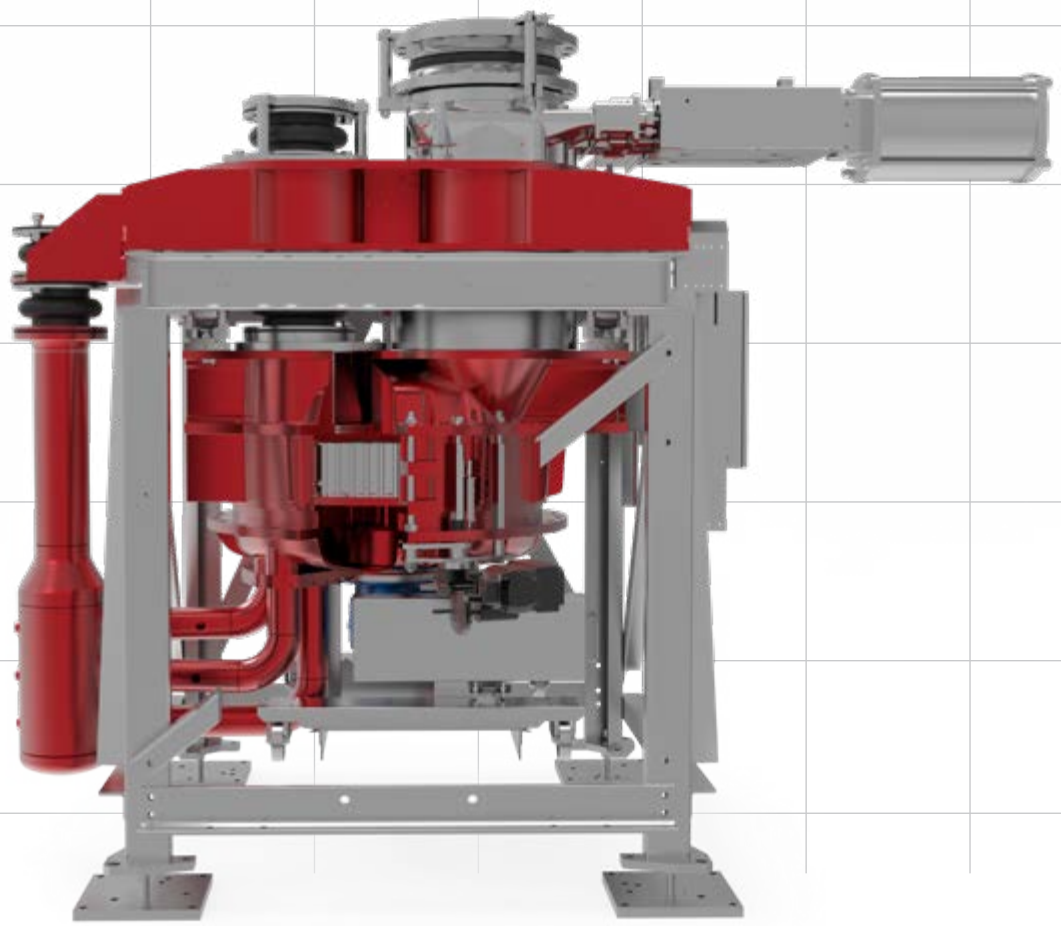
FLSMIDTH CEMENT



PFISTER® DRW ROTOR WEIGHFEEDER

Accurate and reliable gravimetric feeding of pulverised fuels

WHY PRECISE SOLID FUEL DOSING EQUIPMENT IS CRUCIAL FOR YOUR OPERATIONS.

The accuracy of your solid fuel dosing equipment is crucial – it literally makes the difference between your production process burning too hot and too fast, or being just right. That can impact your fuel costs and economy, as well as whether or not you meet your production and quality targets. With so much riding on it, you want a solution you can trust to give you precise and consistent dosing all the time.

