

GFR Dual

Metal Detector for free-fall applications



- Detects and separates magnetic and non-magnetic metal contamination, even when enclosed in product
- Reduces expensive machinery failure and minimises production downtime
- Ensures product quality
- Prevents customer complaints
- Break even within a very short period of time
- Minimum space requirement and can be easily fitted into existing pipeline systems
- Standard Jacobs adaptors for inlet and outlet ensure quick, hassle-free installation
- Separation unit and enclosure in stainless steel
- Minimal loss of good material through "Quick Flap" reject system
- Vertical, barrier free material throughput; reject angle 40°
- Pre-installed settings allow easy operation
- Teach-in mode or manual product compensation (not pre-adjusted) for better adaption to product conductivity
- Drop height 700mm

Product Description

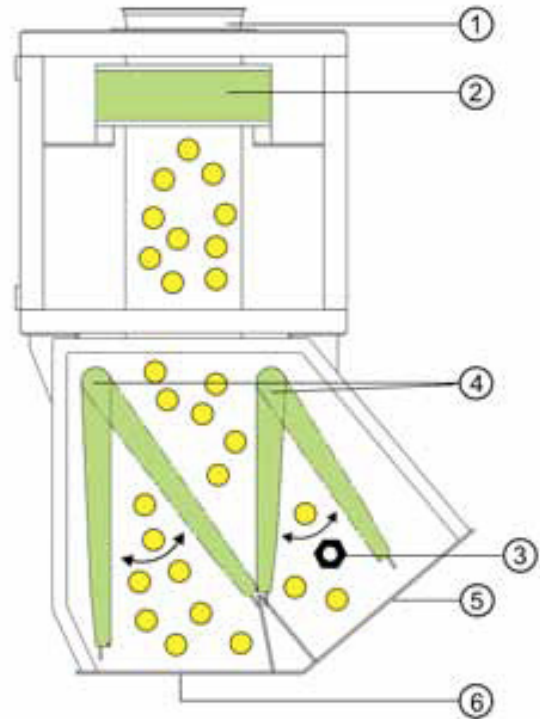
The metal separator GFR Dual is used to inspect slowly moving bulk material such as foil flakes, wooden pellets, etc. as well as large streams in free-fall pipelines.

It detects all magnetic and non-magnetic metal contamination (steel, stainless steel, aluminium) – even when enclosed in the product. Metal contaminations are rejected through the "Quick Flap" reject unit with dual separation flap.



Metal separator GFR DUAL used for machinery protection during wood pellet production

Function Chart



1) Infeed 2) Detection coil 3) Metal contaminant
4) Dual separation flap 5) Rejected material 6) "Good" material

Scope of delivery

- Compact system with integrated detection system and separation unit
- Control unit PRIMUS

