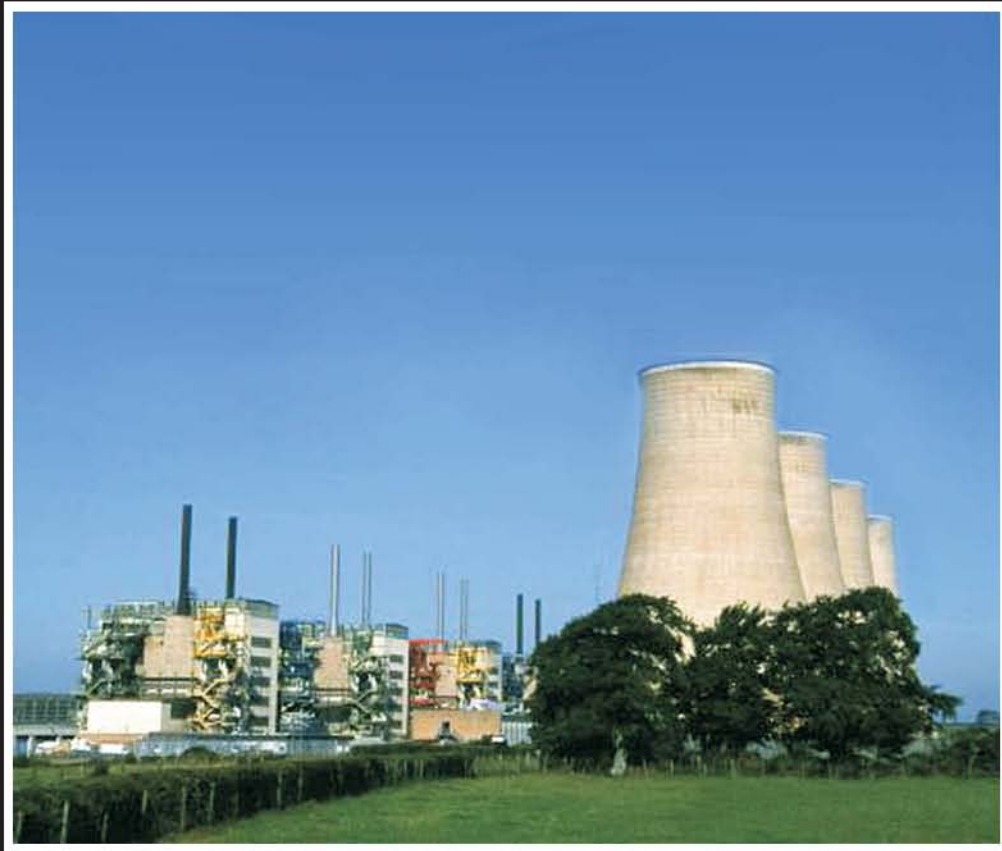




PARTH ENGINEERING PVT. LTD.

(Solution for Bulk Material Handling)



DYNAMIC AIRTM
Conveying Systems

1125 WILLOW LAKE BLVD., ST. PAUL, MN 55110 USA
www.dynamicair.com



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ABOUT US.



Parth Engineering Pvt. Ltd. is having association with Dynamic Air Inc. U.S.A. for pneumatic conveying technology those are world leader for there known-how. We introduce ourselves as team of young engineers engaged in dense phase pneumatic conveying system. We at Parth Engineering Pvt. Ltd always contemplate for providing best technology solution for pneumatic conveying system.



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ABOUT DYNAMIC AIR INC.

Dynamic Air was founded in 1969 in St. Paul, Minnesota, USA, the location of their Corporate Headquarters. Dynamic Air Inc. and its subsidiaries in Australia, Brazil, China, and England provide local manufacturing, sales, technical, and service support to customers and representatives worldwide.

Our primary objective is to provide our customers viable/suitable technical solutions through high quality reliable systems at a very



competitive price. Since our naissance, we are acknowledged as one of the most trusted and appreciated suppliers of Pneumatic Conveying Systems.

With vast exposure and experience of our Principals we got more strength in the field of technical proficiency and now are more committed to facilitate our customers with best possible solutions available for Bulk Material Handling.

Our system utilizes the best

available technology to achieve the optimum performance characteristics at the highest efficiencies.

Our systems provide the ultimate in reliability with capacities as low as a 100 kg per hour to over 400 tons per hour and distances exceeding 1500 Mtr. in length.

