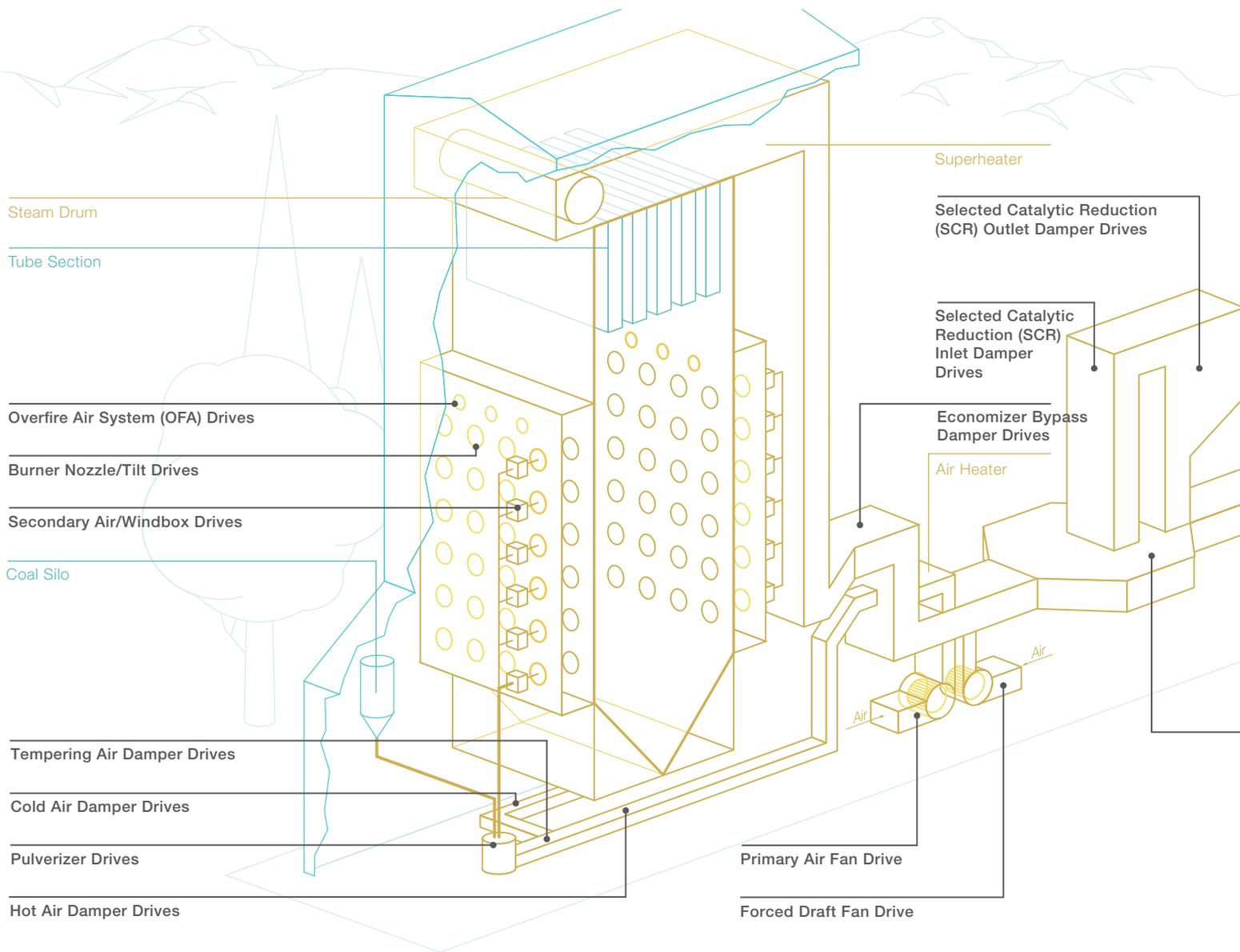




ABB Instrumentation

# ABB damper drive solutions Building on the Bailey heritage

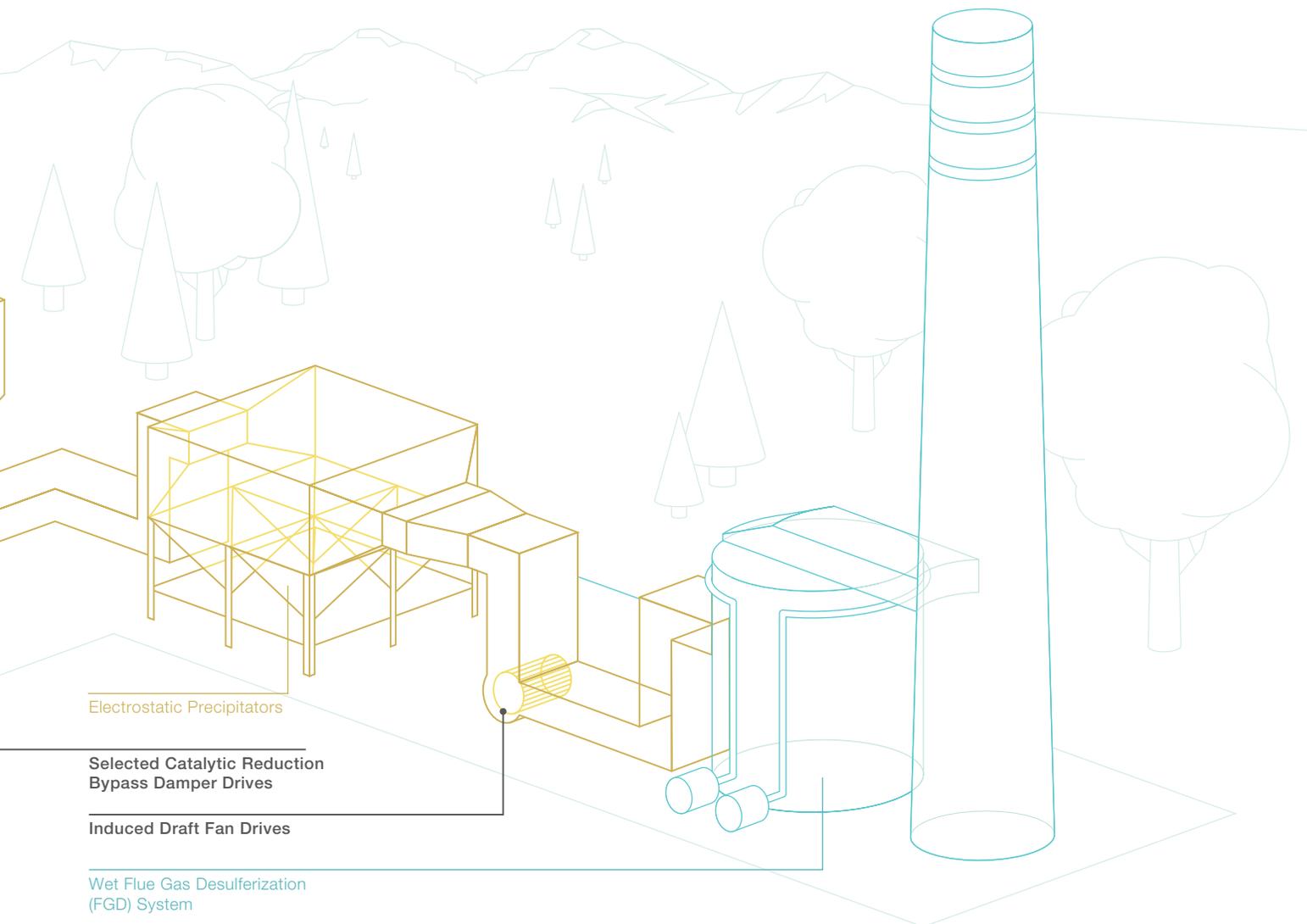


## It's time for improved boiler control

The average power plant has hundreds of actuators controlling airflow and other process variables to maximize the combustion process and minimize emissions.

If these are over 10 years old, they are not providing the accuracy needed to control fuel costs and emissions wasting \$100,000's per year.

ABB has a full-line of actuators and positioners to upgrade or replace damper drives from Bailey or any other manufacturer, resulting in more efficient boiler operation and reduced costs.



# Re-energize boiler performance and lower costs

## Did you know?

- According to Electric Power Research Institute (EPRI) calculations; improving excess O<sub>2</sub> control 0.5% with tighter FD / ID fan damper positioning can result in 0.15% heat rate improvement. For a 500 MW coal fired boiler, that can result in \$120,000 per year fuel savings!

### Improved heat rate

Old damper actuators do not respond quickly and accurately to signals from the control system resulting in inefficient combustion. The result is poor heat-rate and undesirable emissions. Upgrading your actuators improves these and can result in immediate fuel savings.

### Emissions Reduction

Avoid expensive fines, upgrading or replacing old OFA, SOFA or fuel/air damper actuators helps reduce emissions and the fines associated with not meeting EPA directives.

