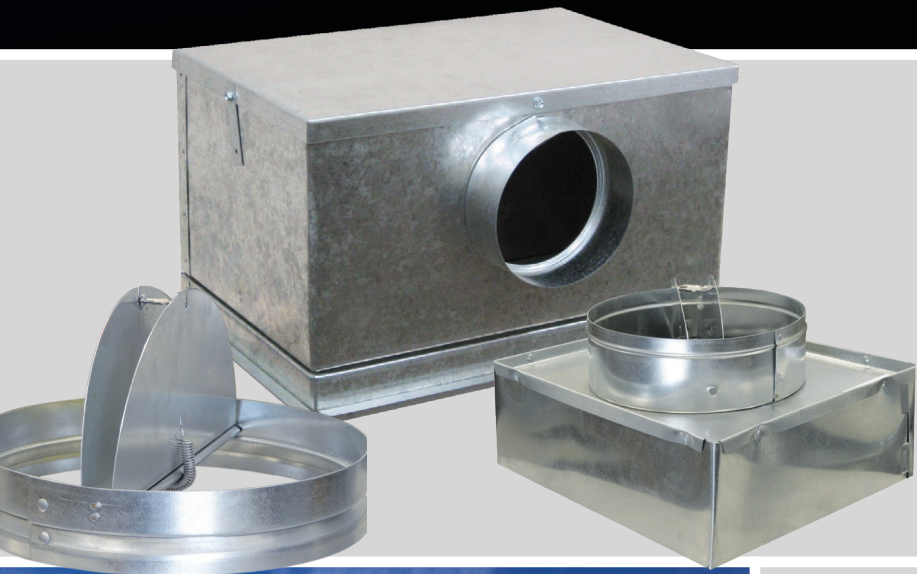


# *C&S Air Products*

**CEILING RADIATION DAMPERS • FIRE DAMPERS • SMOKE DAMPERS  
COMBINATION FIRE/SMOKE DAMPERS • REMOTE CONTROL DAMPERS  
BACKDRAFT DAMPERS • LOUVERS**



# QUICK SELECTION GUIDE

C&S product selection at a glance.

MODEL	UL555 FIRE RESISTANCE RATING (HR)	BLADE TYPE	MINIMUM SIZE (IN)	MAXIMUM SIZE (IN)	SLEEVE OUTLET BOX	DUCT CONNECTION		OUTLET BOX R VALUE	PAGE
						TOP	SIDE		
<b>CEILING RADIATION DAMPERS</b>									
RD2	3	BUTTERFLY	4×6	24×24	○	●	○	–	1
RD4	3	LOW PROFILE	6×12	24×24	○	●	○	–	
RD2-R	3	ROUND	4Ø	24Ø	○	●	–	–	
RD8	3	CURTAIN	4×4	24×24	○	●	○	–	
<b>CEILING RADIATION DAMPERS – WOOD TRUSS SYSTEMS</b>									
RD-521	1	BUTTERFLY	4×6	18×18 24w or 20h ≤ 324 in <sup>2</sup>	●	○*	●	–	1
RD-521-90	1	BUTTERFLY	4×6	12×12 14w or 10h ≤ 144 in <sup>2</sup>	●	–	–	–	
RD-521-BT	1	BUTTERFLY	4×4	12×12 24w or 24h ≤ 144 in <sup>2</sup>	●	●	–	R-6.3 or 8.0	
RD-521-IP	1	BUTTERFLY	4×6	16×16 24w or 20h ≤ 256 in <sup>2</sup>	●	○*	●	R-6.5 or 8.7	
RD-521-NP	1	BUTTERFLY	4×6	16×16 24w or 20h ≤ 256 in <sup>2</sup>	●	○*	●	–	
RD-521-NP90	1	BUTTERFLY	4×6	12×12 14w or 10h ≤ 144 in <sup>2</sup>	●	–	–	–	

\* See Installation instructions for duct connection size and location restrictions