Our associate developed 16 different pneumatic conveying concepts, utilizing both pressure and vacuum for handling a wide variety of dry bulk solids and process applications.



At the time when environmental protection is a major industrial and social consideration, the Parth Engineering Pvt. Ltd. method of pneumatic conveying by totally enclosed handling systems, is particularly amenable to the environment. All conventional problems of spillage, dust, contamination and storage are successfully and efficiently eradicated. We care about cleanness of the environment around us.



OUR CAPABILITIES

We in our organization believe in enhancing our technological skills by the inputs of our clients and always put our efforts in continuous improvement and advancements. We offer our services for the customer oriented custom built Design, Engineering, manufacturing, supply, erection, testing & commissioning of Dense Phase Pneumatic Conveying System and STORAGE SILO.



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WE PROVIDE COMPLETE SYSTEMS.



Any truly high performance system is more than hardware. Dynamic Air is a world leader in dense phase pneumatic conveying because of our people and the expertise we can bring solution to your material handling design problem.

We are listeners first and foremost. We never walk into a client's plant with standardized plans in our back pockets and off-the-shelf "compromise" solutions. Instead, we merge our bulk handling expertise with your unique process knowledge to design a custom system for your application

WE HAVE A FULLY EQUIPPED TESTING LABORATORY

If you have a new material that must be tested or if our knowledge of your material is limited, we will test your special material in our full-scale test facility.

In our testing lab, we determine convey ability, material-to-air ratios, material velocities, hygroscopic effects, build-up tendencies, dust collector requirements, degradation, segregation, filling times, conveying times, optimum conveying pressures, air volumes, aerated bulk densities and any other test data that might be required. Little is left in doubt.

- Energy and labor efficient*
- More reliable, because of our Air Booster assembly.*
- Flexible to design in tight plant environments.*
- Easy to install with minimum disruption to existing plant production.*
- Environment friendly.*
- Fewer moving parts.*
- Initial investment costs Lower*
- Maintenance cost low*



Gentle handling of heavy abrasive and non-abrasive materials that cannot tolerate degradation. For many fragile crystalline and granular materials there is no finer material handling process. Sixteen Different Pneumatic Conveying Concepts can offer a more gentle treatment of system components as well. Because of lower velocities, system wear and related breakdowns are minimized.

TYPICAL MATERIALS CONVEYED ARE.



Alumina, aluminum oxide, baby formula, ball clay, barite, bauxite, bentonite, borax, calcium carbonate, calcium chloride, carbon black, cement, roasted coffee beans, green coffee beans, cullet, detergent, feldspar, fine coal, flour, fluor spar, fly ash, foundry molding sand, glass batch, glass beads, ground meal, gypsum, iron oxide, kaolin clay, kyanite, lime, litharge, magnesium, milk powder,

peanuts, PVC resin, quartz, roofing granules, salt, silica sand, soda ash, sodium sulfate, steel chips, sulfur, sugar, talc, titanium dioxide and more.

Pneumatic Conveying may be understood as conveying the solids of any kind of material like cement particles, Limestone powder, Fly Ash Particles, Gypsum, or any non diluted solid particle with some bulk density above 25 Kg/M³ from one place to another place through pipe lines by flowing certain amount of Air Pressure depending upon the Bulk Density of Particles.

With Pneumatic Conveying Technology material can be transported from a hopper or any other originated medium up to silo or any other destination located at a considerable distance through a totally closed automated system. There is minimum possibility of dust generation to the open atmosphere resulting to convey of any hazardous material. Through totally enclosed system wide range of material can be transported to any designated location in powder or granular form. A widely used example of Pneumatic Conveying System is Pneumatic Ash Handling system in which Ash (waste burnt material generated from firing of fuel like Bagasse, Coal or Rice Husk) is being conveyed from Boiler outlet point to a silo without touching the material and safely unloaded to a vehicle for disposal as the burning temperature of the material is very high and very difficult to convey through traditional ways like screw conveyor or any other system open to atmosphere as it generates lots of dust and is unhygienic to human body. In pneumatic conveying system material is being conveyed through various pipelines laid vertically or horizontally and the flow of material can be controlled through automated systems controlled through Microprocessor based PLC centers.

