

RAF-IS REVERSE AIR FILTER FOR
HIGHLY COMBUSTIBLE DUST
AND
HIGH TEMPERATURE
APPLICATIONS



ENGINEERED BY



MIKROPUL

DRY FILTRATION
WET SCRUBBERS
CYCLONES
WET ELECTROSTATIC
PRECIPITATORS

SIMPLE, SAFE OPERATION

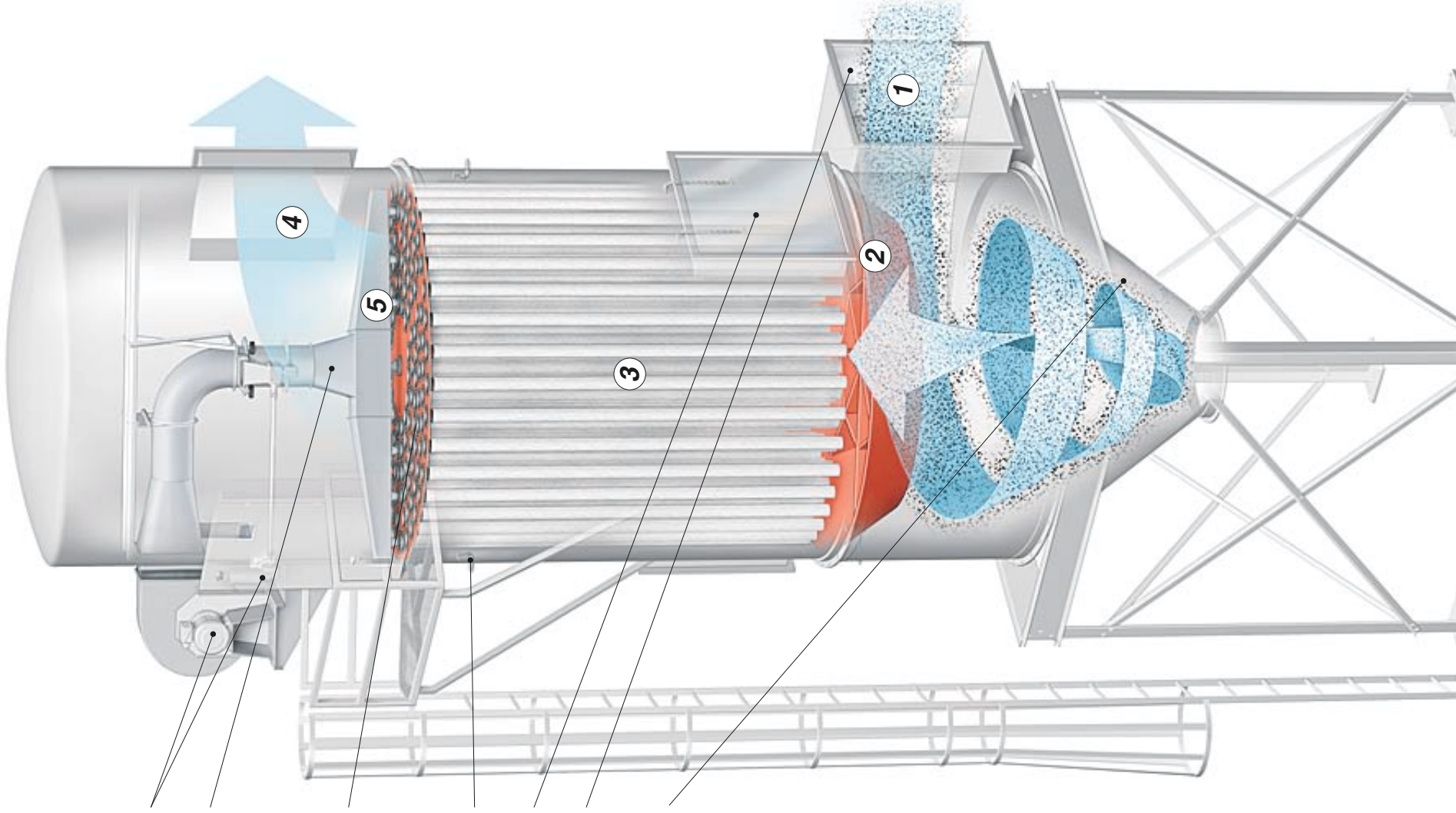
The RAF-IS is a special design reverse air filter, intended for filtering highly combustible dust. The key safety features of the RAF-IS are:

