

**AIR-RITE MANUFACTURING, LLC**

**MANUAL VOLUME**

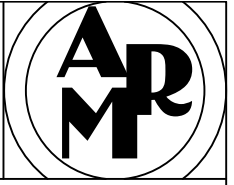
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**DAMPERS**

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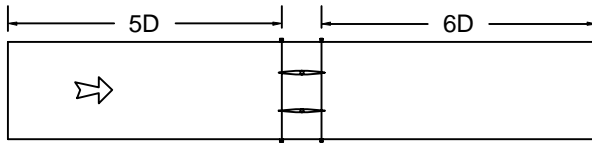




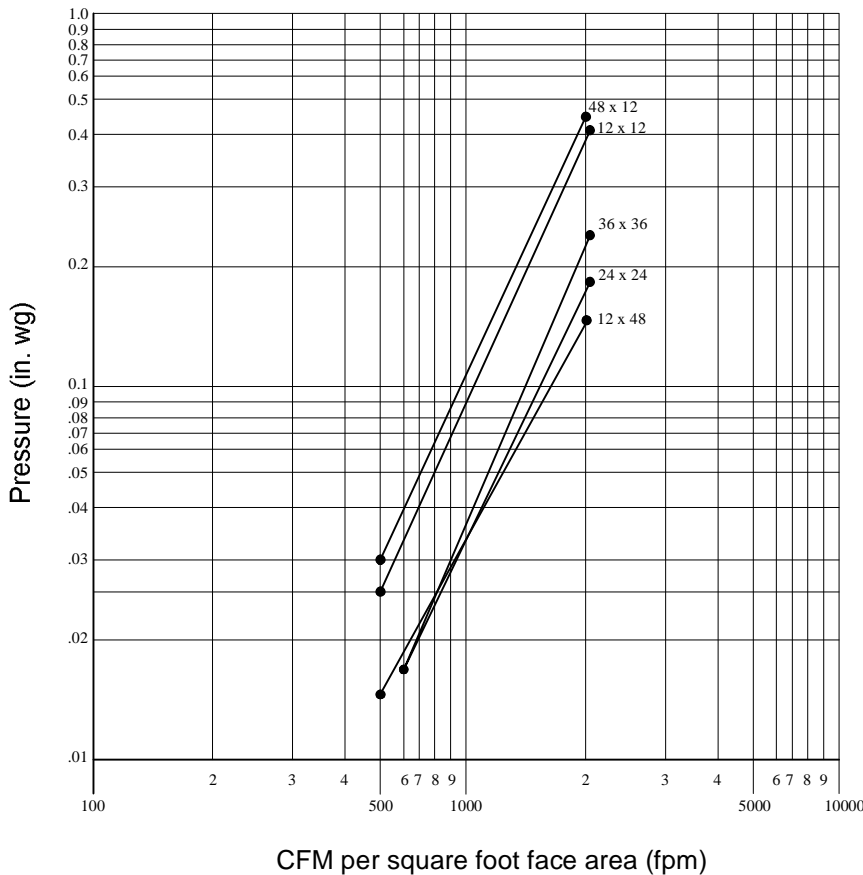
Catalog Date: April 2011

## SUBMITTAL DETAIL

## MODEL: CD-2 W/BLADE & JAMB SEALS



### VELOCITY VS. PRESSURE DROP



CFM per square foot face area (fpm)

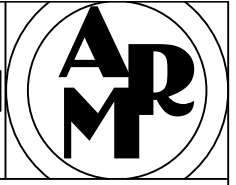
AMCA FIG. 5.3



Air-Rite Manufacturing, LLC. certifies that the CD-2 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA International Certified Ratings Seal applies to Air Performance and Air Leakage.

Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

12 in. x 12 in.		24 in. x 24 in.		36 in. x 36 in.		12 in. x 48 in.		48 in. x 12 in.	
Velocity (fpm)	Pressure Drop (in. wg)	Velocity (fpm)	Pressure Drop (in. wg)	Velocity (fpm)	Pressure Drop (in. wg)	Velocity (fpm)	Pressure Drop (in. wg)	Velocity (fpm)	Pressure Drop (in. wg)
500	.026 (.005)	500	.015	500	.015	500	.015	500	.03
800	.010 (.067)	800	.026	800	.031	800	.026	800	.07
1200	.021 (.150)	1200	.068	1200	.082	1200	.026	1200	.17
1600	.031 (.274)	1600	.125	1600	.149	1600	.104	1600	.29
2000	.052 (.416)	2000	.194	2000	.237	2000	.166	2000	.45