KEY BENEFITS

- **Precise fuel dosing for optimal fuel combustion**
- **Proactive control thanks to advanced weighing and dosing electronics**
- **Simple design and easy maintenance for maximum uptime**
- **High feed rates and feed range**

PRECISE FUEL DOSING FOR OPTIMAL FUEL COMBUSTION

The DRW rotor weighfeeder is designed to deliver just that. Equipped with the ProsCon® proactive control solution, it achieves highly-accurate dosing of pulverised solid fuels, such as lignite, petcoke, and coal, precisely accounting for natural inconsistencies in fuel mass, shape, and density. And with the Pfister FEEDflex upgrade, it also responds to the need for very low solid fuel feed rates caused by rising alternative fuel usage, without impacting maximum feed rates.

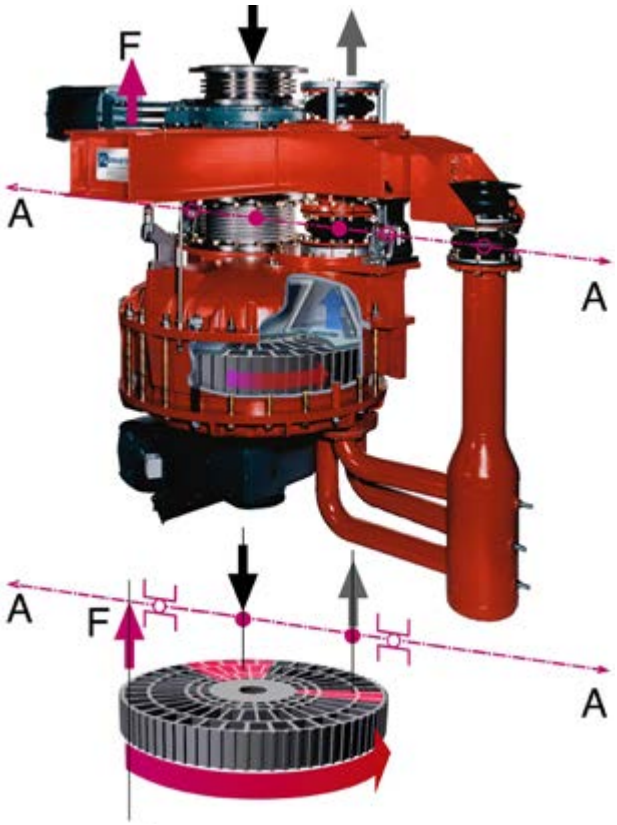
You don't have to worry about high running costs, unplanned downtime, or complicated maintenance either. The standard DRW rotor weighfeeder feature a small number of moving parts to ensure low power consumption, outstanding reliability, and long service life. The smart optional upgrades, Pfister AutoGAP and Smart Aeration, are also available to further enhance operational performance, while spare parts ordering is simple with our Pfister weighfeeder spare parts eCatalogue.

The DRW rotor weighfeeder can be used in a wide range of applications and layouts. But whatever your need, we are here to help you decide on the optimal installation. We have the expertise and equipment to offer a complete solution, exactly to your specifications, as well as the aftersales support to ensure your rotor weighfeeder continues to deliver optimal performance, day after day, year after year.

HOW DOES IT WORK?

Whatever you're dosing, chances are, there's a Pfister® Rotor Weighfeeder model available for it. From feeding raw meal, pulverised or crushed coal, or cement mill feedings, to loading cement and dosing alternative fuels, we have you covered. Part of this wider Pfister family, the DRW Rotor Weighfeeder is your answer for accurate dosing of pulverised solid fuels like anthracite coal, lignite or petrol-coke. But the operating principal is the same for all members of the Pfister rotor weighfeeder range.

Material is extracted from the storage silo into a calibration pre-hopper and transported to the Rotor Weighfeeder, where it enters the rotor chambers via an inlet at the top. The rotor body is mounted on bearings forming a weighing axis eccentric to the rotor shaft and through the middle of the inlet and outlet. Material in the rotor wheel is gravimetrically weighed by a suspended load cell.