○ OPTIONAL ● STANDARD

MODEL	UL555 FIRE RESISTANCE RATING (HR)	UL555S LEAKAGE RATING (HR)	BLADE TYPE	MODEL DESCRIPTION	STAINLESS OPTION	PAGE
<b>COMBINATION FIRE/SMOKE DAMPERS</b>						
FSD-121	1½	1	3V	3V BLADE – CLASS 1	–	2
FSD-122	1½	2	3V	3V BLADE – CLASS 2	●	
FSD-123	1½	3	3V	3V BLADE – CLASS 3	●	
FSD-181	1½	1	AIRFOIL	AIRFOIL BLADE – CLASS 1	–	
FSD-182	1½	2	AIRFOIL	AIRFOIL BLADE – CLASS 2	–	
FSD-181-SS	1½	1	STAINLESS AIRFOIL	STAINLESS STEEL AIRFOIL BLADE – CLASS 1	●	
FSD-182-SS	1½	2	STAINLESS AIRFOIL	STAINLESS STEEL AIRFOIL BLADE – CLASS 2	●	
FSD-125R	1½	1	ROUND	TRUE ROUND	●	
<b>SMOKE DAMPERS</b>						
SD-121	–	1	3V	3V BLADE – CLASS 1	–	2
SD-122	–	2	3V	3V BLADE – CLASS 2	●	
SD-123	–	3	3V	3V BLADE – CLASS 3	●	
SD-181	–	1	AIRFOIL	AIRFOIL BLADE – CLASS 1	–	
SD-182	–	2	AIRFOIL	AIRFOIL BLADE – CLASS 2	–	
SD-25R	–	1	ROUND	TRUE ROUND	●	
<b>FIRE DAMPERS</b>						
FD-120	1½	–	3V	TRIPLE-V BLADE	●	2
FD-180	1½	–	AIRFOIL	AIRFOIL BLADE	–	
<b>CURTAIN STYLE BLADES</b>						
FD-4D-A	1½	–	DYNAMIC	TYPE A – CURTAIN BLADE	●	
FD-4D-B	1½	–	DYNAMIC	TYPE B – CURTAIN BLADE	●	
FD-4D-C	1½	–	DYNAMIC	TYPE C – CURTAIN BLADE	●	
FD-4D-IMA	1½	–	DYNAMIC	TYPE A – INTEGRAL MOUNTING ANGLE	–	
FD-4D-IMB	1½	–	DYNAMIC	TYPE B – INTEGRAL MOUNTING ANGLE	–	
FD-2D-A	1½	–	DYNAMIC	TYPE A – HINLINE CURTAIN BLADE	–	
FD-2D-B	1½	–	DYNAMIC	TYPE B – THINLINE CURTAIN BLADE	–	
FD-4-A	1½	–	STATIC	TYPE A – CURTAIN BLADE	●	
FD-4-B	1½	–	STATIC	TYPE B – CURTAIN BLADE	●	
FD-4-C	1½	–	STATIC	TYPE C – CURTAIN BLADE	●	
FD4-IMA	1½	–	STATIC	TYPE A – INTEGRAL MOUNTING ANGLE	–	
FD4-IMB	1½	–	STATIC	TYPE B – INTEGRAL MOUNTING ANGLE	–	
FD-2-A	1½	–	STATIC	TYPE A – THINLINE CURTAIN BLADE	–	
FD-2-B	1½	–	STATIC	TYPE B – THINLINE CURTAIN BLADE	–	
<b>TRUE ROUND</b>						
FD-125R	1½	–	DYNAMIC	TRUE ROUND – FIRE DAMPER	●	2
FD-15-R	1½	–	STATIC	TRUE ROUND – FIRE DAMPER	–	

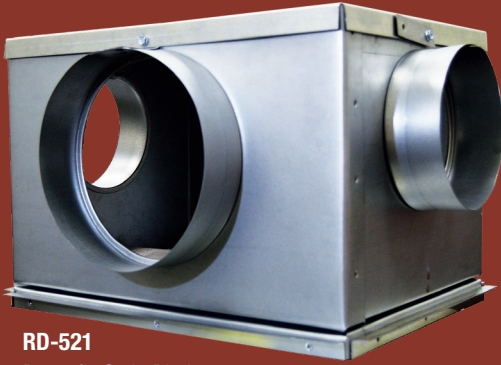
**Front Cover:** Top Right – Trefethan Family Vineyards – Napa, CA (Louvers and Backdraft Dampers)  
 Bottom Left – Greenleaf Elementary School – Oakland, CA (Drainable Louvers )

