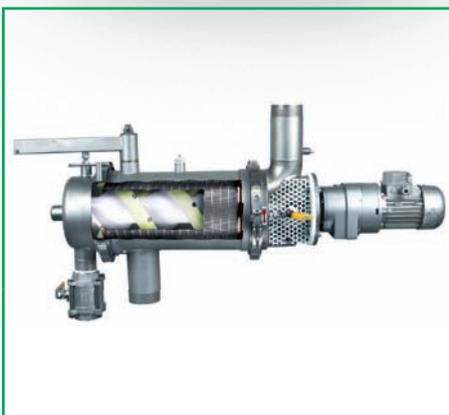




Russell Finex Press Pack



Worldwide Leaders in Fine Mesh Separation





www.russellfinex.com

Sieving - Filtration - Deblinding

Russell Finex is a unique company

Established in 1934, we are worldwide leaders in fine mesh separation technology, with over 75 years of experience in providing solutions in more than 100 countries.

With factories in the UK, USA, Belgium and India and a network of high quality agents covering the rest of the world, Russell Finex have experience in an ever increasing range of industries.

We are always striving for continuous improvements to keep ahead of the competition and we try to think internationally and structure our response to applications and problem solving on a global basis.

We work hard to continuously fulfill our company motto of "Customer trust, a Russell must". We know our long term future depends on our ability to continue to solve customer problems with new and improved products. These innovations will be achieved through close working relationships with our customers, ensuring maximum effectiveness and value for money.



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Exhibition Preview

Russell Finex will showcase their innovative range of sieves at Solids 2013 in Antwerp (Hall 3, Stand C1008)

With more than 75 years of experience, Russell Finex are worldwide leaders in fine mesh separation, serving a variety of industries in more than 140 countries. Priding themselves in offering the widest range of vibratory sieves and liquid filters in the industry, and with innovation and high quality at the core of their business, Russell Finex are able to provide custom built solutions to suit your unique requirements.

A range of Russell Finex's machines will be on display, including the Blow Thru Sieve™, the Finex Separator™ and the Russell Compact Sieve®.

The Blow Thru Sieve™ has been developed by Russell Finex to accurately remove oversize contamination during tanker loading/unloading or at any point within a blow line. With a certified operating pressure of up to 2 bar, the sieve eliminates double handling by combining check-screening and conveying in one operation. Its unique design allows the sieve to achieve exceptional throughput rates with minimal operator involvement, saving you time and labour costs.

Also on display is the Finex Separator™. This machine can accurately grade or size powders on up to 4 fractions, achieving up to 5 accurate separations. With a large capacity, high accuracy and low noise level, the Finex Separator™ is the solution for sizing, scalping, safety screening, dewatering, grading or product recovery.

One of Russell's well known machines, the Russell Compact Sieve®, will also be exhibited. This machine was invented over two decades ago, and has been installed within a wide range of industries all over the world. The Compact Sieve removes all oversized contamination and is ideal for high capacity safety screening of powders and liquid slurries. Operating and cleaning is quick and easy, making this range of vibrating screens perfect for all processing industries.

The sieve will be shown in operation with a functioning Russell Vibrasonic® Deblinding System and a Vibrastop™. The Vibrastop™ eliminates excessive movement during start up and shutdown, resulting in shutdown of the sieve being almost instantaneous (within half a second). The Vibrasonic® Deblinding System helps to eliminate the blinding and blocking of mesh screens, allowing accurate separation down to 20µm.

Visit our stand C1008 in Hall 3 to be welcomed by a specialist team of Russell Finex representatives and engineers fully equipped with knowledge and expertise to help you find a solution to your sieving requirements.



PRODUCT PRESS RELEASES





RUSSELL FINEX

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Installation of ten Russell Eco Filters[®] enables Visen to double their production capacity

Self-Cleaning Russell Eco Filters[®] replace existing filtration system eliminating operator involvement and the need to replace filter media, increasing productivity and profitability

Founded in 1985, Visen is widely recognized as one of the top producers of water-based emulsion. With its products being sold to numerous long-established paint manufacturers across the world, and with manufacturing facilities in several locations across India, Visen produces over 120,000 metric tonnes of latex emulsion every year.

