

RTKM separator – for coal grinding ball mills



Dynamic separator for coal and other fuel grinding applications

Main features

- **The most effective choice for new coal-grinding ball mills**
- **Ideal solution for replacing existing, less efficient separators**
- **Improves the specific energy consumption of the mill system by up to 15 percent**
- **Steeper particle size distribution curve, notably lower residue on coarse sieve**
- **Between 10 and 15 percent higher throughput at the same residue on the 90 µm sieve**
- **Optimal design for very fine grinding pet coke and hard fuels**

Well-proven and efficient

The RTKM separator is specially designed for use with ball mills that grind coal, petcoke or charcoal. It is an energy-efficient and well-proven solution which incorporates the experience attained from over 1500 high efficiency dynamic air separators supplied by FLSmidth in grinding applications.

The RTKM separator is the obvious choice for new coal-grinding ball mills. But it is also an ideal solution for upgrading existing coal-grinding installations, which in most cases incorporate a less efficient static, or first and second generation dynamic separator. Upgrading such plants with the high efficiency RTKM separator will reduce the overall energy consumption of the grinding process and improve the fuel quality for better burner performance.

Design features

The separator is designed to prevent coal dust from accumulating inside the casing, and it will resist an overpressure of 3.5 bar (50 psi) in the event of an explosion.

Inside the separator casing is a cylindrical rotor surrounded by a ring of adjustable louvres. The louvres are lined with replaceable wear plates. Below the louvres is the reject cone which has an air sluice fitted in the outlet. Mill discharge material is carried by air from the mill directly to the separator and passes through the louvre system before entering the rotor.

The rotor forces the coarse particles outwards onto the louvre wear plates. They then fall down into the reject cone and return to the mill inlet for further grinding.

The fines are suspended in the air and discharged via the outlet in the upper part of the separator casing. The fineness of the end product can be regulated by varying the speed of the rotor, the air flow volume, and/or by adjusting the angle of the louvres.

The rotor is driven via a gear box by a variable speed AC motor fitted on top of the separator unit. Easy access to servicing of the gear box is provided.

Proven high performance

Almost two decades of operational experience have shown that the RTKM separator:

- reduces the specific energy consumption of the mill system by up to 15 percent and
- results in a steeper particle size distribution curve, especially with lower sieve residues on the coarse sieves (150, 200 µm and higher).

Petcoke can therefore be ground to a residue of 5 percent or less on the 90 µm sieve without causing excessive energy consumption. This enables increased petcoke firing rates, and improves pet coke utilisation for calciners.

RTKM separators come in sizes rated for capacities from 5 to over 100 tonnes per hour of finished product.

