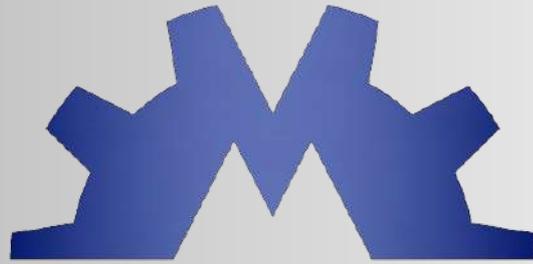


BULK MATERIAL HANDLING AND ONLINE DYNAMIC WEIGHING



MacDev

ENABLING DYNAMIC WEIGHING

**CONVEY...
WEIGH...
PROCESS...**



MACDEV ENGINEERING SOLUTIONS

INDUSTRIAL DYNAMIC WEIGHING & POWDER HANDLING- VACUUM



WHO WE ARE

MacDev Engineering Solutions is engaged in design , manufacturing and providing services for complete range of Industrial dynamic feeding systems and technologically advanced powder handling system with vacuum technology.

Incepted in 2019 with skilled and solution driven for large variety of Powder handling and bulk material feeding solutions.

We cater to various heavy industries and geographical locations like mining, quarry plants, steel factories, coal yards, stone crushing, power plants, cement plants, food grain mills and processing plants, chemical factories , fertilizer mills, consumer goods and counting ...

We provide customized solutions to cater each and every customer's unique requirement through our 10+ years of experience and daily evolving practice. By keeping necessary stocks, we make sure your minimum downtime in production with impromptu service enabling your process running.

MacDev ensures that all its products meet all environment and statutory regulations with necessary ongoing approvals such as **Model approval, Govt.of India, Weights and measures approval and self test and performance certificates** of equipment.

Our selected equipment has solution for remote monitoring of bulk material flow monitoring systems through our cloud based application

MACDEV is a socially responsible company aim to create a healthy environment for our employees and work together in the best of interest of our valued customers and try to make social impact with our extra curricular activities.

VISION AND MISSION

- *INDIGENOUS DESIGN AND DEVELOPMENT*
- *SOLUTION ORIENTED APPROACH*
- *BEST PRODUCT AND SERVICE DELIVERY*
- *COST BENIFIT SHARING*
- *ENHANCE MARKET SHARE*
- *ENCOURAGE BETTER WORK ENVIRONMENT*
- *BEST IN CLASS CUSTOMER EXPERIENCE*

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POWDER TRANSFER SYSTEM - VACUUM



MacDev make **MDVT** series of vacuum transfer system are technologically advanced and new age bulk material mode of transfer allowing hassle free powder handling and conveying capability.

Powder conveying and line of components are specifically designed with cleanability as well as product operator's safety in mind.

Powder conveyors dense phase type are designed to convey wide variety of powders. Designed with ease of disassembly, they are available as standalone units as well as integrated packages for the automated refill storage bin or silo. Complete systems packages are also available for conveying pickup options from super sacks, drums, boxes.

POWDER TRANSFER SYSTEM BODY SS



PTS METHODOLOGY



POWDER TRANSFER SYSTEM MS



PANEL

technical specifications:

- Power supply 415 V / 50 Hz AC
- Operating Temp. range - up to 80°C
- Flow material- Powder, Granule, Grains, any flowable material
- Typical Capacity 20 Kg -5000 Kg/Hour
- Typical Lift height- up to 20 m
- Vacuum up to 730 mm Hg achieved with special vacuum pumps
- Accuracy $\pm 2\%$ RO

Salient Features :

- Use of latest technology in powder transfer
- Zero mechanical moving parts ensures least maintenance
- Spill free, dust free, environment friendly
- Homogenous material transfer
- Reduces material wastage
- Various flow rate can be achieved in same system
- Useful with big big unloading systems
- Contact free transfer

100% customisation available as per client design

SOLID FLOW METER / FEEDER

The MDSFM series Centripetal Flow meter from MacDev is a Solid-Particle Mass Flow Meter that is durable, accurate, maintenance-free, compact, and cost-effective.

