



TWINFLOW STDR

Direct Drive Twin
Centrifugal Fan

TWINFLOW STDR

Product Overview

- 3 standard sizes from 315mm to 500mm
- Air volume flow rates up to 1.65 m³/s
- Static pressures up to 960 Pa
- Suitable for operating temperatures up to +60°C
- Extensive range of stock available
- Available in **EC**



The Twinflow STDR fans are suitable for external mounting, manufactured in Aluzinc with a natural finish and fitted with advanced centrifugal impellers.

Easy Installation

All models are designed for direct connection to standard diameter flexible or rigid circular ducting with long spigots. Spigot is on the underside of the unit and can be fitted directly to the main duct.

Easy Commissioning

Integrated commissioning control allows single speed selection and also limits maximum speed if used with an external potentiometer.

Space Saving

External roof mounting is ideal where space is a premium. Bird guard fitted as standard to stop damage by wildlife.

Efficient Performance

High efficiency low tonal noise backward curved centrifugal impellers are directly driven by an EC external rotor motor, provide low specific fan powers and stepless speed control without tonal noise generation.

Weather Resistance

Integral louvered air discharge provides protection against ingress from the elements and is self draining. No additional outlet duct fittings are required. The unit has back draft shutters fitted as standard.

Twin Fan Operation

Allowing control for auto changeover and duty share.

Controllability

EC motors providing precise speed control via potentiometer, BMS or Elta Fans DCV control. Reduced fan speed can provide significant cost-savings through lower energy consumption in both mechanical energy of motors and also on the conditioning of replacement air.

Warranty

Each STDR has a 12 month warranty.

Construction

Featuring a robust 1.2mm natural finish aluzinc casing. Each casing provides a spigot to suit standard circular ducting on inlet and louvered air discharge. A removable lid is provided as standard to allow easy maintenance and cleaning.

Motors

Units have EC external rotor motors fitted as standard. The motors contain sealed for life bearings with a Thermal Class to THCL 130 or 155 dependent on size. All motors are suitable for use in ambient air conditions up to +60°C.

Impellers

High efficiency low tonal noise backward curved centrifugal impellers, dynamically balanced to ISO 14694 Grade G6.3 and directly driven by the motor to provide a smooth airflow through the unit.

Typical Applications

- Industrial Building
- Banks
- Hospitals
- Offices
- Hotels and Shopping Malls

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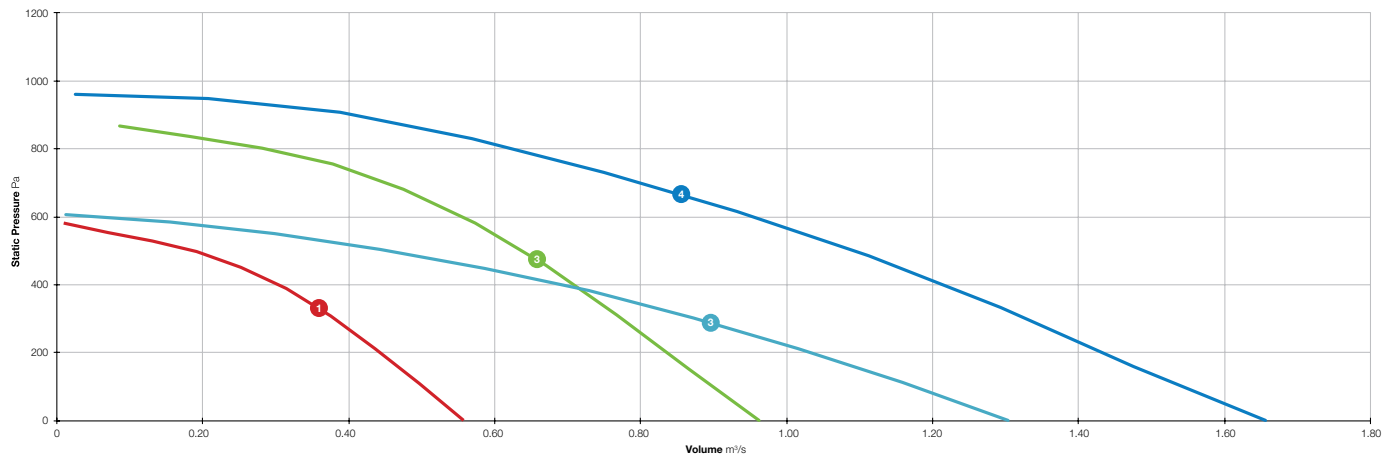
Product Coding

