



FRL 15 Aspirator Fan

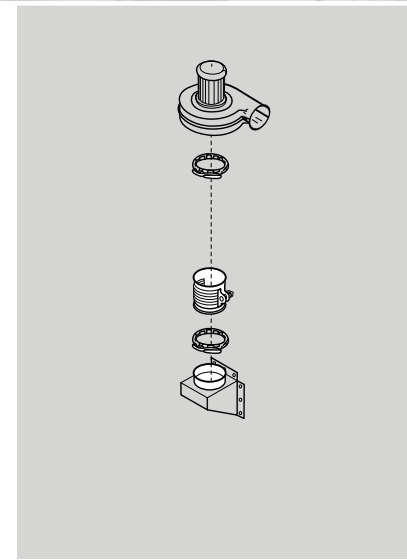


Improves Grain Quality and Reduces Cost

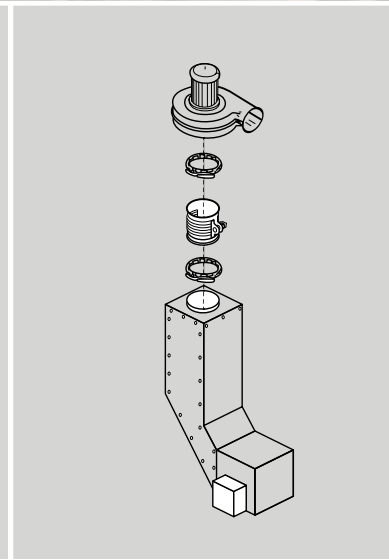
The FRL 15 Aspirator Fan is an effective, economical way to give your grain an air wash and remove any light, unwanted foreign materials like dust and bees' wings (red dog). Plus, its adaptability makes it a great addition to your operation. Add it to the discharge on grain dryers or place it at the head or boot of grain elevator legs or augers... and let it clean away!

4 Reasons to Clean Your Grain

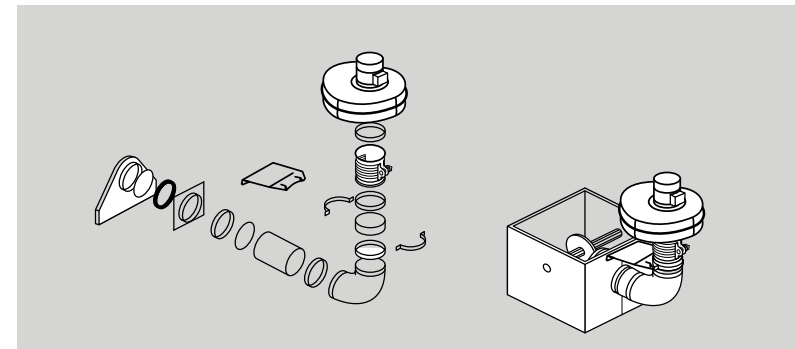
- Improves Grain Quality**
 Let's face it. Prices at the elevator matter. By removing these unwanted materials, you improve your FM counts and reduce dockage at the elevator.
- Improves Aeration**
 Another great benefit is that with the fines removed, air circulation is also improved in storage facilities without overtaxing aeration fans. Goodbye hot spots and spoilage!
- Eliminates Plugging**
 Bees' wings are known for plugging up systems. By removing them from your grain, you can add downspouts to legs without worrying about clogging and downtime.
- Prolongs Equipment Life**
 The cleaner you keep your equipment, the longer it lasts. Removing bees' wings and other contaminants to a bin keeps your processing area clean and working at top performance.



Universal Mount



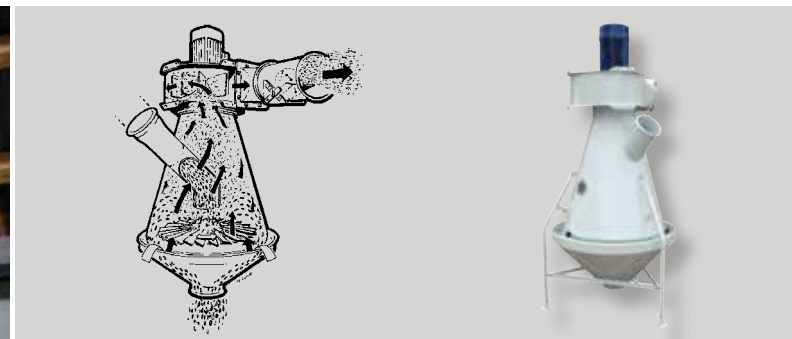
M-C Mount



Super B Conveyor Mount

Efficient
Grain Cleaning Solutions

Kongskilde Aspirators KF



KF 60 mode of operation

KF 60 fitted with support legs



Air regulation for adjusting the suction power of the aspirator

FRL 15 blower can be used to vacuum off dust, for instance, on the discharge of grain dryers or dust extraction spigot on elevators, augers etc.



