

# CONSTANT AIR VOLUME CONTROL DAMPERS

Rev.02  
26-05-2015

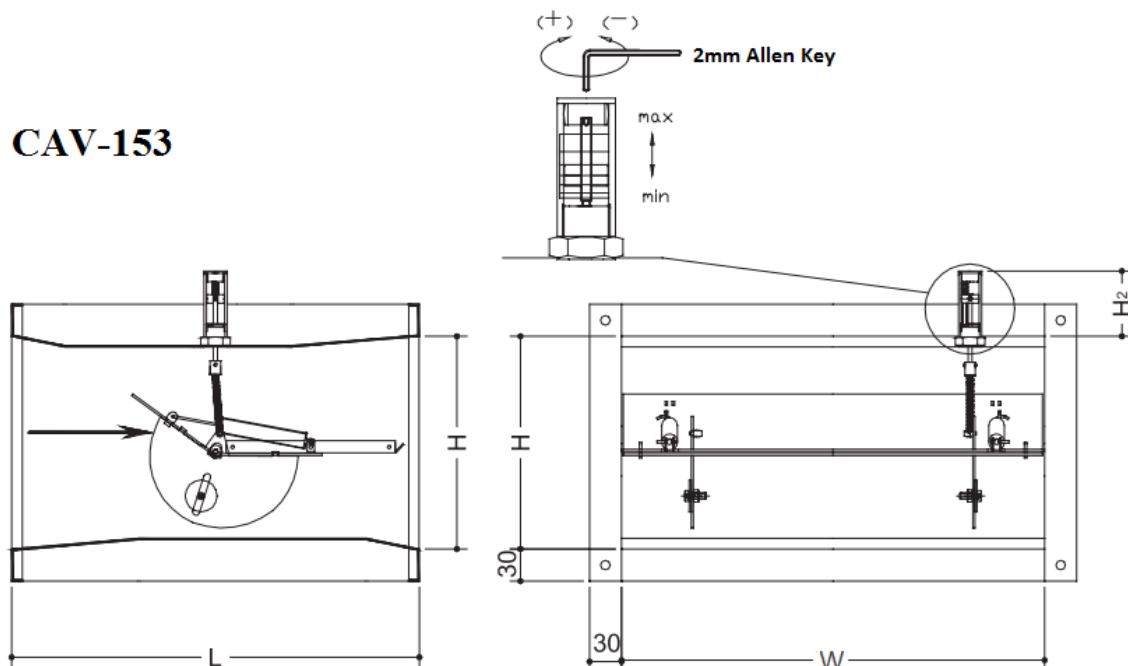


## GMC CAV-053 PRODUCT SPECIFICATIONS:

- Chassis Material: Galvanized Steel Sheet. Pressure sensor is made of aluminum.
- Usable of providing fresh air in steady flow rate at ventilating systems. Able to be used for both supply and return air ducts.
- Operated mechanically without any external power, maintaining a constant airflow rate corresponding to the set value regardless of pressure variations in the duct.
- On request, chassis interior can be covered with heat and sound isolation.
- Has two models: Prismatic model (CAV-153) and Circular model (CAV-253).
- Operates at pressure levels between 50 and 1000 Pa and air velocity between 2,2 and 10m/s.