Motor and gearbox for rotor

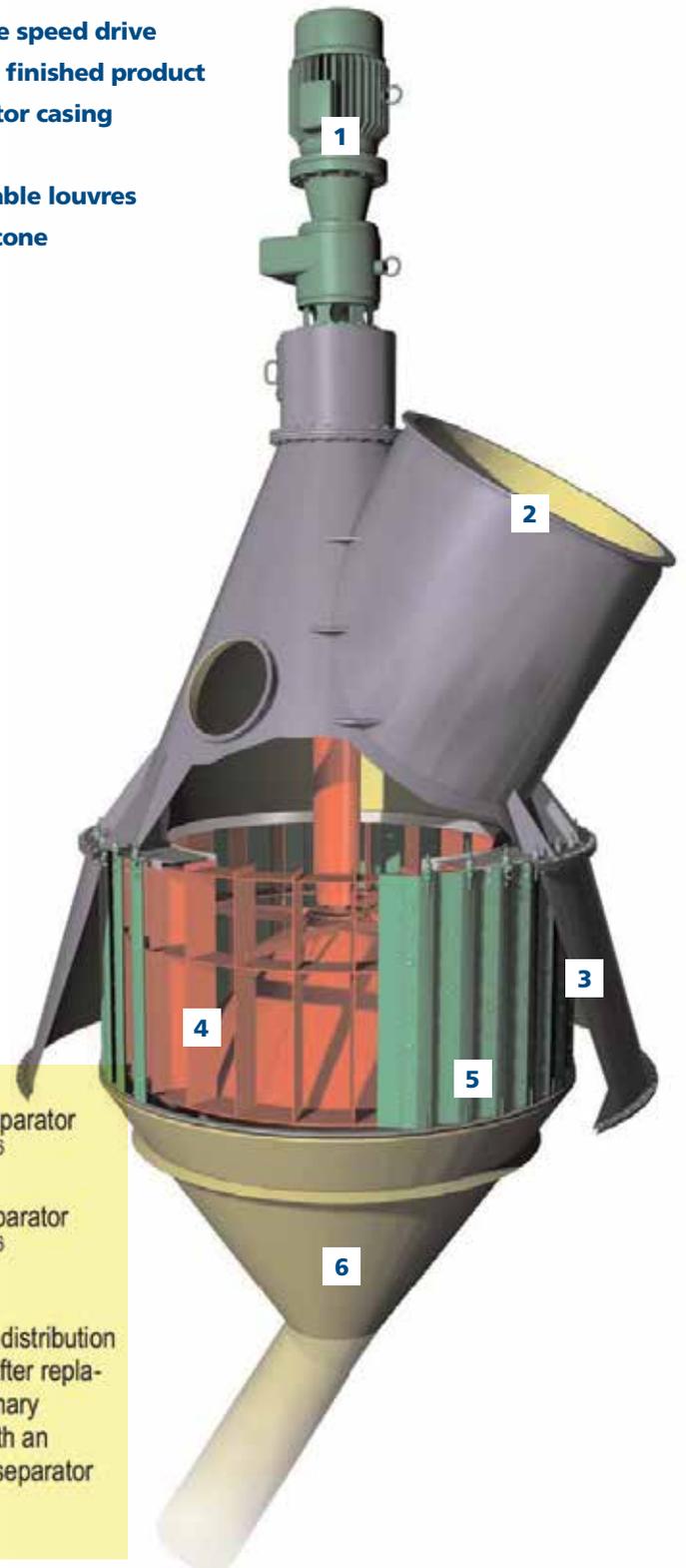


Swift and easy installation

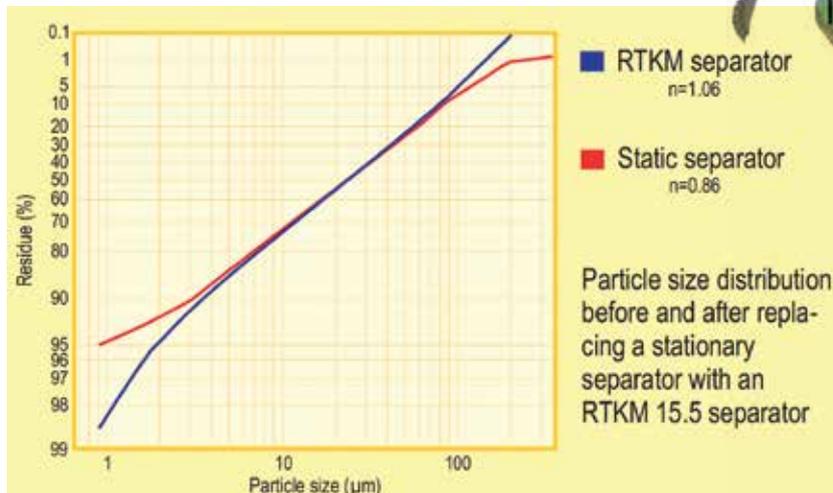
In most cases when replacing an existing static separator, the RTKM separator can be fitted as a complete unit into the existing space with only minor adjustment of the duct work.

RTKM separator installation can be coordinated with a scheduled kiln stoppage. This feature, combined with the low initial cost, generally makes it possible to recoup the investment in relatively short time.

- 1 Variable speed drive
- 2 Air and finished product
- 3 Separator casing
- 4 Rotor
- 5 Adjustable louvres
- 6 Reject cone



