

## **PFISTER® FEEDFLEX™**

# How your dosing solution can help you on your way to Net Zero

The road to Net Zero is long, but the cement industry is already making headway.

Fuel switching and energy-saving measures have enabled cement plants to bring down carbon emissions. And though it is tempting to think that the biggest changes are brought about in the largest equipment, the smaller machinery also has a part to play.

### KEY BENEFITS

- Reduce solid fossil fuel consumption
- Increase alternative fuels utilization
- Reduce your CO2 footprint
- Maintain maximum feeding capacity at kiln start-up process
- Retrofit at existing feeders will help to cut fuel cost with quick ROI

NOW ALSO AVAILABLE FOR **DRW 4.14/3.14**

# PFISTER® FEEDFLEX™ IS OUR CONTRIBUTION TO A MORE SUSTAINABLE FUTURE

Take, for example, the PFISTER DRW Rotor Weighfeeder. This robust feeder has been serving the cement industry for decades, providing efficient, reliable, and precise dosing of pulverised fuels such as hard-coal, lignite, or petcoke.

As the use of alternative fuels (AF) increases, fuel feeding systems that offer more highly variable feed rates are needed. But as AF use increases, there is a need for ever smaller feed rates in primary fuel feeders, which has been an obstacle for cement producers trying to maximise fuel substitution.

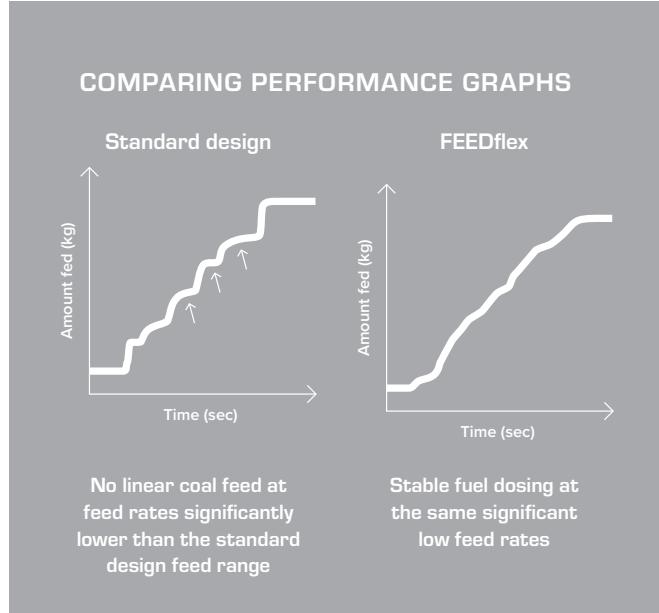
Our feeding experts have developed a solution to this problem, by significantly reducing the feed rates of the PFISTER DRW Rotor Weighfeeder without limiting the maximum possible feedrate.

## Minimising coal consumption

The patented PFISTER FEEDflex technology is an upgrade to the DRW Rotor Weighfeeder that enables you to dose very small quantities of pulverized fuel, pulsation free – down to as little as 60 kg per hour; dependent on the DRW Rotor Weighfeeder type. In addition, a new DRW can be optionally equipped with FEEDflex.

The maximum feed rate is unaffected, so when you need to increase coal consumption – at kiln start-up, for example, or if AF supplies are low – you can do so.

FEEDflex gives you the flexibility to operate with very low coal feed rates in the max. feed range of 1:100 pulsation free dosing and the scope to increase the use of low-cost, environmentally friendly alternative fuels.



Countries	Feeder Type	Min. Feedrate t/h original design	Min. Feedrate t/h with FEEDflex	Possible coal savings t/h
Germany	DRW 4.12	1.30	0.30	1.00
Polska	DRW 1.2	1.20	0.06	1.14
Romania	DRW 4.12	1.20	0.25	0.95
Germany	DRW 1.2	0.65	0.14	0.51
Germany	DRW 3.10	0.60	0.14	0.46
Turkey	DRW 3.10	0.92	0.14	0.78
Germany	DRW 1.2	1.20	0.20	1.00
Thailand	DRW 4.14	3,50	0,40 <sup>1</sup>	3,10

\* Customer experience see here: Schwenk Zement KG achieves flexible solid fuel dosing with FEEDflex

<sup>1</sup> We guarantee 0,4 t/h min. for the 4.14, but customer was able to achieve 0,35 t/h w/o pulsations

	DRW 4.10/1,25	DRW 4.10/1,6	DRW 4.12/2	DRW 4.14/3	DRW 3.10/1,25	DRW 3.10/1,6	DRW 3.12/2	DRW 3.14/3	DRW 1.2/1,25	DRW 1.2/1,6
Option for new equipment	yes	yes	yes	yes	-	-	-	-	-	-
Retrofit	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Min. feed rates with FEEDflex	0,06 tph	0,14 tph	0,25 tph	0,40 tph	0,06 tph	0,14 tph	0,25 tph	0,40 tph	0,06 tph	0,14 tp

## Getting to zero

When it comes to achieving our ambitious Net Zero targets, every little helps. Solutions like the FEEDflex technology enable improvements in alternative fuel use and energy performance, helping cement plants cut their carbon footprint and reduce their environmental impact.