Advanced weighing control

This gravimetric measurement provides information on the actual material load. This information – alongside rotor wheel position and set feed rate – is used by our ProsCon advanced weighing electronics to calculate the rotor speed required to achieve a consistent discharge rate. For example, less material in the rotor wheel results in higher rotor speed. This system enables the Rotor Weighfeeder to accurately compensate for variations in rotor loading and material density to deliver extremely precise short- and long-term feed rates.

This proactive control strategy is more accurate than the reactive control approaches used by other feeders because it corrects any potential deviation in feed rate before the material leaves the system. This ensures a consistently accurate and even flow of material to the process. In contrast, reactive control only corrects deviations in material loading after the fact: shutting the door after the horse has bolted, so to speak. Any deviation thus flows on to downstream processes, potentially leading to process disruption down the line.

ENGINEERED TO FIT YOUR APPLICATION

DRW Rotor Weighfeeders can be engineered for a wide range of applications: from its original use feeding pulverised fuels in cement production, DRW systems have also been installed at thermal power plants, nickel plants, and further heat generating processes. Based on conditions and requirements onsite, Pfister engineers determine the optimal system design with options including:

- Silo engineering
- Silo cone and downpipe to take material from the silo directly to the rotor weighfeeder.
- Intermediate calibration/buffer hopper.
- Pfister SGA material activator to allow installation of up to four rotor weighfeeders under a single silo.
- Our 'block' system comprising compact explosion-proof silo with integral rotor weighfeeder for applications where the main fine coal silo is located a long distance from the burners.
- Pneumatic transport calculation

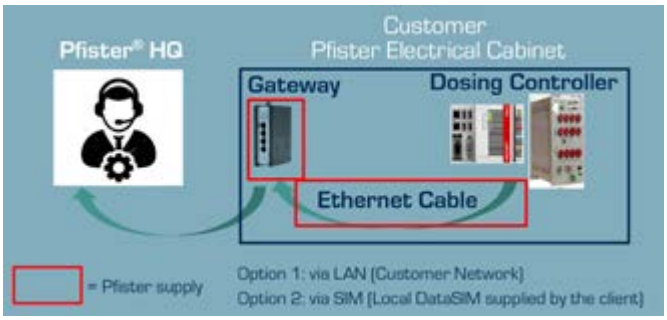
When implementing a DRW Rotor Weighfeeder, we don't just supply the equipment. Our expertise covers complete set-up and engineering of related systems, such as the silo, intermediate material transport, and safety equipment. It means you get everything you need for a successful installation from a single experienced source. For example, we'll calculate the parameters for the pneumatic transport system and blower to ensure optimal material transport for your specific application and avoid operating challenges, such as material segregation in the pipes and consequent pulsations or CO peaks.

Throughout the process, we draw on more than 125 years' experience in industrial weighing. We first patented the rotor weighfeeder concept in 1984 and have since delivered more than 3,500 DRW installations worldwide. Millions of tons of pulverised fuels are fed via our DRW systems every day. That's a track record you can rely on.

Customer service and aftersales support

With thousands of Pfister systems in operation worldwide, we have an established a global presence in diverse clusters around the world, all staffed by experienced service technicians. A 24-hour hotline, remote support packages, and online troubleshooting extends our support network and means you are never without access to Pfister expertise. We also offer onsite training to equip your personnel with the knowledge and skills to best operate your Pfister rotor weighfeeder. And on top of that we provide maintenance seminars as well as webinars which focus on regional requirements.

Pfister services are rounded-up into tailored service contracts, which are designed to fit your specific needs.



Spare parts eCatalogue for Pfister® rotor weighfeeders

Simplify spare parts ordering for PFISTER DRW, TRW/SD and FRW rotor weighfeeders. When your production is on the line, you don't wanbt to deal with complicated spare parts ordering systems. Which is why we've simplified the process for PFISTER rotor weighfeeders with the PFISTER weighfeeder spare parts eCatalogue.

