CEMENT & BUILDING MATERIALS REVIEW

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ARAB UNION FOR CEMENT AND BUILDING MATERIALS

Cement and Building Materials Review

Arab Album | International News | New Products | Technical Articles | Diary Dates

Editor-in-Chief Eng. Ahmad Al-Rousan
Managing Editor Suha M. Canaan

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- *The Magazine editorial staff welcome the contribution of experts to enrich the contents of the magazine .*
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Email: aucbm@scs-net.org / aucbm1977@gmail.com
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CORRESPONDENCE

Correspondence are to be addressed to the Editor-in-chief at the following address:

Syria, Damascus - P. O. Box 9015

Tel : (+963 11) 611 5412 - 6118598

Fax : (+963 11) 612 1731

Email: aucbm@scs-net.org / aucbm1977@gmail.com

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AUCBM's ***Quarterly Cement and Building Materials Review (CBMR)***

EDITORIAL SCHEDULE FOR 2018

ISSUE	THEMES	EVENTS

March 2018	- Lubrication Systems
	- Maintenance in Cement Plants
	  - RCM (Reliability Centered Maintenance)
	  - Computerized Maintenance System CMS
	- Repair and welding techniques
	- Spare-parts Management
	- Vertical Mills
	- Crushers
	- Coolers
	- Burner Technology
	- Refractories & testing of refractories
	- RDF management	

June 2018	- New types of cement - Low carbon cement - White cement - Concrete - XRF and XRD analysis - Chemistry of cement - Cement additives - Silo Cleaning & Blockages - Silo design consideration - Drive systems - Weighing technologies - Sampling Techniques & Samplers	
* September 2018	- Sustainable Development - Environment Protection - Alternative Fuels - RDFs / SRFs - Cleaner Production in Cement Industry - Filters, Baghouses & Dedusting Equipment - Emission Monitoring & Gas Analysis - Energy Saving - Case Studies	**AUCBM's 23rd Arab International Cement Conference and Exhibition (AICCE23)** **November 2018**

December 2018	- Bagging, Packaging & Dispatch - Loaders & Unloaders - Feeder Technology - Bulk Storage and Handling - Storage of fuel - Conveyors, Bucket Elevators - Rock Blasting - Quarrying & Quarry Management - Occupational Health & Safety - QC circles	

* September is a bonus issue that will be distributed to the Conference participants

Deadlines for receiving articles, press releases, or advert materials for 2018 issues are as follows:

March issue: **1st March 2018**
June issue: **28th May 2018**
September (bonus) issue: **30th August 2018**
December issue: **5th December 2018**

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ALGERIA

GICA reports nearly 14Mt of cement production in 2017

Groupe des Ciments d'Algérie's (GICA) cement production rose by 11% year-on-year to 14Mt in 2017 from 12.6Mt in 2016. The cement producer beat its own forecast of 13.2Mt for the year, according to the L'Expression newspaper. Production rose in 2017 due to the opening of its Aïn El Kebira, Sétif cement plant in the first quarter. Local production capacity is forecast to reach 40.6Mt/yr by 2020 with 20Mt/yr supplied by GICA, 11.1Mt/yr supplied by LafargeHolcim and the remainder from other companies.

Global Cement

Algeria to start exporting cement

Trade Minister said that Algeria will commence cement exports. An export of Ordinary Portland Cement will be made to Gambia via the port of Arzew. In a separate statement LafargeHolcim Algeria said that it was exporting 16,000t of cement to West Africa from its plant at Oggaz.

Global Cement

LafargeHolcim inaugurates state-of-the-art CILAS cement plant in Biskra

LafargeHolcim inaugurated a 2.7 Mtpa new cement plant equipped with cutting-edge machinery on October 17 in Biskra.

With an investment of 35 billion Algerian dinars, this is the most recent of new LafargeHolcim plants, which boasts a 2.7 Mtpa capacity and the latest and best machinery available in the cement industry, including the tallest vertical grinder in the world.

CILAS plant to export cement

CILAS cement plant braces for exports in 2018 and will soon be exporting part of its production to the African and European markets, as the Algerian domestic market approaches overcapacity.

The cement plant was launched in 2016 and is part of a building construction complex in the Biskra wilaya, which also includes 22 units of red bricks, 10 quarries, and five limestone production sites.
The cement plant is the result of a partnership between Algerian group Souakri Frères and Lafarge. It has the installed capacity to produce 2.7 million tons of cement per annum.