In 2011, to meet increased customer demand, Visen invested in new manufacturing facilities. Built in India, it was anticipated that the new plant would virtually double their production capacity to 220,000 metric tonnes per year. To ensure the new plant was equipped with the latest technologies, the company undertook a review of all their existing processes.

As a result of the review, it was identified that the existing quality control procedure in place for check-screening the latex emulsion prior to packing needed to be improved. The current procedure was carried out using a simple filter cloth system, which would catch any contamination in the paint as it is fed into the packing containers.

Although fit for purpose, improvements were identified which, if implemented would provide significant increases in production efficiency. Being an open system meant the cloths and paint were exposed to atmospheric influences which increased the possibility of skins forming in the latex emulsion. This could cause the filters to block or end up contaminating the final product. As a result machine operators were required to continually watch the line, which increased their exposure to the latex emulsion. In addition, the filter cloths needed to be changed between each new batch, and with several filling lines in operation, up to ten filter cloths could be used in any one day. As the cloths were not reusable, the company also incurred high disposal and replacement costs.

Whilst they recognized its importance they also acknowledged the inefficiencies of this existing system. In search for a new filtration system, Visen attended the

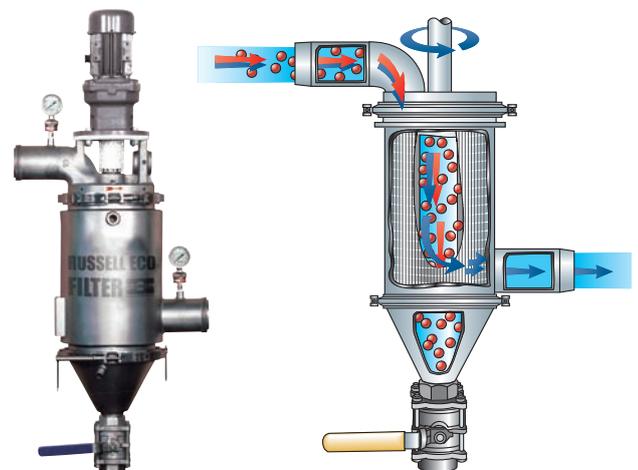


Figure 1. The Self-Cleaning Russell Eco Filter[®] unit with a diagram showing the unique flow-through principle

- Reduced labor costs with minimal operator involvement
- Increases your productivity - flow rates of up to 200,000 l/hr (50,000 g/hr)
- Reduces your maintenance costs and ensures re-usable filter elements give substantial cost savings

Middle-East Coatings Show in Dubai to talk to potential suppliers. Intrigued by the filtration system on display at the Russell Finex stand, Visen approached stand representatives to learn more about the machine. With an in-depth consultation provided, an on site trial was arranged for the Self-Cleaning Russell Eco Filter[®].

With the filter installed into their own production line, the trial enabled Visen to undertake personal monitoring of the machine's effectiveness. "It was important for us to be able to trial the filter at our plant prior to purchase, not only to ensure that product quality would not be compromised, but also to ensure operators would be safeguarded from the potentially harmful fumes" states Mr. V M Salunkhe,

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Manufacturing Manager at Visen's plant in India. Following the success of the trials, Visen recognized the potential savings that would be gained prompting them to purchase ten Self-Cleaning Russell Eco Filters®.

The installation of the filters has enabled Visen to eliminate the problems associated with the previous system. With its reusable filter element, the Self-Cleaning Russell Eco Filters® have minimized production downtime as stoppages to change filter cloths are no longer required. Substantial cost savings have also been gained as the removable element can be easily cleaned and used repeatedly, removing the high disposal and replacement costs which Visen experienced with the filter cloth system.

A key requirement was for the new system to operate without constant supervision. Being a fully enclosed system, the product is unaffected by atmospheric elements and therefore minimizes the possibility of skins forming in the latex emulsion which would subsequently form blockages. In addition, with the installation of the Russell Filter Management System™ which is designed to

continuously monitor the filtration process, the filter is able to run efficiently without operator involvement. This not only safeguards operators from excessive exposure to the latex emulsion, but also releases the operators to perform other tasks around the factory. Salunkhe states, "Compared to our previous manual filtration system, the enclosed Eco Filters have allowed us to achieve good house keeping and reduce labor costs".