It is unique and positioned to replace weigh belts, impact meters, loss in weight meters and static weigh scales, where accuracy, low maintenance, and zero drift is paramount.

Accuracy is not affected by changes in product elasticity, density, or shape. The meter offers a typical accuracy of $\pm 0.5\%$ of full-scale reading at calibrated flow rate and is repeatable within $\pm 0.25\%$. Calibration and installation are simple to perform.

Handling flow rates from 200 kg/h to 5000 t/h . Material density varies from puffed wheat to iron ore while fluidity ranges from fluidized powder such as fly ash to sluggish flowing materials such as lathe turnings.



SOLID FLOW METER

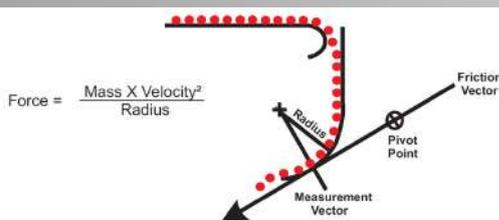
Totalizing applications include:

- On Line Batching
- Filling
- Inventory Control

The flow control output is a "real time" output that can govern the flow rate.

Controlling VFD Drive or a valve with an analog signal allows the operator to adjust variables in the process to keep flow at the required output.

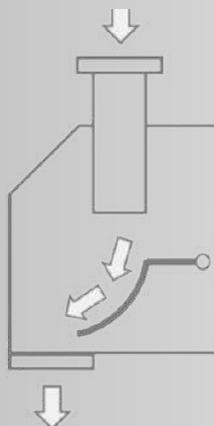
For example, the flow control application can allow the feeding of an extruder at a constant rate by controlling the flow rate through the rotary valve.



SFM METHODOLOGY AND WEIGHT INTEGRATOR

Technical specifications:

- Power supply 220 V / 50 Hz AC
- Operating Temp. range - up to 80°C
- Flow material- Powder, Granule, Grains, any free flowable material
- Typical Capacity 20 Kg -5000 T/Hour
- Method of flow - gravity flow
- Mirror polished measuring plate
- Centripetal type Solid Flow Meter
- Accuracy $\pm 1\%$ RO



Salient Features :

- Typical accuracy of $\pm 0.5\%$ FS
- Zero mechanical moving parts ensures least maintenance
- Direct vehicle loading eliminates the use of weigh bridges
- Equipped with latest communication protocol RS232, RS485 Modbus
- Reduces material wastage
- Auto self diagnosis features along with zero tracking
- Remote data access through cloud storage

100% customisation available as per client design

BELT WEIGH FEEDER



The MDBWF series Belt weigh feeder is unique system from MacDev that finds use in continuous bulk proportioning of solids and feeding at desired flow rate.

Our specially designed weigh feeder not only maintains the desired flow rate but also is robust enough to extract the material stored in Silos effectively.

To back up the above task, only the desired flow rate is to be set in our intelligent controller MDC6000 and rest is automatically detects and adjusts the belt speed through VFD during a situation of underload, overload and varying bulk density corresponding the set flow rate.

Mainly apply to bulk measurement in various industries such as power generation, coal industry, metallurgy, mining, harbor, chemical and building material industry and so on.

EXTRACTION AND PROPORTIONING BWF

Technical specifications:

- Power supply 415 V / 50 Hz AC
- Operating Temp. range - up to 80°C
- Flow material- Powder, Granule, Grains, any free/ sluggish flowable material
- Typical Capacity 500Kg -5000 T/Hour
- Life long lubricated bearing
- Balanced measuring rollers.
- Simple loadcell mounting

Salient Features :

- Typical accuracy of better than ± 0.5 % FS
- Simple and robust scale
- Heavy duty feeder structure with reputed instrumentation and electronics accessories
- Auto self diagnostics with auto zero tracking
- Automatic zero belt calibration process
- Integrated diagnostics with self testing functions
- Remote data access through cloud storage
- Simple installation and user friendly operation
- High precision strain gauge load cells with IP68 rating and C3 class



