Bulk Solids Handling & Processing Technology

General Catalogue

WAM®

WAMGROUP®
CORPORATE PHILOSOPHY

WAMGROUP® aims for worldwide leadership in the supply of equipment for Bulk Solids Handling, Waste Water Treatment and Renewable Energy Generation.

Vision & Mission

WAMGROUP® regards honesty and fairness as cornerstones in its relationship with customers, suppliers, business partners, stakeholders and employees.

WAMGROUP® intends to be innovative in the development, industrial manufacturing and distribution of market-oriented equipment through specialised distribution channels.

WAMGROUP® is determined to supply the most comprehensive range of equipment available to deliver the one-stop-solution in the area of Bulk Solids Handling, Air Filtration, Mixing, Waste Water & Sludge Treatment, Renewable Energy Generation and Vibration Technology.

WAMGROUP® will always do its best to offer any customer in any place in the world the highest possible quality product and service at the most competitive price.
CORPORATE PROFILE

At WAMGROUP® we believe that our people are our greatest asset. Thanks to men and women who dedicate their talents and their energy to the Group’s growth, in more than four decades what began as a small workshop has grown into a global player.

Creative & Responsible Professionals

The multicultural profile of WAMGROUP® means we are able to build an international knowledge-based organisation of talented and qualified people motivated to bring their own ideas to the creative process. This combination of expertise and experience enables us to meet the challenges of tomorrow.
WAM Adria (Croatia)
WAM Argentina
WAM Australia
WAM Baltic (Estonia)
WAM B.H.M (Belgium)
WAM Chile
WAM do Brasil (Brazil)
WAM Egypt
WAM Engineering (UK)
WAM EurAsia (Turkey)
WAM Finland
WAM France
WAM France Environnement
WAM GmbH (Germany)
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WAM Holland
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WAM India
WAM Japan
WAM Korea (South Korea)
WAM Latin (USA)
WAM Malaysia
WAM Middle East (U.A.E.)
WAM Maroc (Morocco)
WAM Mexico
WAM Moscow (Russia)
WAM M.H.E. (New Zealand)
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WAM Romania
WAM Scandinavia (Denmark)
WAM Shanghai (P.R.C.)
WAM Shanghai Trading (P.R.C.)
WAM Singapore
WAM South Africa
WAM Spain
WAM Thailand
WAM Ukraine
WAM Vietnam
WAM Wuxi (P.R.C.)
EMT (Germany)
OLI France
OLI GmbH (Germany)
OLI Makina (Turkey)
OLI Vibra Nordic (Sweden)
OLI Romania
OLI South Africa
OLI Spain
OLI Vibra (Malta)
OLI Vibrator (USA)
OLI Vibrators (Australia)
OLI Wolong (P.R.C)
SILOFAB (Romania)
SPECO Hidrotechnológia (Spain)
SPECO LatinoAmerica (Chile)
TECNO CM Romania
TOREX Malta
PRODUCT RANGE

Bulk Solids Conveying  
7 - 8

Bulk Solids Discharging  
9

Bulk Solids Feeding & Metering  
10

Bulk Solids Flow Interception  
11

Air Filtration  
12 - 13

Pneumatic Conveying  
14 - 16

Silo Safety Components  
17 - 18

Waste Water & Sludge Treatment  
19 - 20

Mixing-Conditioning-Agglomerating-Granulating  
21 - 23
Screw conveyors are used in many industries to transport and distribute lowable bulk solids materials. With certain modifications and/or variations in the mechanical arrangement, screws may also be used to mix, blend, or agitate. Current U.S. industry standards cover 6", 9", 12", 14", 16", 18", 20" and 24" diameter conveyor sizes with U-trough. Standard shaft sizes are 1-1/2", 2", 2-7/16", 3" and 3-7/16" diameters, with 2-bolt drilling. While other screw sizes, shaft diameters and V-trough (flared) housings are available, there are no established industry standards.

