STRATOPLEX® AIR CLASSIFIER ASP

HOSOKAWA MICRON

Stratoplex air classifiers are budget-priced standard classifiers for the fine to medium separation range.

Deflector-wheel classifier for the medium-fine separation range between approx. $d_{97} = 20 - 200$ µm. The Stratoplex is a cost-effective classifier characterised by it's high precision of cut, high fines yield, low energy consumption and ease of adjustment. The cut point can be adjusted by means of a frequency converter as a function of the classifying wheel speed. The two design variants - one equipped for separations in the fine range, the other for separations in the coarse range - make it easy to adjust the classifier for optimum performance on the particular application.

The quality of classification is maintained even when the feed rate is high. And the low pressure drop of only 600 - 800 daPa for the entire classifying system permits extremely low-energy operation.

630 ASP WITH WEAR-PROTECTED CERAMIC CLASSIFYING WHEEL, FINE-RANGE EQUIPMENT

SIMPLE DESIGN
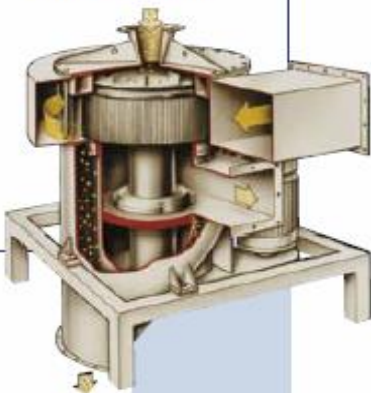
FEATURES

The ASP classifier can be operated in the following modes:
- through-air mode
- circuit-air mode with approx. 10% leakage air

The compact and modular design of the Stratoplex air classifier results not only in maximum performance at modest dimensions, but also permits an easy and space-saving system configuration. And because most of the main components can be accessed easily from above, Stratoplex air classifiers are quick and easy to maintain.

WEAR PROTECTION

In spite of the fact that the wear rate is relatively low, all major product-contact components of the Stratoplex air classifier can be equipped with special wearprotection elements, e.g.
- PUR
- Al_2O_3
- Naxtra

PRINCIPLE OF OPERATION

Because the drive of the Stratoplex air classifier is fitted underneath the classifying zone and the feed product is fed centrally from above, the result is an optimum distribution and dispersion of the product. The feed product is charged by means of the feed unit via the product intake to the centrifugal plate of the classifying wheel, where it is distributed uniformly and radially dispersed towards the baffle ring. The feed material is deflected by the baffle ring and routed downwards into the classifying zone.

The classifying air enters the spiral housing and flows through the helical vanes of the vane ring and the classifying wheel in a centripetal direction. The fines portion is removed thereby from the feed material as it gravitates downwards in the classifying zone, i.e. the zone between the vane ring and the classifying wheel.

The fines, extracted as a function of the cut point set on the classifier, are entrained in the classifying air and flow towards the fines discharge. The fines must be separated from the classifying air in a downstream collection device (cyclone, filter). The coarse material is rejected by the classifying wheel and falls down into the lower section of the classifier.

The coarse material discharge must be air-sealed by means of a rotary valve. Rinsing air, either drawn in automatically or supplied under pressure, prevents unclassified product from migrating into the fines through the gap between the classifying wheel and the labyrinth seal.

The classifying wheel is usually driven via a V-belt drive with a fixed transmission ratio; the classifier speed can be set by means of a frequency converter. The classifier is delivered complete with filter, fan and cyclone.

APPLICATION AREAS

Alpine's ASP classifiers are used above all for processing feldspar, quartz, nepheline, wollastonite, etc.

The Stratoplex ASP is also available in a special design for processing products such as hydrated lime that tend to deposit.

Stratoplex ASP	Type	315	400	500	630	800	1000	1250	1500	1800
Scale-up factor F = approx.		1	1.6	2.5	4	6.4	10	16	25	33
Drive power	kW	5.5	7.5	11	15	22	37	55	90	132
Speed / coarse	rpm	2000	1600	1250	1000	800	630	500	420	350
Speed / fine	rpm	4000	3200	2500	2000	1600	1250	1000	840	700
Air flow rate	m³/h	2500	4000	6300	10000	16000	25000	40000	64000	82000
Fineness d_{97} = approx. µm		8	9	10	11	13	15	17	20	25
Fines yield, max*) d_{97}										
20 µm in t/h		1.8	2.1	2.7	3.2	3.8	5.5	6.8	10	-
63 µm in t/h		2.2	3.6	5.4	9	14	22	36	50	80
90 µm in t/h		2.5	4	6	10	16	25	40	55	80

*) Feed material with 70% < d_{97}