CemWeek

Two more Algerian plants

Already an exporter of cement, Algeria is set to gain two further cement plants by 2020. GICA Group has already begun construction of a 1Mt/yr plant in Béchar and a 2Mt/yr plant at Sigus, Oum El Bouaghi.

By 2020 the group will reach a cement production capacity of around 20Mt/yr. Regarding exports, GICA noted that with the satisfaction of domestic demand, the surplus will be exported to other African countries, in accordance with the guidelines of the public authorities. The Group is in discussion with international operators to form possible partnerships to place our products internationally.

Global Cement

New Sahara Desert CBM Cement Plant

In the Sahara Desert in Algeria, there is a cement plant under construction and management by Chinese enterprises.

Daily Cement

New cement plant inaugurated in Timkatan, Algeria

Factory is a partnership between Sidi Moussa STG and Cte-O-C

CemWeek

China State Construction Engineering Corp acquires 49% stake in ASEC Cement

China State Construction Engineering Corporation (CSCEC) acquired 49% of the shares of ASEC Algeria Cement.

Daily Cement

Safas Tunis to supply grinding balls to SCIMAT cement plant in Ain-Touta

Tunisian company Safas Tunis SA has won a tender to supply 148 tonnes of grinding balls to SCIMAT (Cement Company of Ain-Touta), a subsidiary of GICA.

Daily Cement

EGYPT

Egypt aims at doubling cement exports

The Export Development Authority

caused by a decrease in the revenue obtained from oil, the new state budget was expected to be an expansionary one.

Indeed, measures have been taken to increase the expenditure on construction, confirming investors' expectations. However, there are still doubts regarding the effectiveness of some stimulus measures such as soft loans extended by state funds.

CemWeek

Cement market expected to reach 78,25 million tonnes by 2020

Despite the harsh conditions the domestic cement industry is currently going through, a new report from Transparency Market Research titled "Cement Market – Kingdom of Saudi Arabia Industry Analysis, Size, Share, Growth, Trends and Forecast 2014 – 2020" forecasts that the Saudi cement market will develop at a moderate 5.4% CAGR between 2014 and 2020.

Daily Cement

Delays announced to new mills at Arabian Cement Company

The Arabian Cement Company (ACC) says that the construction of new cement mills at its Rabigh plant has been delayed to the third quarter of 2018 from the fourth quarter of 2017. The delay has been blamed on the contractor's failure to comply with the timetable. The second-phase of the project, to build a new clinker production line, is under review. The cement mill order was placed with China National Building Material (CNBM) in 2015.

Global Cement

City Cement halts one production line

City Cement Co. (Al-Madina) announced the temporary suspension of one of its clinker production lines. Company cited excessive clinker inventory has the reason for the stoppage.

Umm Al-Qura Cement secures Islamic financing deal

Umm Al-Qura Cement Company has signed an Islamic financing agreement with Riyad Bank for a SAR 50 million (US $13.3 million) loan.

Daily Cement

Saudi Arabia exports cement to Jordan

Saudi Arabia reaches agreement to export cement to Jordan. Al Jouf Cement, in cooperation with the Saudi Industrial Export Corporation, reached an agreement with Jordanian buyers to export 72,000 tons of cement to the country.

Al Jouf Cement will benefit from the Saudi government's decision to cut the cement export tariffs by 50%, announced last July.

Cemweek

SYRIA

Syrian cement maker installs waste-heat recovery unit

General Organization for Cement and Building Materials wants to save diesel for times of fuel scarcity.

Cemweek

TUNISIA

Carthage Cement wins clinker export contract

Carthage Cement has secured a contract to export 350,000t of clinker to sub-Saharan Africa in 2018. The deal will enable the cement producer to enter this market for the first time.

Global Cement

Carthage Cement goes on sale

The government and Bina, the controlling shareholders of Carthage Cement, are selling a majority stake in the cement producer via public tender. The two investors own a 50.52% stake of the company. The cement producer operates a 2.2Mt/yr plant at Djebel Ressas. Expressions of interest are being accepted until 16 February 2018.

Global Cement

Arab Swiss Engineering Company "ASEC" Partners with TAIHEIYO ENGINEERING CORPORATION and PROMAC India to Provide End-to-end Solutions for Process Optimization and Energy Conversion

ASEC, Egypt joins forces with TEC, Japan and its Joint Venture partner Promac, India to roll out end-to-end solutions for the optimization of cement manufacturing process and energy conservation.