KF 12 mode of operation



KF 12



FRL 15
KF 20 / KDC
Light Material Discharge Cyclone

The KF Aspirators

Kongskilde has been providing grain cleaning solutions since 1949. As a leader in the pneumatic grain handling and grain cleaning industry, Kongskilde products are designed to clean and convey grain, allowing delivery of the highest-quality product to market.

For example, the KF Aspirator system cleans foreign matter and fines from corn, beans and small grains. KF Aspirators can be installed easily in a grain handling system due to the flexible, modular design. The flow of material through the cleaner allows for optimum movement, after drying and while being conveyed to storage.



How KF Aspirators work

The KF aspirator pre-cleaners have capacities from 400 bu/h (12 t/h) to 2000 bu/h (60 t/h). The unclean grains are fed into the pre-cleaner chamber and distributed evenly at the bottom of the pre-cleaner cone by means of baffle (KF 12) or rotor (KF 20/60). The blower creates an upward-moving air stream. Lighter fines are picked up by this air stream and pulled into the blower. The blower discharges the fines through a pipeline to the desired location. The clean crop exits the pre-cleaner through the bottom

outlet hopper. The KF series offers various pre-cleaner models depending on required capacities and space available. The best location for these aspirators depends on the individual conveying system. They may be used in conjunction with a bucket elevator, auger system or pneumatic air system. The use of Kongskilde piping bends and clamping components means easy assembly in new or existing systems. The system is easily adjusted to allow for different crops and capacities. Contact us for help choosing the right model for your operation.

Technical Specifications	KF 12	KF 20	KF 60
Max. capacity (barley) t/h	12	20	60
Motor size blower motor, HP (kW)	1.5 (0.75)	2.0 (1.5)	10 (7.5)
Motor RPM	3,450 RPM		
Motor type	Flange motor		
Weight (incl. motor) kg	75	105	260
Conveying pipes for fines	OK160 (6")	OK200 (8")	FK300 (12")
Max. recommended conveying length for waste, ft (m)	80 (25)	50 (15)	50 (15)
Blower requirement	FRL 15	FRL 30	FRL 100

Dual Cleaners **KDC**



Wear-resistant inlet made of heavy stainless steel bottom



The cleaning brush role is mounted on a spring-loaded arm-securing efficient even load on the cleaning brush



Access door for easy collection of grain sample after cleaning



Easy-to-change screens with quick-release clamp

The Kongskilde dual cleaners use both screen and air cleaning technology to ensure the removal of both heavy and light fines. Each KDC model cleans grain using both a screen for size separation and an aspirator for removing dust and light fines. Different-sized screens make the KDC Dual Cleaners effective cleaning choices for all common grain/seed crops including corn, wheat, barley, oats, rye, soybeans, sunflower seeds, peas and rape seed. KDC 4000 capability is up to 1,400 bu/h (40 t/h). Both KDC 4000 and KDC 800 are essentially the same, with the 8000 having twice the capacity.

Benefits of KDC Dual Cleaners:

- Exposed components made of galvanized steel for outdoor installation
- Screen replacement made quick and easy, thanks to quick-release clamp system

- Stainless steel protects wear spots of inlet
- No vibrations are transmitted, thanks to the design of rotating parts
- Large screen area for efficiency
- Standard screens available for all common crops
- Aspirating cleaner that follows screen cleaning maximizes removal of dust
- Screens allow for size separation of grain kernels
- Dampers on torque arm for gear drive reduces stress load on screen drum
- Vacuum in drum compartment limits dust content inside