## SUBMITTAL DETAIL

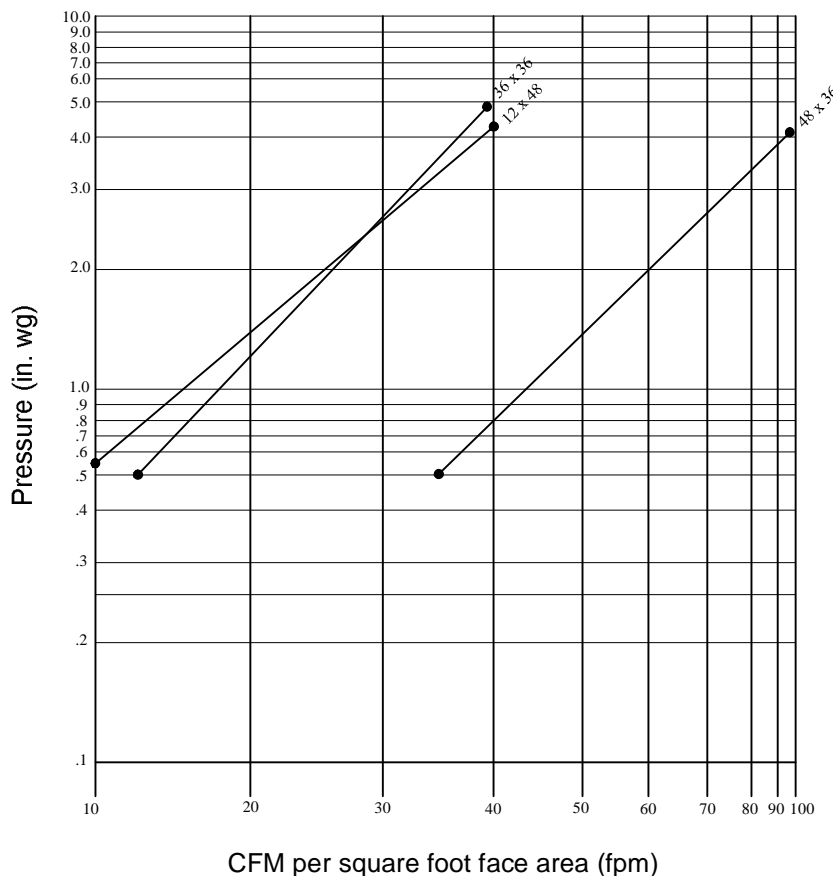
## MODEL: CD-2 W/BLADE & JAMB SEALS

### Air-Rite Leakage Rating

DAMPER WIDTH	1 in. w.g.	4 in. w.g.
12"	3	3
36"	3	3
48"	3	3

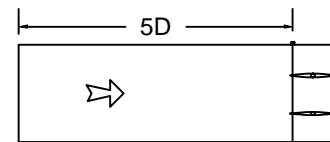


### AIR LEAKAGE FLOW RATE



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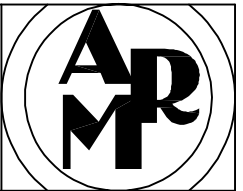
Actual leakage found in any HVAC system is a combination of many factors. This leakage information along with an analysis of other system influences should be used to estimate actual leakage rates for a damper installed in a given HVAC system.



Published air leakage data shall state that air leakage is based on operation between 0°C - 49°C (32°F - 120°F). Data are based on a torque of 35 in-lb/ft<sup>2</sup> (60 in-lb/ft<sup>2</sup> for 36 x 36) applied to close and seat the damper during the test.

Note: Stated torque value shall be the maximum of the samples tested. Any number greater than 0.2 shall be rounded to the next higher number.





## MODEL: CD-1 / CD-2

### STANDARD DAMPER PRICING

#### PARALLEL / OPPOSED BLADE DAMPERS

#### WIDTH

HEIGHT		12	16	20	24	28	32	36	40	44	48
	<b>12</b>	80.00	84.00	92.00	94.00	96.00	100.00	104.00	116.00	120.00	128.00
	<b>16</b>	96.00	100.00	104.00	108.00	116.00	116.00	124.00	136.00	140.00	152.00
	<b>20</b>	120.00	124.00	128.00	130.00	132.00	136.00	144.00	160.00	168.00	176.00
	<b>24</b>	132.00	144.00	152.00	152.00	156.00	160.00	164.00	180.00	188.00	200.00
	<b>28</b>	144.00	152.00	156.00	156.00	168.00	176.00	184.00	204.00	216.00	224.00
	<b>32</b>	156.00	168.00	168.00	176.00	184.00	196.00	196.00	216.00	228.00	244.00
	<b>36</b>	176.00	180.00	192.00	192.00	208.00	212.00	220.00	240.00	256.00	272.00
	<b>40</b>	188.00	196.00	212.00	212.00	216.00	228.00	236.00	260.00	276.00	296.00
	<b>44</b>	196.00	208.00	216.00	216.00	220.00	232.00	240.00	264.00	284.00	320.00
	<b>48</b>	212.00	220.00	228.00	232.00	236.00	244.00	256.00	280.00	296.00	336.00

**\*\* NOTE: FOR SIZES SMALLER THAN 12" X 12" USE MODEL CD-3 \*\***

ADD FOR ONE (1) PIECE CONSTRUCTION OF DAMPERS OVER 72" WIDE OR TALL: 15%

#### DAMPER OPTIONAL CONSTRUCTION PRICING

ADD FOR NEOPRENE BLADE AND STAINLESS STEEL JAMB SEALS: 35%

ADD FOR 1/2" ROUND QUAD. HANDLE: \$15.00

ADD FOR 3/8" SQUARE QUAD. HANDLE: \$8.00

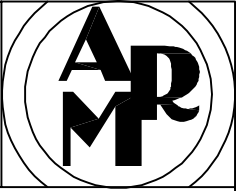
ADD FOR ELECTRIC DAMPER ACTUATOR: CONSULT FACTORY