CONTROLLER AND LOGISTICS



ELECTRIC PANEL

- Easily replaceable controller
- Microprocessor set point based controller
- For belt speed sensing options for encoders/ proximity tacho is available
- Equipped with latest communication protocol RS232, RS485 Modbus
- Confirming to latest IP standards
- Modbus can be used to form small control system
- Remote data access through cloud storage

100% customisation available as per client design

CONVEYOR BELT WEIGHER SCALE



The MDBS series are high precision industrial belt scales in-motion weighing system used to monitor flow rate of material travelling over a conveyor belt of any length.

Our scales are retrofitted on any existing conveyor without making any modifications. It is an economical, reliable means of gathering material throughput in motion.



CONVEYOR



INTEGRATOR



LOADCELL MOUNTING



ROLLER AND IDLERS

Salient Features :

- Typical accuracy of better than $\pm 0.5-1\%$ FS
- Simple and robust scale
- Heavy duty feeder structure with reputed instrumentation and electronics accessories
- Auto self belt length diagnostics with auto zero tracking.
- Use of preceding and succeeding idlers for stable weight measurement
- Speed measurement tachometer generated pulse at very low to high speeds.

100% customisation available as per client design

APRON WEIGH FEEDER



The MDAWF series APRON weigh feeder are generally used as a primary or bin feeder application designed for varying applications, from light-duty to severe-duty, from low tonnage to high tonnage of material. They are the feeder of choice for reliability, high uptime and high returns on capital, and are designed for decades of service. Combined with a variable speed drive, these feeders provide the ultimate in flow control.

MacDev's aprons are used to feed material in a wide variety of material handling applications, from mining ores, aggregates, scrap/recycle material or any special material you have. They can handle small and large capacities from 10-6,000 tph and can withstand extreme impact loading. Apron Feeders deliver material at a uniform rate, allowing optimal feeding to downstream equipment. Due to their long service life with low-maintenance applications, Apron Feeders are a popular feeder choice.

Mainly apply to bulk measurement in various industries such as power generation, coal industry, metallurgy, mining, harbor, chemical and building material industry and so on.



APRON WEIGH FEEDER



APRON PAN

Salient Features :

Technical specifications:

- Power supply 415 V / 50 Hz AC
- Operating Temp. range - up to 80°C
- Flow material- Powder, Granule, Grains, any free/ sluggish flowable material, heated materials up to 200°C
- Typical Capacity 500Kg -10000 T/Hour
- Life long lubricated bearing
- Hardened sprockets and chain links for durable usage
- Roller chains with duplex construction
- Typical accuracy of better than ± 0.5 % FS
- Simple and robust scale
- Heavy duty feeder structure with reputed instrumentation and electronics accessories
- Auto self diagnostics with auto zero tracking
- Automatic zero belt calibration process
- Integrated diagnostics with self testing functions
- Simple installation and user friendly operation
- High precision strain gauge load cells with IP68 rating and C3 class
- Suspended 4 loadcell design.

100% customisation available as per client design

CHECK WEIGHING SYSTEM



The MDCWS check weighing conveyor system is used to do check weighing of the packaged commodities and accordingly reject the under weight and over weight boxes or bags as per the tolerance given in the settings.

Sometimes this system is also helpful to do check weighing process of materials coming in crates on the conveyor line and also do the check weighing of dry and charged batteries.

This system can be installed before the box closing and strapping machine.



- More suitable for Packaging, food, pharma.
- Capacity varies from 100 g to 50 kg
- Speed : Up to 50-80 pieces/min
- Accuracy : +/-0.2 mg to +/- 5 g according to the capacity



TRUCK LOADING CONVEYOR



Type: Height Adjustable (MECHANICAL HYDRAULIC)

Length: 10-20 feet

Capacity (kg per feet): 100 to 150

Truck Loading and Unloading Conveyors are useful for simple tasks like unloading or loading boxes or any product to & from trucks and taking it to the first floor or plainly to move the material to any places where material needs to be moved rapidly and efficiently.