In Pneumatic conveying material can be conveyed by two ways of flow-

A. Dilute Phase: *Any material can be conveyed in dilute phase conveying irrespective of any size or density of the particle. In dilute phase conveying velocity of particle to be conveyed should be very high resulting to very high consumption of power. Also in case of dilute phase conveying the particle flows in close contact with the pipeline walls and there are very high chances of erosion of pipelines and bend walls.*

B. Dense Phase Conveying: *In dense phase conveying mode material can be transported. One way of conveying of material is moving bed flow in which material is conveyed in bank on the bottom of the conveying lines.*

Another way of conveying of material in dense phase is Plug type flow in which the material is separated by flow of air.

- ❖ Proven reliability and safety.
- ❖ Greatly reduced pipe wear and system. Maintenance due to lower conveying velocities.
- ❖ Reduced installation costs due to smaller pipes and filtration equipment
- ❖ Low maintenance cost because of system, Simplicity, reliability and availability.
- ❖ Very low spare parts inventory and use.
- ❖ Reduced life time operating costs through:

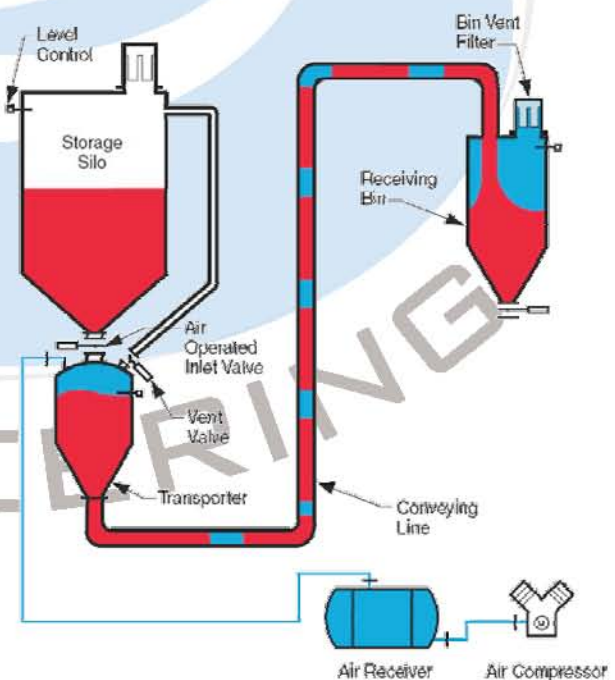
Low energy costs directly related to the plant operation. Energy is only consumed in proportion to the amount of material being conveyed and distances to be transported.

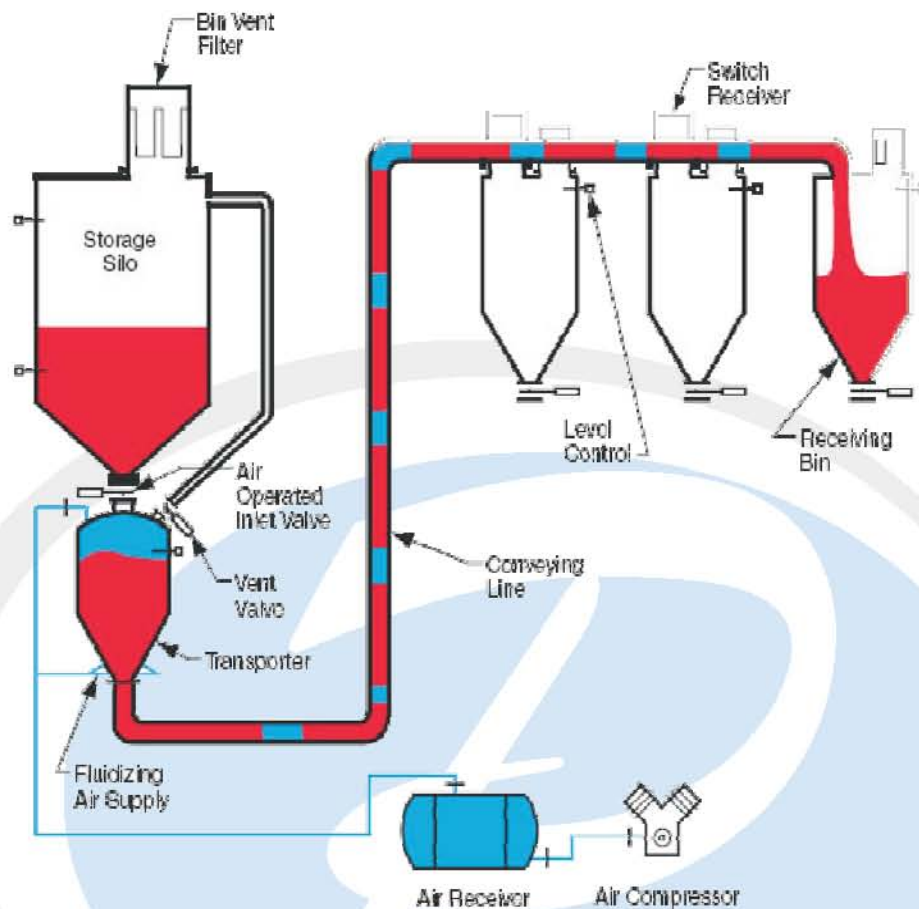
Automated logic control systems to minimizes operator direct involvement with the plant.