## TECHNICAL DETAILS

### CAV-153



HVAC Systems and Equipments Co.  
4640 Hedgcoxe Road 227 Plano, TX 75024 – US

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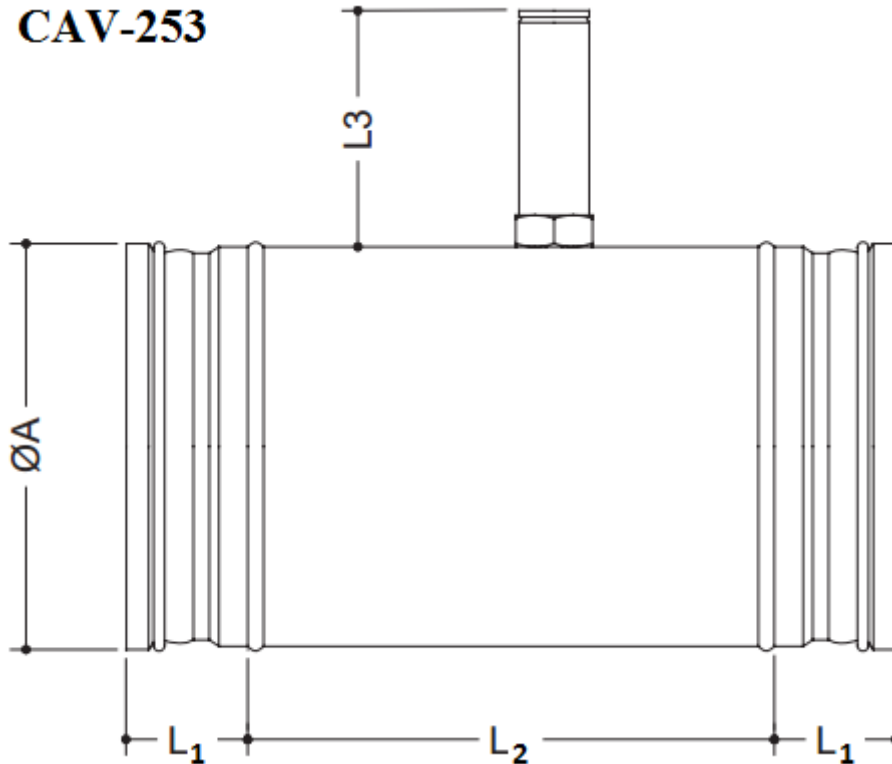


CAV-153 STANDARD SELECTION TABLE

Length L [mm]		W [mm]									
		150	200	250	300	350	400	450	500	550	600
H [mm]	100	220	220	220	-	-	-	-	-	-	-
	150	220	220	220	220	220	220	-	-	-	-
	200	220	220	220	220	220	220	385	385	385	385
	250	-	-	385	385	385	385	385	385	385	385
	300	-	-	-	385	385	385	385	385	385	385
	400	-	-	-	-	-	385	-	385	-	385
	500	-	-	-	-	-	-	-	425	-	425
600	-	-	-	-	-	-	-	-	-	470	

Sensor Height H <sub>2</sub> [mm]		W [mm]									
		150	200	250	300	350	400	450	500	550	600
H [mm]	100	-	70	-	70	-	70	-	-	-	-
	150	70	70	70	70	70	70	-	-	-	-
	200	70	70	70	70	70	70	60	60	60	60
	250	-	-	60	60	60	60	60	60	60	60
	300	-	-	-	60	60	60	60	60	60	60
	400	-	-	-	-	-	60	-	60	-	60
	500	-	-	-	-	-	-	-	60	-	60
	600	-	-	-	-	-	-	-	-	-	60

## CAV-253



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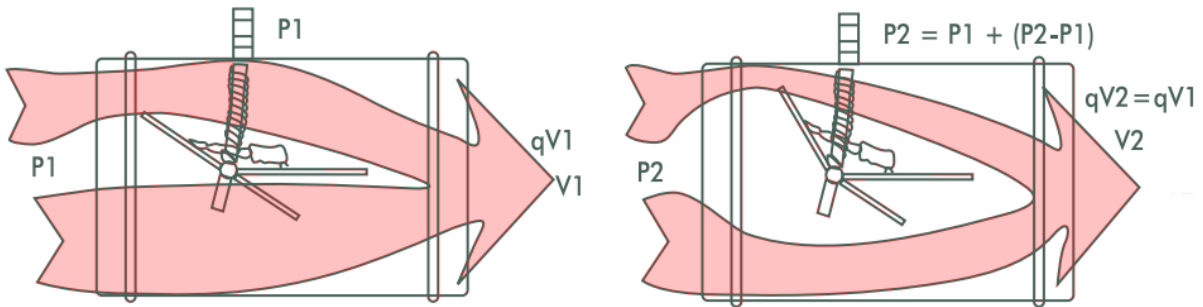
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CAV-253 STANDARD SELECTION TABLE