### Reduce maintenance costs

Old damper actuators result in increased repair and maintenance expenses. Upgrading them reduces maintenance and the associated costs in terms of spares, time and unplanned shutdowns.

### Reduce operating costs

Upgrading damper actuators saves fuel costs by reducing process variability. ABB's pneumatic positioners also have low air consumption reducing compressor operating costs. Given the number of final control elements in the average plant, the total cost savings can reach \$100,000's per year.



## Damper drives over 10 years old are costing you money

### Did you know?

- ABB purchased Bailey in 1999 and fully supports all of their products including the thousands of Bailey damper drives installed over the years. We have OEM spare parts, upgrades and replacements for all the Bailey models.

#### Upgrade your existing Bailey damper drives to enhance your existing investment

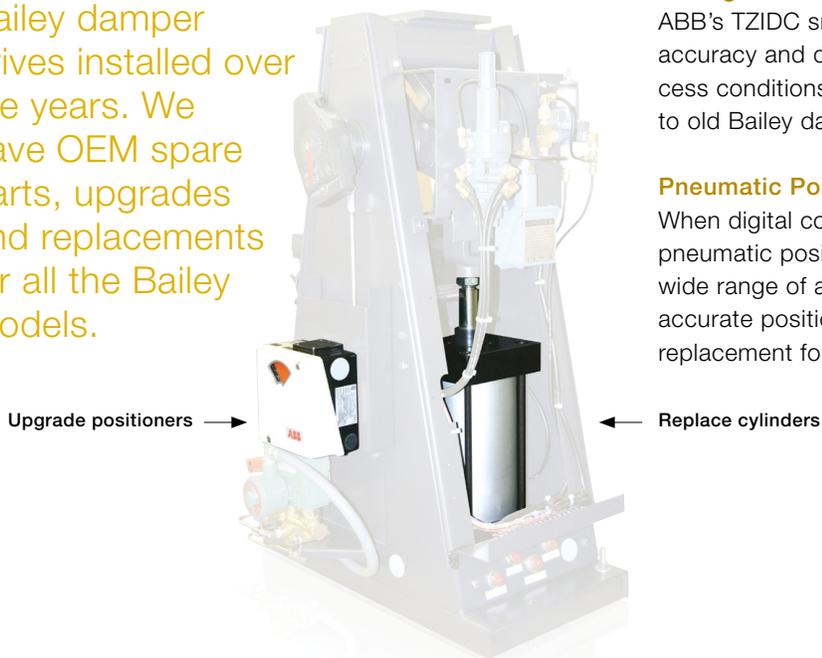
As the original manufacturer, ABB offers new cylinders and positioners that can increase the performance and efficiency of your existing Bailey damper actuator.

#### Intelligent Electropneumatic Positioners

ABB's TZIDC smart positioner has best-in-class positioning accuracy and delivers reliable operation under harshest process conditions. The TZIDC brings digital communications to old Bailey damper drives via an upgrade kit.

#### Pneumatic Positioners

When digital communications are not needed the ABB AV pneumatic positioners are control devices that satisfy a wide range of applications. They provide fast, sensitive, and accurate positioning of damper drives. The AV is a direct replacement for old Bailey positioners.





## Experience maximum boiler performance with new damper drives

To obtain maximum performance improvements a complete damper drive replacement may be needed. ABB offers a variety of solutions that are designed to be direct replacements of your old damper drives to maximize boiler efficiency and minimize fuel costs and emissions.

### Did you know?

- ABB manufactures upgrades for the following Bailey AC Series Air-Operated Rotary Damper Actuators: AC0404, AC0608, AC0816, & AC1016.



Contrac RHD 250 on Damper

### Bailey Rotary Actuator Upgrade Guide

Old Bailey Drives*		AC0404	AC0608	AC0816	AC1016
ABB Upgrade Solutions	Pneumatic	UP1 or UP2	UP2 or UP3	UP4 or UP5	UP6
	Electrical	PME120	RHD500	RHD1250 or RHD2500	RHD4000

\*Contact ABB for Bailey simple cylinder linear actuator upgrades

# ABB Actuator and Positioner Solutions

## Pneumatic Rotary Actuators

UP Models		UP1	UP2	UP3
Specifications	Rated Torque ft.lb/Nm	90/122	450/610	800/1085
	Supply Pressure psi/Kpa	100/690	100/690	100/690

## Electric Rotary Actuators

Contrac Models		PME120	RHD250	RHD500	RHD800
Specifications	Rated Torque ft.lb/Nm	80/100	200/250	400/500	600/800
	Stroke Time sec/90°	20	10	10	10

