



Round Variable Air Volume WRS WRD

Introduction

The Waterloo variable air volume damper supplies a controlled volume of air, independent of the duct pressure. The unit consists of a Waterloo Flow Sensor, a damper section and a motor with integrated controller. The external motor controls the required air volume between factory commissioned maximum and minimum settings. Depending on the chosen controller a BMS control system can be connected to the unit. If required the unit can be set as a constant volume damper. Single skin and double skin insulated units are available.

Product Description

WRS Single skin air volume damper
WRD Double skin insulated air volume damper

Features

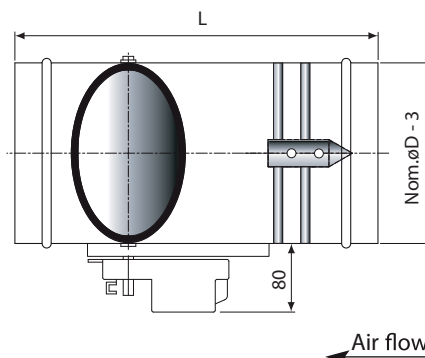
- Adjustable for air velocity of 2.0 - 10 m/s
- Accuracy $\pm 10\%$
- Suitable for mounting in all positions
- Minimum straight duct is 2x ϕ diameter of unit
- Manufactured in standard circular duct sizes
- Factory set
- Settings adjustable on site
- Controls from a number of different manufacturers may be fitted.

Finishes

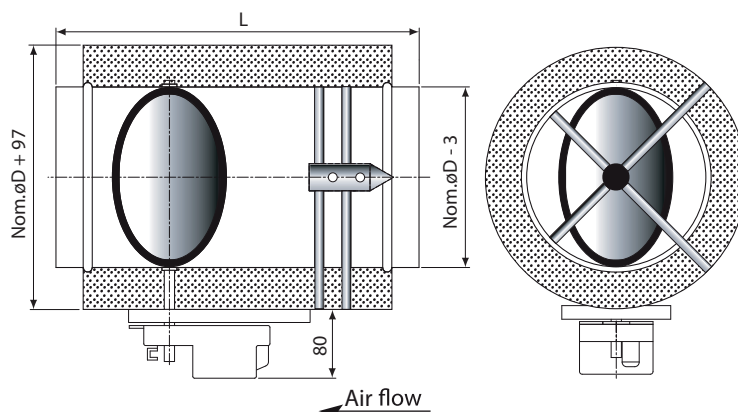
Casing and Damper: Zintec Plate
Damper Blade has a rubber seal

Sizes

$\phi 100$, $\phi 125$, $\phi 160$, $\phi 200$,
 $\phi 250$, $\phi 315$, $\phi 355$, $\phi 400$



WRS



WRD

Order Example

WRD/250
Type _____
Diameter _____

Nom. ϕD	L
100	400
125	400
160	400
200	500
250	500
315	500
355	600
400	600



Round Variable Air Volume WRS WRD



Selection Example WRS-200

Air Volume (q_v)	658m ³ /h or 183 l/s
Operating Pressure (P_d)	400 Pa
Velocity (v)	6 m/s
Pressure Drop (ΔP_d)	19 Pa
Air Noise (L_{pA})	56 dBA
Radiated Noise (L_{pR})	41 dBA

$$L_p \text{ dBA} = L_w \text{ dBA} - 8\text{dB (Room Absorption)}$$

Performance Table

WRS / WRD					Air Noise L_{pA} dBA in dB with Static Pressure				Radiated Noise L_{pR} dBA in dB with Static Pressure							
Nom. ϕ D	Air Velocity [m/s]	Air Volume [m ³ /h]	Air Volume [l/s]	Pressure Drop [Pa]	WRS / WRD				WRS				WRD			
					100 [Pa]	200 [Pa]	400 [Pa]	800 [Pa]	100 [Pa]	200 [Pa]	400 [Pa]	800 [Pa]	100 [Pa]	200 [Pa]	400 [Pa]	800 [Pa]
100	2	53	15	2	35	43	50	55		25	33	37				23
	4	106	29	10	39	45	52	57		27	34	39				26
	6	160	44	23	41	48	54	59	24	29	36	39			24	28
	8	213	59	41	44	50	56	62	26	32	38	43			27	32
	10	266	74	65	47	52	59	64	30	34	41	46		23	29	35
125	2	84	23	2	35	43	50	55		25	33	38				25
	4	168	47	10	40	46	53	58		28	36	41			23	28
	6	252	70	22	43	48	56	61	25	30	38	43			26	31
	8	336	93	39	46	51	58	63	29	33	40	46			29	34
	10	421	117	61	49	54	59	65	31	36	42	48		24	31	36
160	2	139	39	2	33	45	51	57		29	35	41				25
	4	279	78	10	38	48	53	60		31	37	43			22	28
	6	418	116	22	42	52	56	62	25	36	39	46		26	27	33
	8	557	155	39	45	54	58	65	28	38	41	49		23	29	36
	10	697	194	61	49	56	59	67	32	40	43	51		25	31	38
200	2	219	61	2	34	43	49	59		27	34	44				31
	4	439	122	9	39	47	54	61	22	33	38	46			26	33
	6	658	183	19	43	50	56	63	27	35	41	48		23	29	36
	8	877	244	35	46	53	59	66	30	38	43	50		26	31	38
	10	1097	305	54	50	56	61	68	34	40	45	53		28	34	40
250	2	345	96	2	33	42	51	57		26	35	44				31
	4	690	192	9	40	47	54	62	22	32	38	46			26	33
	6	1034	287	18	43	51	57	64	27	35	41	48		23	29	36
	8	1379	383	33	46	54	59	66	30	38	43	50		26	31	38
	10	1724	479	51	50	56	61	68	34	40	45	53		28	34	40
315	2	550	153	2	34	42	51	57		26	36	42			25	32
	4	1100	306	9	41	49	55	61	24	32	39	45		24	30	36
	6	1651	459	17	45	52	59	64	29	36	42	48		27	34	39
	8	2201	611	29	49	55	61	67	33	38	45	50	24	30	36	42
	10	2751	764	46	53	58	63	69	37	41	47	53	27	33	38	44
355	2	712	198	3	33	42	49	58		28	36	45			25	34
	4	1425	396	14	41	50	54	64	26	35	40	48		25	29	37
	6	2137	594	15	44	52	58	65	29	38	44	51	20	27	34	40
	8	2849	791	26	48	55	61	68	33	41	47	54	23	31	36	43
	10	3561	989	41	51	58	64	74	37	44	49	57	27	34	39	46
400	2	891	248	2	34	41	51	60		27	39	46			27	36
	4	1782	495	10	42	49	55	62	27	35	41	48		26	31	39
	6	2672	742	14	45	52	59	65	31	38	44	51	22	28	35	42
	8	3563	990	25	50	55	61	68	35	41	46	54	26	32	37	44
	10	4454	1237	38	53	59	64	72	38	44	50	58	29	35	41	48