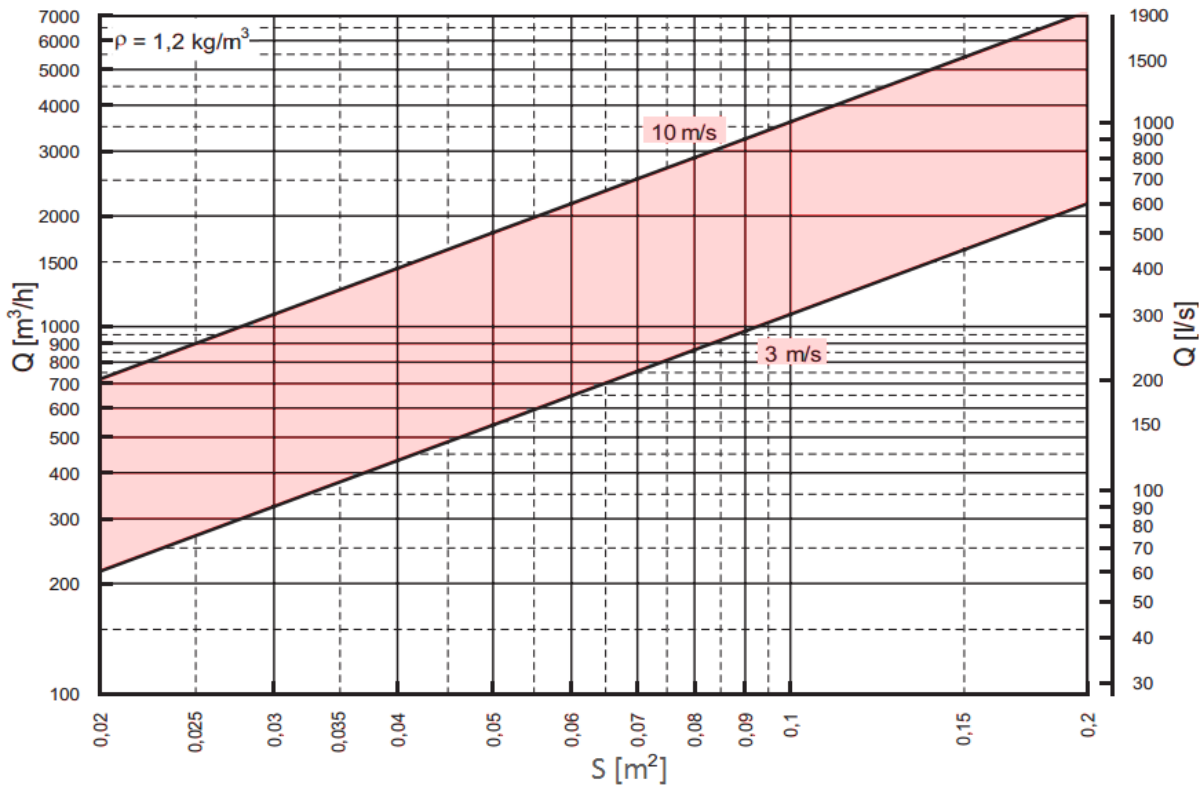
∅N [mm]	80	100	125	160	200	250	315	400
∅A [mm]	78	98	123	158	198	248	313	398
L1 [mm]	40	40	40	40	40	40	60	60
L2 [mm]	120	170	170	240	240	240	220	295
L3 [mm]	70	70	70	70	70	70	100	100