### CEMA Type Screw Conveyors

6 inch to 24 inch diameter / 4 cfm - 53 cfm

### Tubular Screw Feeders

WAM Screw Conveyors and Feeders are manufactured in carbon steel, stainless steel and mild steel with a suitable surface finishing. They are made up from a tubular trough that is equipped with at least one inlet and outlet spout, a welded flange at each tube end, helicoid screw flighting welded on a centre pipe with a coupling bush at each end, two end bearing assemblies complete with self-adjusting shaft sealing unit, a number of intermediate hanger bearings depending on the overall length of the screw conveyor. Furthermore, WAM Tubular Screw Conveyors are equipped with a gear motor that suits the application.

6 inch to 24 inch diameter / 4.4 cfm - 110 cfm

### Shaftless Spiral Conveyors

WAM Shaftless Screw or Spiral Conveyor is an alternative concept to the traditional shafted screw conveyor. Material is conveyed by an extra-heavy-duty shaftless screw that slides on a low-friction, wear-resistant liner inside the conveyor trough housing. The U-troughs, which are longitudinally divided, are manufactured in carbon steel or in 304 L / 316 L stainless steel, including an appropriate surface treatment.

6 inch to 24 inch diameter / at 0 deg. 0.7 cfm - 21 cfm
WAM Vertical shafted and shaftless Screw Lift System consists of a Horizontal Screw Feeder and a Vertical Screw Conveyor. The Horizontal Screw Feeder, which may feed material from a silo or hopper or simply convey it being fed by an upstream feeding device, consists of a U-shape or tubular trough in carbon steel with appropriate surface finishing. The Horizontal Screw Feeder is equipped with one or more intermediate hanger bearings should its overall length require any. Furthermore, it is equipped with a drive unit suitable for the application.

6 inch to 24 inch diameter / $Q_{\text{max}} = 56$ cfm

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WAM Bucket Elevators has been specifically developed for vertical elevation of calcium carbonate, lime, limestone, sludge, sand and similar dry, powdery, non-abrasive, non-packing materials that have a particle size between 0.04 and 0.1 inch and a slide angle of less than 40 degrees. Bucket Elevators are manufactured from extra-thick, hot galvanised carbon steel and stainless steel.

$Q_{\text{max}} = \text{max. } 300$ cfm

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MU Live Bin Bottoms are equipped with a modular trough which encloses up to 6 shafted helicoid flight or paddle screws, flanged external, fully protected end bearing assemblies complete with manually adjustable packing gland and shaft seal, a rectangular outlet spout covering the entire width of the unit, bolted end plates, splined shaft couplings for medium-heavy-duty, flanged shaft couplings for heavy-duty version. They are manufactured in stainless steel and mild steel.

6 inch to 24 inch diameter
The BA Bin Discharger is a device of tapered conical shape that due to vibration facilitates material flow from hoppers or silos. It consists of a seamless carbon or stainless steel cone manufactured on a sheet metal lathe, a seamless SINT™ engineering polymer seal with integrated upper and lower flange, suspensions for connection of the Bin Discharger with the silo, as well as one or two electric vibrators.

\[ Q_{\text{nom.}} = 16 \text{ in} \sim 10 \text{ ft} / Q = 3 \sim 190 \text{ cfm} \]

BELLOJET™ Loading Spouts are suitable for continuous loading at a maximum flow rate of 147 cfm of bulk material. BELLOJET™ Loading Spouts come with a dust collector integrated in the upper head, equipped with a 3HP fan which increases the efficiency of the filtering elements. At the lower end BELLOJET™ Loading Spouts are equipped with a sealing cone for tanker loading (ZA version) or a barrier skirt for open truck loading (ZC version) to prevent dust emission.

\[ Q \leq 150 \text{ cfm} / \text{Stroke} \leq 15 \text{ ft} \]
Micro-Batch Feeders with Agitator

The MBF Micro-Batch Feeder for continuous volumetric feeding of powdery or granular materials consists of a steel-reinforced SINT™ engineering polymer body (optionally body entirely manufactured in stainless steel), a horizontally mounted rotating agitator tool, a feeder screw beneath the agitator tool, a feeder pipe enclosing the protruding feeder screw, one drive unit each for agitator and feeder screw. MBF series Micro-Batch Feeders are supplied in food-grade versions with FDA-approval on request.