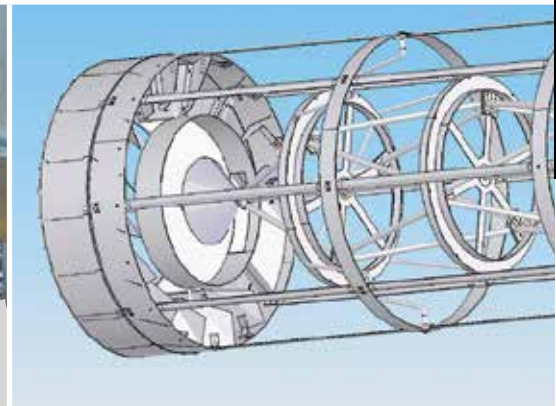
Efficient Cleaning Solutions



Gear with parallel shafts makes it easy to turn drum by hand, makes screen change easier



Screenings are conveyed through pipes up to 50' (15m) away



New strong design on screen rotor (KDC 8000). Diagonals reduce stress load on the screens

Accessories available for the KDC Dual Cleaners:

- Cleaning brushes for cleaning outer screen
- Jack for easy adjustment of angle on screen drum, helpful when used at different locations
- Wheel set, helpful for transporting short distances
- Rain covers for the gear motor on the drum shaft
- OK200 pipe (8") system and cyclone, to connect to the aspirator blower outlet that conveys fines
- KDC 8000 capacity is up 2,800 bu/h (80 t/h)

A note about the KDC 4000 and KDC 8000

The KDC 4000 and KDC 8000 can be tilted slightly in order to increase the speed of the crop, thus reducing the time the crop spends on the screens. Moving the grain through the machinery too quickly will reduce the pre-cleaner's efficiency. Moving the grain through the machinery more slowly will result in cleaner grains. The maximum volume for corn cleaning the KDC 4000 is capable of is 1,400 bu/h (40 t/h). If higher capabilities are required, choose the KDC 8000 which can obtain capacities of 2,800 bu/h (80 t/h).

Amazing Cleaning **Versatility**



Corn before cleaning



Fines removed from corn



Corn after cleaning



Soybeans before cleaning



Fines removed from soybeans



Soybeans after cleaning

Choosing the correct screens

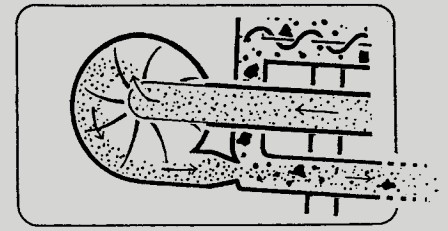
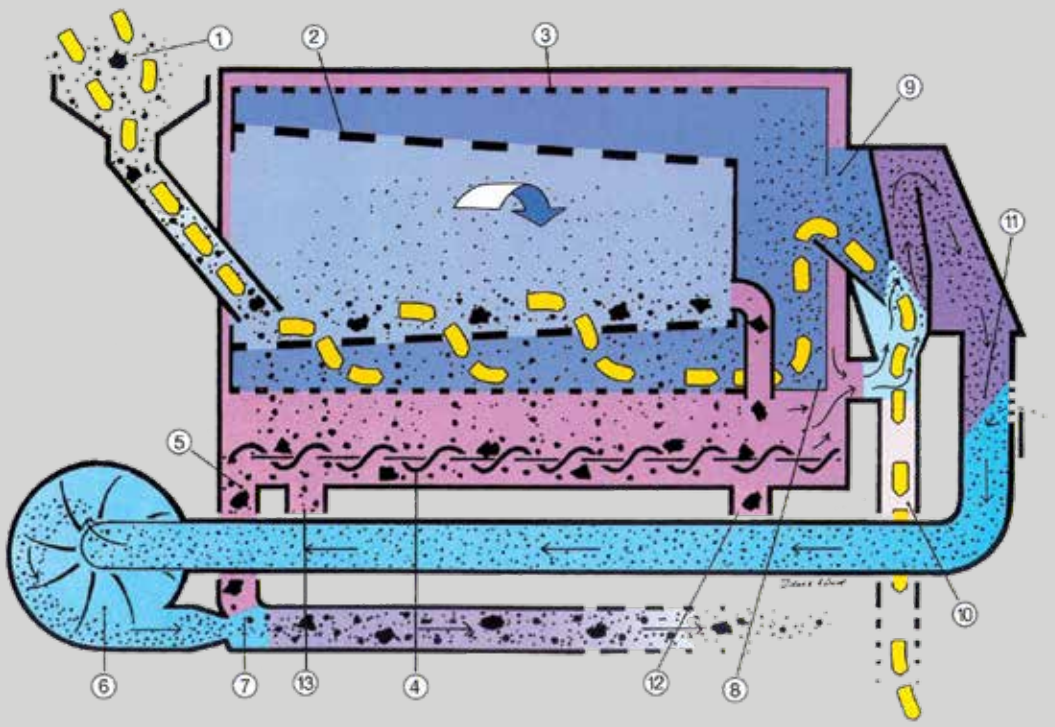
The choice of screens in the KDC cleaners is an important factor. The dirtier the crop, the longer it will take to clean it. The crop needs to spend sufficient time on the screens in order for them to do a good cleaning job.