HDP 1000 BRUTE FORCE CONCEPT

Dense Phase Pressure System The HDP 1000 Brute Force Concept Pressure Conveying System is a dense phase, high pressure, low to medium velocity, batch conveying system. It is generally used for conveying medium to high density, heat sensitive, semi-abrasive and/or abrasive materials over shorter distances. Examples include silica sand, plastic pellets, salt, quartz, whole grain, corn, oats and barley. Typical conveying velocities are generally about 1000 feet per minute (5 m/sec) and the conveying pressure up to 60 PSIG (4 barg).

A pressure vessel is used to feed material into the Conveying line and the air supply, up to 100 PSIG (7 barg), is supplied from a high pressure air compressor





Dense Phase Pressure System

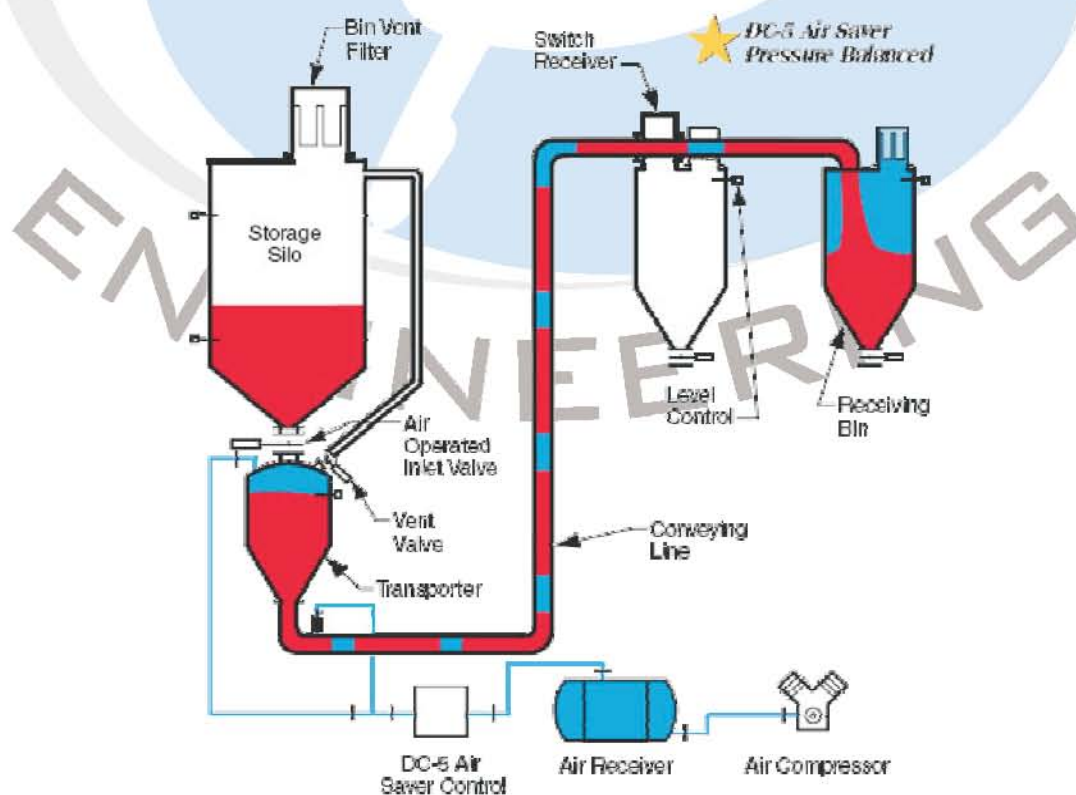
The HDP 2000 Fluidizing Concept Pressure Conveying System is a dense phase, medium to high pressure, low to medium velocity, batch conveying system. It is generally used for conveying medium to high density, heat sensitive, semi-abrasive and/or abrasive materials under 100 mesh particle sizes. Examples include bentonite, cement, starch, silica flour, ball clay, kaolin clay, and alumina. Typical conveying velocities are generally in the range of 1000 to 5000 feet per minute (5 m to 25 m/sec) and the conveying pressure up to 60 PSIG (4 barg). A fluidizing type pressure vessel is used to feed material into the conveying line and the air supply, up to 100 PSIG (7 barg), is supplied from a high pressure air compressor.

