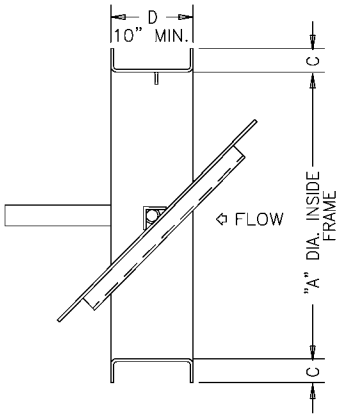
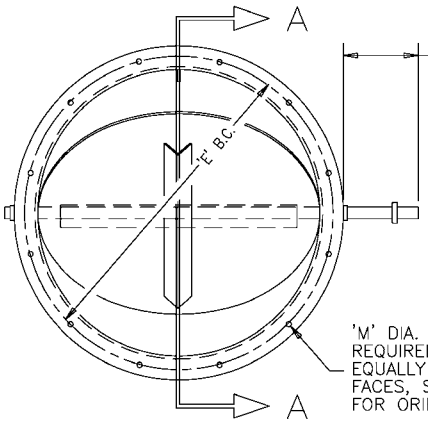
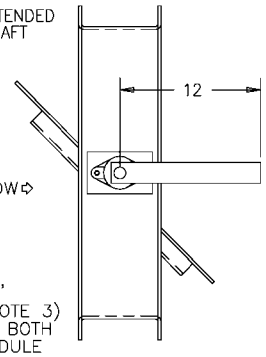
ROUND VOLUME CONTROL DAMPER, 6400 FPM MAX. VEL., 13 1/2" W.G. MAX. DIFF. PRESS., 12" THRU 72" DIAMETER



SECTION A–A

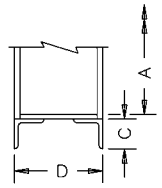


FACE VIEW
FLOW ENTERING SIDE
SHOWN WITH OPTIONAL MOUNTING HOLES

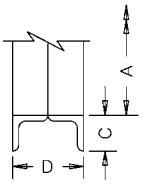


END VIEW
SHOWN WITH STD. LEVER ARM (SHIPPED LOOSE)

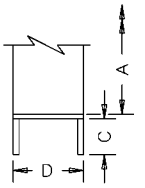
OPTIONAL FRAME STYLES



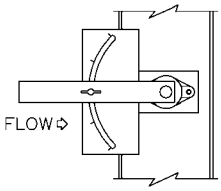
☐ ANGLE RINGS & SLEEVE



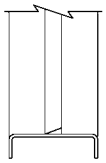
☐ BUTT WELDED ANGLE RINGS



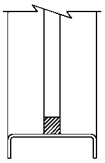
☐ DONUT RINGS & SLEEVE



MANUAL QUAD.



EPT SEAL



BAR STOP/SEAL

NOTE
DAMPERS ARE CONSTRUCTED PER THE STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED ON DAMPER SCHEDULE OR MODIFIED DAMPER SHEET.

AWV ITEM No.	QUANTITY	"A" INSIDE FRAME DIAMETER	CONSTRUCTION OPTIONS: "C" FLANGE WIDTH	"D" FRAME DEPTH	FRAME GA./THK.	SLEEVE GA./THK.	FLANGE GA./THK.	BLADE GA./THK.	AXLE DIAMETER	MANUAL QUAD.	EPT SEAL	BAR STOP/SEAL	OPTIONAL MOUNTING HOLE DIMENSIONS: "E"	"F"	"M"	1 FLANGE AIR ENTERING SIDE ☐ / 1 FLANGE AIR LEAVING SIDE ☐ / BOTH FLANGES ☐: STRADDLE VERT. CENTERLINE	ON VERTICAL CENTERLINE	REMARKS

SPECIAL ACTUATOR:

SPECIAL FINISH:

VC–563 STANDARD SPECIFICATIONS

FRAME:	8 x 1–1/2 x 10 GA. ROLLED STEEL CHANNEL, THRU 25" DIAMETER. 10 x 2 x 10 GA. ROLLED STEEL CHANNEL, 25" + THRU 36" DIAMETER. 10 x 2 x 3/16" THK. ROLLED STEEL CHANNEL, 36" + THRU 60" DIAMETER. 3 x 2 x 3/16" THK. STEEL ANGLES, 6" DEEP, 60" + THRU 72" DIAMETER. (SEE OPTIONAL FRAME SYLES)
SLEEVE:	(USED WITH OPTIONAL FRAMES) 10 GA. STEEL, THRU 36" DIAMETER. 3/16" THK. STEEL, 36" + THRU 72" DIAMETER.
BLADE:	3/16" THK. STEEL, WELDED TO AXLE, THRU 24" DIAMETER 1/4" THK. STEEL, WELDED TO AXLE, THRU 24" + THRU 48" DIAMETER WITH STEEL REINFORCING ANGLES AS REQUIRED. 3/8" THK. STEEL, WELDED TO AXLE, THRU 48" + THRU 72" DIAMETER WITH STEEL REINFORCING ANGLES AS REQUIRED.
AXLE:	3/4" DIAMETER STEEL FULL LENGTH, THRU 36" DIAMETER. 1" DIAMETER STEEL FULL LENGTH, 36"+ THRU 48" DIAMETER. 1–1/4" DIAMETER STEEL FULL LENGTH, 48"+ THRU 60" DIAMETER. 1–1/2" DIAMETER STEEL FULL LENGTH, 60"+ THRU 72" DIAMETER.
BEARINGS:	RELUBRICABLE BALL.
STOP:	1/2" DIAMETER STEEL PIN.
SEALS:	(OPTIONAL, SEE SCHEDULE)
FINISH:	ONE (1) COAT AWV STANDARD PRIMER.
ACTUATOR:	EXTENDED SHAFT WITH LEVER ARM (SHIPPED LOOSE) IS STANDARD. (SEE SCHEDULE FOR OPTIONS)

NOTES

1. MAX. TEMP. = 250 °F WITHOUT SEALS AND 150 °F WITH SEALS.
2. DAMPERS ARE FOR CLEAN AIR USE ONLY.
3. REFERENCE DWG. #VC–56–6 FOR OPTIONAL MOUNTING HOLE PATTERNS.

REV.	DESCRIPTION	DATE	BY

DATE:

AWV PROD. No.:

PROJECT:

CUSTOMER / ORDER No.:

ARCH. / ENGR.:

AGENT / ORDER No.:

awv american warming and ventilating
A MESTEK COMPANY
7301 INTERNATIONAL DRIVE HOLLAND, OHIO

VC–563 HEAVY DUTY VOLUME CONTROL DAMPER

DRN. BY	DWG. NO.	REV.
CEP	VC–563–5	
DATE 5/23/95		

TORQUE: The torque required to operate a control damper is the greatest torque value that the damper will see in operation. The tables below give torque values for various face velocities, differential pressures, and sealing requirements. The torque required for a damper without seals is the torque due to velocity.

The torque required for a damper with seals is the torque due to velocity, differential pressure or sealing the damper, whichever is greater.

TORQUE:

FACE VELOCITY TORQUE		DIFFERENTIAL PRESSURE TORQUE WITH BAR SEALS ONLY	EPT SEALING TORQUE ONLY
DIAMETER	IN. LBS.	IN. LBS.	IN. LBS.
12	55	20	12
18	180	45	25
24	430	75	45
30	835	120	70
36	1,445	170	100
42	2,290	235	135
48	3,420	305	180
54	4,865	390	225
60	6,675	470	280
66	8,885	580	335
72	11,535	690	400
These values are based on 6400 fpm face velocity. Use multiplier chart below for other face velocities.		These values are based on 13-1/2 in. wg. Use multiplier chart below for other differential pressures.	These values are based on the use of EPT wedge seals.

FACE VELOCITY (FPM)	MULTIPLIER	DIFFERENTIAL PRESSURE (IN. WG.)	MULTIPLIER
6000	.879	13	.963
5500	.739	12	.889
5000	.610	11	.815
4500	.494	10	.741
4000	.391	9	.667
3500	.299	8	.593
3000	.220	7	.519
2500	.153	6	.444
2000	.098	5	.370
1500	.055	4	.296
1000	.024	3	.222

LEAKAGE: Values expressed in. SCFM

DIAMETER	BAR SEALS	EPT SEALS	NO SEALS
12	41	10	218
18	60	13	327
24	78	16	436
30	97	19	547
36	115	22	657
42	135	26	768
48	154	29	880
54	178	38	1641
60	197	41	1825
66	218	46	2010
72	236	49	2195

Above values are based on 1 in. wg differential pressure; for differential pressures other than 1 in. wg (not exceeding 13-1/2 in. wg) use the following multiplier chart below.

DIFFERENTIAL PRESSURE IN. WG	MULTIPLIER
2	1.41
3	1.73
4	2.00
5	2.23
6	2.45
7	2.65
8	2.83
9	3.00
10	3.16
11	3.32
12	3.46
13	3.61
13.5	3.67

PRESSURE DROP: In inches of water

Values are in accordance with AMCA 500; fig. 5.3

DIAMETER	NO SEALS	BAR SEALS
12	.411	1.073
18	.355	.647
24	.322	.474
30	.306	.431
36	.306	.411
42	.306	.393
48	.291	.356
54	.306	.356
60	.290	.356
66	.306	.356
72	.205	.339

Above values are based on 6400 fpm face velocity. Use multiplier chart below for other velocities.

FACE VELOCITY (FPM)	MULTIPLIER
6000	.879
5500	.739
5000	.610
4500	.494
4000	.391
3500	.299
3000	.220
2500	.153
2000	.098
1500	.055
1000	.024