Q = 0.18 ~ 2.33 cfm

Screw Feeders with Agitator

DO Screw Feeders are mild steel and SS-type Screw Feeders which are equipped with an additional inlet hopper including an agitator tool for better material discharge into the feeder inlet.

Ø = 4½” ~ 9” / Prevention of bridging

Drop-Through Rotary Valves

RV Drop-Through Rotary Valves with square inlet and RVR with a circular inlet consist of a tubular cast iron or stainless steel casing, a horizontally mounted rotor with a certain number of V-shaped cross section compartments, a drive unit and a casing cover opposite the drive end.

Q_{nom.} = 2 – 5 – 10 – 20 litres per revolution / ATEX zone 22
BULK SOLIDS FLOW INTERCEPTION

Butterfly Valves

VFS Butterfly Valves consist of two high-pressure die-cast semi-bodies manufactured from aluminium alloy, a swivel disc in SINT™ polymer composite or cast iron, and a pre-stressed elastomer seal. For the food industry a version with stainless steel disc and an FDA-approved integral seal is available.

Ø nom. = 4” ~ 16” / Max. pressure: 3 psi

SINT™ Slide Gates

VL-type Slide Valves consist of a two piece carbon or stainless steel frame, which is partly coated with WAM®’s unique SINT™ engineering polymer composite, and a sliding blade manufactured either in the same material or in carbon or stainless steel. The use of SINT™ engineering polymer composites considerably increases resistance to abrasion compared to traditional valves.

☐ nom. = 6” ~ 16” / Ø nom. = 6” ~ 16” / □ nom. = 12”

Valve Actuators

Actuators are mainly used for WAM® Valves, although application to other makes and types of equipment, such as diverter valves, dampers and valves for liquids, is possible.

Compatible with all WAMGROUP® valves
SILOTOP™ is a cylindrically shaped dust collector for venting of pneumatically filled silos. The stainless steel body contains vertically mounted, POLYPLEAT™ filter elements. The air jet cleaning system is integrated in the hinged weather protection cover. Dust separated from the air flow by special POLYPLEAT™ filter elements drops back into the silo after an integrated automatic reverse air jet cleaning system inside the weather protection cover has removed it from the filter elements.

Filtration surface area: 264 sq ft / Air volume: 1,120 cfm

WAMFLO™ Dust Collectors are equipped with a cylindrical shape stainless steel body with flanged connection that contains vertically mounted POLYPLEAT™ filter elements. The air jet cleaning system is integrated in the top cover. WAMFLO™ Dust Collectors are available with or without suction fan.

Filtration surface area: 11-517 sq ft / Air volume: 35-2,650 cfm

WAMFLO™ Front is with large access door for removal of filter elements from dirty side.

Filtration surface area: 11-517 sq ft / Air volume: 35-2,650 cfm
WAMAIR™ Dust Collectors consist of a polygonal shape 304 stainless steel casing, horizontally or vertically inserted filter elements, and a reverse air jet cleaning system integrated in the hinged access door. WAMAIR™ Dust Collectors are either built in for venting applications or come as a stand-alone unit with dust collecting hopper. For suction, versions with an integrated fan are available.

**Filtration surface area: 32-853 sq ft / Air volume: 147-3,830 cfm**

**DRYBATCH™**

The polygonal shape DRYBATCH™ R01 Dust Collector is equipped with horizontally mounted filter elements, a compressed air jet cleaning system integrated in the access door and a suction fan. The DRYBATCH™ R01 Dust Collector has been specially designed for dust collection from the truck mixer inlet zone in dry batch plants during filling of the truck mixer.

**Filtration surface area: 581 sq ft / Air volume: 3,535 cfm**

**HOPPERJET™**

HOPPERJET™ is a small footprint venting filter for installation on intermediate storage hoppers or weigh hoppers. Dust which is separated from the air flow by a single POLYPLEAT™ or bag-type filter element drops back into the hopper after an integrated automatic reverse air jet cleaning system inside the weather protection cover has removed the dust particles from the filter elements.