The installation of the Russell Eco Filters has improved Visen's manufacturing efficiencies whilst also enhancing their already meticulous quality control procedures.

For over 75 years Russell Finex have manufactured and supplied filters, sieves and separators to improve product quality, enhance productivity, safeguard worker health, and ensure liquids and powders are contamination-free. Throughout the world, Russell Finex serve a variety of industries with applications including food, pharmaceuticals, chemicals, adhesives, plastisols, paint, coatings, metal powders and ceramics.



Figure 2. The Russell Filter Management System™ fitted on a Self-Cleaning Russell Eco Filter® (horizontal execution)

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Umicore increases production capacity, improves product quality & maximize dust containment by switching to a Russell Finex screening solution

Umicore increases production capacity and improve the quality of zinc oxide granules by replacing an existing centrifugal sieve with the Russell Finex Separator™.

Umicore, a global materials technology group, have a history that dates back more than 200 years. The merging of different mining and smelting companies has made the Umicore Group as we know today an expert in materials science, chemistry and metallurgy which is successfully active on all continents. In 2011 they accounted for a turnover of €14.5 billion (€ 2.3 billion excluding metal) and currently employ around 14,600 people.

Umicore's production site in Eijsden in the Netherlands is one of Europe's largest zinc oxide production sites. The site has been producing zinc oxide since 1870 and has a capacity of 55,000 tonnes. The zinc oxide is produced by reducing the most pure zinc with heat, generating zinc vapor. The zinc vapor then reacts with the oxygen in the air to give a powder, namely zinc oxide. A final step in the production process is the sieving of the zinc oxide granules. Umicore use the Russell Finex Separator™ to achieve the correct particle size and to remove the fine dust, making the final zinc oxide granules dust-free.

Production Manager Erwin Van Eester explains: "Zinc oxide is a powder which gets sticky easily because of the fine dust in the powder. By making the zinc oxide dust-free and granulating it into the right particle size, optimal fluid properties are obtained. When the optimal fluid properties are obtained, the zinc oxide is easier to dose and to transport." The company were previously using a centrifugal sieve, which needed to be upgraded. Firstly, the sieve was not removing all the fine powdered dust from the product, meaning the zinc oxide could not obtain the optimal fluid properties. Secondly, the centrifugal sieve did not achieve the accuracy and high capacity which was needed. Finally, as the sieve was not sealed, operators were exposed to the dust fumes.

As a result, Umicore searched for a high capacity and accurate grading sieve. Through recommendation from



Figure 1. The Russell Finex Separator™ installed with the Vibrasonic® Deblinding System

- Improves product quality, achieving accurate particle size and optimal fluid properties
- Increases productivity by doubling production capacity
- Safeguards health and safety of operators by minimizing exposure to dust fumes

another company using their equipment, Umicore approached Russell Finex for a solution. Following a number of successful tests, Umicore purchased a 60" Finex Separator™ for their production site in Eijsden.

With the Finex Separator™, Umicore are now able to supply their customers with dust-free zinc oxide granules containing the optimal fluid properties. "As the separator is a closed system, this allows for minimum exposure levels to dust, therefore safeguarding the health of our operators", explains Van Eester.

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In order to reduce mesh blockages, Umicore applied the Russell Vibrasonic® Deblinding System with the Finex Separator™. Using ultrasonic frequency to break down surface tension on the mesh, the powder is able to pass through the mesh more easily. With the Russell Vibrasonic® Deblinding System mesh blockages have been reduced, enabling capacity to be increased.

Erwin Van Eester concludes: "By using the Finex Separator, we have an accurately sieved product, which meets our customers' needs. This is an extremely effective sieving

solution which we would highly recommend to any processor of sticky powders."

For over 75 years Russell Finex have manufactured and supplied filters, sieves and separators to improve product quality, enhance productivity, safeguard worker health, and ensure liquids and powders are contamination-free. Throughout the world, Russell Finex serve a variety of industries with applications including food, pharmaceuticals, chemicals, adhesives, plastisols, paint, coatings, metal powders and ceramics.