Arab Swiss Engineering Company "ASEC", a leading regional provider of O&M and consultancy services to cement plants, TAIHEIYO Engineering Corporation, the renowned Japanese pioneer in cement technology and energy conservation solutions, and PROMAC India, the leading EPC contractor for cement and heavy industries, have jointly announced that they have joined forces together to provide cement manufacturers in Egypt and other parts of the world with comprehensive solutions for process optimization and fuel conversion for the purpose of reducing cost and increasing manufacturing efficiency.

On the 19th of November, Cairo hosted the signing ceremony of a memorandum of understanding by TAIHEIYO, PROMAC and ASEC to set the framework for their collaboration with the objective of introducing TEC's cutting-edge technologies in the field of utilization of waste material as alternative fuel and latest advancements in cement manufacturing process to producers in Egypt and other countries. PROMAC, the EPC partner, has a proven record in the implementation of the new solutions capitalizing on its state-of-the art manufacturing facility based in Bangalore, India. ASEC, the leading consultant and O&M provider, shall capitalize on its profound expertise to identify and integrate solutions appropriate to technical and business needs specific to each cement facility.

Commenting on the collaboration of the three partners, Mr. Haruo Tsuyuki, the Managing Director of Taiheiyo Engineering Corporation said, "We shall combine the technological capabilities of the three companies and roll out new solutions in Egypt and other parts of the world. We have already constructed cement plants and energy conversion solutions based on our engineering technology in India and in the Middle East and we look forward to introducing our groundbreaking technologies in Egypt and its neighboring countries capitalizing on ASEC's marketing capabilities and O&M experiences.

From his side, Mr. J. Surendra Reddy, Chairman & Managing Director of Promac Engineering Industries Limited, India, announced that "this cooperation will synergize the unique strengths of all three entities to give prospective customers in the cement space access to World Class Technologies, State-of-the-art Manufacturing and unmatched Project Engineering, Consultancy and O&M Services under a single umbrella"

"The era of cheap energy and high quality fuel has elapsed and conversion to alternative energy is inevitable for cement manufacturers" said Mr. Khaled El-Sebaei, the Managing Director of ASEC, "Teaming up with Taiheiyo, the Japanese technology hub in fuel conversion and Promac, the Indian world-class EPC contractor and manufacturer shall guarantee an efficient and reliable conversion process for our clients. ASEC has formerly played a pivotal role in the modernization of the cement industry in Egypt and the Middle East transforming the production lines from the wet to the dry technology, and now, it is just about time for ASEC to guide and smoothly integrate the conversion to alternative fuel into the cement facilities of current and prospective clients, bringing their cost of production into a perfectly competitive position".

About TAIHEIYO Engineering Corporation

Taiheiyo Engineering Corporation, Tokyo, Japan, a subsidiary of Taiheiyo Cement Corporation the 7th largest cement manufacturer, is a world leading engineering company in the field of cement & cement-related industries providing engineering services including design, equipment supply, construction and currently provides system engineering services on environmental measures toward energy conservation and waste recycling. Through its outstanding R&D activities, Taiheiyo offers latest technologies in the fields of process optimization and alternative fuel.

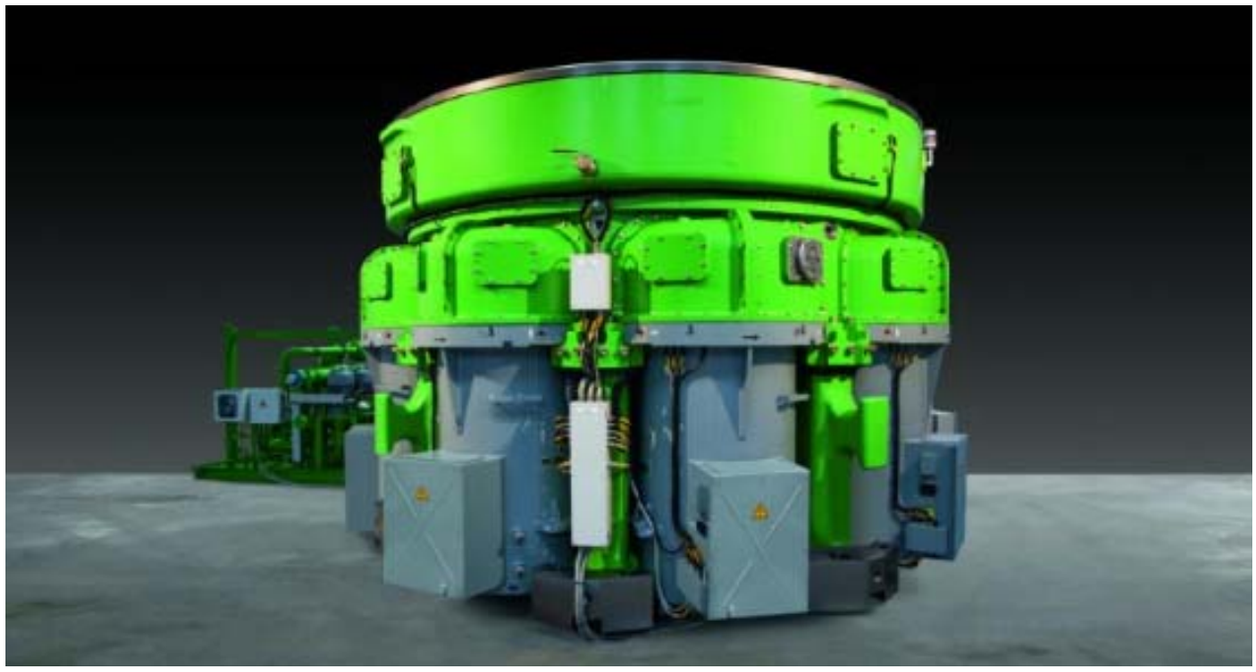
About PROMAC Engineering Industries Ltd.