Code	Reference
STDR	Product Range
200	Diameter (200/250/315...)
-	
1	Voltage Supply (Single Phase / Three Phase)
AC	Motor Type (AC/EC)
A - Z	Additional Coding (A - Z) Product Variants
e.g.	STDR200 / 1AC

TWINFLOW STDR



Performance Range Curves



- 1 STDR315 / 1EC
- 2 STDR400 / 1EC
- 3 STDR500 / 1EC
- 4 STDR500 / 3EC

TWINFLOW STDR



Performance, SFP & Electrical Data

Single Phase 220V to 277V / 50Hz or 60Hz

Product Code	Control Voltage V	Speed r/min	Airflow SFP	Airflow m ³ /s @ Static Pressure Pa												At Best Efficiency Point		Electrical Data	dBA @ 3m	
				0	25	50	75	100	150	200	250	300	350	400	500	Overall Eff %	Input kW	Peak Amps		
STDR315-1EC	10	2019	m ³ /s	0.556	0.542	0.528	0.514	0.500	0.472	0.442	0.412	0.380	0.344	0.303	0.187	38.0	0.411	1.90	Inlet	51
			W/(L/s)	0.69	0.71	0.73	0.74	0.76	0.81	0.86	0.92	0.99	1.08	1.20	1.73				Outlet	57
	8	1605	m ³ /s	0.432	0.418	0.403	0.387	0.370	0.331	0.284	0.223	0.133	-	-	-	32.5	0.222	1.05	Inlet	45
			W/(L/s)	0.49	0.51	0.53	0.55	0.58	0.64	0.73	0.88	1.25	-	-	-				Outlet	50
	5	968	m ³ /s	0.254	0.216	0.182	0.149	0.105	-	-	-	-	-	-	-	23.3	0.064	0.33	Inlet	35
			W/(L/s)	0.25	0.29	0.33	0.40	0.52	-	-	-	-	-	-	-				Outlet	38
	2	328	m ³ /s	0.064	-	-	-	-	-	-	-	-	-	-	-	2.3	0.014	0.10	Inlet	8
			W/(L/s)	0.22	-	-	-	-	-	-	-	-	-	-	-				Outlet	17
STDR400-1EC	10	2204	m ³ /s	0.962	0.945	0.929	0.913	0.898	0.867	0.836	0.805	0.774	0.742	0.709	0.638	43.6	0.944	4.29	Inlet	61
			W/(L/s)	0.89	0.91	0.93	0.94	0.96	1.00	1.04	1.08	1.12	1.17	1.23	1.36				Outlet	65
	8	1765	m ³ /s	0.760	0.744	0.728	0.712	0.695	0.661	0.625	0.586	0.542	0.493	0.432	0.160	39.9	0.526	2.46	Inlet	56
			W/(L/s)	0.60	0.62	0.65	0.67	0.69	0.74	0.80	0.85	0.92	1.00	1.11	2.08				Outlet	59
	5	1061	m ³ /s	0.433	0.409	0.381	0.349	0.311	0.196	-	-	-	-	-	-	29.7	0.132	0.62	Inlet	41
			W/(L/s)	0.28	0.30	0.33	0.37	0.42	0.61	-	-	-	-	-	-				Outlet	43
	2	355	m ³ /s	0.111	-	-	-	-	-	-	-	-	-	-	-	18.2	0.005	0.19	Inlet	18
			W/(L/s)	0.04	-	-	-	-	-	-	-	-	-	-	-				Outlet	22
STDR500-1EC	10	1415	m ³ /s	1.302	1.271	1.240	1.208	1.175	1.107	1.035	0.959	0.877	0.788	0.691	0.456	44.3	0.776	3.43	Inlet	52
			W/(L/s)	0.56	0.57	0.58	0.60	0.62	0.66	0.71	0.76	0.83	0.91	1.01	1.37				Outlet	59
	8	1157	m ³ /s	1.020	0.982	0.942	0.902	0.860	0.771	0.672	0.561	0.427	0.240	-	-	40.3	0.429	1.89	Inlet	47
			W/(L/s)	0.39	0.41	0.43	0.45	0.47	0.52	0.60	0.70	0.85	1.26	-	-				Outlet	53
	5	696	m ³ /s	0.600	0.518	0.441	0.358	0.256	-	-	-	-	-	-	-	31.4	0.115	0.58	Inlet	35
			W/(L/s)	0.19	0.22	0.25	0.29	0.37	-	-	-	-	-	-	-				Outlet	39
	2	234	m ³ /s	0.133	-	-	-	-	-	-	-	-	-	-	-	13.8	0.005	0.18	Inlet	10
			W/(L/s)	0.03	-	-	-	-	-	-	-	-	-	-	-				Outlet	16

Data provided is at standard air density of 1.2 kg/m³.