Browse our
spare parts eCatalogue for PFISTER® rotor weighfeeders

We also understand how important it is to have quick and easy access to spare parts. Our spare parts eCatalogue provides on-demand access to the spare and wear parts you need, when you need them.

The eCatalogue offers original spare and wear parts only, all adhering to the highest-quality standards (DIN EN ISO 9001 and ATEX). So, you can be confident that any spare parts purchased will continue to deliver the high level of performance you rely on from your Pfister rotor weighfeeder. All our wear and spare parts are also backed with an operational guarantee. Using original Pfister spare parts ensures that you don't risk any safety issues for your operation in respect to explosion-resistant design.

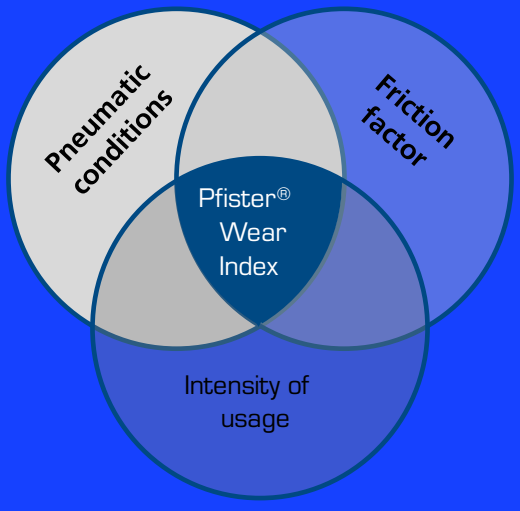
Pfister® Wear Index

Your tool to determine your ideal maintenance dates

In order to detect your individual, ideal time for maintenance, FLSmidth Pfister dosing experts developed Pfister® Wear Index: Within the control system of your weighfeeder we implemented a model-based condition surveillance. Under consideration of your individual field conditions we compare a wear model to the real operational data of your system.

Based on the typical curve of wear, the control system indicates to you if your system is currently object to low, medium or high wear. This allows you to find ideal maintenance dates and reduces your risk of wear-triggered down times.

Ideal maintenance dates increase machine life and lower service and operation costs.



TAKING YOUR ROTOR WEIGHFEEDER TO THE NEXT LEVEL

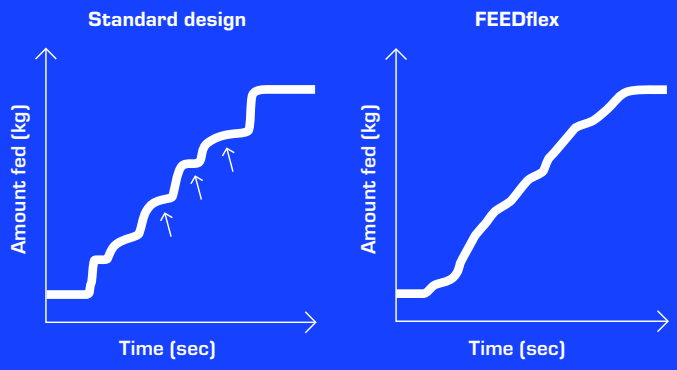
SUPPORTING THE JOURNEY TO NEXT ZERO: PFISTER FEEDFLEX

Increasing the use of alternative fuels is a key element in the cement industry's decarbonisation journey. But this shift poses a challenge to pulverised fuel dosing systems, which are required to handle ever smaller primary fuel feed rates as alternative fuel use rises. This had been an obstacle to maximising fuel substitution. Until we developed the solution, that is.

The Pfister FEEDflex™ upgrade to the DRW Rotor Weighfeeder enables you to dose very small quantities of pulverised solid fuels, pulsation-free. Feed rates of as little as 60 kg per hour are possible, depending on rotor weighfeeder type. However, the maximum feed rate is unaffected, so if you need to increase solid fuel consumption, for example at kiln start-up or if supplies of alternative fuels are running low, you can do so. A wide feed range of 1:100 makes your DRW a very flexible dosing device.

