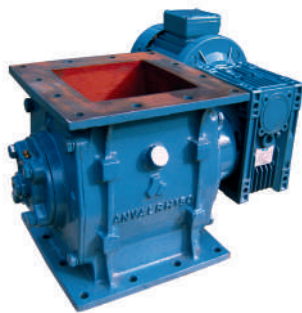


Anval ATEX Rotary Valves



THE ATEX CERTIFIED ANVAL RHX SERIES ROTARY VALVE IS DESIGNED FOR USE IN A WIDE RANGE OF APPLICATIONS FROM HEAVY MINERAL LUMPS TO LIGHT FLOUR DUST WHERE THERE IS A POTENTIALLY EXPLOSIVE ATMOSPHERE



Anval have a vast and exciting selection of Rotary valves including the newly ATEX Certified RHX Series; specifically designed for Explosive atmospheres.

The RHX Series valves are ATEX marked and designed with the intention of being used in potentially explosive atmospheres, provisions have also been made for all essential Health and Safety requirements.

The Anval RHX Series valves are manufactured to robust design standards and an efficacious Quality Management System that enables the valve to operate under even the toughest conditions with minimal maintenance. This valve series is driven by ATEX approved geared motors for both direct and chain drive options, alternatively the valves can be supplied as 'Bare Shaft'.

The RHX Series can be used in Safety zones 20 (Internal) and 21(External), in application areas such as steel, cement, power plants, mineral processing, chemicals, flour mills and other areas where a potentially explosive atmosphere may be present.

“ RHX SERIES valves are compliant with the requirements of ATEX Directive 94/9/EC to handle tough, volatile applications with low maintenance requirements ”

PRODUCT HIGHLIGHTS:

- ATEX certified with protection by Construction Safety
- Heavy duty single piece cast iron body
- Available in Direct / Chain / Bare Shaft options
- Wide selection of rotor types
- Equipped with “Labyrinth Seals” for improved sealing
- Available with Gas or Grease purging
- Excellent Airlock performance
- Minimal maintenance requirement

II	Equipment Group
1/2	Zone 20 (Internal) Zone 21 (External)



D	Dust Atmospheres
c	Protection by Construction Safety
T	Surface Temperature Class

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Anval Confirm the Dexterity of the RFS Valve

ANVAL'S HIGHLY DURABLE ROTARY FLOATING SHOE VALVE HAS FURTHER DEMONSTRATED ITS FLEXIBILITY THROUGH IT'S SUCCESSFUL APPLICATION IN BRIGHTWATER'S BIOMASS PROCESSING PLANT

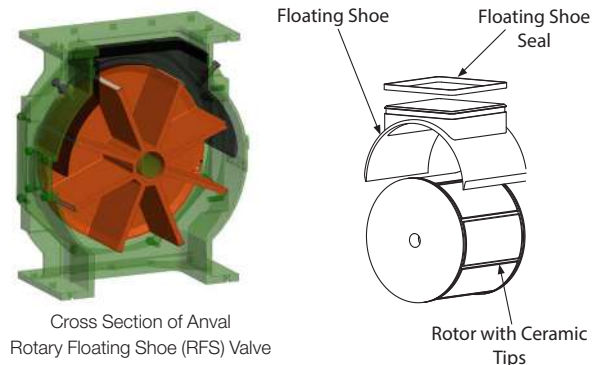
When Brightwater engineering were awarded the contract for an AU\$8.5m plant expansion project new Perth in Western Australia, there were many complex aspects of the project that they had to consider. The Biomass was to be fed simultaneously through two identical injection systems supplying furnaces which were used for power generation. Critical to the plants success was the ability to isolate the different areas of the injection system, the maintenance of an airlock around the furnace whilst maintaining a continuous supply of feedstock and, on top of this, high wear equipment with the ability to handle difficult materials.

Anval Australia were approached to provide engineering advice and support to the Brightwater team in regards to the most applicable equipment for this project.



Drawing from Anval's vast experience within the materials handling industry we were able to recommend the high wearing Rotary Floating Shoe Valve. The Anval RFS Valve has been serving some of the most demanding industries as an airlock and metering device for over a decade.

The Anval RFS valve is designed in a manner that creates additional sealing performance through the use of a 'Floating Shoe'. This is where the ceramic tips of the rotor create a seal with an adjustable shoe as opposed to the body; as the valve wears, the seal can be maintained by adjusting the tips and shoe. This mechanism leads to a significantly lower wear rate in the body and, therefore, an increased level of consistency and performance throughout the extended life of the Anval RFS valve.