Data in accordance with ErP 1253/2014 of the European Parliament. Product category is NRVU. Measurement category used to determine energy efficiency: C.

A variable speed drive is integrated within the fan.

Peak Amps @ 230V / 1PH / 50Hz.

The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20μPa and is presented for comparative purposes only.

TWINFLOW STDR



Performance, SFP & Electrical Data

Three Phase 380V to 480V / 50Hz or 60Hz

Product Code	Control Voltage V	Speed r/min	Airflow SFP	Airflow m ³ /s @ Static Pressure Pa												At Best Efficiency Point		Electrical Data	dBA @ 3m	
				0	25	50	75	100	150	200	250	300	350	400	500	Overall Eff %	Input kW			
STDR500-3EC	10	1803	m ³ /s	1.655	1.620	1.590	1.561	1.534	1.482	1.432	1.381	1.328	1.274	1.217	1.093	44.9	1.588	2.43	Inlet	60
			W / (L/s)	0.86	0.89	0.91	0.94	0.96	1.01	1.06	1.10	1.15	1.20	1.26	1.38				Outlet	68
	8	1449	m ³ /s	1.287	1.251	1.216	1.180	1.144	1.072	0.998	0.922	0.844	0.763	0.676	0.480	41.6	0.859	1.41	Inlet	54
			W / (L/s)	0.66	0.68	0.69	0.71	0.72	0.76	0.81	0.86	0.91	0.98	1.07	1.36				Outlet	60
	5	870	m ³ /s	0.770	0.698	0.630	0.563	0.497	0.355	0.169	-	-	-	-	-	35.4	0.209	0.49	Inlet	41
			W / (L/s)	0.28	0.29	0.31	0.34	0.37	0.48	0.83	-	-	-	-	-				Outlet	46
	2	293	m ³ /s	0.189	-	-	-	-	-	-	-	-	-	-	-	7.0	0.024	0.16	Inlet	14
			W/(L/s)	0.13	-	-	-	-	-	-	-	-	-	-	-				Outlet	22

Data provided is at standard air density of 1.2 kg/m³.

Data in accordance with ErP 1253/2014 of the European Parliament. Product category is NRVU. Measurement category used to determine energy efficiency: C.

A variable speed drive is integrated within the fan.

Peak Amps @ 400V / 3PH / 50Hz.

The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20μPa and is presented for comparative purposes only.

TWINFLOW STDR



Sound Data

Single Phase 220V to 240V / 50Hz or 60Hz

Product Code	Control Voltage V		Sound Power Level dB @ Octave Band Hz								Total dB	
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
STDR315-1EC	10	Inlet	84	80	79	65	58	60	56	52	86	
		Outlet	77	83	83	74	71	66	62	60	87	
	8	Inlet	78	78	70	58	51	54	49	44	81	
		Outlet	71	80	73	67	64	60	55	50	82	
	5	Inlet	69	70	58	44	38	41	38	23	73	
		Outlet	64	71	61	52	51	46	41	30	72	
	2	Inlet	45	35	34	17	18	21	14	7	46	
		Outlet	42	37	39	26	36	28	18	22	45	
	STDR400-1EC	10	Inlet	89	89	89	74	70	67	64	63	94
			Outlet	83	86	90	81	81	75	70	67	93
		8	Inlet	84	87	83	68	63	61	58	54	90
			Outlet	76	86	84	75	76	70	63	59	89
5		Inlet	74	76	64	53	48	47	43	35	78	
		Outlet	67	75	66	59	58	53	46	39	76	
2		Inlet	55	44	46	33	29	19	12	13	56	
		Outlet	43	44	45	42	37	21	16	23	50	
STDR500-1EC		10	Inlet	85	81	76	71	62	61	57	55	87
			Outlet	82	87	82	77	74	68	64	62	90
		8	Inlet	82	78	71	65	56	55	52	51	84
			Outlet	78	83	77	71	68	62	57	56	85
	5	Inlet	76	64	58	51	43	42	41	28	76	
		Outlet	72	68	62	56	54	48	45	33	74	
	2	Inlet	47	41	36	27	18	14	14	21	48	
		Outlet	39	44	41	36	30	18	14	21	47	

Data provided at standard air density of 1.2 Kg/m³.
 Tests and preparation of the sound data have been carried out in accordance with BS 848 Part 2:1985 at 50% peak pressure.
 The Sound Power Level Spectra are in dB re-1pW.