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Improved Separating Technology Boosts Productivity Up to 50% at Chicago-Area Plant

Switch to modern screening ensures quality, minimizes reprocessing, and improves operator productivity at Accurate Color & Compounding

For processing industries, the process is everything. While current processes may be sufficient to keep the doors open today, they often can hinder taking business to the next level tomorrow. Zeroing in on one key element can sometimes be enough to put productivity into overdrive.

One manufacturer of custom color concentrate and additives, for instance, found that it could reach new levels of productivity and growth by turning to advanced separating equipment of innovative design.

“The new separators give us up to 33% more production uptime than our previous system with more accurate screening and better yield,” says Jason Yelm, Plant Manager of Accurate Color & Compounding (ACC), a Chicago-area company that provides colorant and additive solutions for manufacturers’ processing needs.

“We’ve eliminated unnecessary re-processing, and spend less time processing each customer batch on each extruder,” adds Yelm. “By essentially automating quality control and enabling operators to multi-task, we’ve boosted their productivity by up to 50%.”

A need for more productivity

As a specialist in precision color matching, ACC prides itself in producing custom color concentrate and additives to customer specification, and has the capability of matching, sampling, producing and delivering colorant in the same day when necessary.

However, recent growth had company leaders realizing that productivity would need a boost, particularly in quality assurance, to grow business to the next level.

Production started with extruders, which pushed out plastic that got cut to size in an underwater pelletizer. The result was cooled with water, put through a drying system, and shipped. Previously, for quality control the process relied on operator inspection and the use of hand screeners on the production lines.

“It was a challenge to efficiently separate material to custom specifications, including precise densities and different pellet shapes,” says Yelm. “The inspection process was labor intensive and if any product was borderline, the entire batch was re-processed. For the most efficient material processing, adjustable separation equipment which enabled separation quality of the pellets to be optimized was necessary.”

Another productivity bottleneck was stoppage in the dryer caused by oversize, which required recurrent die head changes, causing downtime and slowed production.



- Improved operator productivity by up to 50%
- Reduced production downtime
- Helped to ensure quality and minimize reprocessing

Assuring quality and productivity

ACC sought more efficient material separation to assure quality and raise productivity. As a final quality check before drying, Yelm trialed on-site at no cost a 40” separator by Russell Finex a manufacturer of Separators, Screeners and Filters with over 75 years of experience. Pleased with the results, he bought the Separator as well as six more he’s added to production lines in the last year.

“Compared to traditional spring-type Separators, I like the capacity, throughput, and adjustable weight system of the Russell Finex Separator,” says Yelm. “After the trial, it was clear the machine was right for the job.”

Traditional designs incorporate a spring-mounted separator and a custom motor with a pair of eccentric weights at the end of the motor shaft. However, this design lacks accuracy in controlling the force of vibration, which can be imparted to the mesh, and is typically limited to a speed of 1200 rpm.



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In contrast, the separators from Russell Finex omit the need for springs which are replaced by a unique rubber suspension system and use an innovative arrangement that employs a separate vibrator assembly. This allows much higher forces to be put into the machine and focuses the majority of the energy on the screen itself. The infinitely adjustable weight system of the vibrator assembly creates a more finely-tuned and vigorous action, significantly raising sieving efficiency and running as standard at 1800 rpm.

“The separator vibrates quite a bit faster than typical machines, which helps with throughput,” says Yelm. “Its adjustable weight system lets us screen material at the rate, density, and pellet shape needed,” he adds, noting that changing the setting of the out of balance weights changes how the material spirals on the screen to maximize screen usage. “This allows us to efficiently work with a variety of different materials, which is key since everything we do is custom. We’re optimizing quality, throughput, and yield.”

Yelm also appreciates how the separator’s vibratory housing is designed to use a high mass machined casting, coupled to a standard electric motor. With its out-of-balance weights fitted, the high mass casting operates like a giant flywheel, transmitting power into the screening area more effectively than similar separators fitted with vibratory motors.

“The out of balance weight system has improved our set up and throughput,” says Yelm. “Since each point on the weight system has marks, we’ve kept track of what position works best for what material. Now it’s easy to optimize separation accuracy and material flow for different materials, and to ensure a quality process with different pellet sizes.”

The switch to modern screening at ACC has not only helped to ensure quality and minimize reprocessing, but also improved operator productivity up to 50%.