Anval also recommended the use of the SG Series Slide Gate Valve to work in collaboration with the RFS and allow for the effective isolation of the unit for maintenance to the furnace. Based on the figures provided by Brightwater, Anval determined that the most appropriate sizing for this application would be the RFS750 paired with the SG750.

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As featured in the Australian Bulk Handling Review

Hope Downs Operation Confirms Anval RFS is A Heavy Duty Operator

THE HOPE DOWNS IRON ORE PROJECT IS LOCATED 100 KILOMETERS NORTH WEST OF NEWMAN, IN THE PILBARA REGION OF WESTERN AUSTRALIA. THE MINE ITSELF HAS A CAPACITY OF 31.4 MILLION TONNES PER ANNUM AND HAS BEEN IN OPERATION SINCE 2007.

In 2008 Anval, (Anval's sister company) supplied multiple Rotary Floating Shoe (RFS) valves to this vast mine as part of the initial equipment requirements. In July of this year Anval were approached to carry out an inspection and analysis on one of the valves after several years of heavy duty operation.

Following extensive test work and analysis our tests showed the following;

- There was no significant damage to any of the key valve components including the rotor, shoe and valve body
- Apart from cleaning, blasting and painting, no other work was required to the valves key components
- The only major components requiring replacement were the motor and gearbox

Alex Cosenza, Sales Representative for Anval in Australasia explained "The RFS range of rotary valves has been around for over a decade now, operating in highly abrasive applications such as iron ore, alumina, cement and mineral sands handling. This is just another fine example of we always knew; that the RFS Series delivers unparalleled value for high wearing products and even after several years in the most difficult of product applications, it still delivers".



“...even after several years in the most difficult of product applications, it still delivers”



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Anval Introduces Corrosion Resistant Rotary Valves

ANVAL RS SERIES ROTARY VALVES ARE IN SINGLE PIECE STAINLESS STEEL CAST CONSTRUCTION WITH INTERNAL SURFACES MACHINED TO HIGH PRECISION TO PREVENT CORROSION, RUST OR STAIN PROBLEMS IN HIGHLY DEMANDING APPLICATIONS ACROSS INDUSTRIES.



Anval is constantly developing and widening its range of equipment to cater for increasingly demanding needs of their customers. With three decades of experience, Anval have a vast and exciting selection of Rotary Valves including the newly launched corrosive resistant RS Series that not only robust, rigid and durable but can also be customized to the specific requirements of a given application.

RS Series Rotary Valves are in complete cast stainless steel construction with internal surfaces machined to high precision, ideally suited for chemical, plastic, animal feed, metallurgy, flour-mills and other food industries.

Anval RS Series valves are manufactured to robust design standards and an efficacious Quality Management System that enables the valve to operate under even the toughest conditions with minimal maintenance. This series is available with direct / chain / inline drive options, alternatively these valves can also be supplied as 'Bare Shaft'.

These valves are CE marked and designed in compliance with the provisions of all applicable Health & Safety Requirements.

The RS Series rotors are perfectly designed and manufactured to have a close radial and axial clearance of 0.20 mm (max.). It comes with open-end style as standard and also available in closed, scalloped, and reduced pocket types, adjustable flexible or wear tipped rotors are available for typical applications.

“ Our RS Series valves comes with mirror finish internals ideal for Sticky, Cloggy, Hygroscopic applications and also available in compliant with the requirement of ATEX Directive. ”

PRODUCT HIGHLIGHTS:

- Investment casting for excellent surface finish
- Mirror finish internals
- Single piece cast construction with universal flange
- Drive options: Direct or Chain or Inline
- “Labyrinth Seals” for high degree of shaft sealing
- Wide range of rotor types
- Available with Gas or Grease purging options
- Comes in opening sizes from 150 to 300 mm
- Minimal maintenance requirement

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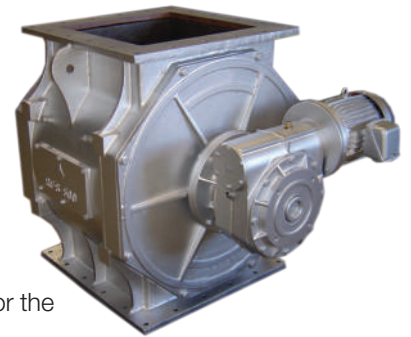
Anval Wins Major Expansion Contract With Proven Reliability