Established in the early 70s, Promac Engineering Industries Limited, India, is an ISO 9001-2008 certified company and one of the leading designers and manufacturers of Cement Plants, Bulk Material Handling Systems including CHPs/AHPs for Thermal Power Plants, Coal Handling Plants and other process plants on EPC/ turnkey basis within India and overseas. Promac's state-of-the-art manufacturing facility spreads over 80,000 m2 in Banglore, India and equipped with heavy machine shop, heavy fabrication facilities together with its engineering department, all under one roof.

About Arab Swiss Engineering Company "ASEC"

ASEC is the leading provider of operation and maintenance solutions in addition to consultancy, commissioning and technical training services to cement manufacturers in its homeland Egypt, Middle East and Africa. Backed with track record exceeding 42 years, ASEC has consulted for more than 500 projects between greenfield and existing plants and is proudly entrusted for the O&M of 16 production lines. ASEC Academy is indeed the house of cement technology, providing engineers and technicians with the latest in cement manufacturing technologies

LOESCHE involved in new construction project with three vertical roller mills for large cement plant in Egypt



COPE Drive for the LOESCHE Vertical Roller Mills Sohag – LOESCHE is involved in the new construction of a large cement plant in Egypt with three vertical roller mills. The end customer is the Egyptian Cement for Cement Projects Management S.A.E. The planned new plant is located nearly 500 km south of Cairo in Sohag.

The LOESCHE scope of delivery includes a raw material mill with a capacity of 540 t/h of cement raw meal, a cement mill with an output of 350 t/h of clinker as well as a coal mill with an output of 45 t/h.

The cement mill for this order is equipped with the COPE drive (COmpact Planetary Electric Drive). The COPE drive concept was developed especially for powerful vertical roller mills with over 6 MW of power by LOESCHE together with the Renk company. Six or eight water-cooled cage rotor induction engines drive the grinding table of the mill through a planetary gear. The motor pinion can be engaged or disengaged.

The motors are also individually replaceable, which makes the COPE drive very maintenance-friendly. Moreover the mills can be further operated in case of a breakdown of one or several motors until the operation of a replacement is permissible. This results in a higher plant availability.

Last but not least, the energy efficiency convinced the general contractor as well as the end customer, that with the LOESCHE mills, cement of the highest quality could be produced.

The Chinese Chengdu Design & Research Institute (CDI) functions as the general contractor for the project and belongs to the renowned Sinoma Group, which is specialized in the planning and construction of cement plants. CDI has not only successfully worked together with LOESCHE in Egypt, but on many occasions worldwide, such as for the cement producer El Arish, the lines 3 & 4 as well as the Beni Suef Cement Plant, where before the end
of 2017, six new production lines for cement clinker will be formed, each with a daily capacity of 6,000 tons, for which LOESCHE will soon provide 18 new vertical roller mills.