Pfister FEEDflex™ is a patented technology and available as a retrofit to existing DRW Rotor Weighfeeders as well as for new DRWs.

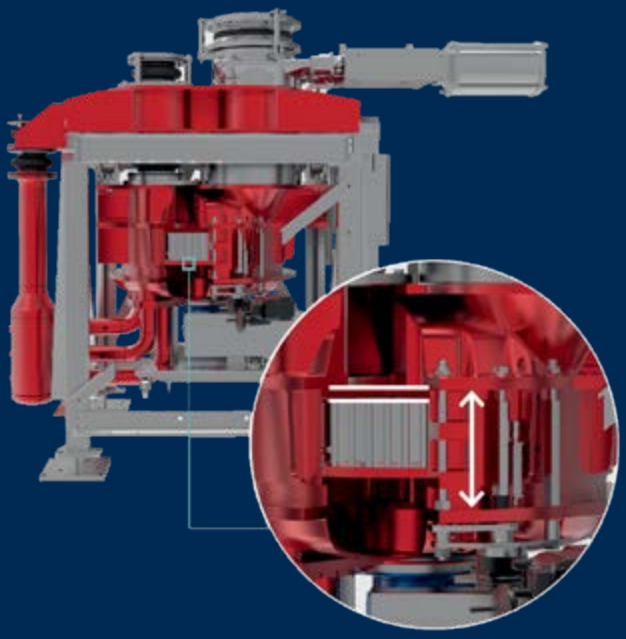
COMPARING PERFORMANCE GRAPHS



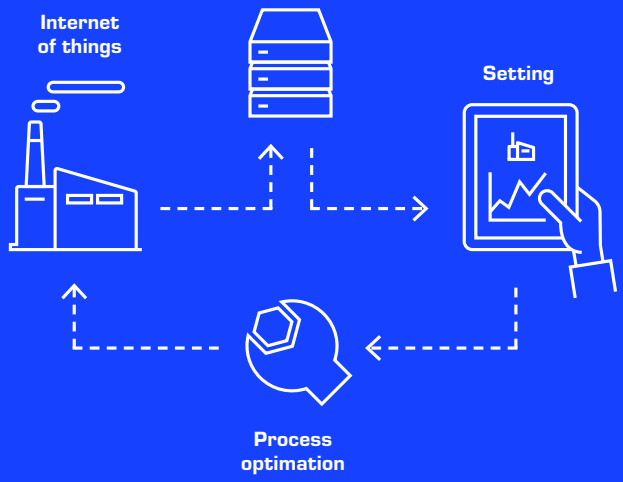
No linear coal feed at feed rates significant lower than the standard design feed range

Stable fuel dosing at the same significant low feed rates

REDUCE MAINTENANCE AND EXTEND LIFE OF WEAR PARTS: PFISTER AUTOGAP 2.0



Getting the gap width right in your DRW rotor weighfeeder is crucial for smooth operation. Too large or too small a gap and you risk blockages, reduced dosing accuracy, and high levels of wear and tear. Enter the Pfister AutoGAP 2.0, which automatically adjusts and controls the upper gap width to ensure best possible performance.



Crucially – and unlike manual gap adjustment – AutoGAP 2.0 adjusts the gap during operation, meaning there's no more inconvenient outages for gap adjustment. You can also move from reactive to proactive maintenance. AutoGAP 2.0 can be supplied with WiFi dashboard to monitor equipment performance, including motor current, speed, and gap position, as well as to set new parameters. Used in combination with the Pfister® Wear Index, it allows you to process and analyse your data for more efficient, more effective maintenance planning.

SAVE UP TO 90% AERATION AIR: PFISTER SMART AERATION

Traditional rotor weighfeeder operations rely on fixed aeration intervals. But these don't account for changing flow behaviour between the prehopper and silo bottom. Ultimately, you can end up using too much air and wasting money, or not enough, and losing productivity.

