

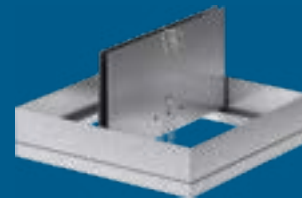
Damper Selection Guide



**Backdraft
Dampers**



Balancing Dampers



**Ceiling Radiation
Dampers**



**Combination Fire
Smoke Dampers**



Control Dampers



Fire Dampers



Smoke Dampers



Relief Dampers

Model	Frame Material	Blade Material	Velocity (FPM)	Pressure (in. wg)	Counter Balance	Airflow Direction					Mounting Position	Submittal	Installation Instructions	Drawings
						Vertical Up	Vertical Down	Horizontal	Angular Up	Angular Down				DWG
Commercial Backdraft														
BD-100	Galv. Steel	Aluminum	1500	2		✓					Horizontal		-	
BD-300	Galv. Steel	Aluminum	1500	2				✓			Vertical		-	
EM-1x Series	Aluminum	Aluminum	3500	10	✓	✓					Horizontal			
EM-3x Series	Aluminum	Aluminum	3500	10	✓			✓			Vertical			
EM-4x Series	Aluminum	Aluminum	3500	10	✓		✓				Horizontal			
WD-1xx Series	Galv. Steel	Aluminum	2500	1		✓					Horizontal		-	
WD-2xx Series	Galv. Steel	Aluminum	2500	1		✓	✓	✓			Horizontal, Vertical		-	
WD-3xx Series	Galv. Steel	Aluminum	2500	2				✓			Vertical		-	
WD-400, 420, 430	Galv. Steel	Aluminum	2500	2				✓			Vertical		-	
WD-410	Galv. Steel	Aluminum	2500	2			✓				Horizontal		-	
True Round Commercial Backdraft														
WDR-53	Galv. Steel	Aluminum	2000	3		✓	✓	✓			Horizontal, Vertical		-	

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Model	Blade Type	Damper Maximum Size	Velocity (FPM)	Pressure (in. wg)	Operator	Submittal	Installation Instructions	Drawings DWG
Manual Balancing Dampers								
MBD-10	Single Blade	36 x 12	2000	1	Manual Quadrant or Cable Operated			
MBD-15	3V	96 x 96	2000	4	Manual Quadrant or Cable Operated			
MBDR-50	True Round	24	2000	1	Manual Quadrant or Cable Operated		-	
Bowtie Damper								
BTDR-50	True Round	15	1600	1	Cable Operated			

Model	Blade Type	Fire Resistance Rating*	Leakage Class	Damper Maximum Size (Inches)			Submittal	Installation Instructions	Drawings
				Roof/Floor Assembly	Wood Truss Assembly	Wood Joist Assembly			DWG
Ceiling Radiation Dampers									
CRD-1	Butterfly	3 Hour	-	24 x 24	-	-			
CRD-1WJ	Butterfly	1 Hour (UL Wood Joist)	-	-	-	16 x 12			
CRD-1WT	Butterfly	1 Hour (UL Wood Truss)	-	-	21 x 18	-			
CRD-2	Round Butterfly	3 Hour	-	24	-	-			
CRD-2WT	Butterfly	1 Hour (UL Wood Truss)	-	-	12 x 12	-			
CRD-60	Curtain	3 Hour	-	24 x 24	-	-			

* Fire rated floor/ceiling assemblies.

*Maximum size can be single or multiple sections.

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Model	Blade Type	Fire Resistance Rating	Leakage Class	Damper Maximum Size*		Velocity (FPM)	Pressure (in. wg)	Submittal	Installation Instructions	Drawings	
				Horizontal	Vertical					DWG	Revit
Traditional Combination Fire Smoke											
FSD-211	3V	1 ½ hour	I	144 x 96	128 x 100	2000	6				
FSD-212	3V	1 ½ hour	II	144 x 96	128 x 100	2000	6				
FSD-311	Airfoil	1 ½ hour	I	144 x 96	128 x 100	4000	8				
FSD-312	Airfoil	1 ½ hour	II	144 x 96	128 x 100	4000	8				
FSD-331	Airfoil	3 hour	I	120 x 96	120 x 96	4000	8				
Vertical Blade Fire Smoke											
FSD-311V	Airfoil	1 ½ hour	I	-	100 x 32	4000	4				
Out of Wall Fire Smoke											
GFSD-211	3V	1 ½ hour	I	48 x 48	48 x 48	2000	4				
OFSD-211	3V	1 ½ hour	I	36 x 36	36 x 36	2000	6				
OFSD-311	Airfoil	1 ½ hour	I	32 x 30	32 x 30	4000	8				
True Round Fire Smoke											
FSDR-511	True Round	1 ½ hour	I	24	24	4000	4				

*Maximum size can be single or multiple sections.

