RAPID TRACS

Rapid TRACS
eliminates granulation dust

Rapid
MASTERS OF GRANULISTICS

Recycled air fit for a clean room

Granulation dust is much more than a nuisance. It's a pervasive health and production hazard. Draughts and ventilation systems rapidly spread dust to all parts of a building, including offices, canteens, meeting rooms and rest rooms.

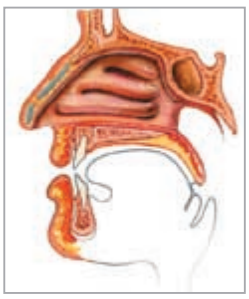
For years conventional dust separation systems have been used to combat this problem with little success.

But now the dust hazard is truly eliminated by Rapid TRACS (Transport, Recovery and Air Cleaning System). This patented system is a modular, compact and closed system that not only gets rid of dust and fines in recycled granulate, but also recycles air that contains so little particulate matter that it could be used in a clean room.

A real threat to health

Fine particles, less that 2.5 µm in diameter, are of the greatest health concern as they are linked to the most serious effects on health.

Inhaled dust coats the mucous membranes of the respiratory tract – the nose, mouth and lungs – and causes persistent coughs, phlegm, wheezing and physical discomfort. Allergic reactions are also aggravated. Over the long term, dust increases the rate of respiratory and cardio-vascular illness.



Clogs machine parts

Dust is mobile. A combination of statically charged dust and machine vibration enables dust to "creep" into machine components and accumulate to become a real problem. It can clog and dry out bearings and other moving parts to cause greater wear and tear of parts, and to increase the need for machine cleaning, maintenance and repair.

Poorer and less regrind

The aim of granulation is to produce regrind of correct and consistent size with minimal dust. Dusty granules contribute to the health risk and reduce end-product quality. In addition, as many dust separation systems remove small granules along with the dust, regrind yields are not optimal.

Regrind from conventional dust separation systems contains significant amounts of residual dust.

A menace to end products

Dust has several negative effects on end products. For example, it covers surfaces and spoils the printing of text and graphics. As dust melts quicker than granules in extrusion and moulding machines – and even burns – it leads to discoloration of products and can even weaken them by creating micropockets of charred plastic throughout the plastic structure.

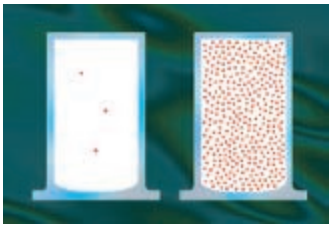
Increased fire risk

There is documented evidence of dust clouds intensifying factory fires. When ignited, air thick with plastic particles can spread flames quickly throughout a building. This potential fire risk has resulted in fire insurance premiums being higher for the plastics industry.

Conventional solutions inadequate

Current dust prevention methods are too ineffective, too big and clumsy, and too expensive for what they achieve. Dust bag systems do not retain all the dust, and because many systems are open they leak dust continuously.

The filters in Rapid TRACS remove 99.97 % of all particles larger than 0.3 µm (filterclass EU12 according to the standard Eurovent 4/9).



Rapid TRACS gives almost pure air

The air-cleaning unit of Rapid TRACS is so effective that it can filter out particles of cigarette smoke from air. This is equivalent to the air quality required for a clean room.

The result is that all the health and production problems caused by granulation dust outlined above are solved at a stroke by Rapid TRACS. Machine wear and maintenance are reduced, the cleaning of filters in moulding and extrusion machines is cut dramatically, and higher yields of regrind are obtained because only dust is removed, not smaller granules.

Rapid TRACS means no more dust!

1) Air, regrind and dust from granulator
2) Air and dust to the TRACS cleaning module
3) Regrind

The complete granulation solution

Rapid TRACS is the perfect complement to Rapid's medium-size and large granulator families. It can be readily linked to the particular granulator you choose, and it has a small footprint compared with conventional dust separation systems.

The Rapid TRACS system is modular and essentially consists of effective regrind transport, a novel separation unit, regrind and dust collection, and a superior air-cleaning unit. Several alternative fan sizes and different regrind containers allow a system to be customized to your requirements.

Smart fan location

The position of the Rapid TRACS fan provides three important benefits. Because it is placed after the separation unit, the regrind does not pass through the fan. When this happens, as with many dust separation systems, the regrind not only damages the fan components and housing over time, but a greater amount of dust and fines is generated by the action of high-speed fan blades slicing through flowing granules.

The second advantage is that the location of the fan creates a powerful sucking action through pipes and separation units. This, combined with Rapid TRACS being a closed system, results in significant underpressure in the system, which prevents leakage of granulation dust.

The third benefit is that because regrind does not flow through a fan, this helps to minimize noise levels.

A cleaner environment

With environmental standards becoming increasingly tougher, the plastics industry welcomes cost-effective measures that promote a cleaner internal and external environment. Therefore Rapid TRACS can play a valuable role in reducing dust levels in workplaces and contribute to meeting ISO 14000 standards for environmental management.

Rapid granulators and Rapid TRACS form the complete solution for your granulation needs.

Modular freedom

Much effort has been put into the design and configuration of the Rapid TRACS system to ensure that it maintains its high performance over a long lifecycle. Features of particular interest are presented below.

A unique separation unit

The separation unit comprises a cyclone and a patented adjustable damper. Within the cyclone the airflow removes the dust from the falling granules. The damper below the cyclone allows fine-tuning of airflow back through the cyclone to optimize dust removal. An airtight rotary valve maintains the required air pressure within the cyclone and feeds the regrind into a container.