ADD FOR NEOPRENE OR BRASS BUSHINGS: NO CHARGE

ADD FOR ALUMINUM CONSTRUCTION: CONSULT FACTORY

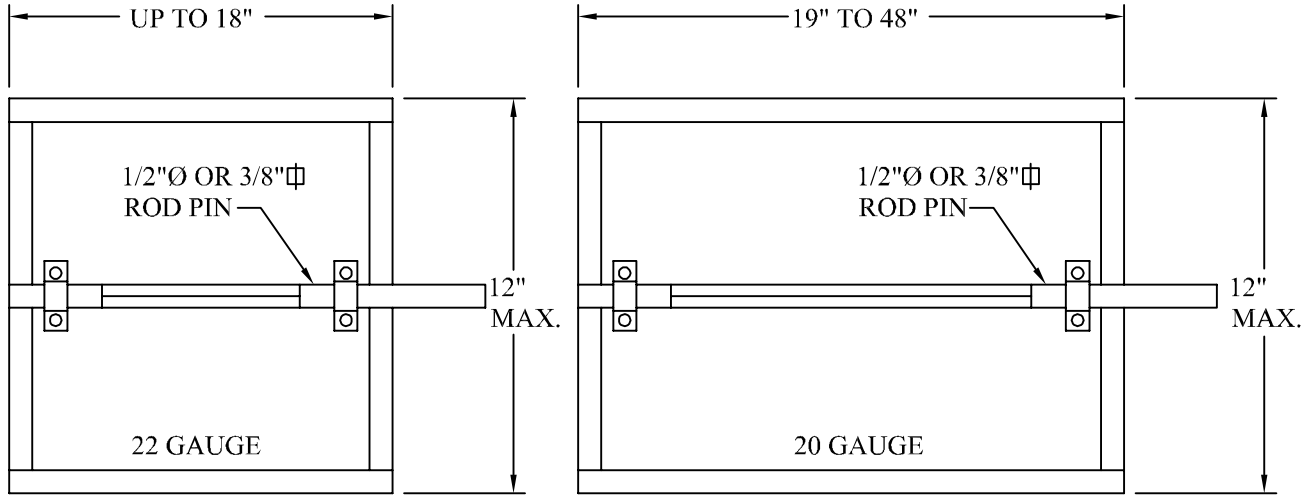
ADD FOR JACK SHAFTING: CONSULT FACTORY

STAND OFF WITH 3/8" QUAD HANDLE: \$15.00



**SUBMITTAL/FABRICATION DETAIL:**

**MODEL: CD-3 VOLUME DAMPERS-SINGLE BLADE TYPE**



1/8" CLEARANCE ALL AROUND

Count	W x H

Count	W x H

Standard Construction

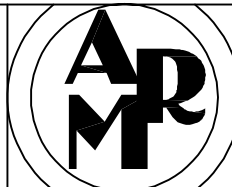
- 18 ga. galvanized steel frame.
- 22 ga. galvanized steel blade (up to 18").
- 20 ga. galvanized steel blade (19" to 48").
- 3/8" sq. x 6" drive pin.
- 1/2" bronze bushing.
- 18 ga. blade stop.

Optional Construction

- Blade and jam seals.
- Quade handle (1/2" or 3/8").
- Electric motor.
- 1/2" nylon bushing.
- 1/2"Ø x 6" drive pin.

Union "Blue Label" Made.

PROJECT NAME:
W/O #:
TAG #:
CONTRACTOR:
SUBMITTED BY:



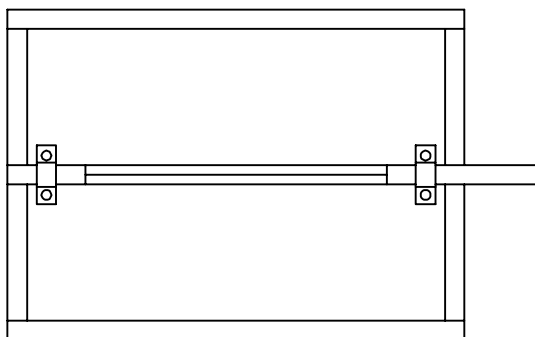
**MODEL: CD-3**

## STANDARD DAMPER PRICING

### SINGLE BLADE DAMPERS

#### WIDTH

HEIGHT	WIDTH											
	8	10	12	14	16	18	20	22	24	26	28	30
6	60.00	68.00	72.00	88.00	92.00	96.00	104.00	112.00	120.00	124.00	136.00	140.00
8	68.00	68.00	72.00	92.00	96.00	100.00	112.00	120.00	128.00	132.00	144.00	148.00
10	68.00	72.00	76.00	96.00	100.00	104.00	120.00	128.00	136.00	144.00	152.00	160.00
12	72.00	72.00	80.00	100.00	112.00	116.00	128.00	136.00	144.00	148.00	156.00	168.00
14	84.00	92.00	100.00	112.00	120.00	124.00	136.00	144.00	152.00	156.00	168.00	176.00
16	92.00	100.00	112.00	120.00	124.00	132.00	144.00	152.00	160.00	164.00	172.00	184.00
18	100.00	112.00	120.00	124.00	136.00	144.00	152.00	160.00	168.00	176.00	184.00	192.00
20	112.00	120.00	124.00	132.00	140.00	148.00	160.00	168.00	172.00	184.00	192.00	196.00