REDUCED PLANT DOWN TIME THROUGH COLLABORATION, APPLIED ENGINEERING AND OUTSTANDING PRODUCTS WINS ANVAL VALVES A MAJOR PLANT EXPANSION CONTRACT FROM GLOBAL SILICON PRODUCER

Global silicon producer Simcoa have recently selected the Anval Rotary Floating Shoe (RFS) valve for some of the toughest duties at their Western Australian Plant. The Simcoa site based 2 hours south of Perth close to Bunbury has recently undergone a major expansion of its operations. The plant runs 24/7 and, like any successful operation, needs to minimize unforeseen break downs and stoppages in production. One area of concern for the new expansion was the reliability of another brand of rotary valve which the plant had been using over the last decade. The valves in question were of a unique fabrication which was subject to high wear and subsequent leakage within the process line. Up to three times a year these valves would require work shop maintenance involving the total disassembly and re-machining of vital elements.

Anval was invited to provide a technical solution to counter these on-going maintenance issues and furnish Simcoa with a long term solution for the existing operation that could also be applied to the plant expansion. Anval's engineering team studied the situation in collaboration with the Simcoa team and selected the heavy duty RFS valve to deal with this challenging process situation. A RFS unit was installed at the Simcoa plant in June 2010 in the cyclone discharge to handle silica fume. Over a 12 month period this valve was monitored and analysed by Anval's engineers to gauge any abrasion or loss of functionality in its installed duty.

The installation of this valve has been a tremendous success and the original valve has lasted for over 14 month without any maintenance or adjustment. Mr Drew Harris, Project Manager for the Simcoa expansion said:



“Early indications of the performance of the Anval RFS exceeded expectations such that we have purchased over 20 of these high performance units for our plant expansion.”

The chronic failures that were symptomatic of the previously installed valves have now been alleviated and the Simcoa site has selected the Anval RFS as the valve of choice in its current expansion and for all future replacements within the existing process plant.

Mr Danny Griffin General Manager of Anval Australia commented “We have always prided ourselves on the reliability and durability of the RFS range of valves. We were confident that their sturdy and simple construction would be ideal for this abrasive environment.” A particularly pleasing aspect of this project has been the close cooperation of Anval and Simcoa's engineers, each thoroughly assessing the process conditions and data to ensure a long term success for their operation.

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Anval Increase Efficiency and Reduce Downtime for Tata Steel

ANVAL VALVES PROVIDE A LONG TERM SOLUTION TO ON-GOING OPERATIONAL ISSUES AT TATA STEEL'S SCUNTHORPE WORKS BY USING SIMPLE AND ROBUST DESIGN SOLUTIONS

Anval are constantly developing and widening their range of equipment to cater for the ever increasing demands of their customers. While most industries routinely handle powdered substances en-mass, each material will have specific needs that will need to be tailored to ensure efficiency is maintained. Anval prides itself on using simple and robust design solutions to effectively fulfil customers' performance requirements.

To this end, Anval were recently approached by Miss Paula Saxby of Tata Steel in Scunthorpe. Miss Saxby requested a long term technical solution to an on-going operational issue at the Scunthorpe Steel site; the manufacturer of the existing valves would, or could not provide any spare parts or even a site visit to help with the trouble shooting of operational issues.

The valves were being used to manage the flow of fly ash from a large furnace; there were 12 Rotary Valves in operation, each sitting below a Filter Bin. This number of valves allowed for a certain degree of failure, with other bins able to compensate for the extra flow through, however the valves could only be worked on during a furnace shut down period. Each Filter Bin was also fitted with a high level sensor that would detect an excessive level of fly ash and trip out the furnace, the fewer valves in operation; the sooner the furnace would be tripped.

The valves in use would break down or cause the furnace to be tripped, on average, 4 times a month; each furnace shut down was estimated to cost Tata Steel between £8,000 and £10,000.



With this in mind, Anval's technical team put forward the suggestion that Tata Steel implement the use of an SL Series Slide Gate Valve above the Rotary Floating Shoe Valve, in this case the SL300M was the correct fit with RFS250D. This set up would allow the cessation of flow through the RFS valve for a maintenance period whilst the furnace was still in operation. Though this set up does not allow an infinite maintenance period, it does allow for minor repairs and servicing where the previous system did not (approximately 8 hours in this case).

Anval's competitive pricing of this highly durable valve was the icing on the cake for Miss Saxby with the first order for 2 of each valve being placed shortly after our first site visit and a planned roll out of 12 such valve combinations for the fly ash management system based around this large furnace.