CONTACT
LOESCHE GmbH
Karin Boeker-Mahr
Hansaallee 243
D-40549 Düsseldorf, Germany
Tel.: +49.211.53 53417-
Fax: +49.211.53 535417-
www.loesche.com
E-Mail: public-relations@loesche.de

Prerequisites and conditions of alternative fuel utilisation in the cement industry

By: Nijat Orujov // VDZ, Germany

Cement production is an energy and resource intensive process. Introduction of modern and innovative technologies has decreased the demand on energy and resources over the last decades. A further reduction could be achieved by utilisation of alternative fuels and materials. Therefore, cement producers take advantage of alternative waste fuels and clinker substitutes such as lime stone, slag and fly-ash. Recovery processes such as cement kilns are highly suitable for waste co-processing and they can utilise up to 100 % of alternative fuels. Typical alternative fuels in the cement industry are pre-treated industrial and municipal solid wastes (domestic waste), plastics, textiles and paper residues, discarded tyres, waste oil and solvents and biomass (animal meal, sewage sludge, recycled wood and paper). However, the use of alternative fuels is only possible where the infrastructure for the collection and processing of such wastes and fuels is available.

Figure 1: Industrial and municipal solid wastes as alternative fuel

At the same time, the utilisation of alternative fuels and raw materials (AFR) offers a proven waste management option for modern societies in which the cement industry can play an important role. Experience in Germany has shown that the use of waste in cement production is compatible with environmental considerations. The use of alternative fuels started in the nineteen-eighties. Today waste materials of different origins substitute in average 65 % of fossil fuels. The major licences to operate with alternative fuels were granted after public hearings, which have significantly contributed to a broad public acceptance. It is publicly accepted that society has to deal with wastes in some way and that the cement industry can positively contribute to a sound waste management, together with dedicated waste incinerators or landfilling.

However, the utilisation of alternative fuels involves certain technical and environmental limitations such as the calorific value and concentration of trace elements or chlorine in wastes. In most of the cases the availability of waste is limited, or available wastes cannot be used for environmental reasons unless they are pre-treated. This is especially the case for untreated municipal wastes, which besides unfavourable combustion parameters can contain high trace elements. Therefore, requirements for a sound utilisation of alternative fuels in cement kilns should be described in the cement plant's licence, which also contains quality parameters for individual wastes. The definition of these parameters must ensure that, when using alternative fuels, no detrimental change in the emission situation occurs and that the product quality does not suffer. The monitoring activity is not only limited to the cement plants but also involves pre-treatment process. Whenever such wastes are not suitable to be burned in cement kilns, they have to either be landfilled or combusted in dedicated incinerators.

The use of alternative fuels and raw materials has the potential to reduce emissions compared to the use of conventional fossil fuels, and conserves non-renewable resources. Moreover, CO_2 emissions can be reduced significantly, especially when burning fuels with high biomass content.

Global Cement & Gypsum Events 2018

For details, please visit each event's web site.

3rd global boards

22-23 January 2018,
London, UK
global-boards.com

The 3rd Global Boards Conference and Exhibition will take place in January 2018, looking at global market trends in cement-based boards, at advances in production technology and at how producers can add value to their products worldwide. In addition to equipping delegates with the latest information, news and developments, the networking opportunities will once again be excellent. ***If you are interested in cement-based boards, then you should attend!***

12th global cemfuels

20-21 February 2018,
Berlin, Germany
cemfuels.com

The popular Global CemFuels Conference and Exhibition will visit Berlin for the first time in 2018 and is expected to attract one of its largest-ever audiences from around the world. The event will showcase the state-of-the-art in handling, processing and firing all types of conventional and alternative fuels for cement (and lime) production. ***If you produce or use fuels and alternative fuels in the cement and lime industry, then you should attend!***

1st global gypsupply

13-14 March 2018,
Brussels, Belgium
gyp-supply.com

The inaugural Global Gypsupply Conference and Exhibition will look at the different supply sources of gypsum worldwide, including natural gypsum, synthetic gypsum and recycled gypsum, will examine transport and shipping options, and will match up miners, syngyp producers and recyclers with buyers and users of gypsum including cement producers, wallboard and plaster manufacturers, and agricultural users. ***If you use gypsum in your process, then you should attend!***

13th global slag

24-25 April 2018,
Prague, Czechia
globalslag.com

The 13th Global Slag Conference and Exhibition will take place in Prague, in the heart of Europe and central to many iron-, steel- and slag-producing areas. Slag producers and users are expected to attend from throughout Europe and from the rest of the world: Slag products have the potential to be profitable for both the iron and steel industry and also for the cement, concrete and construction products industries. ***If your business is in slag, then you should attend!***

2nd global cemprocess

23-24 May 2018,
London ,UK
cemprocess.com

The second Global CemProcess Conference and Exhibition on process optimisation, de-bottlenecking, production maximisation and troubleshooting in the cement industry will once again take place in London, including a confirmed full-day field trip to the Hope cement plant in Derbyshire, and a stunning Conference Dinner at a local stately home. ***If you would like to maximise cement production while decreasing costs, then you should attend!***

Does Your Pulse Jet Dust Collector Have What It Takes?