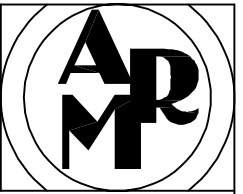


### DAMPER OPTIONAL CONSTRUCTION PRICING

- ADD FOR NEOPRENE BLADE AND STAINLESS STEEL JAMB SEALS: 35%
- ADD FOR 1/2" ROUND QUAD. HANDLE: \$15.00
- ADD FOR 3/8" SQUARE QUAD. HANDLE: \$8.00
- ADD FOR ELECTRIC DAMPER ACTUATOR: CONSULT FACTORY
- ADD FOR NEOPRENE OR BRASS BUSHINGS: NO CHARGE
- ADD FOR ALUMINUM CONSTRUCTION: CONSULT FACTORY
- ADD FOR JACK SHAFTING: CONSULT FACTORY
- ADD STAND OFF WITH 3/8" QUAD HANDLE: \$15.00



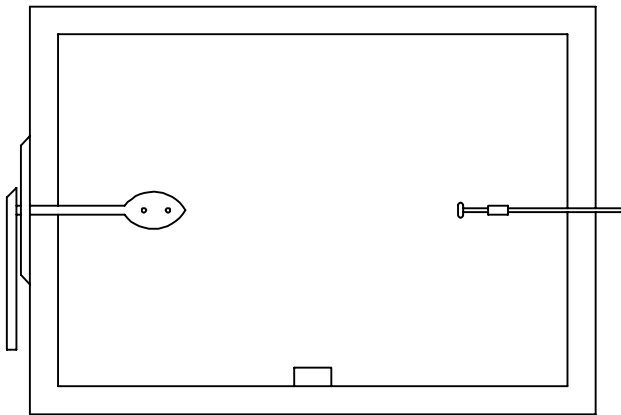




**MODEL: CD-4**

## STANDARD DAMPER PRICING

SINGLE BLADE DAMPERS (LIGHT GAUGE)



### DAMPER OPTIONAL CONSTRUCTION PRICING

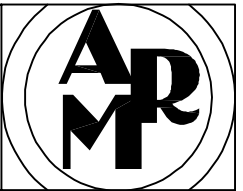
ALUMINUM CONSTRUCTION.....ADD 40%

### WIDTH

	8	10	12	14	16	18	20	22	24	26	28	30
6	40.00	44.00	44.00	44.00	48.00	52.00	56.00	60.00	64.00	68.00	68.00	76.00
8	44.00	44.00	44.00	48.00	52.00	56.00	60.00	64.00	68.00	72.00	72.00	76.00
10	44.00	48.00	48.00	52.00	56.00	60.00	64.00	68.00	72.00	72.00	72.00	80.00
12	46.00	52.00	52.00	56.00	60.00	64.00	68.00	72.00	76.00	76.00	76.00	84.00
14	50.00	52.00	60.00	60.00	64.00	68.00	72.00	72.00	76.00	80.00	80.00	88.00
16	52.00	60.00	60.00	64.00	68.00	68.00	72.00	76.00	80.00	84.00	84.00	92.00
18	60.00	60.00	64.00	68.00	68.00	72.00	76.00	80.00	84.00	88.00	88.00	96.00
20	60.00	64.00	68.00	72.00	72.00	76.00	80.00	84.00	88.00	92.00	92.00	100.00

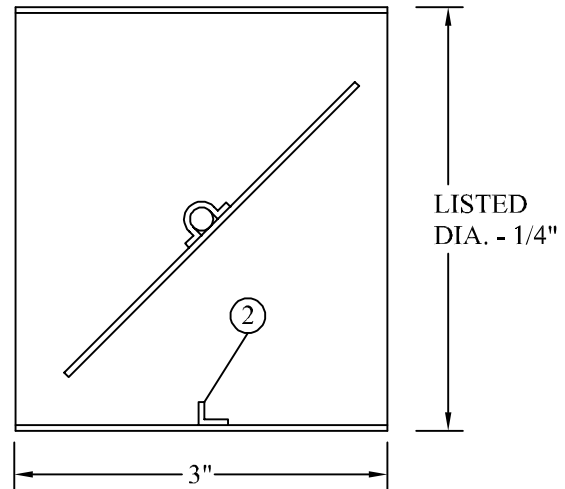
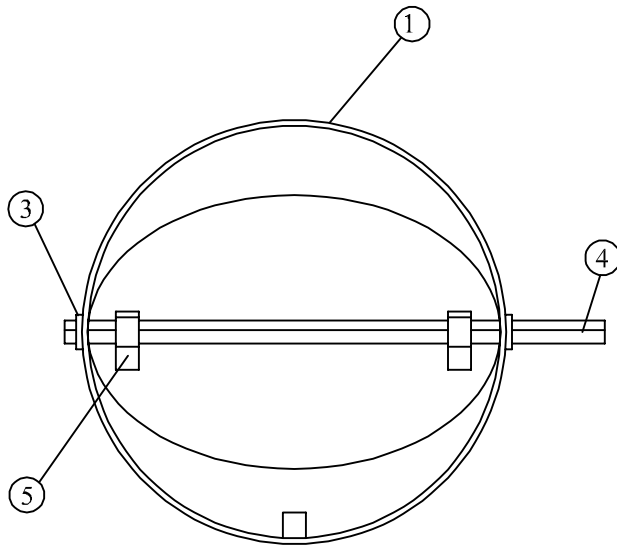
HEIGHT





**SUBMITTAL/FABRICATION DETAIL:**

**MODEL: CD-5A SINGLE BLADE ROUND DAMPER  
(W/CONTINUOUS 3/8" SHAFT.)**



Count	Size

**Standard Construction**

- ① -18 ga. galvanized steel frame.  
16 ga. galvanized steel blade.
- ② -3/8" angle blade stop.
- ③ -1/2" bronze bushing.
- ④ -3/8" Continuous Drive Shaft.
- ⑤ -Blade straps/slide pin.