- All electrical components are outside the filter housing.
- Simple, effective cleaning mechanism continuously sweeps filter bag plate.
- Cleaning system recycles the filtered air, so no outside oxygen is introduced.
- Proprietary Form-lock™ bag and cage design ensures positive grounded cages per NFPA 77 code.
- No flat surfaces where dust can accumulate.
- Built-in deluge nozzles per NFPA 15 codes.
- Explosion venting per latest NFPA 68-2002 codes.
- Involute inlet is clad with replaceable anti-spark wear resistant plates.
- 60° (70° optional) hopper with flush mounted inspection door prevents dust accumulation.

Operation

The RAF-IS utilizes two techniques to remove dust: cyclonic separation and media filtration. Dust laden air enters the filter through a low involute inlet **1** where it meets a deep particle deflector **2**. This combination causes a cyclonic downward deflection of larger particles to the hopper.

The air then passes through the filter bags **3** which filter out the remaining fine particles. The now clean air flows into a clean air plenum **4** and exits through an outlet duct for recycling or venting to atmosphere. The dust captured on the filter media is discharged into the hopper every two minutes by the continuously rotating reverse air cleaning mechanism **5**.



HIGH PERFORMANCE / PROVEN DESIGN

The RAF-IS dust collector is ideally suited for all coal (including PRB) filtration applications. It combines high performance, low energy use, reliable, and effective reverse-air cleaning in a ledgeless filter housing totally free of internal electrical components.

Features and Benefits

In addition to its safety features, the RAF-IS offers:

- **Energy Savings**
- Low pressure drop
- Low fan horsepower
- Recycled clean air
- **Superior Operating Performance**
- Low pressure cleaning
- Long bag life
- Dual staggered cleaning plenum balances can velocity, reducing dust reentrainment on just-cleaned bags.
- Efficient involute inlet and conical 60° hopper

Reduced Maintenance

- Walk-in plenum
- Top bag removal
- Reverse flow fan (no PD pump)
- No valves, dampers, compressors
- Sectionalized, bolt-in tube sheets

Energy Savings

A true evaluation of a dust control system should consider energy consumption as it applies to the complete filter system—and not merely to any one component. This is why all MikroPul dust filters are designed to function as an integral part of the total system in combination with its exceptional capabilities for reducing overall operating costs.

Energy Efficient Cleaning System.

The RAF-IS cleans the bags with a low pressure reverse air cleaning system that uses the filtered air to deliver a high volume of air to each bag. The bags are fully inflated, the dust cake is dislodged from the bag (without being fragmented and reentrained), and has enough time to fall into the hopper. Because each bag is cleaned every two minutes, pressure drop remains low.

Also, because previously heated or cooled plant air is recycled for cleaning, no additional energy is expended to heat or cool makeup air.

Efficient Involute Entry. This design expands less overall energy than a conventional inlet. In addition, it causes heavier dust particles to drop out into the hopper, resulting in further energy savings.

Reduced Maintenance

The simple cleaning system, using a low horsepower motor, is very reliable, working day-in and day-out with little attention. There are no valves, dampers, or compressors to maintain.

Bag life is extended due to the cleaning system's low pressure, high volume air flow. Also, cyclonic separation of heavier dust particles results in less wear on the bags, further extending bag life.

Sectionalized, Bolted-In Tube Sheet.

If the filter tube sheet is damaged, it can be easily unbolted and removed through the plenum door.

The hopper is equipped with a large, ledgeless, bolted access door and flanged outlets.

Rugged High Quality Construction and Finish

Constructed of carbon steel, the RAF-IS can withstand $\pm 20''$ W.G. and is suitable for severe environments.

