

# Damper Selection Guide



Backdraft  
Dampers



Balancing Dampers



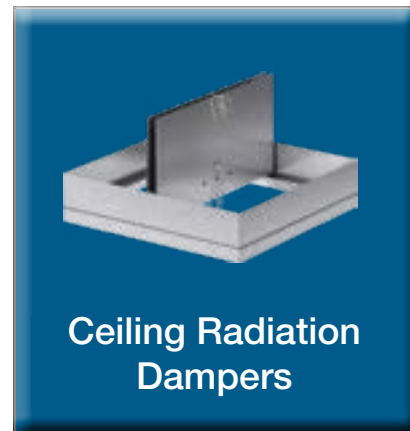
Control Dampers



Relief Dampers



Combination Fire  
Smoke Dampers



Ceiling Radiation  
Dampers



Fire Dampers



































































Smoke Dampers



Heavy-Duty/Industrial  
Dampers

















Bubble-Tight  
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				PDF	DWG
<b>Commercial Backdraft</b>													
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		-		
<b>True Round Commercial Backdraft</b>													
WDR-53	Galv. Steel	Aluminum	2000	3		✓	○	○	Horizontal, Vertical				
<b>Heavy-Duty/Industrial Backdraft</b>													
HB-110	Galv. Steel	Aluminum	3900	5	✓	○	○	✓	Horizontal, Vertical				
HB-120	Galv. Steel	Galv. Steel	5150	8.5	✓	○	○	✓	Horizontal, Vertical				
HB-230	Galv. Steel	Galv. Steel	5150	13.5	✓	○	○	✓	Horizontal, Vertical				
HB-240	Galv. Steel	Aluminum	5150	13.5	✓	○	○	✓	Horizontal, Vertical				
HB-330	Galv. Steel	Galv. Steel	6400	20	✓	○	○	✓	Horizontal, Vertical				
<b>True Round Heavy-Duty/Industrial Backdraft</b>													
HBR-050	Painted Steel	Painted Steel	3000	6	✓	○	○	✓	Horizontal, Vertical				
HBR-150	Painted Steel	Painted Steel	4000	6	✓	○	○	✓	Horizontal, Vertical				

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Model	Blade Type	Damper Maximum Size	Velocity (FPM)	Pressure (in. wg)	Operator	Submittal	Installation Instructions	Drawings	
								PDF	DWG
<b>Manual Balancing Dampers</b>									
MBD-10	Single Blade	36 x 12	2000	2	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		-		
<b>Bowtie Damper</b>									
BTDR-50	True Round	15	1600	1	Cable Operated			-	

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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			PDF	DWG
<b>Ceiling Radiation Dampers</b>										
CRD-1	Butterfly	3 Hour	-	24 x 24	-	-				
CRD-1LP	Low Profile 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	-	-				
CRD-60X	Curtain w/Insulation skirt	3 Hour	-	24 x 24	-	-				

























































\* Fire rated floor/ceiling assemblies.

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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					PDF	DWG	Revit
<b>Traditional Combination Fire Smoke</b>												
FSD-211	3V	1½ hour	I	144 x 96	128 x 100	2000	6					
FSD-212	3V	1½ hour	II	144 x 96	128 x 100	2000	6					
FSD-311	Airfoil	1½ hour	I	144 x 96	128 x 100	4000	8					
FSD-312	Airfoil	1½ hour	II	144 x 96	128 x 100	4000	8					
FSD-331	Airfoil	3 hour	I	120 x 96	120 x 96	4000	8					
<b>Vertical Blade Fire Smoke</b>												
FSD-311V	Airfoil	1½ hour	I	-	100 x 32	4000	4					
<b>Out of Wall Fire Smoke</b>												
GFSD-211	3V	1½ hour	I	48 x 48	48 x 48	2000	4					
OFSD-211	3V	1½ hour	I	36 x 36	36 x 36	2000	6					
OFSD-311	Airfoil	1½ hour	I	36 x 36	36 x 36	4000	8					
<b>True Round Fire Smoke</b>												
FSDR-511	True Round	1½ hour	I	24	24	3000	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		
								PDF	DWG	Revit
<b>Commercial Control Dampers</b>										
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					
<b>Vertical Blade Control Dampers</b>										
VCD-23V	3V	148 x 96	3000	5	1A					
VCD-33V	Airfoil	148 x 120	4000	8	1A					
<b>Insulated Thermally Broken Control Dampers</b>										
ICD-44	Extruded Aluminum	180 x 148	4000	8	1A					-
ICD-45	Extruded Aluminum - Thermally Broken	180 x 120	4000	8	1A					-
<b>True Round Control Dampers</b>										
VCDR-50	True Round	24	3000	4	-					-
VCDR-53	True Round	24	3000	4	1					-