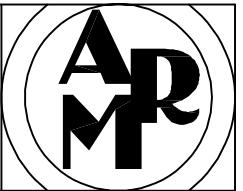
**Optional Construction**

- Blade and jam seals.
- Quadrant Handle (1/2" or 3/8").
- Electric motor.
- 1/2" nylon bushing.
- 1/2" x 6" drive pin.

Union "Blue Label" Made.

PROJECT NAME:
W/O #:
TAG #:
CONTRACTOR:
SUBMITTED BY:

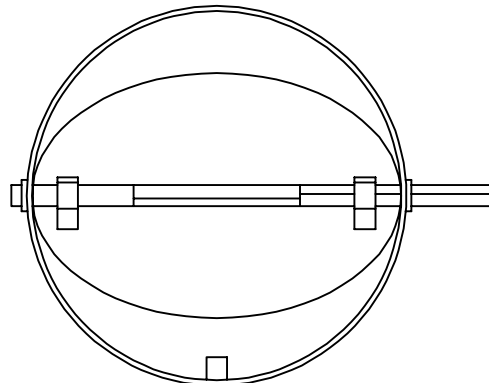
**PAGE: CD-5A**



**MODEL: CD-5, CD-5A**

## STANDARD DAMPER PRICING

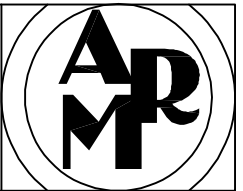
### SINGLE BLADE ROUND DAMPERS



<b>4"Ø THRU 5"Ø</b>	43.00
<b>6"Ø THRU 10"Ø</b>	48.50
<b>11"Ø THRU 12"Ø</b>	55.50
<b>13"Ø THRU 14"Ø</b>	64.50
<b>15"Ø THRU 16"Ø</b>	73.50
<b>17"Ø THRU 19"Ø</b>	79.00
<b>20"Ø THRU 22"Ø</b>	82.50
<b>23"Ø THRU 24"Ø</b>	88.00
<b>25"Ø THRU 26"Ø</b>	93.50

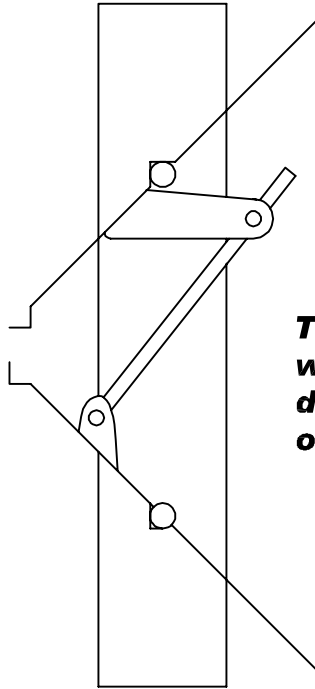
### DAMPER OPTIONAL CONSTRUCTION PRICING

FOR CD-5A CONSTRUCTION ADD:	15%
ADD FOR FOAM BLADE SEALS:	15%
ADD FOR ½" ROUND QUAD. HANDLE:	\$15.00
ADD FOR ¾" SQUARE QUAD. HANDLE:	\$8.00
ADD FOR ELECTRIC DAMPER ACTUATOR:	CONSULT FACTORY
ADD FOR ALUMINUM CONSTRUCTION:	35%

