



BoVac Disc Filter

Filtration of Flotation Coal Concentrate

The two BoVac Disc Filters L176 with a filtration area of each 176 m² are used in a coal preparation plant in Australia for the filtration of flotation coal concentrate. One disc filter has a foot print of approx. 60 m² and replaces one belt filter with a foot print of 200 m² (50 m x 4 m).

The slurry to be filtered is an ultrafine clean coal slurry (flotation concentrate) with particles of a nominal top size of 300 µm and a nominal feed solids concentration of 38 wt.-%. Each filter has to match varying feed conditions requiring a specific solids throughput of 517 kg/m²/h (nominal) up to 812 kg/m²/h (maximum) with varying feed concentrations ranging from 35 wt.-% to 56 wt.-%

For this performance the filters run with a filter speed of 0.5 rev/min up to 1.7 rev/min. The filters are also capable to match worst case feed conditions with peak feed flow, minimum feed solids concentration and finer particles of 80% < 130 µm (finer than nominal top size of

300 µm) however on the cost of an increased moisture which then ranges to some 30 wt.-%.

In terms of maintenance the filter requires very little input. The majority of the work is changing the polymer filter cloth. With a typical cloth life time of 6 months, every 1.5 months the cloths on one disc are changed. Apart from re-clothing no further extensive work is required. That's why the BoVac Disc filter has a very high availability of > 98%.

BoVac Disc Filter L176

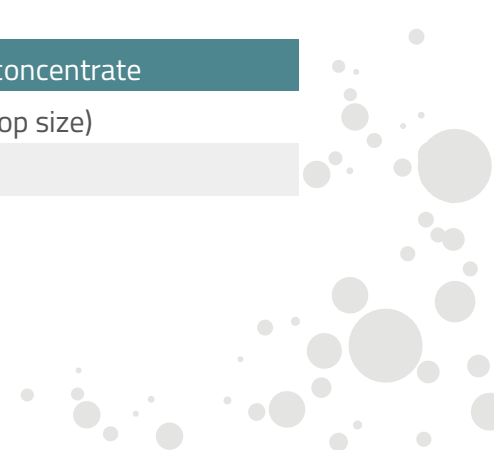
Units installed		2
Filter area per unit	[m ²]	176
Filter speed range	[1/min]	0.5 – 3
Material of construction		S 235 JR Stainless Steel for filtrate pipes and segments
Power of filter drive	[kW]	18.5
Foot print incl. receiver & tank	[m]	9 x 7
Year of commissioning		2007

Process and Operation Data

Solids throughput	[t DS/h]	90 - 145
Solids content in feed	[wt.-%]	35 – 56
Cake moisture content	[wt.-%]	23 – 28
Time of operation	[d/a]	365
Cloth lifetime	[month]	6
Maintenance demand incl. cleaning and filter cloth change	[h/a]	38
Availability	[%]	> 98

Product Data

Product		Flotation coal concentrate
Particle size	[µm]	300 (nominal top size)
Flocculant dosage	[g /t DS]	30



Temperature

[°C]

25