The inner screen separates the large fines from the grains. The main flow of grain has to pass through the inner screen. Selecting a screen with a small hole size compared to the kernel size gives the most efficient cleaning, but reduces capacity. Selecting a screen with large holes compared to the kernel size provides a greater capacity but reduces cleaning efficiency. If too much grain is fed into the cleaner at once, good kernels will be discharged together with the fines.

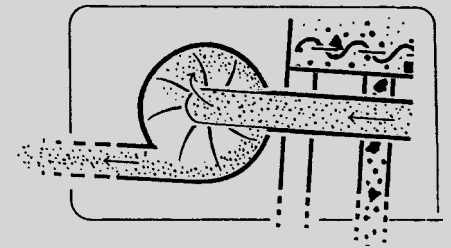
To reach maximum capacity, it is necessary to use screens with large enough holes to allow the kernels to pass through quickly. On the outer screen, small fines and small kernels are separated from the crop. For pre-cleaning, there is no limitation in capacity in relation to screen selection. For size separation of kernels on the outer screen, approximately 10-20 percent of the capacity rated for pre-cleaning can be obtained.

Technical Specifications	KDC 4000	KDC 8000
Max. capacity pre-cleaning t/h	40	80
Screen drum drive motor size, HP (kW)	3 (1.5)	3 (2.2)
Screen drum RPM	22	22
Blower for aspirator motor size HP (kW)	5 (4.0)	5 (4.0)
Blower for aspirator motor RPM	3,450	3,450
Auger drive motor size HP (kW)	1 (1.5)	1 (1.5)
Auger drive motor RPM	1,750	1,750
Inlet for crop	OK200 (8")	FK250 (10")
Outlet for cleaned crop	OK200 (8")	FK250 (10")
Conveying pipes for fines	OK200 (8")	OK200 (8")
Screen area inner drum, ft ² (m ²)	44 (4.1)	81 (7.5)
Screen area outer drum, ft ² (m ²)	70 (6.5)	108 (10)
Weight, machine without screens, lbs. (kg)	1,962 (890)	3,142 (1,425)

How a KDC Works



Fines separated by screens and aspirator discharged into the trash blow line



Fines separated by screens and aspirator discharged separately

Mode of Operation

1. **Intake** for unclean crop
2. **Inner screen** separates the oversized fines by retaining them. The conical shape of the screen drum slows down the grain, ensuring a good separation of the crop.
3. The **outer screen** sorts out the small fines from the desired product and also small kernels.
4. The screenings from both screen layers are collected in the bottom trough, where the **auger** conveys them towards the inlet end of the KDC cleaner.
5. The screenings gathered in the bottom trough are guided into the injector of the blower pipe line for discharge.
6. The **fan** sucks air and light fines from the aspiration chamber.
7. Fines can be conveyed by the **Venturi** for discharge at a desired place.
8. The **scoop elevating section** lifts the grain into the aspiration chamber.
9. In the **aspiration chamber**, light fines and dust are removed from the grain by means of air.
10. **Outlet** for the clean product
11. Air regulation for the suction power in the aspiration chamber
12. **Outlet** for screenings from the inner drum (large fines)
13. Small kernels from the outer screen can be collected via this **outlet** (together with the screenings).

Aspects Influencing the Capacity

- The capacity of the cleaner depends on how it is installed and what screens are used.
- Higher inclination of the adjustable legs makes the grain pass faster over the screens. Giving a higher capacity, but reducing the cleaner's efficiency.
- Inner screens with "small" holes provide a better cleaning at a lower capacity.



