contaminated side via a regeneration unit (7) fitted with flat spray nozzles.

The dirt particles adhering to the filter cloth pores are blasted off and, together with the cleaning medium, are drained into the waste water area of the device via the safety overflow (13). System drained

01 Filter housing
02 Inlet
03 Belt
04 Filter cloth belt
05 Belt drive
06 Round brush
07 Regeneration unit
08 Suction pump
09 Vacuum pump
10 Suction chamber
11 Drying area
12 Fill-level sensor
13 Safety overflow
14 Flushing pump
15 Immersion pump

Suction belt filter TSE

Type	Filter performance (l/min)		Filter dimensions (mm)								
	*Emulsion	**Oil	A	B	BA	BG	HG	HK	LB	LG	G
TSE 500	500	250	700	930	1011	500	1730	1347	2113	2568	DN50
TSE 700	700	350	700	1130	1211	700	1730	1347	2113	2568	DN65
TSE 1000	1000	500	700	1430	1511	1000	1730	1347	2113	2568	DN80
TSE 1500	1500	750	700	1930	2011	1500	1730	1347	2113	2568	DN100

*Viscosity $\leq$ 4 mm² /s; for steel, aluminium and non-ferrous metal processing;
**Viscosity $\leq$ 20 mm² /s; for operating temperature, Configuration either as displayed or inverted