By: Matt Devitt, BWF Envirotec - www.bwf-envirotec.com - info@bwf-envirotec.de

In the commissioning of a baghouse, many parameters can be measured to determine if "Design" matches "Reality". Some parameters measured would be ACFM to determine air to cloth and can velocity or the flange-to-flange differential pressure, but one parameter that cannot be measured is the pulse jet cleaning system's generated pressure at the bottom of the filter element. Without this parameter, answering the following becomes a matter of trial and error.

- Is the Pulse Valve's Pressure too high or too low?
- Is the Pulse Valve open the correct duration of time?
- Is each filter on a common blowpipe seeing the same cleaning pressure?

The Pulse Flow Analysis (PFA) System from BWF Envirotec allows for the pulse pressure peak at the bottom of the filter element to be measured, for negative pressure pulse jet baghouses. The PFA system can also measure the Up Gas Flow Velocity inside the filter element near the tubesheet, when the probe is repositioned in the filter Element.

What is the Pulse Flow Analysis System?

The Pulse Flow Analysis (PFA) System is composed of four instruments that allow for the measurement and data collection of the pulse pressure and up gas flow velocity.

- Black Box (Highspeed Data Recorder)
- Pressure Probe (Multi-Purpose Prandtl Tube) with Guide Vanes
- Thermocouple (Gas Density Compensation for Up Gas Flow Velocity)
- Differential Pressure (dP) Transducer (Tubesheet or System Measurement)
- Laptop to compile and display the test results in real time

System Specifications:

- Black Box Max Temperature: 100oF (~40oC)
- Probe Max Temperature: 400oF (~204oC)
- Probe Cable Length: Up to ~65-Feet (20-meters)
- dP Tubing Length: Up to ~65-Feet (20-meters)

Figure 1: Pulse Flow Analysis System Components

The Black Box has a sample rate of 200Hz, as well as a buffer to hold a few seconds of data to record the pressure increase when the pulse pressure trigger value is reached. This allows for the system to determine when to record and not the operator timing the pulse to start recording data. The Prandtl Tube can be used to measure gas velocity, the same as used on airplanes to measure air speed, as well as the static pressure generated from the pulse cleaning system. The thermocouple allows for local temperature determination, as well as it is used in the gas density adjustment calculation. Lastly, the dP transducer is used to record the actual dP at the compartment's tubesheet, or the overall system dP, and be logged with the pulse pressure, up gas flow velocity, and temperature. The scenarios this system is used to test are pulse pressure offline, pulse pressure online, and up gas flow velocity.

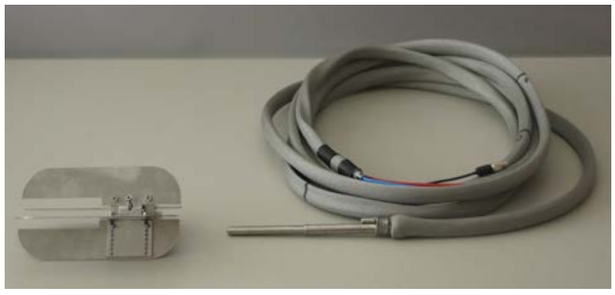


Figure 2: Probe with Guide Vanes Disconnected (Pulse Pressure Peak Scenario)

Figure 3: Probe with Guide Vanes Connected (Up Gas Flow Velocity Scenario)

Scenario#1- Pulse Pressure Peak, Compartment Offline with No Gas Flow

Data Gathered: Pulse Pressure Peak at the bottom of the filter without gas flow through the filter.

Benefits: The measured pulse pressure at the bottom of the filter element is compared to the system's "current" and/or "normal" compartment differential pressure. This measurement will determine the potential for effective cleaning. Adjustments can be made to the cleaning system (pulse pressure, pulse duration, blowpipe design) to see the impact to cleaning the filter. It is a quick test with respect to the online tests and the probe can be changed between filters easily.

Figure 4: Pulse Flow System Setup in the Field

Scenario #2 - Pulse Pressure Peak, Compartment Online with Gas Flow

Data Gathered: Pulse Pressure Peak at the bottom of the filter with gas flow through the filter.