**Filtration surface area: 5.4 / 21.5 sq ft / Air volume: 29 ~ 117 cfm**

**HOPPERTOP™**

HOPPERTOP™ is a small cylindrical venting filter specifically for installation on weigh hoppers in concrete batching plants. Dust which is separated from the air flow by a single WAM® cartridge filter element drops back into the hopper after an integrated automatic reverse air jet cleaning system inside the weather protection cover has removed the dust particles from the filter elements.

**Filtration surface area: 10.8 sq ft / Dust emission: < 10 mg/Nm³**
**Wide Radius Anti-Wear Elbows**

EXTRACURVE™ is a wide radius Pipe Elbow that is inserted as a link in pneumatic conveying ducts. The elastic Pipe Elbow is a one-piece SINT™ engineering polymer cast with a helicoid spring core. Its great flexibility and excellent resistance to wear result in doubling of the durability as the Elbow can be simply mounted in reverse position as soon as it shows any signs of wear.

Ø = 2” – 3” – 4” r = 3 ft / Flexible spring core SINT™ design

**Anti-Wear Elbows**

EXTRABEND™ is a short radius Pipe Elbow that is inserted as a link in pneumatic conveying ducts. The Pipe Elbow is a one-piece SINT™ engineering polymer cast. Its special geometry enables the diversion of the conveyed material at minimum wear due to a dead zone at the point of diversion.

Ø = 2” – 3” – 4” / Anti-wear SINT™ design

**Drum-Type Diverter Valves**

The VAR Diverter Valve consists of a cast aluminium casing and cover, an inlet and two outlets. The rotating internal drum optionally closes one of two outlets which are connected with pneumatic conveying ducts. The rotation of the internal drum is activated by means of a pneumatic actuator. Perfect sealing is guaranteed by internal pneumatically inflatable seals. VAR Diverter Valves are suitable for conveying any type of powdery or granular material.

Ø nom. = 3” – 4” – 5” – 6” – 7” – 8” / 51 psi max.
Flap Diverter Valves

The flap diverter valve uses a swinging flap to divert material from one duct to another. VAB Flap Diverter Valves are fitted on pneumatic conveying ducts whenever it is required to switch the flow of material to different production lines. Two-way flap type diverter valve, is designed to meet the pneumatic conveying industry’s requirement to re-route powder, pellets or granules from one discharge point to another with minimum pressure drop and high sealing efficiencies.

\[ \text{nom.} = 2.5\text{”} - 3\text{”} - 4\text{”} - 5\text{”} - 6\text{”} - 7\text{”} - 8\text{”} / 30 \text{ psi max.} \]

Diverter Valves for Pneumatic Conveying

VAD Diverter Valves consist of an aluminium die-cast casing and a swivel flap that closes one duct or the other. The range suits common pipe standards used for pneumatic conveying. Internal sealing of the body is achieved through low friction gaskets. Surface treatment is available to make the valves suitable for operation with different materials.

\[ \text{nom.} = 2\text{”} - 3\text{”} - 4\text{”} / 360 \text{ psi max.} \]

VM

The body of the VM Pinch Valve is manufactured in aluminium alloy. The sleeves are made from fabric-reinforced material. The sleeve support bushes are either made from aluminium alloy, hardened carbon steel, or 304/316 stainless steel. VM-type Pinch Valves are used for interception of the material flow in pneumatic conveying systems, or other pipelines. In addition, they can be installed as a locking device for silo filling pipes.

\[ \text{nom.} = 0.5\text{”} - 8\text{”} / \text{Sleeves in rubber, NBR or EPDM} \]
RVS Blow-Through Rotary Valves consist of a tubular cast iron or stainless steel casing, a horizontally mounted rotor with a certain number of oblique V-shaped cross section compartments, a drive unit and a casing cover at each end. Two compartments at a time of the continuously turning rotor are filled up with material through the inlet at the top of the Rotary Valve.

\[ Q_{\text{nom}} = 0.17 - 0.3 - 0.5 - 0.7 - 1.3 \text{ cu ft per revolution / ATEX zone 22} \]

Pipe Couplings

The GT Plain Pipe End Couplings consist of two cast iron semi-casings with heavy-duty jaws set into the casing halves to secure the pipes together in a safe, quick and rigid way. The two semi-casings are joined together by strong bolts and nuts positioned on the two ends. The sealing is assured by gaskets made from EPDM or food-grade SILICONE. GT Couplings are suitable for both mild steel and stainless steel pipes.