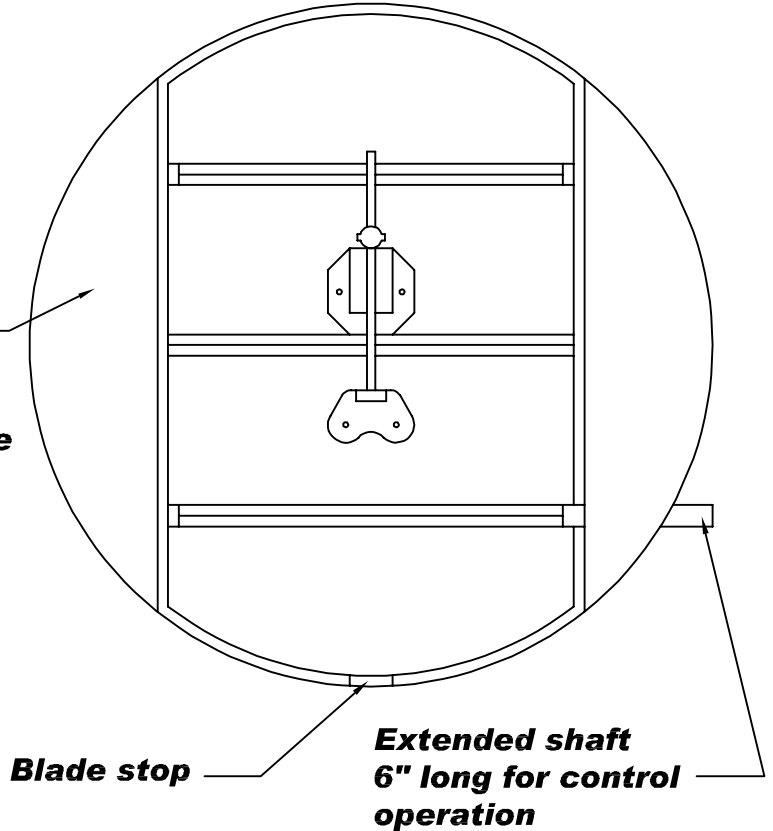


## SUBMITTAL/FABRICATION DETAIL

MODEL: CD-50B      ROUND OPPOSED BLADE VOLUME DAMPER



**This closed area will vary in size depending on overall damper size**



Count	W x L	Dia.

**Note: Damper will be built 1/4" undersized.**

**Minimum size: 12"Ø  
Maximum size: 48"Ø**

### Standard Construction

- Frame is 18 ga. galvanized steel with a welded seam, 3" wide.
- Blades are 18 ga. galvanized steel.
- Bearings are 1/2" oil impregnated bronze.
- Control shaft is 3/8" sq. stock.
- Blade hardware will be the slide pin type made of die cast steel.
- Blade stop is 18 ga. galvanized steel.
- Tie rods are 1/4" round stock.

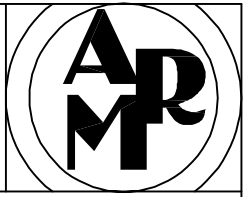
### Optional Construction:

- Neoprene blade & stainless steel jamb seals.

Union "Blue Label" Made.

PROJECT NAME:
W/O #:
TAG #:
CONTRACTOR:
SUBMITTED BY:

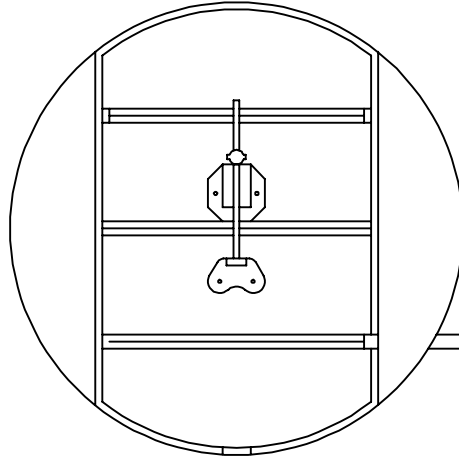
**PAGE: CD-50B**



**MODEL: CD-50B**

## STANDARD DAMPER PRICING

ROUND OPPOSED BLADE VOLUME DAMPER



	<b>LIST</b>
<b>12"Ø THRU 13"Ø</b>	<b>\$145.00</b>
<b>14"Ø THRU 17"Ø</b>	<b>\$168.00</b>
<b>18"Ø THRU 21"Ø</b>	<b>\$215.00</b>
<b>22"Ø THRU 26"Ø</b>	<b>\$250.00</b>
<b>27"Ø THRU 30"Ø</b>	<b>\$285.00</b>
<b>31"Ø THRU 32"Ø</b>	<b>\$330.00</b>
<b>33"Ø THRU 36"Ø</b>	<b>\$370.00</b>
<b>37"Ø THRU 40"Ø</b>	<b>\$420.00</b>
<b>41"Ø THRU 44"Ø</b>	<b>\$472.00</b>

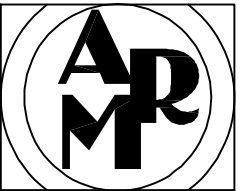
MODEL CD-50B OPPOSED BLADE MINIMUM SIZE 12"Ø

### DAMPER OPTIONAL CONSTRUCTION PRICING

ALUMINUM CONSTRUCTION . . . . . LIST X 1.50

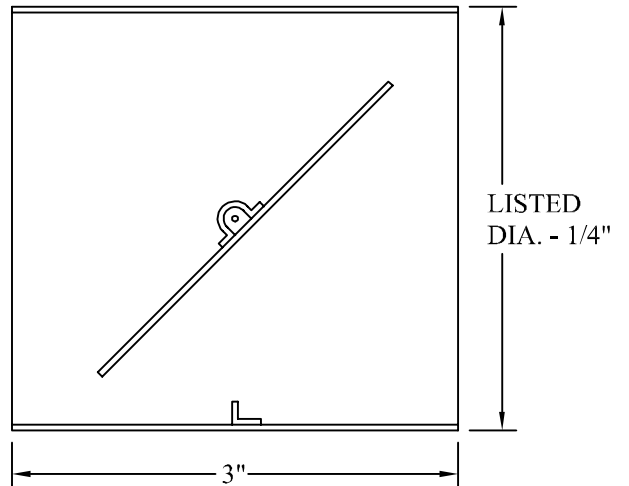
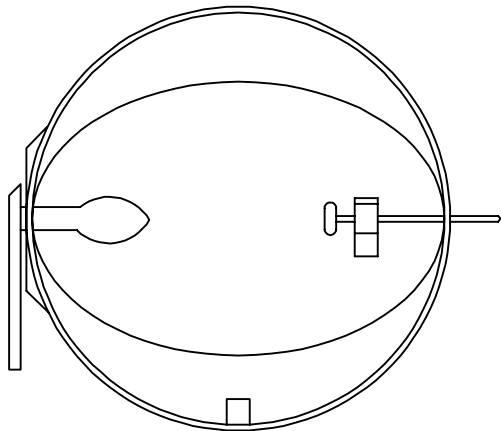
BLADE AND JAMB SEALS . . . . . LIST X 1.35