Regrind collection

The customer's own regrind container – rigid or bag – is placed directly below the separation unit. An option from Rapid is a flexible self-raising plastic tube with a metal outlet that attaches to the cyclone to guide regrind into the container. The metal outlet incorporates a sensor that triggers an alarm when the container becomes full.

Prefilter and dust container

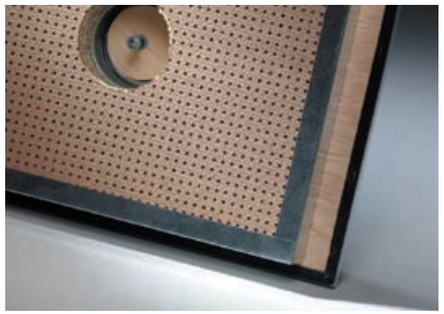
The prefilter excludes all visible dust drawn into the cabinet by the fan. Two dust containers are available: the standard 160 l metal container, and the optional 600 l container.

A microfilter shield

The microfilter has a dust separation efficiency equivalent to removing cigarette smoke particles from air. It only needs to be replaced after long intervals, and it is linked to a meter on the front of the cabinet that indicates the filtration efficiency.

A choice of fans

Different sizes of fan are available to ensure that the air flow rate suits a combination of granule throughput, granule size and transport pipe length. All fans incorporate automatic lubrication of bearings.



Soundproofed units

A combination of cabinet soundproofing – including vibration dampeners – a silencer on the fan exhaust, and location of the fan after the separation unit keeps noise to a minimum.

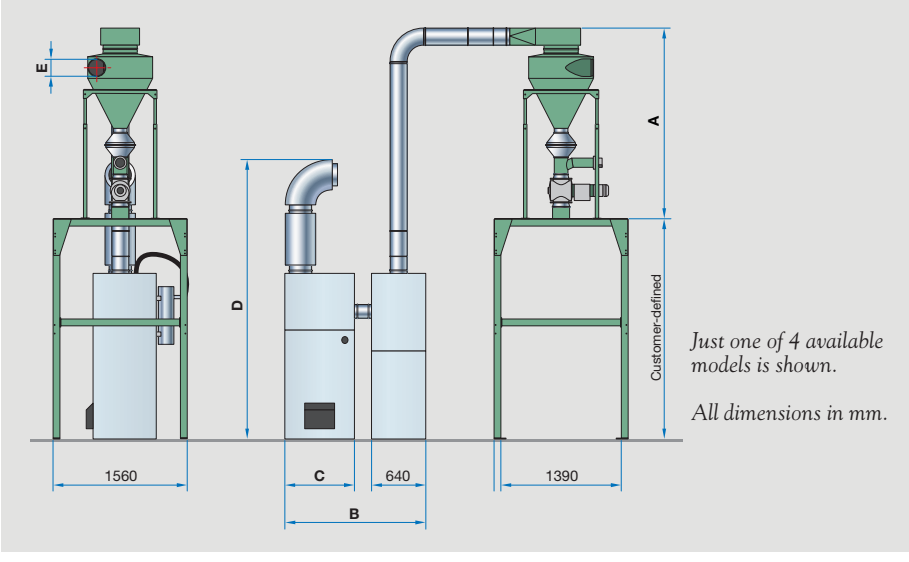
A system to suit your particular needs

Four standard Rapid TRACS models cover virtually all requirements for transporting and cleaning regrind. The transportation capacity ranges from 400 to 1500 kg/h, and a number of optional accessories help to tailor a particular model to your exact needs.

The space taken up by a system will depend on the model selected and any accessories added to it. Nevertheless, a Rapid TRACS model is much more compact than conventional dust prevention systems.

Model	T30	T47	T58	T67
Suction blower motor, kW	5,5	7,5	9,0	11
Transportation capacity, kg/h*	400	600	1000	1500
Noise level, dB(A)	80	80	80	80
Air quality, ppm	Removal of 99.97% of all particles >0.3 µm.			
Dust container, l	160 / 600			
Cyclone, model	RC12	RC20	RC40	RC40
Regrind collection	Prepared for Big-Bag / Octabin			

** Depending on tube width/length, type of material, etc.*



Just one of 4 available models is shown.

All dimensions in mm.

	A	B	C	D	E
T30	2370	1710	740	2450	160
T47	2600	1810	820	3350	200
T58	3350	1810	820	2300	300
T67	3340	1810	820	2300	300

A range of accessories

Rapid TRACS components are subject to little wear and tear, and therefore the complete unit requires minimal maintenance. To ensure that a particular model is tailored exactly to your particular needs, a number of accessories can be added to the unit to further optimize its performance.

Options

High-capacity filter

– available for certain Rapid TRACS models when cleaning very dusty regrind. If used with regrind of low dust content, the filter requires less servicing than standard filters.

600 liter container

– for collecting large amounts of dust. If used with regrind of low dust content, the 600 l container requires less servicing and emptying than smaller containers.

Stand

– for Big-Bag and/or various regrind containers.

Automatic regrind level sensor

– prevents regrind spills by monitoring the material level in any container except Big-Bag. The sensor triggers a warning lamp and/or sound when regrind is approaching the preset level.

Vacuum hose

– used for general cleaning purposes.

World leaders in granulation









Each model in our extensive range of Rapid granulators gives you optimal regrind quality, efficient recycling and a long operational life. Our continuous product development and dedicated customer support keep your plastic waste recycling at the cutting edge of granulation technology.

We call it granulistics! Contact Rapid to learn how you can improve your granulation economy.

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