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L0429e

ECCENTRIC EDDY CURRENT SEPARATORS



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The eddy current separator type 0429 with eccentric rotor system can be delivered with several pole numbers and working widths up to 3000 mm.

The rotor diameters 370 mm and 490 mm are available.

Both variants have identical machine and flange dimensions.



High compatibility to 0428 series with concentric rotor

The eddy current separator type 0429 nearly has identical dimensions like the eddy current type 0428 with concentric rotor systems.

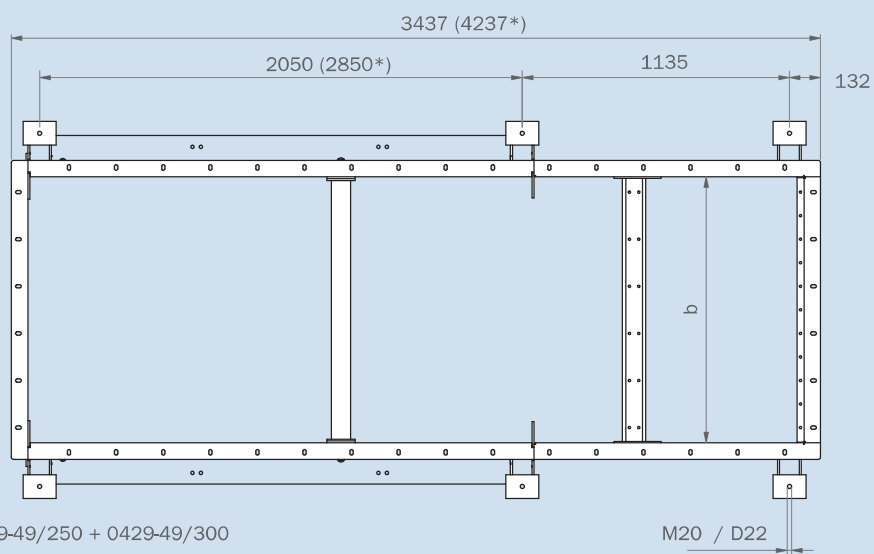
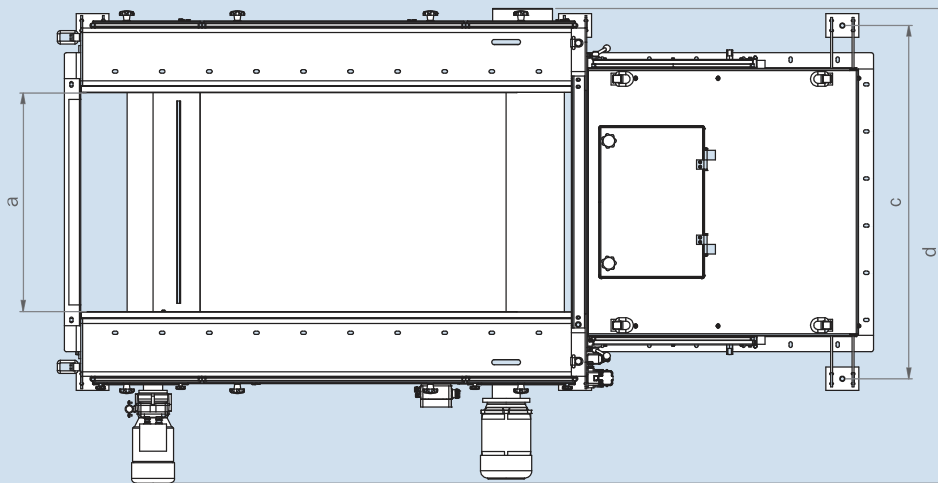
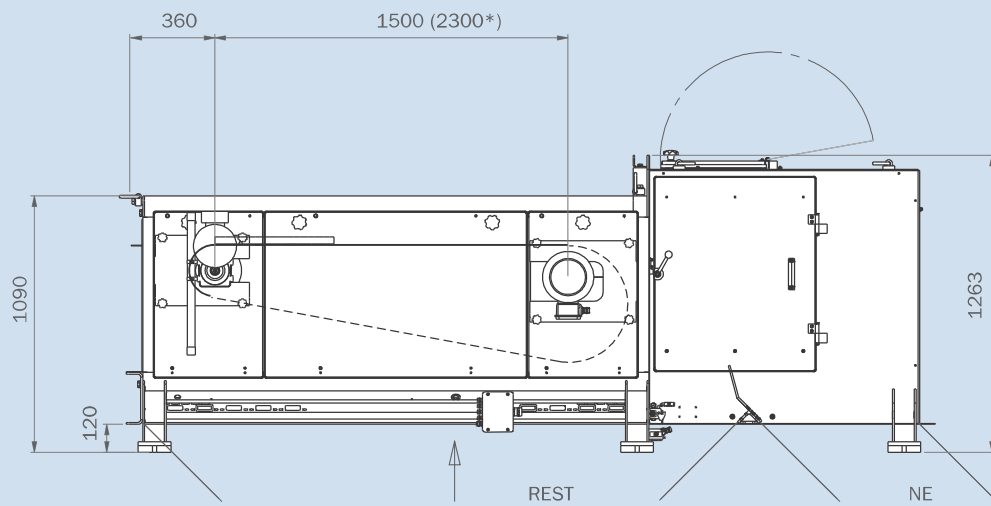
This ensures high flexibility regarding the rotor system during all project phases.