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23.08.2024

Pfister FEEDflex™ for DRW Rotor Weighfeeders

We have been asked by your sales representative to share our experience with the recently installed DRW 4.12 Rotor Weighfeeder including FEEDflex™ technology and related feed range 1:100.

In May 2024 one of our two new DRW 4.12 has been successfully commissioned by your service engineer who was very skilled and experienced. The feeder is designed with a max. feedrate of 25 t/h and min. 0,25 t/h hard coal dust. The intention to order the DRW with the optional FEEDflex™ technology was that we plan to increase our AF substitution rate to a very high extend of 50% over the next years.

As coal feeding is the limiting factor to increase the AF substitution rates, we have been looking for a coal dosing equipment where we can dose very low coal quantities during normal operation, but maximum possible when required during kiln start-up. Compared with the standard design dosing range 1:10 we only would be able to go down to 2,5 t/h. But with FEEDflex™ and the feed range 1:100 we achieve now stable 0,25 t/h without pulsations. This means we can save up to 2,25 t/h coal and use AF material instead. We tried to go down to 0,2 t/h just for curiosity and there we experienced no pulsations and a stable flame in the calciner. Our little concerns, that motor temperature will increase and make us trouble did not become true. The Pfister® feeder design has enough safety buffer that standard cooling of the motor is fully sufficient.

We are very happy that we took the right decision and choose the FEEDflex™ option as impact on saving fuel cost and reduction of CO2 emissions will help us achieving our goals on our path to a CO2 neutral cement production. The ROI is very short due to the huge saving of coal and lower cost of the AF material.

Best regards

Teerapong Nindupkaew  
 Cement Plant Director, KK

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# CASE STUDIES

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CASE STUDY

## Medcem upgrades PFISTER® DRW Rotor Weighfeeders with AutoGAP 2.0

In 2013, Medcem, a Turkish cement producer, purchased DRW rotor weighfeeders for coal dosing, equipped with FDC control. These feeders have been maintained with original parts, ensuring their longevity. After learning about AutoGAP 2.0 during a site visit from Fuller, Medcem decided to upgrade their 10+ year-old feeders. The new system optimises key parameters such as motor current and gap positions, preventing blockages and reducing wear. Since the upgrade, Medcem has seen improved performance in their feeders, increasing operational efficiency.

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**We are very happy with the performance of our DRWs and AutoGAP 2.0 and can recommend this technology to all PFISTER users who want to increase the productivity of their coal feeders ”**

says Aykut Aydin, Mechanical Maintenance Manager at Medcem.

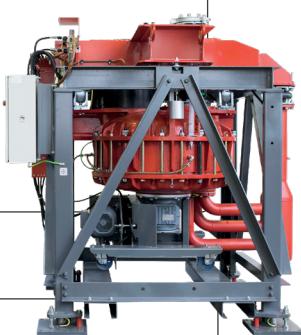
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CASE STUDY

## FEEDflex™ at Mannok Cement Plant

Mannok Cement in Ireland is advancing its Vision 2030 project to reduce its carbon footprint. A key part of this was the installation of the world's first FuelFlex® Pyrolyzer, enabling up to 100% alternative fuel use in the calciner. However, the ability to reduce their coal use was limited by the minimum feed rate of their DRW rotor weighfeeder at 1 tph. To address this, they upgraded the DRW with the PFISTER FEEDflex, which reduces the minimum feed rate to just 60 kg/h without compromising maximum capacity.

FEEDflex has saved Mannok over 1 tph of coal, optimising SRF usage while ensuring flexibility when needed. This upgrade, combined with Fuller's ECS/ProcessExpert® system, is helping Mannok work towards its goal of reducing carbon emissions by 33% by 2030.



3

CASE STUDY

## Schwenk Zement KG enhances fuel flexibility with PFISTER FEEDflex

Schwenk Zement's Mergelstetten plant faced challenges with fuel feed systems as alternative fuel usage increased. Initially using two feeders to enable varied feed rates, the plant discovered it could manage the variety through one feeder by adding the PFISTER FEEDflex to their DRW 3.12 weighfeeder. This allowed them to handle feed rates as low as 60 kg/h and maintain the flexibility for higher feed rates when needed.

The upgrade resulted in stable dosing, reduced conveying air volume by 25%, and decreased energy consumption, all without increased wear. FEEDflex also enables further reductions in coal feed rates, offering a 1:100 range. This system has provided a fast ROI, enabling Schwenk Zement to reduce coal usage and enhance productivity.

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TECHNOLOGIES



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