**SUBMITTAL/FABRICATION DETAIL:**

**MODEL: CD-6 SINGLE BLADE ROUND DAMPER LIGHT GAUGE**



Count	Size

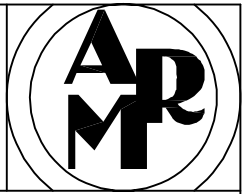
Standard Construction

- 3" x 20 ga. galvanized steel frame
- 22 ga. galvanized steel blade.
- 1/4" retractable bearings.
- 1/4" quadrant handle.
- 20 ga. blade stop.

Union "Blue Label" Made.

PROJECT NAME:
W/O #:
TAG #:
CONTRACTOR:
SUBMITTED BY:

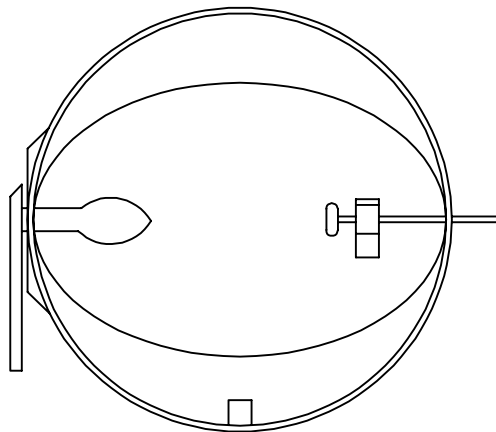
**PAGE: CD-6**



**MODEL: CD-6**

## STANDARD DAMPER PRICING

SINGLE BLADE ROUND DAMPERS (LIGHT GAUGE)



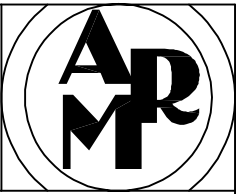
<b>4"Ø THRU 5"Ø</b>	30.00
<b>6"Ø THRU 10"Ø</b>	34.00
<b>11"Ø THRU 12"Ø</b>	38.00
<b>13"Ø THRU 14"Ø</b>	44.00
<b>15"Ø THRU 16"Ø</b>	50.00

### DAMPER OPTIONAL CONSTRUCTION PRICING

ADD FOR ALUMINUM CONSTRUCTION: 35%







## MODEL: CD-7PB / CD-7OB

### STANDARD DAMPER PRICING

#### PARALLEL / OPPOSED BLADE AIR FOIL DAMPERS

#### WIDTH

HEIGHT

	12	16	20	24	28	32	36	40	44	48
12	118.00	126.00	130.00	140.00	146.00	150.00	158.00	164.00	184.00	198.00
16	150.00	154.00	158.00	162.00	174.00	180.00	190.00	208.00	220.00	234.00
20	186.00	190.00	194.00	198.00	202.00	210.00	224.00	248.00	264.00	278.00
24	202.00	224.00	234.00	238.00	242.00	252.00	256.00	284.00	300.00	318.00
28	224.00	234.00	242.00	246.00	264.00	278.00	292.00	322.00	342.00	360.00
32	242.00	256.00	264.00	278.00	292.00	300.00	312.00	346.00	364.00	390.00
36	274.00	288.00	296.00	304.00	328.00	336.00	348.00	386.00	408.00	434.00
40	300.00	308.00	328.00	336.00	344.00	364.00	380.00	420.00	446.00	474.00
44	308.00	328.00	336.00	342.00	352.00	372.00	384.00	426.00	454.00	478.00
48	336.00	344.00	352.00	372.00	380.00	388.00	408.00	450.00	478.00	504.00

CD-7PB ..... LIST  
 CD-7OB ..... LIST x 1.10

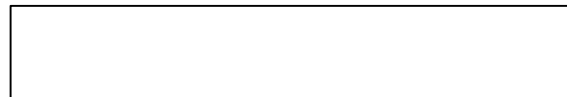
MINIMUM OBD SIZE = 8" x 12"  
 MAXIMUM SINGLE PANEL WIDTH = 48"  
 MAXIMUM SINGLE PANEL HEIGHT = 120"  
 DAMPER WILL BE UNDERSIZED ¼" TO  
 ALLOW FOR INSTALLATION TOLERANCES.