## WORKING PRINCIPLE



## DATA DIAGRAMS

CAV-153 FLOW RATE CALIBRATION TABLE

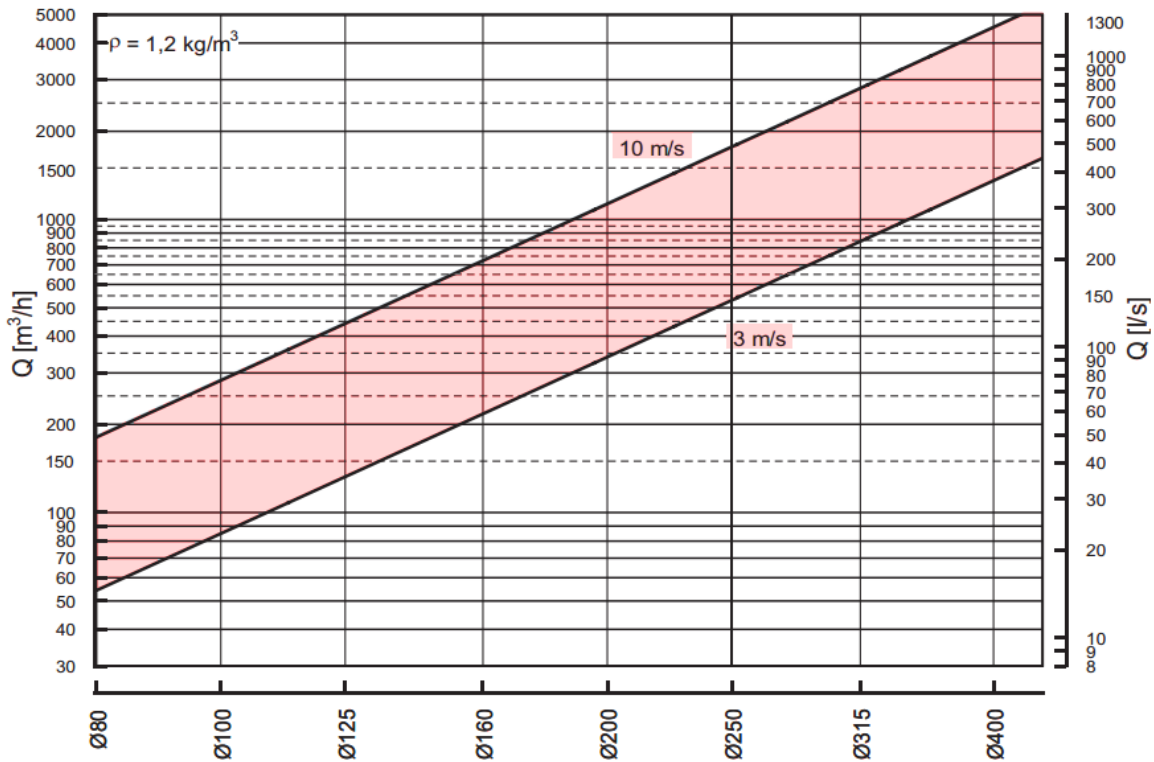


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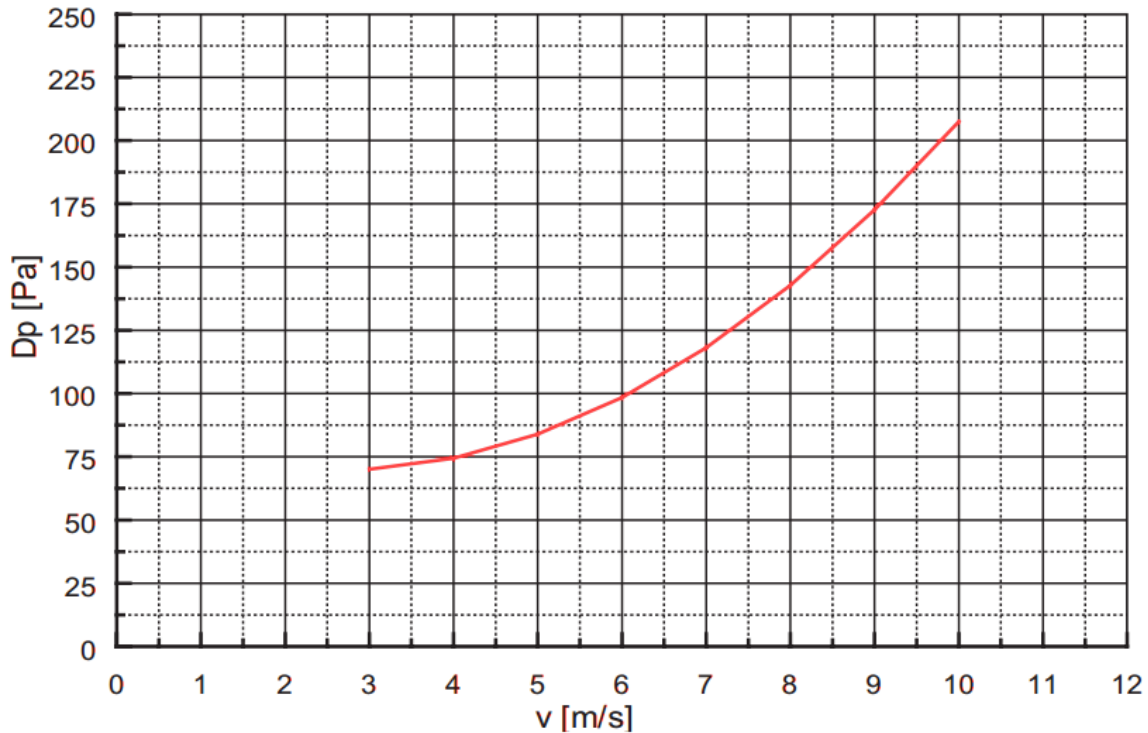
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**CAV-253 FLOW RATE CALIBRATION DIAGRAM**