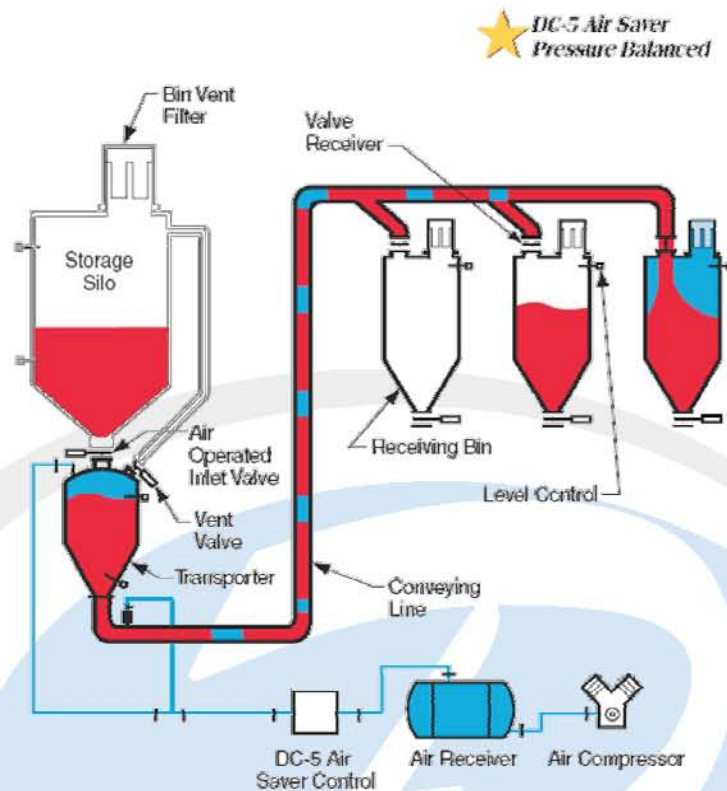
Dense Phase Pressure System

The HDP 3000 Conventional Concept Pressure Conveying System is a dense phase, medium to high pressure, low to medium velocity batch type conveying system. It is generally used for conveying high to medium density, heat sensitive, semi-abrasive and/or very abrasive, cohesive and/or very fragile materials in almost any particle size range. Examples include silica sand, glass batch, granulated sugar, powdered sugar, plastic pellets, bentonite, cement, starch, silica flour, ball clay, kaolin clay, zinc oxide and alumina.

Typical conveying velocities are generally in the range of 100 to 1000 feet per minute (0.5 m to 5 m/sec) and the conveying pressure up to 100 PSIG (7 barg) pressure.

This concept uses a non-fluidizing type pressure vessel to feed material into the conveying line at maximum density and utilizes DC-5 Air Saver technology to minimize and optimize the high pressure air which is supplied by a high pressure - up to 100 PSIG (7 barg) air compressor.





Dense Phase Pressure System

The HDP 4000 Full Line Concept Pressure Conveying System is a dense phase, medium to high pressure, low to medium velocity, batch type conveying system. It is generally used for conveying medium to high density, heat sensitive, semi-abrasive and/or very abrasive, cohesive, and/or very fragile materials in almost any particle size range over long distances. Examples include silica sand, glass batch, granulated sugar, powdered sugar, finished breakfast cereal, coffee beans, plastic pellets, bentonite, cement, starch, silica flour, ball clay, kaolin clay, zinc oxide and alumina.