TWINFLOW STDR



Sound Data

Three Phase 380V to 480V / 50Hz or 60Hz

Product Code	Control Voltage V		Sound Power Level dBW @ Octave Band Hz								Total dB
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
STDR500-3EC	10	Inlet	91	87	86	77	70	69	65	63	93
		Outlet	88	91	93	86	82	76	72	70	97
	8	Inlet	88	85	78	72	63	62	58	59	90
		Outlet	83	88	84	79	75	69	65	64	91
	5	Inlet	80	72	64	57	48	51	49	41	81
		Outlet	76	75	69	63	60	56	53	46	79
	2	Inlet	54	42	36	31	28	27	14	15	54
		Outlet	51	48	42	40	40	33	21	22	54

Data provided at standard air density of 1.2 Kg/m³.
 Tests and preparation of the sound data have been carried out in accordance with BS 848 Part 2:1985 at 50% peak pressure.
 The Sound Power Level Spectra are in dB re-1pW.

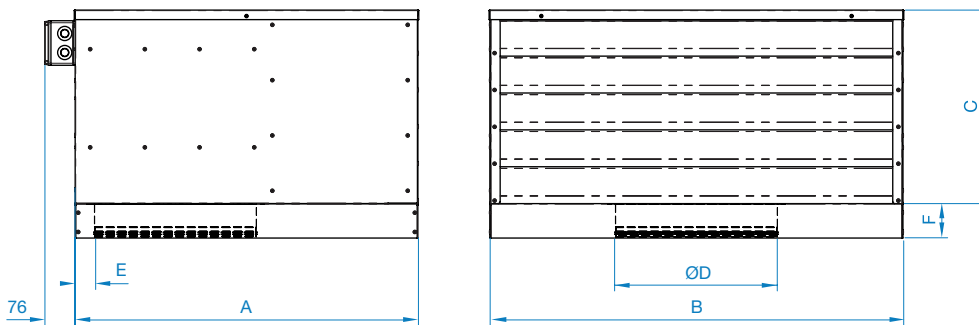
TWINFLOW STDR



Dimensional Data

Single & Three Phase

Product Code	A	B	C	D	E	F	Weight kg
STDR315-1EC	750	864	478	315	73	85	65
STDR400-1EC	846	1019	478	400	48	85	85
STDR500-1EC	988	1254	606	500	50	85	118
STDR500-3EC	988	1254	606	500	50	85	118



Dimensions are in mm.

TWINFLOW STDR



EcoDesign 1253/2014 - Information Requirements

REV2 01/05/2018

A	B	C*			D	E	F	G	H	I	J	K	L	N	O	P	Q	R	S
		C.1	C.2	C.3															
Elta Fans Ltd	STDR315-1EC	NRVU	UVU	2018	Variable-Speed	None	n/a	0.298	0.364	n/a	3.83	406	n/a	37.2	n/a	n/a	n/a	51	www.eltafans.com
Elta Fans Ltd	STDR400-1EC	NRVU	UVU	2018	Variable-Speed	None	n/a	0.521	0.848	n/a	4.15	638	n/a	42.9	n/a	n/a	n/a	61	www.eltafans.com
Elta Fans Ltd	STDR500-1EC	NRVU	UVU	2018	Variable-Speed	None	n/a	0.671	0.694	n/a	3.41	410	n/a	43.6	n/a	n/a	n/a	52	www.eltafans.com
Elta Fans Ltd	STDR500-3EC	NRVU	UVU	2018	Variable-Speed	None	n/a	0.736	1.322	n/a	3.75	739	n/a	44.4	n/a	n/a	n/a	60	www.eltafans.com

- A** Manufacturer's Name
- B** Model Identifier
- C.1** RVU or NRVU
- C.2** UVU or BVU
- C.3** ErP Compliance
- D** Type of Drive (MSD or VSD)
- E** Type of HRS (Run Around or Other or None)
- F** Thermal Efficiency (% or N/A)
- G** Nominal Flow Rate (m³/s)
- H** Effective Electrical Power Input (kW)
- I** SFP Int (W/m³/s)
- J** Face Velocity (m/s)
- K** Nominal External Pressure (Pa)
- L** Internal Pressure Drop of Ventilation Components (Pa)
- N** Static Efficiency of Fan Used 327/2011
- O** Maximum External Leakage Rate (%)
- P** Energy Classification of Filters
- Q** Description of Visual Filter warning
- R** Casing Sound Power Level (LWA)
- S** Website for Disassembly Instructions