**Back Cover:** Top Right – Spartan Complex – San Jose University (Fire/Smoke Dampers)  
 Bottom Left – Parkside Psychiatric Hospital – Tulsa, OK (Life Safety Products )

MODEL	DAMPER DESCRIPTION		BLADE TYPE	PAGE
<b>AIR CONTROL – COMMERCIAL</b>				<b>3</b>
AC-41	COMMERCIAL		3V PARALLEL	
AC-42	COMMERCIAL		3V OPPOSED	
AC-45	COMMERCIAL		AIRFOIL PARALLEL	
AC-46	COMMERCIAL		AIRFOIL OPPOSED	
AC-51	COMMERCIAL		AIRFOIL PARALLEL	
AC-52	COMMERCIAL		AIRFOIL OPPOSED	
AC-53	COMMERCIAL		AIRFOIL PARALLEL	
AC-54	COMMERCIAL		AIRFOIL OPPOSED	
AC-21R	ROUND COMMERCIAL		SINGLE BLADE	
AC-22R	ROUND COMMERCIAL		OPPOSED BLADE	
AC-25R	ROUND COMMERCIAL		SINGLE BLADE	
<b>AIR CONTROL – INDUSTRIAL</b>				<b>3</b>
AC-81	INDUSTRIAL		3V PARALLEL	
AC-82	INDUSTRIAL		3V OPPOSED	
AC-83	INDUSTRIAL		3V PARALLEL	
AC-84	INDUSTRIAL		3V OPPOSED	
AC-85	INDUSTRIAL		3V PARALLEL	
AC-86	INDUSTRIAL		3V OPPOSED	
AC-91	INDUSTRIAL		AIRFOIL PARALLEL	
AC-92	INDUSTRIAL		AIRFOIL OPPOSED	
AC-93	INDUSTRIAL		AIRFOIL PARALLEL	
AC-94	INDUSTRIAL		AIRFOIL OPPOSED	
<b>AIR CONTROL – MANUAL BALANCING</b>				
AC-10	MANUAL BALANCING		SINGLE BLADE	
AC-10R	MANUAL BALANCING		SINGLE ROUND BLADE	
MD-41	MANUAL BALANCING		3V PARALLEL	
MD-42	MANUAL BALANCING		3V OPPOSED	
<b>REMOTE CONTROL BALANCING DAMPERS</b>				<b>3</b>
RCS-10	REMOTE MANUAL CONTROL		SINGLE BLADE	
RCS-10R	REMOTE MANUAL CONTROL		SINGLE ROUND BLADE	
RCS-42	REMOTE MANUAL CONTROL		3V OPPOSED OR SINGLE BLADE	
RD-10	REMOTE POWERED BALANCING		SINGLE BLADE WITH 9VDC ACTUATOR	<b>3</b>
RD-10R	REMOTE POWERED BALANCING		SINGLE ROUND BLADE WITH 9VDC ACTUATOR	
<b>BACKDRAFT DAMPERS</b>				
BD-10	LOW TO MEDIUM VELOCITY		BUTTERFLY BLADE	<b>3</b>
BD-10R	LOW TO MEDIUM VELOCITY		ROUND BUTTERFLY BLADE	
BD-130	LOW TO MEDIUM VELOCITY		EXTRUDED BLADE	
CBD-130	LOW TO MEDIUM VELOCITY		COUNTERBALANCED EXTRUDED BLADE	
BD-31	LOW TO MEDIUM VELOCITY		FABRIC STYLE BLADE	
BD-230	MEDIUM TO HIGH VELOCITY		EXTRUDED BLADE	
CBD-230	MEDIUM TO HIGH VELOCITY		COUNTERBALANCED EXTRUDED BLADE	
<b>LOUVERS–NON-DRAINABLE</b>				<b>4</b>
EJ-245	DEPTH	BLADE ANGLE	BLADE STYLE	
EJ-245	2"	45°	J STYLE BLADE	
EY-245	2"	45°	INVERTED Y STYLE BLADE	
EJ-437	4"	37.5°	J STYLE BLADE	
EY-445	4"	45°	INVERTED Y STYLE BLADE	
EJ-645	6"	45°	J STYLE BLADE	
<b>LOUVERS–DRAINABLE</b>				<b>4</b>
ED-245	2"	45°	DRAINABLE BLADE	
ED-437	4"	37.5°	DRAINABLE BLADE	
ED-645	6"	45°	DRAINABLE BLADE	