**CAV-153 PRESSURE LOSS DIAGRAM**

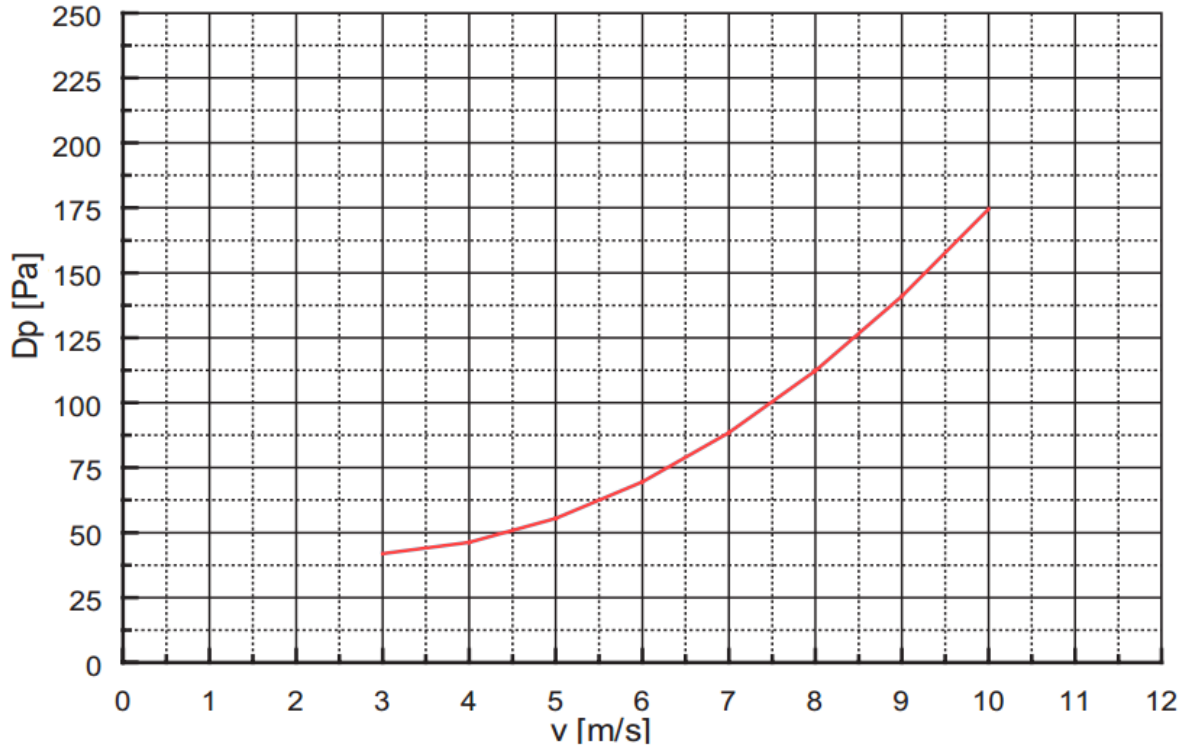


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## CAV-253 PRESSURE LOSS DIAGRAM