“Because the separators reliably ensure the quality of our pellets in an automated way, it’s freed our operators from a focus on inspection and allowed them to multi-task,” says Yelm. “They can watch another line, do set up, material handling, or housekeeping, in addition to periodic spot checks. Altogether, they’ve become up to 50% more productive.”

The new separators have boosted production uptime as well, according to Yelm. “They’ve eliminated stoppages in our dryer caused by oversize and reduced the need to change die heads by 30 to 40%, minimizing

downtime,” he says. “By setting up specific mesh sizes for customers, we provide the exact pellet size they want with every production run; and we let runs go longer since we reliably filter out any undesirable sized pellets.”

The design of these separators can go one step further in increasing throughput by utilizing a Vibrasonic deblinding system in conjunction with the screen. By energizing the wires of the screen mesh with an ultrasonic vibration, the friction between the product and the screen is effectively reduced. In the case of the Russell Finex machines, mesh “blinding” can be reduced down to 20μ , helping to move material through the screens faster.

Though mesh deblinding down to 20μ isn’t currently needed by ACC, Yelm says the capability would be helpful if the company did specialized work at a smaller size.

“In the last year, we’ve assured quality while improving productivity and labor efficiency,” says Yelm. “ACC has grown through the down economy and continues to grow, and the Russell Finex Separator is one of the factors that’s helped us achieve this.”

Russell Finex has over 75 years of experience manufacturing and supplying separators, screeners and filters to enhance productivity and ensure product quality. The company serves a variety of industries in over 100 countries with applications that include adhesives, ceramics, chemicals, colors, enamels, explosives, food, inks, latex, metal powders, paint, paper coatings, pharmaceuticals, plastisols, powder coating, and waste oils.



Veolia Environmental Services improves productivity by more than 50% while protecting operators

With the installation of two Self-Cleaning Russell Eco Filters, Russell Finex have helped Veolia Environmental Services streamline the filling of fuel tankers, resulting in increased productivity and a safer working environment for operators.

Established in 1990, Veolia is the UK's waste management leader. While they are involved in numerous waste management activities across the country, one of their Sheffield sites, in Northern England, focuses on the recovery of hydrocarbons, diesel oils and industrial solvents.

One particular recovery process is the manufacturing of a secondary liquid fuel (SLF) from liquidwastes. These materials come from various sources, with the majority from the manufacturing industry and include waste fuels, waste thinners, waste paint, waste oils and waste solvents. The waste materials are carefully recovered by Veolia and then blended, macerated, and filtered under strictly regulated conditions before being delivered to cement manufacturers. As the fuel is processed to such high standards, and has to conform to strict parameters set by the Environment Agency, its combustion characteristics mean it burns cleaner than traditional fossil fuels commonly used to power cement kilns. This in turn helps the cement manufacturers with their efforts in reducing their carbon footprint.

After Veolia's mixing and blending process, some debris remains in the resultant fuel oil. The debris must be removed before the fuel can be used and pumped into delivery tankers. Veolia used basket filters to achieve this check-screening function, leading to some delays in the filtering process due to blockages.

Veolia realised that they required a better filtration solution that would minimise filtering time and increase employee health and safety.

After considering several options, Veolia turned to specialists Russell Finex of Feltham, England. With over 75 years of experience in separation and filtration technology, Russell Finex were well equipped to conduct the necessary proving trials and ultimately streamline Veolia's filtering system.



- Increased productivity by more than 50% due to self-cleaning design
- Protects the health and safety of operators and contains hazardous materials
- No serious breakdowns in over two years of operation

Peter Hithersay, plant manager of the Sheffield site, comments "Russell Finex were the only company willing to provide us with a test unit before we had to commit to any equipment. Because of this, we ran the trial unit for approximately one month before deciding that this was clearly the right choice for us". Veolia procured two Self-Cleaning Russell Eco Filters to filter their reclaimed fuel and immediately reaped the benefits of their installation.

The filters were supplied to meet the latest ATEX approval ratings, essential to operate safely in Veolia's secured environment.

The unique design of the Eco Filter ensures that material flow passes through the filter screen whilst the screen is automatically cleaned using a rotating wiper inside the element. The Russell Eco Filter[®] wiper system works on a continuous basis, cleaning the filter element surface at all times thereby maintaining maximum open screen area, which in turn gives a consistent throughput rate and prevents a build up of differential pressure.