Operating pressure: min. -7.2 PSI / max. 101.5 PSI
ILT-type Bin Level Indicators have been designed for electric signalling by rotary action of minimum or maximum material level inside bins, hoppers or silos.

**ILT**

Multi-voltage / ATEX II 12 D (dustEx) certificate

ILS is a Continuous Level Measurement system for any kind of powdery or granular material stored in silos or containers. The feel weight of the ILS-system moves, microprocessor-controlled, down into the container. Upon impact on the bulk material it is pulled back to its upper stop position. By capturing the distance that the feel weight has moved the material level is measured.

**ILS**

Multi-voltage / ATEX II 12 D (dustEx) certificate

ILV-type Bin Level Indicators have been designed for electric signalling by vibration of a fork of minimum or maximum material level inside bins, hoppers or silos. The ILV device is used for level monitoring in all types of bins or silos and for all kinds of powders or granular materials.

**ILV**

Multi-voltage / ATEX II 12 D (dustEx) certificate
SILO SAFETY COMPONENTS

VCP

VCP Pressure Relief Valves consist of a cylindrical casing with a bottom flange to be connected with a spigot welded on the silo roof, a disc shape inner steel lid for negative pressure operation held in position by a central spring rod, an outside steel ring for excess pressure kept in position by three spring rods, gaskets, and a weather protection cover.

Excess pressure: 0.44 PSI – 1.16 PSI / Negative pressure: - 0.07 PSI – - 14.5 PSI

VHS

VHS Pressure Relief Valves consist of a cylindrically shaped metal body with clamp connection spigot to the silo, an exhaust outlet spout for duct connection, an elastic diaphragm able to re-establish pressure balance instantaneously, a counterweight kit to keep the Valve closed under normal conditions, and a weather protection cover.

Excess pressure: 0.44 PSI – 1.16 PSI / Negative pressure: - 0.07 PSI
WASTEMASTER™ GCP is designed for combined action of separation of solids present in the effluent, as well as compaction and dewatering of screened solids. It consists of a perforated screen basket, a conveyor screw and a compacting module. GCE is suitable for applications in which screenings do not need to or must not be compacted (e.g. plastic materials).

\[ Q = 63 \sim 635 \, \text{cfm} \]

**Grit Separators**

The GRITSEP™ Grit Separator DS consists of an inclined screw conveyor with a large volume hopper including a water inlet and outlet spout, a shaftless screw housed in a trough, a low friction anti-wear trough liner, a trough cover, an outlet spout for solid particles, and a drive unit mounted at the outlet end.

\[ Q_{\text{max.}} = 76 \, \text{cfm} \]

**Septic Tank Reception & Emptying Plants**

The WASTEMASTER™ TSB-1 Mechanical Effluent Pre-treatment Plant carries out up two different processes: separation of solids present in effluents and the compaction and de-watering of the extracted solids.

\[ Q = 32 \sim 64 \, \text{cfm} \]
The WASTEMASTER™ TSB-2/3 Combined Mechanical Effluent Pre-treatment Plant carries out up to three different processes: de-watering and compaction of screened solid waste, separation of sand and removal of floating greasy matter (TSB 3 only). The machine consists of a screen with a shaftless screw for solids extraction and a tank for the sedimentation of sand, as well as flotation for grease (TSB 3 only). In the bottom of the tank a shaftless screw is installed together with an oblique extracting screw for sand removal. The TSB 3 includes an additional scraping system for the removal of grease and floating matter in general.