Q (m<sup>3</sup>/h oppure l/s) : Air flow rate / Hava debisi  
v (m/s) : Effective jet velocity of the air / Efektif jet hava hızı  
S (m<sup>2</sup>) : Effective area / Efektif alan  
Dp (Pa) : Pressure Loss / Basınç kaybı  
Ø (mm) : CAV diameters / CAV çapları

## CAV-153/253 NOISE LEVEL TABLES

Size	Vk (m/s)	V		$\Delta Pt = 125 \text{ Pa}$										$\Delta Pt = 250 \text{ Pa}$											
				Lw [dB/Oct]										LWA [dB(A)]	Lw [dB/Oct]										LWA [dB(A)]
				fm (Hz)											fm (Hz)										
				63	125	250	500	1000	2000	4000	8000	63	125		250	500	1000	2000	4000	8000					
100	3	81	23	35	42	39	37	36	35	34	35	41	39	45	45	43	41	40	39	33	48				
	6	163	45	43	56	51	47	42	38	37	36	47	45	59	56	52	48	46	45	38	55				
	9	244	68	46	56	52	46	41	38	26	36	50	49	64	60	58	52	49	47	40	57				
125	3	128	36	41	43	40	38	37	36	35	37	42	46	46	46	44	42	41	40	40	49				
	6	257	71	52	60	55	52	46	42	41	41	51	55	63	60	56	52	50	49	48	59				
	9	385	107	54	59	55	49	44	41	39	40	53	58	67	63	61	55	52	50	49	60				
160	3	212	59	48	49	46	44	43	42	41	42	50	53	52	52	50	48	47	46	43	55				
	6	423	118	55	62	57	53	48	44	43	42	53	58	65	62	58	54	52	51	46	61				
	9	635	176	56	60	56	50	45	42	40	40	54	60	68	64	62	56	53	51	46	61				
200	3	332	92	52	49	46	44	43	42	41	40	48	57	52	52	50	48	47	46	47	55				
	6	665	185	61	64	59	55	50	46	45	43	55	64	67	64	60	56	54	53	53	63				
	9	997	277	63	63	59	53	48	45	43	42	57	67	71	67	65	69	56	54	54	64				



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Size	Vk (m/s)	V (m3/h) [l/s]		$\Delta Pt = 125 Pa$								LWA [dB(A)]	$\Delta Pt = 250 Pa$								LWA [dB(A)]
				Lw [dB/Oct]									Lw [dB/Oct]								
				fm (Hz)									fm (Hz)								
63	125	250	500	1000	2000	4000	8000	63	125	250	500	1000	2000	4000	8000						
250	3	521	145	57	52	49	47	46	45	44	43	51	61	55	55	53	51	50	49	49	58
	6	1043	290	64	65	60	56	51	47	46	43	56	66	68	55	61	57	55	54	53	64
	9	1564	434	66	54	60	54	49	46	44	42	58	69	72	68	66	60	57	55	54	65
315	3	831	231	57	52	49	47	46	45	45	41	51	59	49	44	46	47	49	42	47	58
	6	1661	461	68	69	64	60	55	51	51	46	60	68	66	58	58	57	58	51	55	68
	9	2492	692	68	66	62	56	51	48	47	43	50	69	68	65	62	59	57	55	54	67
355	3	1056	293	57	52	49	47	46	45	44	42	51	62	55	55	53	51	50	49	49	58
	6	2113	587	67	68	63	59	54	50	49	44	59	60	61	57	54	60	58	57	56	67
	9	3169	880	70	68	64	58	53	49	48	44	62	74	76	72	70	64	61	59	58	69
400	3	1343	373	59	54	51	49	48	47	46	44	53	66	57	57	55	53	52	51	51	60
	6	2686	746	68	69	64	60	55	51	50	46	60	73	72	69	65	61	59	58	57	68
	9	4029	1119	74	72	68	62	57	54	52	49	66	80	80	76	74	68	65	63	62	73