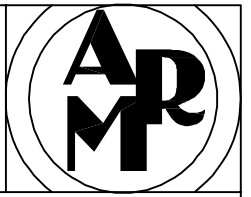
#### DAMPER ACCESSORIES

LOCKING QUADRANT HANDLE (½" ROUND) ..... \$ 15.00 LIST  
 NEOPRENE BLADE AND STAINLESS STEEL JAMB SEALS ..... LIST x 1.35  
 ALUMINUM CONSTRUCTION ..... LIST x 1.40  
 STAINLESS STEEL CONSTRUCTION .....CONSULT FACTORY

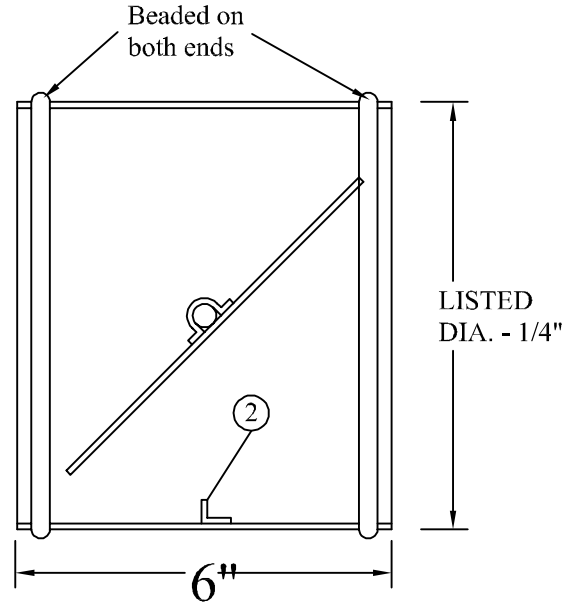
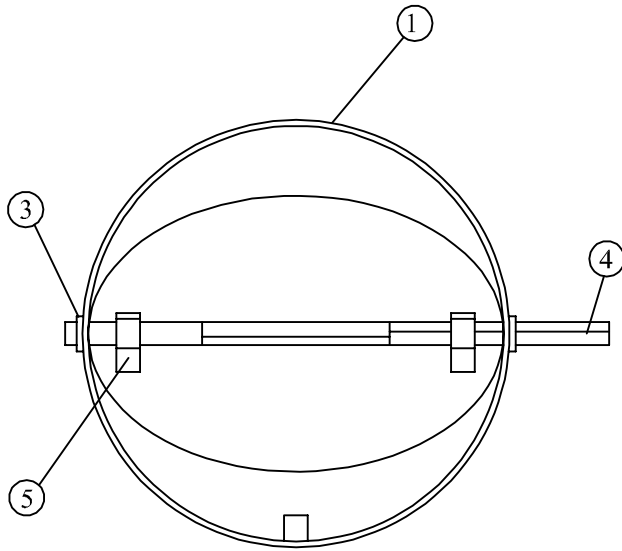
FOR DAMPERS LARGER THAN 48" x 72", USE MULTIPLE SECTIONS. IF ONE  
 PIECE DAMPER IS REQUIRED LARGER THAN 48" x 72", MULTIPLY LIST PRICE  
 BY 1.15.

NOTE: WHEN ORDERING, SPECIFY PARALLEL OR OPPOSED BLADE.





**SUBMITTAL/FABRICATION DETAIL:**  
**MODEL: CD-8 SINGLE BLADE ROUND DAMPER**



Count	Size

**Standard Construction**

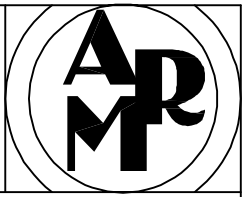
- ① -20 ga. galvanized steel frame.
- ② -3/8" angle blade stop.
- ③ -1/2" bronze bushing.
- ④ -3/8" x 5.5" drive pin.
- ⑤ -Blade straps/slide pin.

**Optional Construction**

- Blade and jam seals.
- Quadrant Handle (3/8").
- Electric motor.
- 1/2" nylon bushing.

Union "Blue Label" Made.

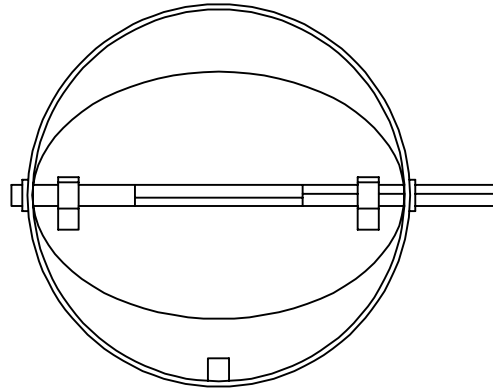
PROJECT NAME:
W/O #:
TAG #:
CONTRACTOR:
SUBMITTED BY:



**MODEL: CD-8**

## STANDARD DAMPER PRICING

### SINGLE BLADE ROUND DAMPERS



<b>4"Ø THRU 5"Ø</b>	46.00
<b>6"Ø THRU 10"Ø</b>	50.50
<b>11"Ø THRU 12"Ø</b>	56.50
<b>13"Ø THRU 14"Ø</b>	66.50
<b>15"Ø THRU 16"Ø</b>	78.50
<b>17"Ø THRU 19"Ø</b>	84.00
<b>20"Ø THRU 22"Ø</b>	86.50
<b>23"Ø THRU 24"Ø</b>	94.00
<b>25"Ø THRU 26"Ø</b>	98.50

### DAMPER OPTIONAL CONSTRUCTION PRICING

FOR CD-8A CONSTRUCTION ADD:	15%
ADD FOR FOAM BLADE SEALS:	15%
ADD FOR 3/8" SQUARE QUAD. HANDLE:	\$10.00
ADD FOR ELECTRIC DAMPER ACTUATOR:	CONSULT FACTORY
ADD FOR ALUMINUM CONSTRUCTION:	35%
ADD FOR OPPOSED / PARALLEL BLADES:	CONSULT FACTORY