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Model	Blade Type	Damper Maximum Size	Velocity (FPM)	Pressure (in. wg)	Leakage Class @ 1 in. wg	Submittal	Installation Instructions	Drawings	
								PDF	DWG
<b>Heavy-Duty/Industrial Control Dampers</b>									
HCD-120	3V	96 x 96	3000	8.5	See Submittal				
HCD-130	Airfoil	120 x 96	4000	8.5	See Submittal				
HCD-135	Insulated Airfoil	120 x 96	4000	8.5	See Submittal				
HCD-220	3V	96 x 96	4000	15	See Submittal				
HCD-221	Flat Dual Skin w/ Perimeter Seal	96 x 60	4000	10	Less than 1 cfm/ft <sup>2</sup>				
HCD-230	Airfoil	120 x 96	5000	15	See Submittal				
HCD-240	Extruded Airfoil	120 x 96	5000	15	See Submittal				
HCD-330	Airfoil	120 x 96	5000	25	See Submittal				
HCD-430	Airfoil	120 x 96	6000	35	See Submittal				
HCD-530	Airfoil	120 x 96	6000	45	See Submittal				
<b>True Round Heavy-Duty/Industrial Control Dampers</b>									
HCDR-050	True Round	24	3000	6	See Submittal				
HCDR-150	True Round	48	4000	6	See Submittal				
HCDR-152	Two-Blade	48	4000	6	See Submittal				
HCDR-250	True Round	72	5150	13.5	See Submittal				
HCDR-350	True Round	72	6400	20	See Submittal				
HCDR-351	True Round	48	6500	20	See Submittal				
HCDR-450	True Round	60	7000	30	See Submittal				

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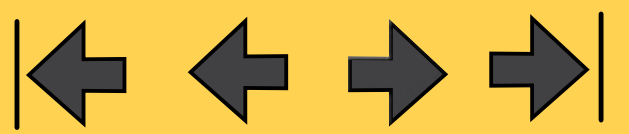
Model	Blade Type	Fire Resistance Rating	Closure Rating	Damper Maximum Size*		Velocity (FPM)	Pressure (in. wg)	Submittal	Installation Instructions	Drawings	
				Horizontal	Vertical					PDF	DWG
<b>Multiblade Fire</b>											
DFD-210	3-V	1½ hour	Dynamic	128 x 96	128 x 100	4000	10				
DFDAF-310	Airfoil	1½ hour	Dynamic	144 x 96	128 x 100	4000	8				
DFDAF-330	Airfoil	3 hour	Dynamic	144 x 96	120 x 96	4000	8				
<b>Out of Wall Fire</b>											
ODFD-150	Curtain	1½ hour	Dynamic	36 x 36	36 x 36	4000	4				
OFD-150	Curtain	1½ hour	Static	36 x 36	36 x 36	-	-				
<b>Traditional Curtain Fire</b>											
DFD-110	Curtain	1½ hour	Dynamic	48 x 36	72 x 48	4000	4				
DFD-150	Curtain	1½ hour	Dynamic	48 x 36	72 x 48 or 60 x 60 or 120 x 30	4000	4				
DFD-350	Curtain	3 hour	Dynamic	40 x 36	48 x 48	4000	4				
FD-110	Curtain	1½ hour	Static	96 x 48	96 x 48	-	-				
FD-150	Curtain	1½ 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	-	-				
<b>True Round Fire</b>											
DFDR-510	True Round	1½ hour	Dynamic	24	24	2000	4				
<b>Curtain Fire - Integral Sleeve</b>											
DFD-150X12	Curtain	1½ hour	Dynamic	30 x 30	36 x 36	4000	4				
DFD-150X16	Curtain	1½ hour	Dynamic	30 x 30	36 x 36	4000	4				
FD-150X12	Curtain	1½ hour	Static	48 x 48	48 x 48	-	-				
FD-150X16	Curtain	1½ 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					PDF	DWG	Revit
<b>Traditional Smoke</b>											
SMD-201	3V	I	144 x 96, 128 x 100, or 288 x 50	144 x 96, 128 x 100, or 288 x 50	2000	6					
SMD-202	3V	II	144 x 96, 128 x 100, or 288 x 50	144 x 96, 128 x 100, or 288 x 50	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					
<b>Vertical Blade Smoke</b>											
SMD-301V	Airfoil	I	-	100 x 32	4000	4					
<b>True Round Smoke</b>											
SMDR-501	True Round	I	24	24	3000	4					-

\*Maximum size can be single or multiple sections.