Size	Vk (m/s)	V (m3/h) [l/s]		$\Delta Pt = 500 Pa$								LWA [dB(A)]	$\Delta Pt = 1000 Pa$								LWA [dB(A)]
				Lw [dB/Oct]									Lw [dB/Oct]								
				fm (Hz)									fm (Hz)								
63	125	250	500	1000	2000	4000	8000	63	125	250	500	1000	2000	4000	8000						
100	3	81	23	45	52	51	50	49	48	45	45	56	62	59	56	56	57	56	54	54	61
	6	163	45	46	62	59	57	64	53	48	47	59	63	62	62	61	60	59	57	58	65
	9	244	68	55	71	68	63	59	56	53	52	64	71	71	70	67	66	66	61	61	72
125	3	128	36	52	53	52	51	50	49	46	45	57	63	60	57	57	58	57	55	54	62
	6	257	71	54	64	61	59	56	55	50	48	61	65	64	64	63	62	61	59	59	67
	9	385	107	64	74	71	66	62	59	56	54	67	74	74	73	70	69	69	64	63	75
160	3	212	59	58	55	54	53	52	51	48	49	59	65	62	59	59	60	59	57	56	64
	6	423	118	64	70	67	65	62	61	56	56	67	71	70	70	69	68	67	65	65	73
	9	635	176	69	75	72	67	63	60	57	57	68	75	75	74	71	70	70	65	64	76
200	3	332	92	61	55	54	53	52	51	48	48	59	65	62	59	59	60	59	57	56	64
	6	665	185	69	72	69	67	54	53	50	47	69	73	72	72	71	70	69	67	67	75
	9	997	277	73	76	73	68	64	61	58	57	69	76	76	75	72	71	71	67	66	78

Size	Vk (m/s)	V (m3/h) [l/s]		Pt = 500 Pa								LWA [dB(A)]	$\Delta Pt = 1000 Pa$								LWA [dB(A)]
				Lw [dB/Oct]									Lw [dB/Oct]								
				fm (Hz)									fm (Hz)								
63	125	250	500	1000	2000	4000	8000	63	125	250	500	1000	2000	4000	8000						
250	3	521	145	67	60	59	58	57	56	53	53	64	70	67	64	64	65	64	62	61	69
	6	1043	290	68	70	67	65	62	61	56	55	67	71	70	70	69	68	67	65	65	73
	9	1564	434	77	79	76	71	67	64	61	60	72	79	79	78	75	74	74	69	68	80
315	3	831	231	67	59	58	57	56	55	52	52	63	69	66	63	63	64	63	61	60	68
	6	1661	461	73	74	71	69	66	65	60	59	71	75	74	74	73	72	71	69	69	77
	9	2492	692	83	84	81	76	72	69	66	65	77	84	84	83	80	79	79	74	73	85
355	3	1056	293	71	63	62	61	60	59	56	56	67	73	70	67	67	68	67	65	64	72
	6	2113	587	73	74	71	69	66	65	60	59	71	75	74	74	73	72	71	69	69	77
	9	3169	880	81	82	79	74	70	67	64	63	75	82	82	81	78	77	77	72	71	83
400	3	1343	373	63	64	63	62	61	60	57	57	68	74	71	68	68	69	68	66	65	73
	6	2686	746	77	77	74	72	69	68	63	62	74	78	77	77	76	75	74	62	62	80
	9	4029	1119	82	82	79	74	70	67	64	63	75	82	82	81	78	77	77	72	72	83