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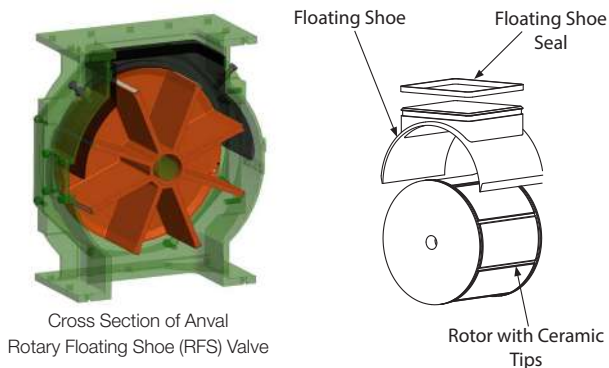
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University Tests Prove Durability of Anval Valves

THE SCHOOL OF MECHANICAL ENGINEERING AT THE UNIVERSITY OF WESTERN AUSTRALIA CARRIED OUT A SERIES OF RIGOROUS WEAR TESTS ON ANVAL'S ROTARY FLOATING SHOE VALVE RANGE

The wear testing was conducted over a period of months by University of Western Australia (UWA) under-graduate and graduate mechanical engineers with the assistance of the Anval engineering team in order to establish wear rates and the operational capacity of the RFS valve.

The RFS range of rotary airlocks and feeders has been in existence for over ten years, initially being produced by Anval's sister company, Ansac. However, in order to conclusively prove the durability of the valve range, Anval decided that an objective third party would be invited to conduct prolonged wear testing and author a technical paper on the results. The wear trials were concluded in June 2010, with the completion of the peer review process in September of that year.



The testing focused on the ceramic and cast iron interface unique to Anval's RFS range of valves. The ceramic 'tipped' rotors have been designed to maintain continuous contact with the hardened SG cast iron floating shoe, ensuring an adequate seal between the inlet and outlet flange.

This interface is subjected to a constant level of wear as the rotor turns during normal operation. The amount and rate of interface wear has then been microscopically analysed by the engineering teams, confirming the durability of the RFS valve.

The extensive testing of the interface involved subjecting the valve to various types of material flow with varying degrees of abrasiveness. This enabled Anval to establish accurate data confirming the low wearing properties of the construction materials selected for the valve construction; utilizing ceramics and cast iron floating shoe.

“ RFS Valves can be used to transport even the most aggressive product and still have a lifecycle of years instead of months. ”

“The final report has proven that the ceramic tipped rotor in contact with the hardened SG cast iron shoe allows the rotary feeder to efficiently traverse all manner of materials with a minimum of wear” explained Mr Brian Ging, Sales Representative for Ansac and Anval within Australia. “Therefore, the RFS can be used to transport even the most aggressive product and still have a lifecycle of years instead of months.”

“The results are as we predicted. We always knew the RFS was a far more durable unit than a standard rotary valve, and now we have the data and report to prove it.”

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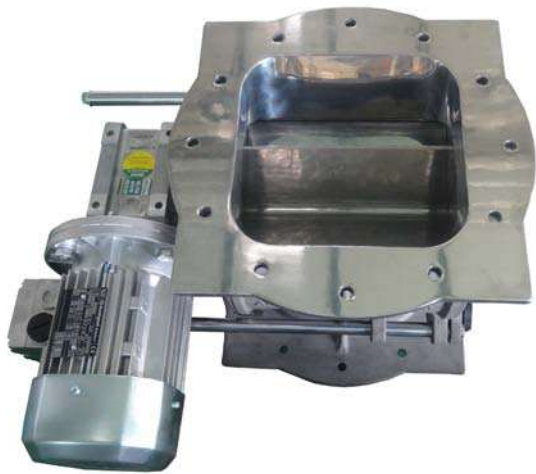
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As featured in the Australian Bulk Handling Review

Easy-Clean Rotary Airlock: The reliable companion for quick & easy operation

ANVAL RECENTLY LAUNCHED OUR NEW ROTARY AIRLOCK EASY-CLEAN, RE SERIES WHICH WAS DESIGNED SPECIFICALLY FOR APPLICATIONS WHERE QUICK CLEANING OR FREQUENT REMOVAL OF THE ROTARY VALVE INTERNALS IS NECESSARY.