\[ Q_{\text{max.}} = 320 \, \text{cfm} \]

Screw Separators

SEPCOM™ is a machine composed by a feed device (feeding hopper or a compensator tank depending on whether the material is conveyed mechanically or pumped), a separator casing including a screw conveyor and a cylindrical screen, a compacted solid material outlet module and one or two separated liquid outlets. The drive unit and the basement complete the machine.

\[ Q_{\text{max.}} = 38 \, \text{cfm} \]
WBHV

WBH Horizontal Single Shaft Batch Mixers consist of a mixing drum vessel with an inlet, an outlet with discharge valve and a venting spout, a mixing shaft, two drum closing end plates that carry flanged end bearing assemblies complete with integrated adjustable shaft sealing unit, and a drive unit complete with power transmission. Ploughshare or inclined blade-type shovel tools rotate as mixing tools in a special arrangement on the mixer shaft in a horizontal, cylindrical drum. The result is a turbulence in the mix that constantly involves all the product particles in the mixing process.

Range: from 2.6 to 882 cu ft / Mixing Capacity: from 2 to 20 batches/h

WAHV

WAH Continuous Horizontal Single Shaft Mixers consist of a cylindrical mixing drum vessel with an inlet, an outlet at the opposite end and a venting spout, a mixing shaft, two drum closing end plates that carry flanged end bearing assemblies complete with integrated adjustable shaft sealing unit, and a drive unit complete with power transmission.

Range: from 2.6 to 882 cu ft / Mixing Time: from 25 to 60 sec

WBN

Batch-type WBN Ribbon Blenders consist of a horizontal, single shaft double counter-pitch ribbon screw housed in a tubular mixing drum, a central inlet or a rectangular shape inlet port across the entire length of the mixing drum, an outlet with central discharge port, a venting spout, two drum closing end plates that carry flanged end bearing assemblies complete with integrated adjustable shaft sealing unit, and a drive unit complete with power transmission.

Q = 2.6 – 530 cu ft / Mixing Time: 5-15 min.
MLH

MLH is a Laboratory Batch Mixer suitable for applications in the pharmaceutical, food, chemical, biochemical, and powder metallurgy industry. The MLH consists of stand-alone drive unit with incorporated frequency inverter, an easily replaceable horizontal mixing shaft supported at the drive end only, and an easily replaceable, tolto revolving mixing vessel complete with inlet/outlet. The quick change of drum size combined with a rich basic equipment package ensures the use for a variety of applications.

\[ Q = 122 \sim 730 \text{ cu in} \]

DUSTFIX™

The DUSTFIX™ Dust Conditioner consists of a carbon steel tubular casing with SINT™ engineering polymer liner, a combined feeder screw/mixing shaft entirely manufactured in SINT™ engineering polymer, one vertical inlet and a flush outlet in SINT™, a liquid supply point in the conditioning section, a drive unit with integrated adjustable shaft sealing unit.

\[ Q_{\text{max.}} = 5 \sim 21 \text{ cfm} \]

MESC

MESC-type Twin Shaft Paddle Mixers (MESC-UM as conditioner with liquid injection) are equipped with two parallel counter-rotating intermeshing paddle shafts. The adjustable angle of inclination of the mixing paddles allows perfect adaptation to the different characteristics of the materials and to the requirements of the mixing process.

\[ Q_{\text{max.}} = 1.8 \sim 47 \text{ cfm} \]
The WTS Twin Shaft Paddle Mixer is a Batch Mixer with two parallel drums each with counter-rotating shafts that are equipped with paddles fixed at a pre-determined angle.

Q = 4.2 ~ 127 cu ft

WETMIX™ V05 is a continuous modular building site mixer for dry premixed mortar which can be easily handled by one person only. The mixer is gravity flood-fed by a silo or hopper. Instead of a tubular carbon steel casing, with this model, the SINT™ engineering polymer mixing chamber is externally supported by four carbon steel bars which makes the complete mixer lighter and easier to handle.

1.4 – 2.1 – 3.5 cfm / High degree of self-cleaning