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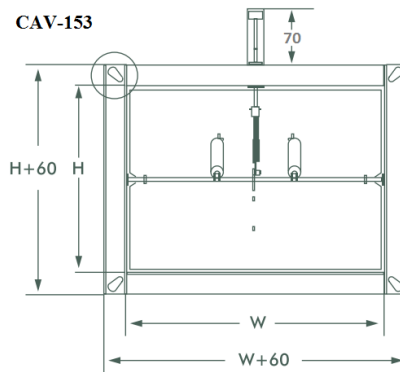
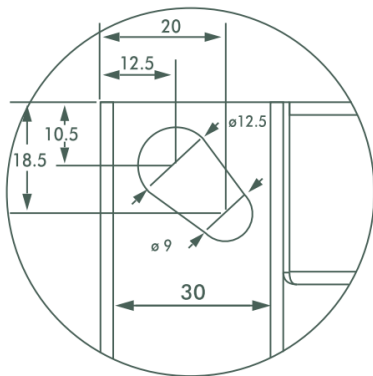
## AVARAGE NOISE LEVELS BASED ON AIR VELOCITY (A=1m<sup>2</sup>)

Vk (m/s)	ΔPt = 125 Pa							ΔPt = 250 Pa							ΔPt = 500 Pa							ΔPt = 1000 Pa												
	Lw [dB/Oct]						LWA [dB(A)]	Lw [dB/Oct]						LWA [dB(A)]	Lw [dB/Oct]						LWA [dB(A)]	Lw [dB/Oct]						LWA [dB(A)]						
	fm (Hz)							fm (Hz)							fm (Hz)							fm (Hz)												
	125	250	500	1000	2000	4000		125	250	500	1000	2000	4000		125	250	500	1000	2000	4000		125	250	500	1000	2000	4000		125	250	500	1000	2000	4000
3	62	61	60	59	56	52	63	68	68	67	67	65	63	72	74	74	73	73	71	69	78	81	82	81	81	80	77	86						
5	68	67	66	65	63	58	70	73	73	72	71	69	67	76	78	79	78	77	76	74	82	84	85	84	84	84	82	90						
7	73	73	73	71	69	65	76	79	78	78	76	75	73	82	79	80	81	80	80	78	76	86	88	87	87	86	85	92						
10	75	74	74	72	70	67	77	82	81	81	79	78	76	85	85	85	84	84	83	81	89	88	90	89	90	89	88	95						

## AVARAGE NOISE LEVELS BASED ON CHASSIS (A=1m<sup>2</sup>)

Vk (m/s)	ΔPt = 125 Pa							ΔPt = 250 Pa							ΔPt = 500 Pa							ΔPt = 1000 Pa												
	Lw [dB/Oct]						LWA [dB(A)]	Lw [dB/Oct]						LWA [dB(A)]	Lw [dB/Oct]						LWA [dB(A)]	Lw [dB/Oct]						LWA [dB(A)]						
	fm (Hz)							fm (Hz)							fm (Hz)							fm (Hz)												
	125	250	500	1000	2000	4000		125	250	500	1000	2000	4000		125	250	500	1000	2000	4000		125	250	500	1000	2000	4000		125	250	500	1000	2000	4000
	65	64	63	62	59	55	66	71	71	70	70	68	66	75	77	77	76	76	74	72	81	84	85	84	84	83	80	86						
	72	71	70	69	67	62	74	77	77	76	75	73	71	80	82	83	82	81	80	78	86	88	89	88	88	88	86	90						
	77	77	77	75	73	69	80	83	82	82	80	79	77	86	83	84	85	84	84	82	90	90	92	91	91	90	89	92						
	79	78	78	76	74	71	81	86	85	85	83	82	80	89	89	89	88	88	87	85	93	92	94	93	94	93	92	95						

## MOUNTING DETAIL / MONTAJ DETAYI



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## ORDER PARAMETERS:

<b>CAV-053</b>	<b>G</b>	<b>03</b>	<b>L1000</b>	<b>-</b>	<b>D 500</b>
<b>CAV-153: Prismatic</b> <b>CAV-253: Circular</b>				<b>N: Neck Size</b> <b>D: Neck Diameter</b>	
<b>G: Galvanised Chasis</b>				<b>Standard Manual-Operated</b>	
<b>00: No Insulation</b> <b>01: Heat Insulation</b> <b>02: Sound Insulation</b> <b>03: Heat + Sound Insulation</b>				<b>L: Requested Product Length</b>	