Because of this unique design, Veolia are no longer experiencing filter blockages. Productivity at the tank-filling stage has improved by more than 50% since the installation. While filling a 28,000-litre delivery tanker with fuel used to take between 1.5 to 2 hours due to continual stoppages to clean out the filter baskets, this can now be achieved in only 25 minutes with the Russell Eco Filter[®]. Additionally, their operators are working in a much safer and more efficient environment.

John Jarvis, Engineering Manager, explains “A major benefit of the installation has been the improved morale of our operators whose working conditions have changed for the better.”

An unexpected benefit of the filters was the satisfaction of Veolia’s end customer, the cement manufacturers. Whereas previously, contaminants would potentially remain in the fuel and block the tanker outlet off-site, this has now ceased.

Some of the cement companies used to filter the fuel at their site after receiving it, but the quality of the fuel is now so high that there is little to no need for this activity.

The filters have also helped Veolia increase their overall throughput. Mr. Jarvis elaborates, “Since their installation two years ago, each filter has processed about 40,000 tons of material, with no serious breakdown. We are very satisfied with their durability and they are doing far better than we ever anticipated. Before the filters were installed, about 16,000 to 17,000 tons of fuel were passing through our plant on a yearly basis. Now, we are achieving volumes of about 50,000 tons a year, something which we would have struggled with without the Eco Filters.”

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A tanker ready for fuel loading at the Veolia site

Cipla gives seal of approval for OEL level 5 screener

Cipla Ltd of India relies on the revolutionary Compact Airlock Sieve[®] to ensure their new highest OEL compliant plant is not jeopardised during the screening operation.

Screening equipment is an integral part of most pharmaceutical processes and usually with the primary role to ensure ingredients and finished products are quality assured during production and before use or despatch. When processing active pharmaceutical ingredients (API's), the occupational exposure limit (OEL) has a significant part to play in the design of a process to ensure operators are not at risk to exposure (Fig.1). Therefore when Cipla Ltd built their OEL compliant plant at their Goa factory in 2005, having a screener that would ensure product quality and integrity were maintained without compromising the safety of their operators was essential.

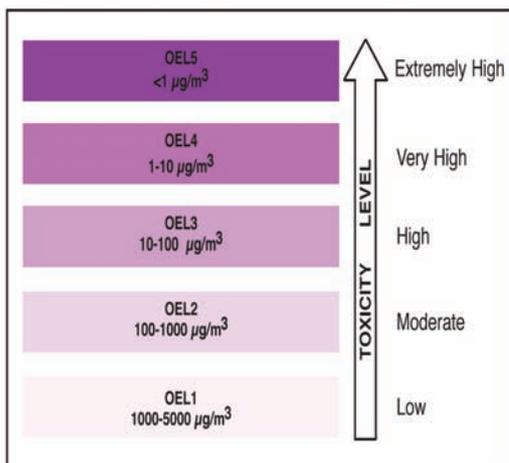


Fig.1. Products are classified according to hazard levels that correspond to five OEL levels

In recent years, the pharmaceutical industry has seen a growing demand for products that require API's and with the introduction of highly potent API's (HPAPI's), the concern for operator's safety due to the adverse effects related to the handling of dangerous compounds is becoming more prevalent. Although a range of personal protective equipment (PPE) is widely available, this can only reduce exposure levels rather than eliminate them. Therefore, having certified plant equipment that can help reduce OEL levels must be considered an advantage not only to improve the working environment of operators but also to reduce costs associated with sophisticated PPE and dust containment systems.

Cipla's new OEL compliant plant was built for the manufacture of a new highly potent drug and as with nearly all processes handling pharmaceutical powders, to ensure specification and quality were upheld a number of sieving operations were required. Firstly, on incoming raw materials to remove any oversized contamination and secondly after granulation to remove undersized particulates.



Fig 2.The Russell Compact Airlock[®] provides the highest level containment, certified to OEL level 5.