## Pneumatic Linear Actuator

LP Models		LP10	LP20	LP30
Specifications	Rated Torque at Damper Lever for 90° Rotation ft.lb/Nm	79/107	151/205	724/982
	Cylinder Bore x Stroke (inches)	2.5x5	4x4	6x8
	Supply Pressure psi/Kpa	90/620	90/620	90/620

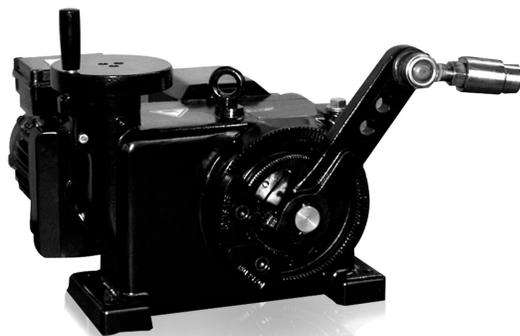
ABB's broad damper actuator line delivers quality, power and performance to a wide range of industries, especially power utility plants. They excel in applications where exact control and speed can save fuel costs or improve efficiency e.g. forced draft and induced draft dampers. They utilize the power of digital technology to provide exact control and built-in diagnostics.

## Did you know?

- ABB's Contrac drives are maintenance free for 10 years!



UP5/6 Pneumatic Actuator



RHD500 Contrac Electric Actuator

- **Electric Rotary Actuators:** ABB Contrac Actuators are the premier choice for the power industry and other industrial environments where high performance and superior reliability are demanded. With a wide range of output torque they are available in sizes to meet all requirements. Offering high accuracy, ease of use and minimal scheduled maintenance, these damper drives are the ultimate upgrade to your old installations.
- **Pneumatic Rotary Actuators:** ABB UP's are built on the Bailey heritage and designed as a direct replacement for the old series of Bailey damper drives. The ABB UP1 through UP6 are available with torque ratings of 90 to 4700 ft.lbs making them suitable for most damper applications.
- **Pneumatic Linear Actuators:** The ABB LP series of actuators provide a cost-effective linear actuation solution that is ideally suited for applications like windbox dampers and louvers. The LP is a direct drop-in replacement for many "older" piston actuators.

<b>UP4</b>	<b>UP5</b>	<b>UP6</b>	<b>UP6 M/S</b>
1450/1966	2800/3796	4700/6372	9400/12744
100/690	100/690	100/690	100/690

<b>RHD1250</b>	<b>RHD2500</b>	<b>RHD4000</b>	<b>RHD8000</b>	<b>RHD16000</b>
1000/1250	1900/2500	3000/4000	6000/8000	12000/16000
12	10	10	12	30

<b>LP32</b>	<b>LP40</b>	<b>LP50</b>	<b>LP60</b>
1447/1962	1318/1787	2634/3571	4107/5568
6x16	8x8	8x16	10x16
90/620	90/620	90/620	90/620



LP10 Linear Actuator with TZIDC Smart Positioner

## Did you know?

- ABB’s broad line of damper actuators include pneumatic or electric with linear or rotary motion. We can solve almost every damper drive application in your plant.

### Digital and Analog Positioner Solutions

Positioner Model	Communication
TZIDC	4-20mA HART
TZIDC-110	Profibus-PA
TZIDC-120	FOUNDATION Fieldbus
AV1	Pneumatic 3-15 psi
AV2 and AV3	Electro-pneumatic 4-20mA

## What’s Next?

As you see, ABB fully supports Bailey Damper Drives with upgrades and replacements. For assistance identifying all of the damper actuators in your plant that can be upgraded or replaced, please contact your local ABB Instrumentation sales representative.

Questions? Call 1-800-HELP-365



LP20 Pneumatic Linear Actuators with AV Positioners Installed on Windbox Dampers

# Contact us

## **ABB Inc.**

125 E. County Line Road

Warminster, PA

18974-4995

Tel: +1 215 674 6000

Fax: +1 215 674 7183

E-mail: [instrumentation@us.abb.com](mailto:instrumentation@us.abb.com)

Contact ABB Instrumentation  
for details on other services  
we offer including:

Repairs

Calibration

Analytical Services

Device Management

Start-up and Commissioning

**For service call:**

**1-800-HELP-365**

The Company's policy is one of continuous product improvement and the right is reserved to modify the information contained herein without notice.

Printed in USA (12.09 Duke 2K)

[www.abb.com/instrumentation](http://www.abb.com/instrumentation)

Power and productivity  
for a better world™ 