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Model	Blade Type	Damper Maximum Size	Velocity (FPM)	Pressure (in. wg)	Leakage Class @ 1 in. wg	Submittal	Installation Instructions	Drawings	
								DWG	Revit
Commercial Control Dampers									
VCD-20	3V	Unlimited	3000	5	-				
VCD-23	3V	Unlimited	3000	5	1A				
VCD-33	Airfoil	Unlimited	4000	8	1A				
VCD-40	Airfoil	Unlimited	6000	6	1A				
VCD-42	Extruded Airfoil	Unlimited	6000	6	1A				
VCD-43	Extruded Airfoil	Unlimited	6000	8	1A				
Vertical Blade Control Dampers									
VCD-23V	3V	148 x 96	3000	5	1A				
VCD-33V	Airfoil	148 x 120	4000	8	1A				
Insulated Thermally Broken Control Dampers									
ICD-44	Extruded Aluminum	180 x 156	4000	8	1A				-
ICD-45	Extruded Aluminum - Thermally Broken	180 x 156	4000	8	1A				-
True Round Control Dampers									
VCDR-50	True Round	24	3000	4	-				-
VCDR-53	True Round	24	3000	4	1				-

*Maximum size can be single or multiple sections.

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Model	Blade Type	Fire Resistance Rating	Closure Rating	Damper Maximum Size*		Velocity (FPM)	Pressure (in. wg)	Submittal	Installation Instructions	Drawings
				Horizontal	Vertical					DWG
Multiblade Fire										
DFD-210	3V	1 ½ hour	Dynamic	128 x 96	128 x 100	4000	10			
DFDAF-310	Airfoil	1 ½ hour	Dynamic	144 x 96	128 x 100	4000	8			
DFDAF-330	Airfoil	3 hour	Dynamic	144 x 96	120 x 96	4000	8			
Out of Wall Fire										
ODFD-150	Curtain	1 ½ hour	Dynamic	30 x 30	36 x 36	4000	4			
OFD-150	Curtain	1 ½ hour	Static	36 x 36	36 x 36	-	-			
Traditional Curtain Fire										
DFD-110	Curtain	1 ½ hour	Dynamic	48 x 36	72 x 48 or 60 x 60	4000	4			
DFD-150	Curtain	1 ½ hour	Dynamic	48 x 36	72 x 48 or 60 x 60	4000	4			
DFD-350	Curtain	3 hour	Dynamic	40 x 36	48 x 48	4000	4			
FD-110	Curtain	1 ½ hour	Static	96 x 48	96 x 48	-	-			
FD-150	Curtain	1 ½ hour	Static	96 x 48 or 120 x 40	96 x 48 or 120 x 40 or 74 x 74	-	-			
FD-350	Curtain	3 hour	Static	80 x 40	48 x 48	-	-			
True Round Fire										
DFDR-510	True Round	1 ½ hour	Dynamic	24	24	2000	4			
Curtain Fire - Integral Sleeve										
DFD-150X12	Curtain	1 ½ hour	Dynamic	30 x 30	36 x 36	4000	4			
DFD-150X16	Curtain	1 ½ hour	Dynamic	30 x 30	36 x 36	4000	4			
FD-150X12	Curtain	1 ½ hour	Static	48 x 48	48 x 48	-	-			
FD-150X16	Curtain	1 ½ hour	Static	48 x 48	48 x 48	-	-			

*Maximum size can be single or multiple sections.

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Model	Blade Type	Leakage Class	Damper Maximum Size*		Velocity (FPM)	Pressure (in. wg)	Submittal	Installation Instructions	Drawings	
			Horizontal	Vertical					DWG	Revit
Traditional Smoke										
SMD-201	3V	I	128 x 100 or 144 x 96	128 x 100 or 144 x 96	2000	6				
SMD-202	3V	II	128 x 100 or 144 x 96	128 x 100 or 144 x 96	2000	6				
SMD-301	Airfoil	I	192 x 100	192 x 100	4000	8				
SMD-301M	Airfoil	I	128 x 100	128 x 100	2000	4				
SMD-302	Airfoil	II	192 x 100	192 x 100	4000	8				
Vertical Blade Smoke										
SMD-301V	Airfoil	I	-	100 x 32	4000	8				
True Round Smoke										
SMDR-501	True Round	I	24	24	4000	4				-

Model	Frame Material	Blade Material	Counter Balance	Velocity (FPM)	Back Pressure (in. wg)	Airflow Direction			Mounting Position	Submittal	Installation Instructions	Drawings
						Vertical Up	Vertical Down	Horizontal				DWG
Barometric Relief												
BR-1x Series	Galv. Steel	Aluminum	✓	2000	2	✓			Horizontal			
BR-3x Series	Galv. Steel	Aluminum	✓	2000	2			✓	Vertical			
BR-4x Series	Galv. Steel	Aluminum	✓	2000	2		✓		Horizontal			

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