Anval RE Series Rotary valves permits safe, tool-less removal of the rotor and end plate as one single piece. This eliminates the time-consuming step on the rotor during reassembly instead ensure quick and easy operation. Upon reassembly, the original clearances are maintained without adjustment. These valves can be used for contamination-sensitive applications where frequent disassembly and cleaning is required. All RE Series valves are specifically suited for food, mineral, plastics and chemical applications.

Anval RE Series valve is available in fully casted single piece stainless steel construction with mirror finish internal surfaces machined to high precision to prevent corrosion, rust or stain problems and free of dead spots to keep the material flow smoother These mirror finish surface helps the cleaning process easier, effective and convenience in

cleaning, Thus, increasing operational efficiency and reducing in highly demanding applications across industries.

The RE Series rotors are perfectly designed and manufactured to have a close radial and axial clearance of 0.20 mm (max.). It comes with open-end style as standard. These valves are CE marked and designed in compliance with the provisions of all applicable Health & Safety Requirements.

“ With the mirror finish internals; these valves are ideal for Sticky, Cloggy, and Hygroscopic applications. Easy-Clean Valves are also available in compliant with the requirement of ATEX Directive. ”

PRODUCT HIGHLIGHTS

- Investment casting for excellent surface finish
- Easy Reassembly, Rotor cleaning and Assembly
- “Labyrinth Seals” for high degree of shaft sealing
- Mirror finish internals
- Single piece cast construction with universal flange
- Direct Drive Construction
- Available with Gas or Grease purging options
- Comes in varies opening sizes
- Minimal maintenance requirement
- Suited for Food, Mineral, Plastics, Pharma and Chemical applications

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Are you facing issues in handling sticky materials?

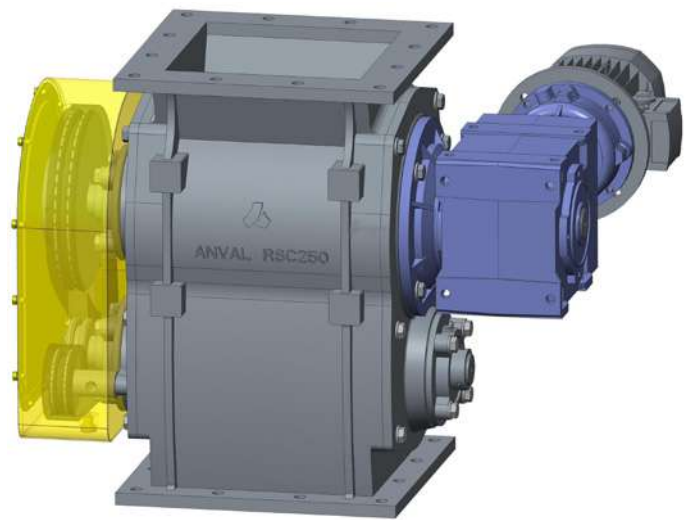
ANVAL'S NEW ROTARY SELF-CLEANING VALVE RSC SERIES, WHICH IS DESIGNED TO WIN-OVER CHOKING ISSUES IN HANDLING STICKY, VISCOUS AND NON-FLOWING BULK SOLIDS

While most of the conventional valves could not handle the sticky, viscous and non-flowing bulk solids, Anval RSC Series are specifically designed and well-suited to handle any high-moisture or sticky product application.

The self-cleaning function is a result of a scraping of secondary rotor which mechanically empties out the pockets where secondary and primary rotor movements are synchronised. A geared motor drives the primary rotor through shaft. The secondary rotor drives via chain transmission and the sprockets set to rotation for the easy wiping action on primary rotor and in turn pushes the easy flow of material. Thus, increasing operational efficiency and reducing downtime in highly demanding applications across industries.

All our RSC Series rotors are perfectly designed and manufactured to have a close radial and axial clearance. The primary rotor comes with a scalloped type as standard. These valves are CE marked and designed in compliance with the provisions of all applicable Machinery Directive requirements.

“ RSC Series Rotary Valves are in complete cast iron construction with internal surfaces machined to high precision, ideally suited for animal junk, clay, starch, active ingredients, fertilizer, pulp, fibers, phosphates, sludge, salt and so on. ”



PRODUCT HIGHLIGHTS

- Counter-rotating secondary rotor cleans primary rotor pockets
- Equipped with replaceable “Labyrinth Seals”
- Single piece cast construction
- Direct drive construction
- Available with Gas or Grease purging options
- Comes in varies opening sizes
- Minimal maintenance requirement
- Robust design
- Achieves the smoother flow of material
- No complex adjustments

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