Options/Accessories

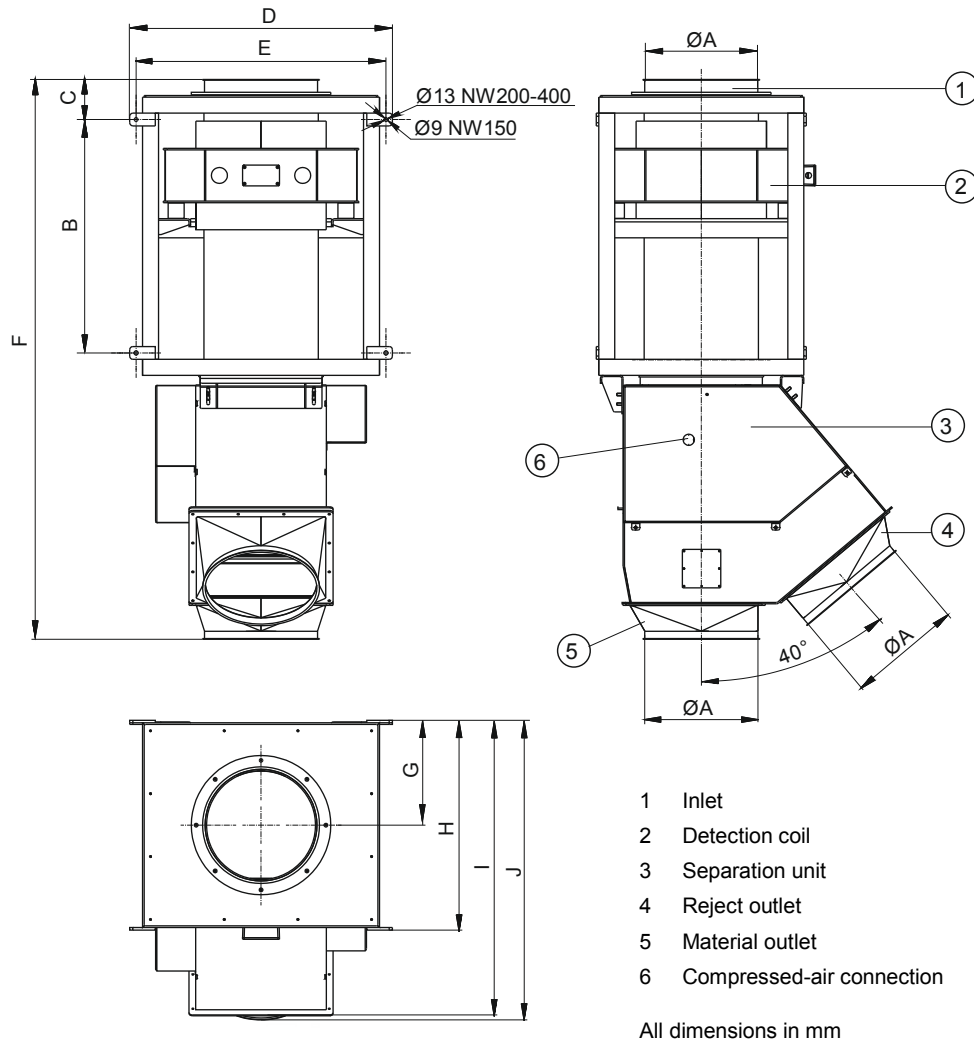
- Audible and visual alarm systems
- Feed hopper and filler inlet
- Magnet system to remove ferrous contaminants
- Filter and regulator valve
- Air pressure monitor
- UL/CSA certification
- Removable control unit
- Control unit SENSITY for higher sensitivity

Typical Application Areas

- Plastics industry, In-house recycling
- Recycling industry
- Wood industry
- Chemical industry
- Feed stuff industry

Application

- Machinery protection for extruders, fine grinding mills, hackers, pellet presses, after dosing (rotary valve, vibratory feed chutes)
- Quality control e.g. for pre-delivery inspection of incoming goods, granulate, reclaim stations or bagging stations



Dimensions GFRDual/150-400

	GFRDual/150	GFRDual/200	GFRDual/250	GFRDual/300	GFRDual/350	GFRDual/400
Nominal width $\varnothing A$ Jacob system connector	149	199	249	299	349	399
Effective ID of inlet pipe \varnothing	141.8	187.6	234.6	299	349	392
B	220	523	523	730	730	780
C	85	123	123	125	125	125
D	390	680	680	820	820	950
E	360	640	640	780	780	910
F	831	1450	1450	1750	1750	1870
G	173	287	287	328	328	433
H	338	574	574	656	656	866
I	429	781	781	920	920	1084
J	515	818	837	910	933	1145
Maximum sensitivity ¹⁾ \varnothing Ferrous ball	1.5	1.8	2.5	3.0	4.0	5.0
Maximum throughput ²⁾	25.000 l/h	44.000 l/h	69.000 l/h	100.000 l/h	136.000 l/h	180.000 l/h
Weight (kg)	100	125	175	250	300	400