- Revolutionary new clamping system provides OEL level 5 containment
- Reduces production downtime during product changeovers
- Superior cleanability due to pharmaceutical design

It was the task of Tapas Datta, factory manager of Cipla plant in Goa, to source a suitable screener to meet their stringent requirements. Due to the vibrating action of a sieve, dust can be generated very easily and therefore the need for a high containment sieve was required. It was during its showcase at an exhibition in 2005 when he came across the OEL level 5 sieve offered by Russell Finex. Known as the Compact Airlock Sieve[®] (Fig.2), it utilizes a pneumatic clamping system, which, combined with its patented Twist Lock Inflate (TLI) technology, provides a uniform dust tight seal. "We were unable to find a sieving unit anywhere else with this level of containment" explains Tapas.

The unit is clamped together with a revolutionary airlock system. The pneumatic lock gives an even and high clamping force across all sealing faces and therefore guards against powder leakage more effectively than traditional band clamps or over-centre toggle clamps. Through independent tests this valuable clamping system has been certified to an OEL value less than $1\mu\text{g}/\text{m}^3$ (OEL level 5) (Fig.3).

The relationship between Russell Finex and Cipla started in 2001 after purchasing their first screener. To date, the Goa site has multiples of Russell screeners positioned in a variety of production lines carrying out various check screening and grading applications. "During initial product trials, we recognised how the new Airlock screener utilises the Russell Compact technology to increase screening efficiency allowing even sticky products to be sieved without blinding" Tapas adds, "Also, due to its new clamping system, it is extremely easy to dismantle when compared to conventional clamping methods." Assembly and disassembly of the sieve is achieved in seconds. The component parts are placed into the base and located by twisting and locking the lid without the need for tools. The airclamp is then inflated to secure and seal the unit during operation. The unit is suitable for either continuous or batch operations and also lends itself to applications where a number of different products are being processed due to the simplicity and speed with which it can be disassembled and cleaned.



Fig.3 The Russell Compact Airlock[®] can be dismantled in seconds due to its patented TLI clamping system.

The plant has been in operation for over 3 years and Cipla have been looking at ways to improve the process further. Although the cGMP design of the screener is based on clean lines making sanitation easier, reducing the exposure of operators to products during clean down of the sieve can be achieved by retrofitting the Russell WIP system (Fig.4). This spray ball system allows an even spray on the product contact parts to wet the components prior to dismantling the sieve improving handling of the components during clean down. Tapas concludes, "We would always prefer to purchase a Russell sieve due to their high quality design, finish and performance. It is clear that this particular unit has been designed specifically for this type of application."

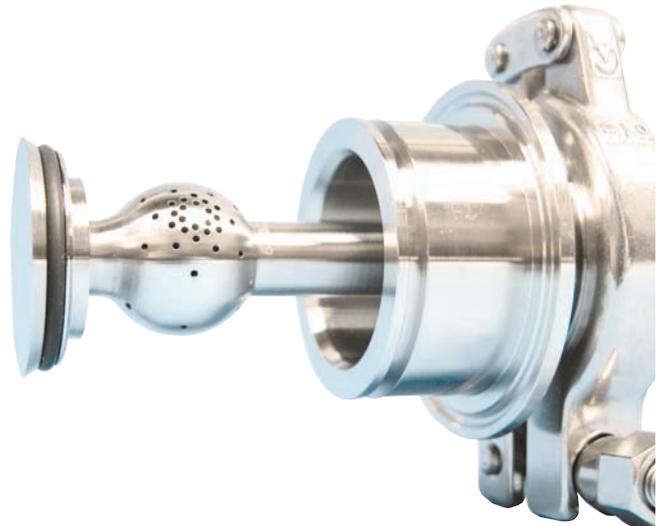


Fig.4. The Russell 'Wet in Place' system improves handling of components during clean down.

For over 75 years Russell Finex have manufactured and supplied filters, sieves and separators to improve product quality, enhance productivity, safeguard worker health, and ensure liquids and powders are contamination-free. Throughout the world, Russell Finex serve a variety of industries with applications including food, pharmaceuticals, chemicals, adhesives, plastisols, paint, coatings, metal powders and ceramics.

For Godiva quality is everything

With the installation of Russell Eco Self-Cleaning Filters[®] and Compact Sieves[®], Russell Finex have helped Godiva reach the highest quality standards, delivering maximum customer satisfaction everytime.