Our Smart Aeration system offers another approach. It monitors and reacts to the actual flow rate, adjusting aeration intervals according to demand.

In addition to a significant reduction in air consumption, the Smart Aeration system delivers smoother, more reliable material flow; lower maintenance and operational costs; reduced risk of spontaneous combustion of materials; and increased lifetime of sinter plates at the prehopper and silo.

FREE 3-MONTH TRIAL OF SMART AERATION

Two ways to get started:
1. Contact us for your free trial PIN, then enter trial PIN yourself in the parameter setting.
2. Or during a scheduled maintenance visit our technician will implement the free trial.

For either option, please contact us: service@flsmidthpfister.com

TECHNICAL SUMMARY

Applications

- Kiln and calciner firing process
- Hot gas generator

Fuels

- Petcoke
- Coal
- Lignite
- Oil shale

Dosing capacity

- Up to 50 t/h with only one system possible
- Down to 60 kg/h with optional FEEDflex technology (Dosing range 1:100)

Features

- Compact, simple, and modular design
- Explosion proof - ATEX design
- In-line blending of several fuels into a common feeding line
- Integrated pneumatic fuel transport
- Large feeding range
- Online calibration during operation
- Up to four rotor weighfeeders under one coal silo
- Slow moving rotor
- Optional AutoGAP 2.0 to reduce maintenance and wear
- Optional Smart Aeration control

Example system design

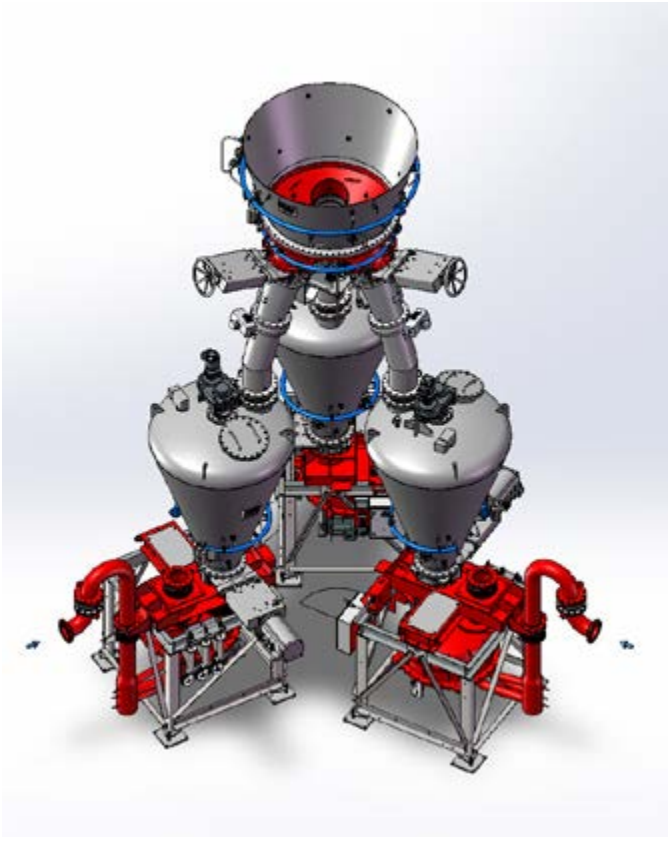
- Silo engineering
- Stainless steel silo cone
- Silo cone aeration
- Shut-off gate
- Rotary valve or butterfly valve
- Flexible joints
- Calibration prehopper
- Pfister® DRW Rotor Weighfeeder
- Blower design or delivery

Dosing control

- Pfister® FDC feeder dosing controller
- ProsCon® prospective control
- FlowBalance™ control
- Wear Index
- User-oriented interfaces
- Remote service access available

Available Executions

- ATEX in categories II1/23D and II1/3D
- NEC in Class II Div. 2 Group F



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