Depending on the application the eddy current separator type 0429 is available in open or closed dust proof variation. It is possible to build the machine with peak roller at the separation edge and automatic rotating brush for belt cleaning.

The machine can be controlled and adjusted via touch panel.

ECCENTRIC ECS TYPE 0429-37 and 0429-49						
DIMENSIONS						
type	throughput cbm/h	a (mm)	b (mm)	c (mm)	d (mm)	weight approx. kg
0429-37/60	25-45	600	830	1200	1715	1350
0429-37/90	40-65	900	1130	1500	2015	1550
0429-37/120	60-85	1200	1430	1800	2315	1700
0429-37/150	75-110	1500	1730	2100	2615	1900
0429-49/60	25-45	600	830	1200	1715	1600
0429-49/90	40-65	900	1130	1500	2015	1800
0429-49/120	60-85	1200	1430	1800	2315	2000
0429-49/150	75-110	1500	1730	2100	2615	2300
0429-49/200	100-150	2000	2230	2600	3115	2600
0429-49/250	130-190	2500	2730	3100	3700	3200
0429-49/300	160-230	3000	3230	3600	4200	4300

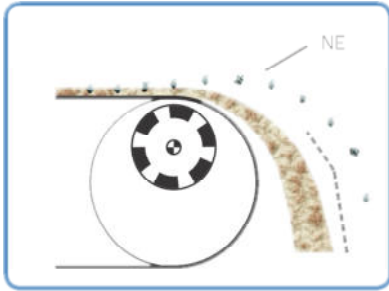


* @ 0429-49/250 + 0429-49/300

Changes of dimensions and design are subject to alterations. Please ask for latest drawings.

EDDY CURRENT SEPARATOR BASICS

Non-ferrous separation using the eddy current technique



Operation of the non-ferrous separator is based on the induction principle. At a high frequency, a fast rotating magnet pole system induces eddy currents in the conductive non-ferrous metal parts.

This creates magnetic fields on them with the same polarity as the magnet rotor, which causes a buildup of the repelling "Lorentz force". This force works against gravity. Together with the force of inertia, this causes the items to be thrown out of the material flow.

The distance they are thrown is mostly determined by the size and form of the item in addition to the specific material properties. Large items are thrown further than small ones. Flat items are subject to higher induction per volume unit than thick items. Wire formed items only create very small eddy currents.

Ability to separate non-ferrous metals

The strength of the induced currents and therefore their repelling forces depends on the specific electrical conductivity of the metal. The gravitational force depends on the specific weight. Therefore the quotient of these two values (=material parameter) is a measurement of the ability to be separated.

Separable metals

Aluminium, magnesium, copper, aluminium alloys and silver can be separated easily. The relationship of the values is not so good for zinc, brass and tin. Stainless steel, many steel alloys and lead cannot be separated.

Good material feed = effective sorting

All materials lying over non-ferrous metals that can be separated make it difficult to eject items or prevent ejection from the material flow. For this reason, the basic requirement for optimal sorting and minimal obstruction of material goods is having a single layer. We recommend that the material on the conveyor is well distributed over the entire working width and fed to the eddy current separator with a vibratory feeder.



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