Godiva Chocolatier was founded 80 years ago in Brussels, Belgium and supplies its range of high quality “luxury” chocolates in over 80 countries. Using only the finest chocolate and highest quality ingredients, Godiva chocolates are found in some of the most prestigious stores around the world, from Wanamaker’s in Philadelphia, Pennsylvania to Nihonbashi Mitsukoshi Department Store in central Tokyo.

Godiva uses both enrobing and shell moulding processes to manufacture the various sizes and shapes of chocolates, the latter being extensively used in Europe. As with many chocolate processes, foil is commonly used to wrap chocolate because of its decorative/luxury appearance and ease of wrapping varying shapes. However, this complicates rework processes, since the foil must be removed beforehand and as a result it is not uncommon for pieces of foil to contaminate the chocolate. To prevent this or any other foreign body contamination from entering the moulding process, Godiva have relied upon two large sieving units installed just before the chocolate depositors, which is the last stage of the process before chocolate is poured into the moulds. Although they have been reasonably effective, metal detectors would frequently alarm due to small fragments passing through the units causing costly rework. With the popularity of their chocolate increasing and with growing demand, Godiva recognized the need to review its process with the aim of gaining zero tolerance on contamination while improving production efficiency.

At the early stages of the project, Godiva identified two areas where foreign bodies could enter the chocolate. Firstly, from the rework chocolate as it is returned to the storage tanks where it is mixed with virgin chocolate. Secondly, due to the nature of chocolate processing, contamination can be introduced due to large amounts of pipework and pumps being used to transport chocolate throughout the process. As a starting point, Godiva made contact with their chocolate supplier since every batch of virgin chocolate entering the Godiva plant is certified as contamination free. This resulted in a visit to one of the plants to learn how it was achieved. The systems used were fully enclosed self-cleaning filtration units supplied by Russell Finex. Peter Van Ingelghem, Engineering and



Figure 1. Russell Self-Cleaning Eco Filters[®] installed at the Godiva Plant in Belgium

- Provides zero tolerance on product contamination
- Reduces operator involvement, production downtime and maintenance
- Increases product quality and customer satisfaction

Maintenance Manager of Godiva explains, “As soon as we saw the installation it was clear that this was the solution we had been looking for.” He added “With these systems installed there have been no reports of contaminated chocolate being delivered to our factory”. Without hesitation, Godiva made contact with the Russell Finex sales office in Mechelen, Belgium to discuss the project in more detail. Consequently, an in-depth risk assessment of the process was developed and, combined with Godiva’s research and Russell Finex’s experience, a design was finalised meeting all their objectives.

The chosen solution utilised a combination of both liquid filtration units and round vibratory sieves covering two critical control points within the system. This provided Godiva complete control on contamination while increasing production flexibility required to meet market demands.

The liquid filters installed were Russell Eco Self-Cleaning Filters[®], one after each storage tank (see figure 1). These would remove any contaminant from within the tanks that could have been introduced through rework. The units were selected due to their high flow rates and innovative self-cleaning design meaning operator involvement is kept to a minimum.

The second control point was just before the depositors. A bank of Russell Compact Sieves[®] replaced the two existing sieving units, working in tandem with the filters (see figure 2). “The Compact 400 sieves were chosen as they fitted neatly into our existing process without losing the cleanability of the depositors” states Van Ingelghem.

The installation provided Godiva with a process that ensured contamination of foreign bodies was effectively eliminated. “Having a global recall is something that we are unable to quantify in terms of costs. However, with the new Russell systems in place we have complete peace of mind that our product is being supplied to the highest standards.” Van Ingelghem concludes; “In fact it has actually made our metal detectors virtually redundant since we rarely ever hear them activated”.

The new installation has given Godiva complete traceability back to any contamination source. This has improved maintenance procedures whilst increasing efficiencies in the rework processes. Moving forward, Godiva have recognised the support that Russell Finex provided throughout the project whilst also offering a customer care support system that ensures a fast response to any maintenance requirements. This was particularly evident at the early stages when time was spent trying to select the optimum mesh sizes for the equipment.

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Figure 2. Russell Compact Sieves[®] fit perfectly above the chocolate depositors.



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