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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				PDF	DWG
<b>Barometric Relief</b>													
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				
<b>Heavy-Duty/Industrial Pressure Relief</b>													
HPR-120	Galv. Steel	Galv. Steel	✓	5150	8.5	✓	✓	✓	Horizontal, Vertical				
HPR-230	Galv. Steel	Galv. Steel	✓	5150	13.5	✓	✓	✓	Horizontal, Vertical				
HPR-330	Galv. Steel	Galv. Steel	✓	6400	20	✓	✓	✓	Horizontal, Vertical				

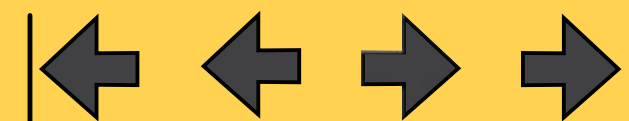
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Model	Blade Type	Damper Maximum Size	Velocity (FPM)	Pressure (in. wg)	Maximum Temperature	Submittal	Installation Instructions	Drawings	
								PDF	DWG
<b>Heavy-Duty/Industrial Control Dampers</b>									
HCD-120	3V	96 x 96	3000	8.5	400°F				
HCD-130	Airfoil	120 x 96	4000	8.5	400°F				
HCD-135	Insulated Airfoil	120 x 96	4000	8.5	250°F				
HCD-220	3V	96 x 96	4000	15	600°F				
HCD-221	Flat Dual Skin w/ Perimeter Seal	96 x 60	4000	10	400°F				
HCD-230	Airfoil	120 x 96	5000	15	600°F				
HCD-240	Extruded Airfoil	120 x 96	5000	15	250°F				
HCD-330	Airfoil	120 x 96	5000	25	600°F				
HCD-430	Airfoil	120 x 96	6000	35	600°F				
HCD-530	Airfoil	120 x 96	6000	45	600°F				
<b>Heavy-Duty/Industrial Round Control Dampers</b>									
HCDR-050	True Round	24	3000	6	250°F				
HCDR-150	True Round	48	4000	6	400°F				
HCDR-152	Two-Blade	48	4000	6	400°F				
HCDR-250	True Round	72	5150	13.5	600°F				
HCDR-350	True Round	72	6400	20	1000°F				
HCDR-351	True Round	48	6500	20	400°F				
HCDR-450	True Round	60	7000	30	400°F				

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Heavy-Duty Dampers cont...



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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				PDF	DWG
<b>Heavy-Duty/Industrial Pressure Relief</b>													
HPR-120	Galv. Steel	Galv. Steel	✓	5150	8.5	○	○	✓	Horizontal, Vertical				
HPR-230	Galv. Steel	Galv. Steel	✓	5150	13.5	○	○	✓	Horizontal, Vertical				
HPR-330	Galv. Steel	Galv. Steel	✓	6400	20	○	○	✓	Horizontal, Vertical				

Model	Frame Material	Blade Material	Velocity (FPM)	Pressure (in. wg)	Airflow Direction					Mounting Position	Submittal	Installation Instructions	Drawings	
					Vertical Up	Vertical Down	Horizontal	Angular Up	Angular Down				PDF	DWG
<b>Heavy-Duty/Industrial Backdraft</b>														
HB-110	Galv. Steel	Aluminum	3900	5	○	○	✓	○	○	Horizontal, Vertical				
HB-120	Galv. Steel	Galv. Steel	5150	8.5	○	○	✓	○	○	Horizontal, Vertical				
HB-230	Galv. Steel	Galv. Steel	5150	13.5	○	○	✓	○	○	Horizontal, Vertical				
HB-240	Galv. Steel	Aluminum	5150	13.5	○	○	✓	○	○	Horizontal, Vertical				
HB-330	Galv. Steel	Galv. Steel	6400	20	○	○	✓	○	○	Horizontal, Vertical				
<b>True Round Heavy-Duty/Industrial Backdraft</b>														
HBR-050	Galv. Steel	Galv. Steel	3000	6	○	○	✓			Horizontal, Vertical				
HBR-150	Painted Steel	Painted Steel	4000	6	○	○	✓			Horizontal, Vertical				

Model	Blade Type	Velocity (FPM)	Pressure (in. wg)	Maximum Temperature	Submittal	Installation Instructions	Drawings	
							PDF	DWG
<b>True Round Bubble-Tight Damper</b>								
HBTR-151	True Round	3900	10	250°F				
HBTR-451	True Round	6500	30	250°F				
HBTR-551	True Round	6500	40	250°F				
<b>Rectangular Bubble-Tight Damper</b>								
HBT-221	Rectangular	3900	10	250°F				
HBT-321	Rectangular	4000	20	250°F				

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