# CEILING RADIATION DAMPERS

## INSTALLATION OPTIONS FOR OUR WOOD TRUSS RATED CEILING RADIATION DAMPERS

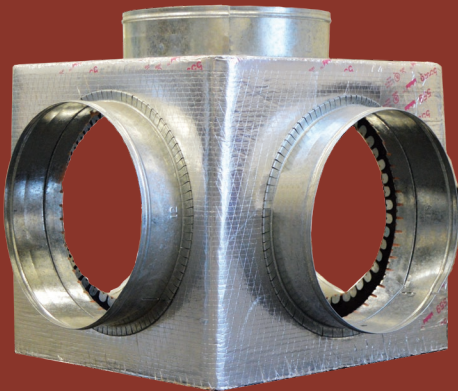


**RD-521**  
Butterfly Style Blade

When the RD-521, RD-521-IP or RD-521-NP damper is configured to close within 1/8" of the top of the gypsum board used in wood truss floor/ceiling and roof/ceiling assemblies, boot rails can be used to mount the damper to the rated assembly.

### ADDITIONALLY IN THIS CONFIGURATION, DUCT CONNECTIONS CAN NOW BE MADE:

- On the Top of the Damper
- On Any Combination of Sides in Any Size

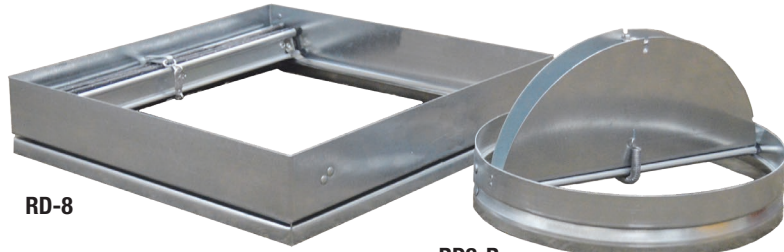


**RD-521-IP**  
With Multiple Connections

*The plenum height can be extended to allow duct connections in roof/ceiling assemblies with increased insulation to adhere to new guidelines.*

C&S ceiling radiation dampers employ butterfly or folded curtain style blades for point-of-origin control of radiant heat in HVAC systems. May be installed vertically in the ceiling membrane of floor-ceiling or roof ceiling assemblies.

- Fire resistance ratings up to and including 3 hours



**RD-8**

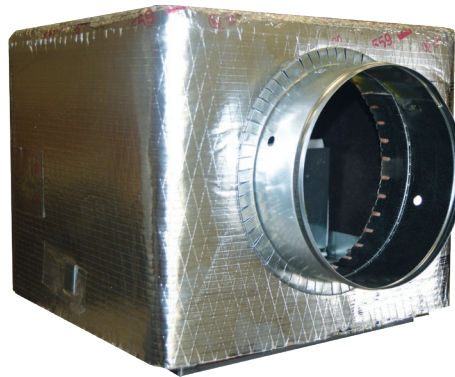
**RD2-R**



## WOOD TRUSS SYSTEMS

These ceiling radiation dampers employ butterfly blades for point-of-origin control of radiant heat in HVAC systems. May be installed vertically in the ceiling membrane of combustible floor-ceiling or roof-ceiling assemblies.