Steeper particle size distribution curve with RTKM separator



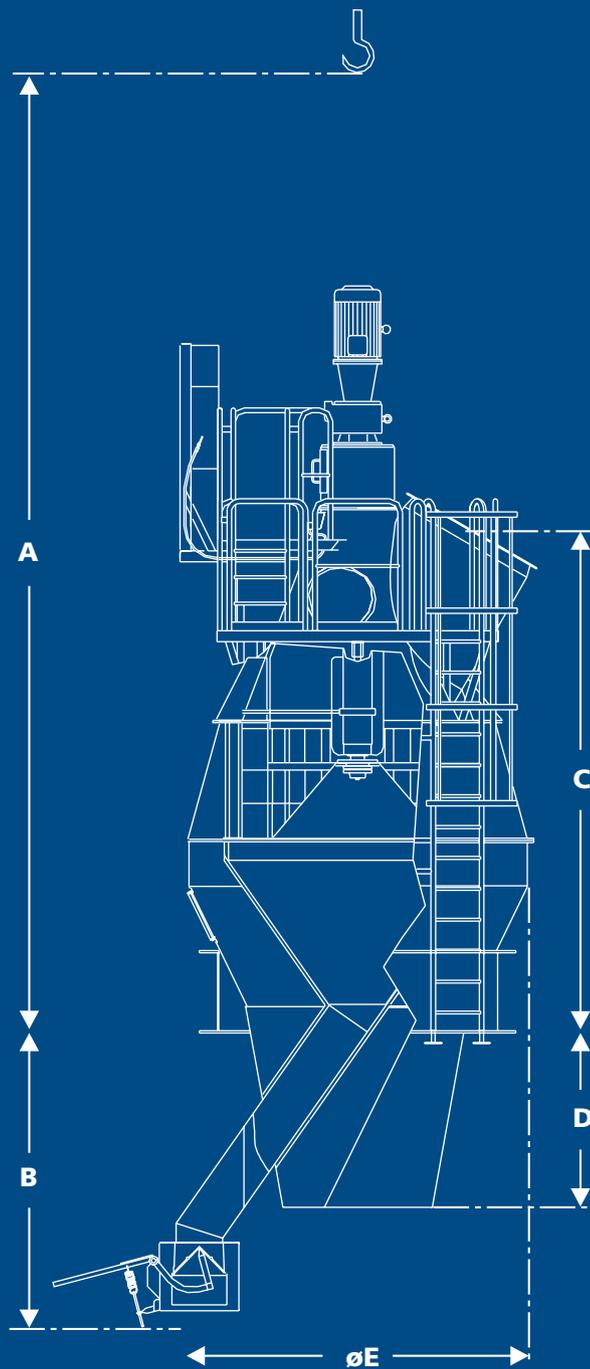
Dimensions

RKTM Size	A m	B m	C m	D m	øE m
10	3.9	1.2	2.5	0.4	1.5
11.5	4.3	1.3	2.6	0.5	1.6
12.5	4.5	1.4	2.7	0.6	1.7
13.5	4.9	1.7	3.0	0.7	1.9
15.5	5.6	1.8	3.5	0.8	2.1
17.5	6.0	1.9	3.8	1.0	2.3
20	6.8	2.4	4.1	1.4	2.8
22.5	7.5	2.6	4.7	1.6	3.1
25	8.3	2.9	5.2	1.9	3.5
27.5	9.0	3.3	5.7	2.2	3.8
30	9.5	3.7	6.2	2.5	4.4
32.5	10.3	4.1	6.8	2.8	4.8
35	11.3	4.5	7.6	3.0	5.1
37.5	12.4	4.8	8.3	3.2	5.5
40	12.6	5.2	8.5	3.4	5.9

Characteristics

RKTM	Airflow Nominal m3/s	Motor power kW*	Rotor speed rpm*	Weight t
10	3	5	529	3
11.5	4	8	469	3
12.5	5	10	436	4
13.5	6	12	406	4
15.5	9	16	356	6
17.5	12	22	316	7
20	16	31	250	10
22.5	22	41	223	13
25	28	54	201	16
27.5	36	69	183	20
30	49	95	160	27
32.5	60	116	147	32
35	73	140	141	37
37.5	86	166	132	43
40	101	195	123	51

*) Standard drive for normal product fineness. Adapted to other requirements and actual applications.



Copyright © 2012 FLSmidth A/S. ALL RIGHTS RESERVED. FLSmidth is a (registered) trademark of FLSmidth A/S. This brochure makes no offers, representations or warranties (express or implied), and information and data contained in this brochure are for general reference only and may change at any time.

www.flsmidth.com

Project Centre Denmark

FLSmidth A/S
Vigerslev Allé 77
DK-2500 Valby
Copenhagen
Tel: +45 3618 1000
Fax: +45 3630 1820
E-mail: info@flsmidth.com

Project Centre USA

FLSmidth Inc.
2040 Avenue C
Bethlehem, PA 18017-2188
Tel: +1 610-264-6011
Fax: +1 610-264-6170
E-mail: info-us@flsmidth.com

Project Centre India

FLSmidth Private Limited
FLSmidth House
34, Egatoor, Kelambakkam
(Rajiv Gandhi Salai, Chennai)
Tamil Nadu – 603 103
Tel: +91-44-4748 1000
Fax: +91-44-2747 0301
E-mail: indiainfo@flsmidth.com