Benefits: The measured pulse pressure at the bottom of the filter element is compared to the system's "actual" compartment differential pressure. This will determine if effective cleaning is taking place. The measurement of a positive static pressure at the bottom of the filter element, denotes flow reversal along the whole length of the filter element. Adjustments can be made to the cleaning system (pulse pressure, pulse duration, blowpipe design) to see the impact to cleaning the filter. This test can only occur in one filter element, and requires a port into the clean air plenum for the probe's cabling.

Scenario #3 – Up Gas Flow Velocity, Compartment Online with Gas Flow

Data Gathered: The up gas flow velocity inside the filter just below the tubesheet, and the change in static pressure from the cleaning pulse to denote when a pulse valve has fired to clean.

VORTEX'S PIVOTING CHUTE DIVERTER OFFERS LONG LIFE HANDLING ABRASIVES

Vortex established its Titan Series product line in 2011 to address several abrasion concerns expressed across bulk material handling industries. Such applications include handling materials that pose excessive abrasion or wear issues, situations that call for extremely large valves or diverters, conditions that require a valve to be successful in especially harsh environments, or other more specialized heavy-duty applications. Among those Titan Series products is a diverter that has recently garnered much attention across industries: the Pivoting Chute Diverter.

Per the demands of companies handling especially abrasive materials – such as alumina, bauxite, cement, clinker, coal, fly ash, gravel and rock, glass, industrial sand, lime, limestone, metals and ores, potash, sands, wood, and others – Vortex designed the Pivoting Chute Diverter to improve processing speeds and provide a valve with longevity when operating in particularly wearing environments.

Since its release, the Pivoting Chute Diverter has improved operations for cement, grain, mining, power generation, and many other industries worldwide. In recognition, the Pivoting Chute Diverter was awarded the 2016 Breakthrough Product of the Year from Processing Magazine.

Innovative features of the Pivoting Chute Diverter include:

- A body constructed from carbon steel.
- An independent, internal pivoting chute.
- Chute's wetted parts (ie: material contact areas) are lined with choice of abrasion-resistant metal.
- Optional abrasion-resistant liners, installed internally on the chute's inlet and outlet legs. The purpose of abrasion-resistant liners is to provide additional durability for the diverter's internal. As a standard, abrasion-resistant liners are constructed from various gauges of steel. In extreme applications, liners may instead be constructed from chromium carbide.
- Dust-tight to atmosphere.
- The Pivoting Chute Diverter may be shifted "on the fly" while materials continue to flow, allowing a non-interrupted material flow. This is an improvement upon traditional flapper-style diverters, which recommend material flow be shut off prior to shifting the blade.
- Inspection, maintenance or repairs may be quickly and easily performed while the diverter remains in-line, from an access panel on the front of the diverter.
- Removable chute, in case it must be inspected, repaired or replaced. Removal is done using lifting lugs and chute-assist rods. (Note: Chute removal can only be performed on 10 in. – 24 in. (254 mm – 610 mm) valve sizes.)
- A replaceable flow control bar is mounted between the outlet legs, to prevent material from migrating to the opposite leg.
- Material flow may be directed partially toward two different destinations at once. However, because material flow will be shared through one chute toward two destinations, flow rates toward each leg will be diminished, in comparison to typical one-to-one flow rates. (Warning: This method should not be practiced regularly, as it will accelerate abrasion and wear between the outlet legs.)
- Available in either a two-way or three-way configuration.

A Pivoting Chute Diverter is customizable to ensure its success in application-specific environments. The Pivoting Chute Diverter has many construction material options, including:

- Type of abrasion-resistant metal.
- Brinell Hardness Number (BHN) of construction materials.
- Gauge of steel thickness.
- Grinding & Polishing.
- etc.

When considering the Pivoting Chute Diverter for use in your application, please also be mindful of:

- Stack-up height: In order to install a Pivoting Chute Diverter, the space needed between flanges is slightly more than that of a traditional flapper-style diverter.
- Material dusting to the opposite leg is possible.

However, in most applications, these considerations are not of major concern.

For more information on how the Pivoting Chute Diverter can improve your system operations, visit http://vortexglobal.us15.list-manage.com/track/click?u=cb7a8e1f2291912d764b395c5&id=a04190b190&e=061ffb2545.

About Vortex:
For 40 years, Vortex has provided quality slide gates, diverters, iris valves and loading spouts designed specifically for handling dry bulk solids in gravity, vacuum, dilute, or dense phase applications. Vortex valves and spouts are engineered for dependability, durability, easy maintenance, and offer proven solutions to material handling and process efficiency problems. With an in-house team of engineers, Vortex products can be completely customized for individual applications or special installations.