- Fire resistance ratings up to and including 1 hour



**RD-521-IP**  
R-6.5 or 8.7 Insulated Duct Board Outlet Box



**RD-521-90**  
90° Plenum Damper

**END PLENUM OPTION ADDS FLEXIBILITY WHEN INSTALLING OUR RD-521-90 CEILING RADIATION DAMPER**



**RD-521-BT**  
R-6.3 or 8.0 Insulated Outlet Box



**RD-521-NP**  
Field Installed Insulated Duct Board Outlet Box

# LIFE SAFETY PRODUCTS

## FIRE/SMOKE DAMPERS

Combination fire/smoke dampers combine the fire barrier protection of a fire damper and smoke control of a smoke damper. C&S tests all of our combination fire/smoke dampers to UL's stringent requirements for fire resistance and leakage control. Class 1, 2, and 3 UL 555S Ratings

- Meets NFPA Standards
- Stainless Steel Options Available
- CSFM Listing
- Maximum Temperature: 350°



CLASS 1 LEAKAGE AT 2000 FPM AND 4 IN. WG. AT A MAX SIZE OF 144" x 96"



**FSD-125R**  
True Round

**FSD-121**  
Triple-V Blade Combination  
Fire/Smoke Damper



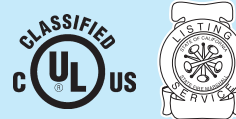
**SD-121**  
3V Blade  
Smoke Damper

## SMOKE DAMPERS

A smoke damper provides a positive shutoff of HVAC ducts to help prevent the spread of smoke through an air control system. C&S's smoke dampers pass UL's 555S stringent leakage testing requirements and are available in Class 1, 2, and 3.

- Meets NFPA Standards
- Stainless Steel Options Available
- CSFM Listing
- Maximum Temperature: 350°

**SD-25R**  
True Round



## COMMON BLADE STYLES



**Economical Roll-Formed  
Triple-V Grooved Blades**



**Low Profile Airfoil Blades  
for High Performance**

## FIRE DAMPERS

Fire dampers are fire protection products used in heating, ventilation, and air conditioning ducts to prevent the spread of fire inside the ductwork through fire-resistance rated walls and floors. Fire dampers are UL555 tested and designed to close upon the detection of elevated heat.

Fire dampers with curtain style blades are a cost savings solution to dynamic and static fire control. 1½ and 3 Hour UL 555 Rating

- System Pressures up to 6 in. wg.
- Meets NFPA Standards
- Stainless Steel Options Available
- CSFM Listing



**FD-140**  
Dynamic Fire Damper

OUR FD-4D IS THE LARGEST SINGLE SECTION CURTAIN FIRE DAMPER IN THE INDUSTRY

**BEST  
IN  
CLASS**



**FD4 Series**  
Curtain Blade Fire Dampers

# AIR CONTROL DAMPERS



**AC-41**  
3V I Blade

**AC-51**  
Airfoil Blade

## COMMERCIAL AND INDUSTRIAL

Air control dampers regulate airflow through ductwork by opening and closing their blades. They feature automatic air control and manual balancing for low to high pressure and velocity applications.

- 3V, Airfoil or Round Blade Models Available
- Rugged Channel Frames
- Ultra-Low Leakage Option Available

*Ultra-low leakage options for our Industrial Control Dampers make them ideal for high performance air intake and discharge applications where leakage is critical.*

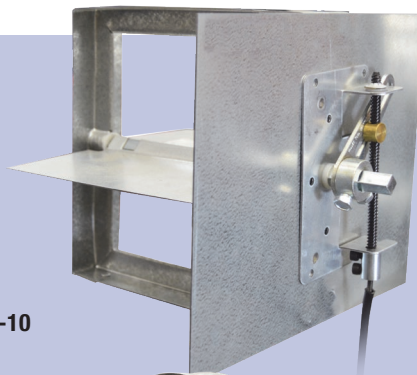


**AC-81**  
3V Blade – Industrial Damper

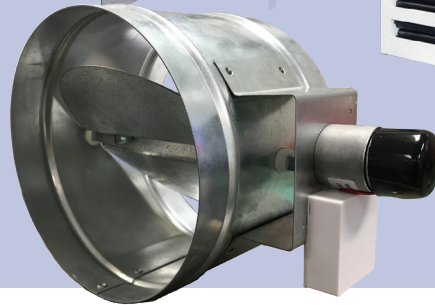
## REMOTE CONTROL DAMPERS

C&S Remote Control Dampers allow on-the-fly adjustments of HVAC mechanical systems. We offer both powered and manually adjusted models, and a new option that allows for adjustment behind your diffuser screen.