Almost all Hydraulic components are of reputed make and easily available.

Able to reach all the way inside the front of the truck is a challenge that is faced by all industries especially in the time of non-availability of manpower as well as the need for improved ergonomics which leads to better morale of workers and also improves the safety record of your factory.

100% customisation available as per client design

BIG BAG UNLOADING SYSTEM



Macdev's big bags in material handling industry is on the rise. It has proved to be a more economical alternative to 25 kg and 50 kg bags.

Our big bag unloading system - MDBBUS is a leader in and related equipment with intense focus on safety and efficiency. Dust-free emptying, fast and secure handling and ergonomically designed for the emptying stations have a priority for this application.

These systems are specifically designed for discharging a large variety of products from different types of big bags. They eliminate dust emissions, product loss or product contamination. Several unique options are available for the safe and hygienic discharge of food ingredients, pharmaceutical products and toxic materials.

Our range is based on a simple modular structure, whereby the basic models can be extended with several options to obtain a complete solution for discharging big bags also known as big bag unloader. This modular range encompasses the discharge of single or multi-trip bags, with or without a plastic liner.



DUST COLLECTION SYSTEM



MacDev's dust collection system removes particulate contaminants from the air in production facilities, workshops, and industrial complexes.

The system cleans air by forcing it through a series of airtight filters. Once the air is cleaned, it is expelled outside or recirculated after it has achieved the proper emission standards.

100% customisation available as per client design

FLYASH FEEDING SYSTEM

MacDev's Flyash feeding system is unique and very efficient in operation in controlled delivery of fly ash and similar material as per set TPH

With the combination of Solid flow meter and flow control gate the highly flowable fly ash material can be controlled fed to desired application or filling trucks and bulker.

Can be combined with bucket elevator , air slide or any other material feeding system



AMC - SCHENCK & TRANSWEIGH



WE UNDERTAKE SERVICES AND ONE TO ONE REPLACEMENT OF SCHENCK AND TRANWEIGH AND OTHER BRANDS EQUIPMENT

OUR SPECIALLY DEVELOPED CONTROLLERS ARE HIGHLY EFFICIENT AND COST EFFECTIVE TO KEEP YOUR SYSTEMS RUNNING



MDC 6000

- ◆ 1 Analog Input.
- ◆ 2 Analog Output
- ◆ 3 Digital Input
- ◆ 7 Digital Relay Output
- ◆ 1 Pulse Output
- ◆ Modbus Communication (Independent RS232 and RS485 Port)
- ◆ AC220V Power Supply.
- ◆ DC24V Power Supply is Optional
- ◆ VFD Display. LCD Display is Optional
- ◆ Language Selective. English is Default,
- ◆ Integrated Diagnostics and Self-testing Functions
- ◆ Digital Electronics. Provide Accurate, Drift-free Performance

Ext.Power supply -	AC 220V (175-285V), 30W, 50Hz
Working temperature	- -10-40°C
Humidity	≤90%RH
Dimension	288 (W) x 190 (D) x 95 (H) mm
Weight	2.5 Kg
linearity	0.01FS
Accuracy	0.1%
Tolerance	0-99999900 t
Feed rate	0.0020-99999.9 t
Max.net signal input	≤30mV
Display	160*32 VFD Screen 110x30mm
Load cell excitation	DC 9V, 250mA
Speed sensor	DC ≤24V, 50mA
Speed pulse	0-3000Hz, 0-24V



MDC 4000

OUR INSTALLATIONS



MacDev

ENABLING DYNAMIC WEIGHING





MacDev

ENABLING DYNAMIC WEIGHING

EXTENDED MACDEV FAMILY



We at MacDev Design and supply customized solutions

Please reach us for any solution that may not be included in this catalogue

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