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## CBDR82 HEAVY DUTY ROUND COUNTERBALANCED BACKDRAFT DAMPER

### APPLICATION

Ruskin backdraft damper model CBDR82 is designed to open under flow and to prevent back-flow in industrial HVAC or process control systems. This damper is fitted with a counterweight assembly that can be field adjusted and calibrated to meet the specific airflow requirements of your unique system. The CBDR82 damper blade will begin to open when subjected to a minimum static pressure of 0.25" wg (62.2 Pa).



### STANDARD CONSTRUCTION

**FRAME**

Steel channel. See table for web width and thickness.

**BLADE**

Steel, stiffened as required. See table for thickness.

**AXLE**

Continuous, plated steel angle reinforced as required. See table for diameter.

**BEARINGS**

Stainless steel sleeve pressed into frame.

**BLADE STOP**

Full circumference steel bar.

**FINISH**

Aluminum paint with some parts mill galvanized.

**MINIMUM DIAMETER (D dimension)**

6" (152) I.D.

**MAXIMUM DIAMETER (D dimension)**

60" (1524) I.D.

**MAXIMUM SYSTEM PRESSURE**

(Refer to the CBDR82 Performance Data chart below)

**MINIMUM OPERATING CONDITIONS**

Blade begins to open at 0.25" wg (62.2 Pa); full-open at 1200 fpm (6.10 m/s)

**MAXIMUM TEMPERATURE**

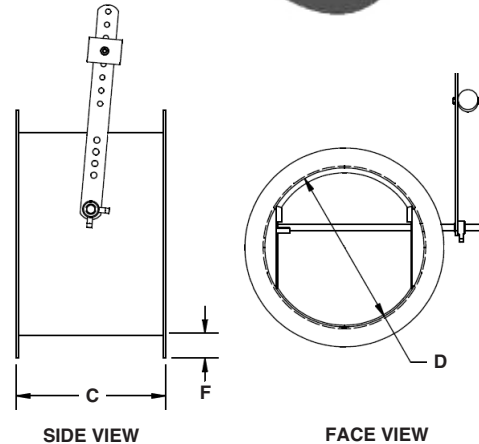
250°F (121°C) Standard. Available to 400°F (204°C) upon request.

Advise Ruskin of Maximum Design Temperature.

**SHIPPING WEIGHT**

1.77 lbs. per inch of I.D. circumference.

Dimensions in parenthesis ( ) indicate millimeters.



INSIDE DIAMETER (D)		FRAME		BLADE THICKNESS	AXLE DIAMETER
ABOVE	THROUGH	FLANGE (F)	WEB (C)		
≥6" (152)	8¾" (222)	1¼" x 10 ga.	6" x 10 ga.	10 ga.	½" (13)
8¾" (222)	11" (279)	1¼" x 10 ga.	8" x 10 ga.	10 ga.	½" (13)
11" (279)	14" (356)	1½" x 10 ga.	8" x 10 ga.	10 ga.	½" (13)
14" (356)	24" (610)	1½" x 1¼"	8" x 10 ga.	10 ga.	¾" (19)
24" (610)	42" (1067)	2" x 1¼"	8" x 10 ga.	¾" (19)	¾" (19)
42" (1067)	48" (1219)	2" x 1¼"	8" x 10 ga.	¾" (19)	1" (25)
48" (1219)	60" (1524)	2½" x 5/16"	8" x 3/16"	¼"	1" (25)

CBDR82 PERFORMANCE DATA						
DAMPER DIAMETER (I.D.)	MAXIMUM SYSTEM BACK PRESSURE In. wg (kPa)	MAXIMUM SYSTEM VELOCITY FPM (m/s)	LEAKAGE W/O SEALS		LEAKAGE WITH SEALS	
			% OF MAX FLOW	TOTAL CFM (l/s)	% OF MAX FLOW	TOTAL CFM (l/s)
60" (1524)	6" (1.5)	4000 (20.3)	0.29	225 (106)	0.06	45 (21)
48" (1219)	6" (1.5)	4000 (20.3)	0.35	175 (83)	0.07	35 (17)
36" (914)	8" (2.0)	4000 (20.3)	0.35	125 (59)	0.08	28 (13)
24" (610)	8" (2.0)	5000 (25.4)	0.45	85 (40)	0.13	25 (12)
12" (305)	10" (2.5)	6000 (30.5)	1.06	50 (24)	0.32	15 (7)
6" (152)	10" (2.5)	6000 (30.5)	2.12	25 (12)	0.68	8 (4)