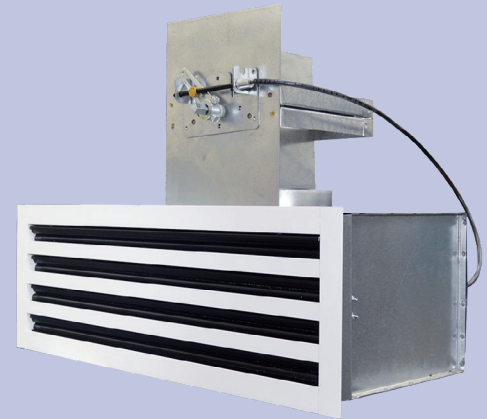
- RD-10R is maintenance free, easy to install, and requires no permanent power source.
- RCS-10 features an integrated screw drive assembly for remote cable operated manual air control and balancing.



**RCS-10**



**RD-10R**



RCS-10 and RCS-10R have a slot mounted option for slot style diffusers.



**BD-130**  
**CBD-130**



**BD-10R**

## BACKDRAFT DAMPERS

C&S backdraft dampers employ gravity operated extruded style blades to restrict reverse airflow and to permit the forward flow of air in the intended direction. The dampers can be mounted vertically or horizontally (airflow up) in either exhaust or intake installations.

- Low to Medium Models Available
- Medium to High Models Available
- Adjustable Counterbalances Available
- Fabric Blade Model Available – Cost Effective

## DRAINABLE LOUVERS

Drainable Blade Louvers are designed to prevent water penetration in non wind-driven rain applications by directing water into the frame and blade gutters and channeling it into downspouts and away from airflow paths.

- 2, 4 and 6 inch frames available
- 37.5 and 45 degree blades available

## NON-DRAINABLE LOUVERS

Non-Drainable Louvers feature extruded aluminum blades and are designed for intake and exhaust applications where protection against water infiltration is not critical.

- 2, 4 and 6 inch frames available
- 37.5 and 45 degree blades available

*Our louvers are available in special custom shapes and a wide array of anodized and painted finishes including custom color matching.*



## BEST WARRANTY IN THE INDUSTRY

*To reinforce our reputation for high quality products and dependable service, C&S offers a 5-year warranty on our entire line of louver products.*

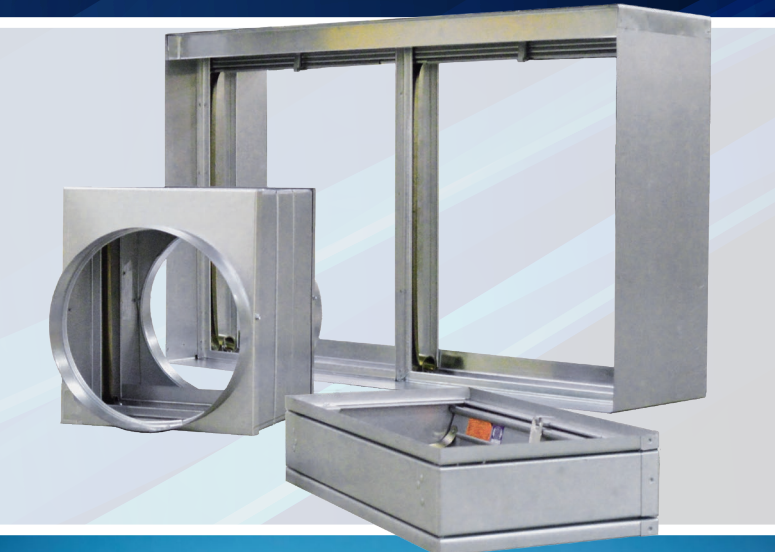
*“By backing every product we ship with a 5-year warranty, we reinforce the depth of our commitment to providing customers quality products the first time and every time.”*

*– Pat Cockrum, President, C&S Air Products*

**5**  
year  
warranty

Innovation, quality, performance and service are what differentiate C&S Air Products from the competition. It is our experience, versatility, and ability to react quickly to our customer's needs which makes us the choice for architects and engineers.

- Commitment to personal and technical service
- Wide range of quality products
- Products delivered on time and on budget
- Innovative solutions for your design requirements
- Industry leading 5-year warranty



# C&S Air Products