Typical conveying velocities are generally in the range of 100 to 1000 feet per minute (0.5 m to 5 m/sec) and the conveying pressure up to 100 PSIG (7 barg).

This concept uses a single, non-fluidizing type pressure vessel to feed material into the conveying line at maximum density. DC-5 Air Saver technology is used to minimize and optimize the high pressure air which is supplied by a high pressure - up to 100 PSIG (7 barg) - air compressor. This concept does not need diverter valves but uses valve receivers which provide a distinct maintenance advantage as they are located on the silo tops for easy access.

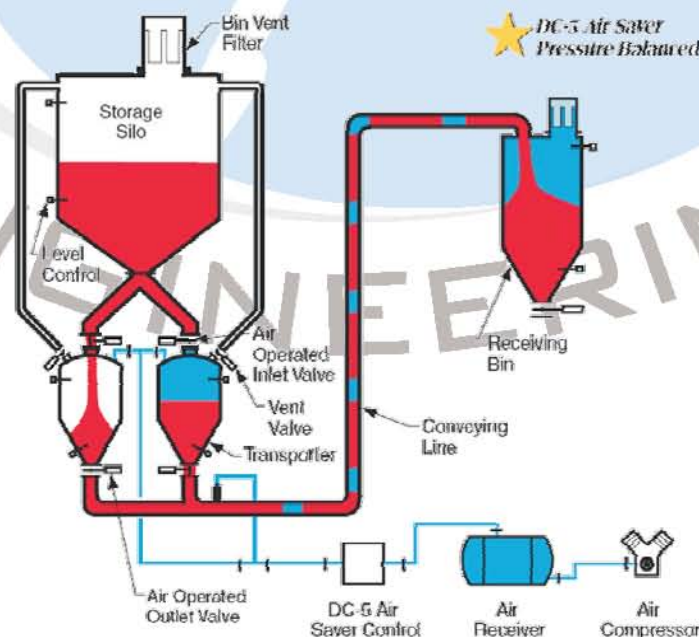
Continuous Dense Phase Pressure System

The HDP 5000 Full Line Concept Continuous Pressure Conveying System is a dense phase, medium to high pressure, very low to medium velocity, continuous conveying system. It is generally used for conveying medium to high density, heat sensitive, semi-abrasive and/or very abrasive, cohesive, and/or very fragile materials in almost any particle size range over long distances. Examples include finished laundry detergent

Silica sand, glass batch granulated sugar, powdered sugar, finished breakfast cereal, coffee beans, plastic pellets, bentonite, cement, starch, silica flour, ball clay, kaolin clay, zinc oxide, pelletized carbon black and alumina.

Typical conveying velocities are generally in the range of 100 to 1000 feet per minute (0.5 m to 5 m/sec) and the conveying pressure up to 100 PSIG (7 barg).

This concept uses two non-fluidizing type pressure vessels which operate alternately to feed material into the conveying line at maximum density. DC-5 Air Saver technology is used to minimize and optimize the high pressure air which is supplied by a high pressure - up to 100 PSIG (7 barg) - air compressor.





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PNEUMATIC SYSTEM COMPONENTS



*Modu-Kleen® Modular
Type Bin Vent Filter,
Series 669*



*Quik-Vent® Pressure
Relief Valve, Series 684*



Transporter, 45 degree



Mini-Transporter



*Modu-Kleen® Bag Type
Bin Vent Filter, Series 250*



*Blendcon® Silo Blending
Head, 10-port, Series 618*



DC-5™ Air Saver Control



Transporter, 60 degree



*Long Radius Ceramic
Lined Tubing Bend*



*Blendcon® Silo Blending
Head, 16-port, Series 685*



Valve Receiver, Series 412



*Inflatable Seated Knife
Gate Valve, Series 476*



*Posi-plate® Inflatable
Seated Butterfly Valve*



End Receiver, Series 106



*90 Degree Diverter,
Series 237*



*45 Degree Diverter,
Series 345*



*Expansion Joint,
Model 15*



*Plain, Hard Iron and
Ceramic Tubing Bends/
Elbows*



*15 Degree 3-Way Switch,
Series 417*



PLC Control Panel



Pipe Couplings



*Vibra-Jet® Bin Aerator,
Series 264 Model D and
Series 683 Model K*



Bella™ Portable Mixer



Bella™ Continuous Mixer



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SOLUTION FOR BULK MATERIAL HANDLING

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