FRAME	BLADE	SEALS (OPT)	BEARINGS	AXLE	ACCESSORIES (OPT)
STEEL CHANNEL - SEE CONSTRUCTION TABLE	STEEL STIFFENED AS REQUIRED - SEE TABLE	NEOPRENE BLADE SEAL 250°F (121°C)	SS SLEEVE	PLATED STEEL	BOLT HOLES in BOTH FLANGES (Standard Pattern)
304 SS (OPT)	304 SS (OPT)	SILICONE BLADE SEAL 400°F (204°C)	RELUBE BALL BEARING BOLTED TO FRAME (OPT)	304SS (OPT)	
316 SS (OPT)	316 SS (OPT)	EPDM BLADE SEAL 250°F (121°C)		316 SS (OPT)	
ALUMINUM (OPT)	ALUMINUM (OPT)	VITON BLADE SEAL 400°F (204°C)		ALUMINUM (OPT)	

QTY.	DIMENSIONS				BOLT HOLE ORIENT.		AIRFLOW DIRECTION			COMMENTS	TAG
	D Diameter	G Bolt Circle Diam.	H No. Holes	M Hole Diam.	S Straddle	T Parallel	Horizontal	Vertical Up	Vertical Down		

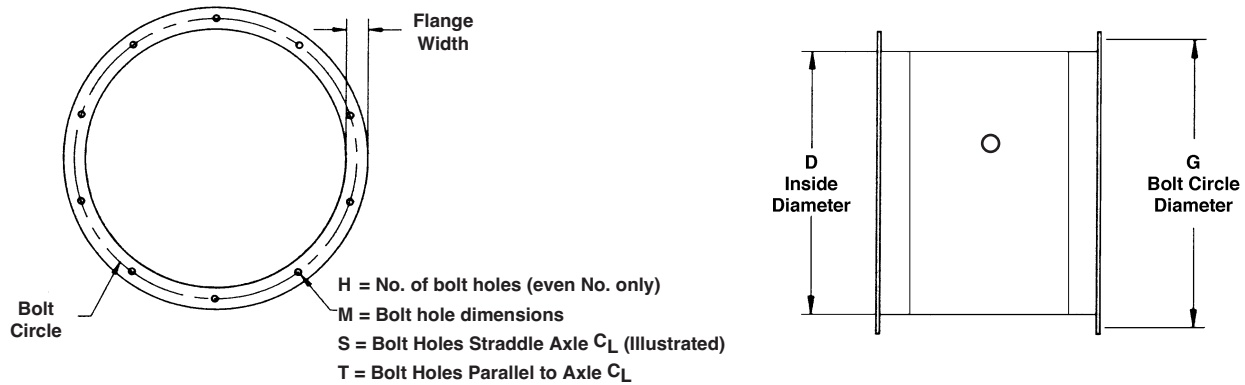
<b>JOB</b>	<b>LOCATION</b>
<b>CONTRACTOR</b>	

## SUGGESTED SPECIFICATION

Furnish and install, at locations on plans or in accordance with schedules, industrial grade round, counterbalanced backdraft dampers meeting the following specifications: Damper shall be manufactured in an ISO9001 certified factory. Damper shall be butterfly type consisting of single blade secured to axle within a welded, flanged, channel frame. Frames shall be constructed of hot-rolled steel channel of 10 gauge (3.5) minimum thickness with minimum 6" (152) depth and minimum 1 1/4" (31.75) flanges. Damper blade shall be constructed of hot-rolled steel of 10 gauge (3.5) minimum thickness and shall be a one-piece design pivoting

on a 1/2" (13) minimum diameter, offset-mounted continuous plated steel axle. Axle to be supported at each damper frame penetration by stainless steel sleeve bearings press-fit into the frame. Backdraft operation of the damper shall be accomplished by use of a zinc electro-plated counterbalance arm secured to the drive axle external to the airstream; onto which counterweights shall be attached in quantity and location as prescribed by manufacturer in order to provide proper functionality according to customer requirements. Industrial round backdraft damper shall be Ruskin model CBDR82.

### RUSKIN STANDARD BOLT HOLE PATTERN



Standard Bolt Circle "G" = Damper I.D. + Flange Width + 1/4"

DAMPER I.D.		H NO. OF HOLES	M HOLE/SLOT DIMENSIONS	DEGREES BETWEEN HOLES
ABOVE	THROUGH			
4" & above	6"	4	3/8"	90
6"	10"	6	3/8"	60
10"	14"	8	3/8"	45
14"	20"	10	3/8" x 1/2"	36
20"	28"	12	3/8" x 1/2"	30
28"	36"	16	3/8" x 1/2"	22 1/2
36"	42"	18	9/16" x 11/16"	20
42"	48"	20	9/16" x 11/16"	18
48"	58"	24	9/16" x 11/16"	15
58"	60"	30	9/16" x 11/16"	12

Ruskin can provide nonstandard bolt hole diameters and patterns to meet the requirements of your installation. Contact Ruskin for additional details.



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