Our standard paint surface preparation meets SSPC-SPR specifications. Every unit is primed (2.0-2.5 mil) inside and outside, and finished outside with durable polyester epoxy paint (2.0-2.5 mil).

Cages are constructed from heavy 9-gauge wire, promoting bag stability and long life.

Metallurgies, surface preparation and finish can be customized to suit your site or process requirements as necessary.

High Temperature Applications

Because the motors are external to the housing, the RAF-IS' temperature handling capability is limited only by the media. For example, the RAF-IS can filter 350°F air when using aramid bags.

Filtration of crusher dust.



OPTIONS / SUPPORT

Options

Many options are available, including:

- Explosion-proof light for walk-in plenum
- Full skirt support
- Additional bracing for higher pressure
- Explosion proof motors
- Special filter media
- Stainless steel construction
- Mikro-Charge™ leak detection

Parts and Media

Because we know your equipment, MikroPul is your best resource for parts and media. We carry a full line of replacement parts, and keep critical items in stock for immediate shipment. We can also provide filter media with

the proper construction and treatments best suited for your system.

Services

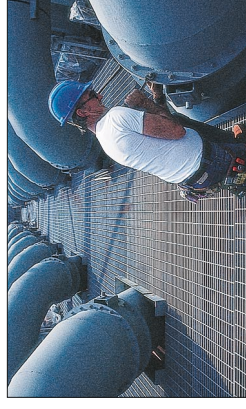
MikroPul has the unique capability to update your system to meet today's changing operating conditions and performance requirements. Our services include:

- Retrofits for outdated, out-of-compliance collectors
- Complete systems evaluations
- Mechanical equipment review and evaluation
- Equipment refurbishing
- Maintenance training

Whether you need spare parts, equipment service, or complete system rebuilds, we are here to help you.



Mikro-Charge leak detector



Our field service crews are available anytime day or night

MikroPul Global Network

Americas

MikroPul Headquarters
4500 Chesapeake Dr.
Charlotte, NC 28216, USA
Tel: 704-998-2600
Fax: 704-998-2601
info@mikropul.com

MikroPul Pittsburgh
2591 Wexford-Bayne Road, Suite 202
Sewickley, PA 15143, USA
Tel: 724-934-3910
Fax: 724-934-3934
pittsburgh@mikropul.com

MikroPul Chatham
17 Watchung Avenue
Chatham, NJ 07928, USA
Tel: 973-635-1115
Fax: 973-635-0678
info@mikropul.com

MikroPul Canada, Inc.
245 Matheson Blvd. E., Unit # 10
Mississauga, Ontario L4Z 3C9
CANADA
Tel: 905-712-0722
Fax: 905-712-0027
info@ca.mikropul.com

www.mikropul.com

MikroPul, S de RL de CV
Av. Lomas Verdes No. 480-302B
Col. Lomas Verdes
CP 53120 Naucalpan
Edo. de Mexico

Tel: 52-55-5343-8224
Fax: 52-55-5344-5081
info@mx.mikropul.com

Europe

MikroPul GmbH & Co. KG
Welserstrasse 9-11
D-51149 Cologne
GERMANY

Tel: +49-2203-9391-0
Fax: +49-2203-9391-293
info@mikropul.de

MikroPul France
Parc Club du Moulin à Vent
33, Avenue Dr. Georges Lévy
69693 Vénissieux Cédex
FRANCE

Tel: +33 478 78 9005
Fax: +33 478 01 9458
mikropul@easynet.fr

Asia/Pacific

MikroPul Australia Pty Ltd
1 Toohey Road
Wetherill Park, NSW 2164
AUSTRALIA
Tel: 61-2-9756-2933
Fax: 61-2-9756-3120
mikropul.syd@tpg.com.au

Africa

MikroPul (Pty.) Limited
Evapark Block B
Cnr DF Malan Dr. & Judges Ave.,
Cresta, Johannesburg
SOUTH AFRICA
Tel: +27-(11)-478-0456
Fax: +27-(11)-478-0371
sales@mikropul.co.za



MIKROPUL

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