Vortex
1725 Vortex Ave.
Salina, KS 67401 USA
Tel: +1 785 825 7177
Email: vortex@vortexglobal.com
Web: www.vortexglobal.com

Cemtech MEA 2018

DUBAI, UAE

17-20 FEBRUARY 2018

Cemtech is proud to invite you to the latest edition of its Middle East & Africa conference and exhibition, taking place at the JW Marriott Marquis, Dubai, UAE, on 17-20 February 2018.

Organised by *International Cement Review* and with the kind support of the Arab Union for Cement & Building Materials (AUCBM), Cemtech MEA18 will bring together 250 cement professionals from 40 nations for this unmissable annual industry event.

Cemtech's agenda brings together technical and market specialists who will provide invaluable insights and essential know-how to support your commercial operations.

World experts in cement manufacturing technologies will gather to present and discuss 25 topical presentations covering the latest technologies and best practice in cement manufacturing. At this meeting, you will:

- Review the skills and technologies your business needs to remain competitive
- Learn new ways to operate your plants at maximum efficiency
- Discover new opportunities in the new technical forum on alternative fuels.

The technical programme will be supported by an international equipment exhibition featuring equipment suppliers alongside break-out sessions. Workshops will focus on sustainability topics and the full cement production process.

Exceptional hospitality includes lunches, evening receptions and the renowned Gala Dinner, as well as complimentary sightseeing tours for accompanying partners.

For more details, programme updates and registration, see:
www.Cemtech.com/MEA2018

INTERNATIONAL CEMENT CONFERENCE

Cemtech

PRODUCTION EXPERTISE - MANAGEMENT SKILLS

Join us for a three-day meeting in Dubai where you will be one of 250 cement sector professionals to:

- **Review both global and regional cement market trends and forecasts**
- **Access world-class technologies at our international equipment exhibition**
- **Meet industry experts and explore ways to optimise your plant**
- **Network with industry leaders and cement sector professionals from over 40 countries.**

Seminar: Enhancing the visual impact of cement plants

Cemtech MEA18 will include a special parallel session dedicated to the concept of industrial architecture and the role it can play in enhancing the visual impact of cement plants. Led by experienced architect Thierry Bogaert (France), the seminar will provide a framework for cement plant owners and operators to implement on-site measures to improve public image, working environment and practices.
Free to registered delegates

Focus on alternative fuels

New to Cemtech, this forum for alternative fuels will guide participants through the practical process of introducing alternative fuels to their plants, maximising utlisation rates and evaluating the range of technology options required for this increasingly important issue.
See the outline programme for more details

Cement manufacturing technology

Cemtech will also host a three-day technical workshop alongside the main conference at the JW Marriott Marquis, Dubai, UAE, on 18-20 February 2018. Participants of this classroom-based training course will advance their knowledge of the cement manufacturing process and learn practical techniques to increase plant efficiency according to best practice. Please note that this popular workshop is a separate fee-paying event. For more information and course contents please visit:
www.Cemtech.com/MEA2018/Workshop

JW Marriott Marquis

17-20 February 2018

VENUE & ACCOMMODATION

Cemtech MEA 2018 will be held at the superb JW Marriott Marquis in Dubai, one of the city's newest five-star hotels, conveniently situated just 20 minutes from Dubai International Airport. Located in two iconic towers in Business Bay on the Sheikh Zayed Road, the hotel offers exceptional amenities, an array of five bars and nine restaurants, as well as a world-class business conference centre.

DELEGATE FEES*

- Super early-bird delegate registration payment by 14 December 2017
  EUR 900 / USD 1045 / GBP 785
- Early-bird delegate registration payment by 17 January 2018
  EUR 1025 / USD 1195 / GBP 900
- Full rate from 18 January 2018
  EUR 1285 / USD 1495 / GBP 1125
- Book three or more delegates and save 10%. A further 5% can be saved by paying online via credit card:
  www.Cemtech.com/MEA2018

*Delegate fee includes all conference documentation, meals, receptions and Gala Dinner. Plant tour is included but subject to availability.

REGISTRATION DETAILS

- www.Cemtech.com/MEA2018
- Tel: +44 (0) 1306 740 363
- Fax: +44 (0) 1306 740 660
- email: info@Cemtech.com

Further details can be found on the website where you can book online and receive a generous discount.

EARLY-BIRD OFFER!

To qualify for the **Super early-bird** offer, register by 14 December 2017 and save **US$450** – *book now!*

Conference organised by

International Cement review

Supported by the AUCBM