All dimensions in mm unless stated

Conditions of use

Use:	To analyse free-falling bulk materials such as granulates, foil flakes, wood chips and others
Bulk material classification:	
Grain shape:	Granulates, Pellets, Flakes
Max. grain size:	Ball $\varnothing < 8$ mm, cylinder $\varnothing < 8$ mm length 20mm, flake 100x100x10 mm
Pourability:	Good, medium, bad
Attributes:	Dry, damp, not abrasive, product effects (conductivity) can potentially be compensated
Material flow:	Free fall, fall height max. 700 mm above equipment top edge (No back draft of material)
Bulk material temperature:	Maximum +80 °C
Ambient conditions:	-10 °C to +50 °C, 25% to 85% rH, no condensation
Storage and shipping conditions:	-10 °C to +50 °C, 25% to 85% rH, no condensation Max. conveying pipe pressure: 25 mbar

Scope of delivery:	Complete system with integrated detection coil, separation unit (double flap) and remote control unit Interact+; feeder and outlets for good and reject material with "Jacob" connector.
Mechanical design:	Detection unit and control enclosure Sheet steel, varnished, aluminium grey (RAL 9007)
	Separation unit Stainless steel 1.4301 (AISI 304), bead blasted
	Scanning pipe PE-EL
	Parts in contact with product: Stainless steel 1.4301 (AISI 304), PE-EL, Teflon, POM
	Compressed air connection 5-8 bar, 6/8 mm hose connection
	Compressed air consumption GFR DUAL-P 150-250: 1.7 litre / switch operation GFR DUAL-P 300-400: 2.7 litre / switch operation
Electrical design:	Control unit Detached, cable length 3m
	Operating voltage 100-240 VAC ($\pm 10\%$), 50/60 Hz
	Current consumption Approx 160 mA / 115 V, approx. 80 mA / 230 V
	Mains cable 1.8 m with plug
	Ingress protection IP 54
	Eject duration Adjustable from 0.05 to 29 sec
	Self-monitoring system Detection coil and outputs
	Scanning sensitivity Selectable with 8 adjustments
	Operation See technical data sheet for Control Unit PRIUMS

Accessories

- | | | |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| <input type="checkbox"/> Visual alarm | <input type="checkbox"/> Compressed-air monitor | <input type="checkbox"/> Cable set for remote control unit: 6m, 10m, 15m |
| <input type="checkbox"/> Failure indication | <input type="checkbox"/> Filter control valve | <input type="checkbox"/> UL/CSA certificate |
| <input type="checkbox"/> Failure and metal indication | <input type="checkbox"/> Monitor system for diverter | <input type="checkbox"/> US-power cable |
| <input type="checkbox"/> Audible alarm | <input type="checkbox"/> Counter (number of detections) | <input type="checkbox"/> Test samples |
| <input type="checkbox"/> Failure indication | <input type="checkbox"/> Push button for manual rejection | |
| <input type="checkbox"/> Failure and metal indication | <input type="checkbox"/> Special varnishes | |
| <input type="checkbox"/> Combination alarm (visual alarm and audible alarm) | <input type="checkbox"/> Control Unit SENSITY for higher sensitivity | |
| <input type="checkbox"/> Failure indication | | |
| <input type="checkbox"/> Failure and metal indication | | |

Special versions/ Supplementary systems

- | | |
|-----------------------------------------------------------------|---------------------------------------------------------------------------|
| <input type="checkbox"/> Model with improved wearout protection | <input type="checkbox"/> Magnet systems for pre-removal of ferrous metals |
| <input type="checkbox"/> Pipe transition pieces with flanges | <input type="checkbox"/> Hopper magnet |
| <input type="checkbox"/> Explosion-proof version ATEX | <input type="checkbox"/> Inline magnet |
| | <input type="checkbox"/> Inline chute magnet |

If you have any more questions, require technical assistance or would like a quotation, please contact us.

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While every effort has been made to ensure the accuracy of the information in this publication please note that specifications may change without notice.



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