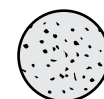
Crop



Large fines



Small fines

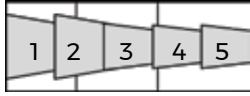


Light fines

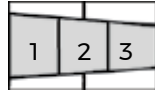
Screen Selection for KDC

Inner screen

KDC 8000



KDC 4000



Max. capacity



Max. cleaning eff. -
reduced capacity

Regarding capacity and selection of inner screens

The inner screen separates the large fines from the crop. Inner screen with small holes compared to the kernel size gives the most efficient cleaning, but reduces the capacity. Inner screen with large holes compared to the kernel size gives capacity, but reduces the cleaning efficiency. If too much crop is fed into the KDC, good kernels will be discharged together with the fines.

Screen Perforation in Sections (mm) KDC 8000 1-2-3-4-5 KDC 4000 1-2-3	Corn	Wheat	Barley	Oats	Rye	Soybeans	Sunflower seeds	Peas	Canola
●17 ●17 ●15 ●15 ●15 ●17 ●17 ●5									
●15 ●15 ●13 ●13 ●13 ●15 ●15 ●11									
●13 ●13 ●11 ●11 ●11 ●13 ●13 ●11									
●11 ●11 ●9 ●9 ●9 ●11 ●11 ●9									
●9 ●9 ●7.4 ●7.4 ●7.4 ●9 ●9 ●7.4									
●8 ●8 ●7.4 ●7.4 ●7.4 ●8 ●7.4 ●7.4									
■7.4 ■7.4 ■5.2 ■5.2 ■5.2 ■7.4 ■7.4 ■5.2									
■7 ■7 ■5.2 ■5.2 ■5.2 ■7 ■5.2 ■5.2									
■6.5 ■6.5 ■5.2 ■5.2 ■5.2 ■6.5 ■5.2 ■5.2									
■5.2 ■5.2 ●4.3 ●4.3 ●4.3 ■5.2 ■5.2 ●4.3 ●4.3									
●4.3 ●4.3 ●3.5 ●3.5 ●3.5 ●4.3 ●4.3 ●3.5									
●3.5 ●3.5 ■2.75 ■2.75 ■2.75 ●3.5 ●3.5 ■2.75									
— 5 x 20 (all sections)									
— 10 x 30 (all sections)									

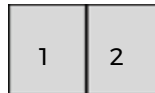
● Round Holes ■ Square Holes — Oblong Holes

Outer screen

KDC 8000



KDC 4000



Kernel size

- Small
- Middle
- Large

Regarding capacity and selection of outer screens

On the outer screen small fines and kernels are separated from the crop. For pre-cleaning there is no limitation in capacity in relation to screen choice. For size separation of kernels on the outer screen approx. 10-20% of the capacity rated for pre-cleaning can be obtained.

Screen Perforation (mm)	Corn	Wheat	Barley	Oats	Rye	Soybeans	Sunflower seeds	Peas	Canola
— 1.0 x 16.5									● Large
— 1.2 x 15				● Small	● Small				● Large
— 1.8 x 16.5		● Small		● Small			● Small		
— 2.0 x 16.5		● Small	● Small				● Small		
— 2.25 x 16.5		● Small	● Small				● Small		
— 2.4 x 16.5		● Small	● Small				● Small		
— 2.5 x 16.5			● Small						
— 2.65 x 16.5			● Small						
— 4.0 x 16.5						● Small		● Small	
— 4.3 x 16.5						● Small		● Small	
— 4.5 x 16.5						● Small		● Small	
— 5.0 x 20.0	● Small								
■ 2.75		● Small	● Small		● Small				
■ 5.2	● Small								
■ 6.0	● Small								
● 2.0		● Small	● Small	● Small	● Small				
● 3.5						● Small		● Small	
● 4.5	● Small					● Small		● Small	
● 7.0	● Small							● Small	
● 7.4	● Small								
● 9.5	● Small								
No perforation									



Commodity Conveying and Cleaning Solutions for North America

New 28,000-square-foot Warehouse and Office with Training Center

We appreciate the opportunity to continue serving our customers from this outstanding new location in the heart of the grain belt. Our training and testing center provides our team, customers and representatives with valuable information about our equipment.

A Global Company with a Renewed Focus

From our humble beginning in 1949 in Denmark to the decades of expansion across the globe, we have a renewed focus on providing a complete line of pneumatic conveying, cleaning and separating equipment to the grain, plastic, paper and packaging industries in North America.



Subject to alternative changes reserved. 121001979 KNA/CB/Cleaning/BRO/0518

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