* Declared Typology C

TWINFLOW STDR



Accessories

Single Phase

Product Code	ACO Panel	Box Fan Flexible Connector (each)	EC Electronic Controller	Fast Clamps (each)	Spigot Silencer 300mm Long	Spigot Silencer 600mm Long	Spigot Silencer 900mm Long	Spigot Silencer 1200mm Long	Wiring Diagram
STDR315-1EC	149-ACO14E	018-0315-FLEX	149-POT-10-MI	018-315-CLAMP	068-0315-JF1	068-0315-JF2	068-0315-JF3	068-0315-JF4	152-02298951
STDR400-1EC	149-ACO1/B	018-0400-FLEX	149-POT-10-MI	018-400-CLAMP	068-0400-JF1	068-0400-JF2	068-0400-JF3	068-0400-JF4	152-2MOEA03K1
STDR500-1EC	149-ACO1/B	018-0500-FLEX	149-POT-10-MI	018-500-CLAMP	068-0500-JF1	068-0500-JF2	068-0500-JF3	068-0500-JF4	152-2MOEA03K1

Three Phase

Product Code	ACO Panel	Box Fan Flexible Connector (each)	EC Electronic Controller	Fast Clamps (each)	Spigot Silencer 300mm Long	Spigot Silencer 600mm Long	Spigot Silencer 900mm Long	Spigot Silencer 1200mm Long	Wiring Diagram
STDR500-3EC	149-ACO3/B	018-0500-FLEX	149-POT-10-MI	018-500-CLAMP	068-0500-JF1	068-0500-JF2	068-0500-JF3	068-0500-JF4	152-2MOEA03K3

ACO PANEL

Accessories



- A range of auto changeover controllers for use with AC or EC single or three phase twin fans
- Power on indication
- Fail indication
- Suitable for operating temperatures up to 40°C

Optional Features

Suitable for use with speed controllers to a minimum voltage of 70V.

Duty Share/ Remote Enable and VFC Fail standard on ACO18 and 14E models.

Single Phase 220V to 240V / 50Hz or 60Hz

Product Code	Max Peak Current Amps	Weight kg	IP Rating
149-ACO14E	4	0.3	20
149-ACO1/B	9	3	51

B - For use as either Electric type or Air, suitable for speed control to minimum 70V.
For additional options refer to suffix list and options compatibility table.

Three Phase 400V / 50Hz

Product Code	Max Peak Current Amps	Weight kg	IP Rating
149-ACO3/B	9	3	51

B – For use with three phase twin fans up to 4kW.

Optional Features

Option	Description	Suffix
Duty Share	Automatically changes between fan 1 and fan 2 at a pre- determined time as selected via internal time clock.	D
Volt Free Contact (fail indication)	A volt free contact that can be used to connect a visual / audible alarm located externally to the panel, also for use with energy management systems.	V
Remote On / Off	A volt free contact or 240V connection terminal to allow the auto changeover panel to be remotely switched On and Off.	O

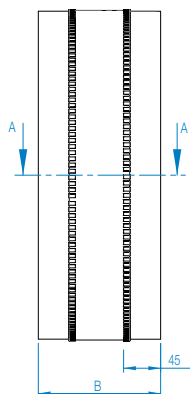
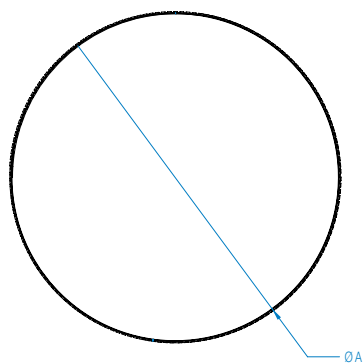
BOX FAN FLEXIBLE CONNECTOR

Accessories

- Fix directly on to spigot
- Provides flexible connection between fan and accessory or duct
- PVC coated polyester with galvanised sheet steel



Product Code	Fan Dia. A	B	Weight kg
018-0315-FLEX	315	150	0.5
018-0400-FLEX	400	150	0.7
018-0500-FLEX	500	150	1.0



Dimensions are in mm.

EC ELECTRONIC CONTROLLER

Accessories

- EC Type fans
- Variable Speed Drives (Inverters)



Product Code
149-POT-10-MI*

*-MI: Minimum speed adjustable by internal preset

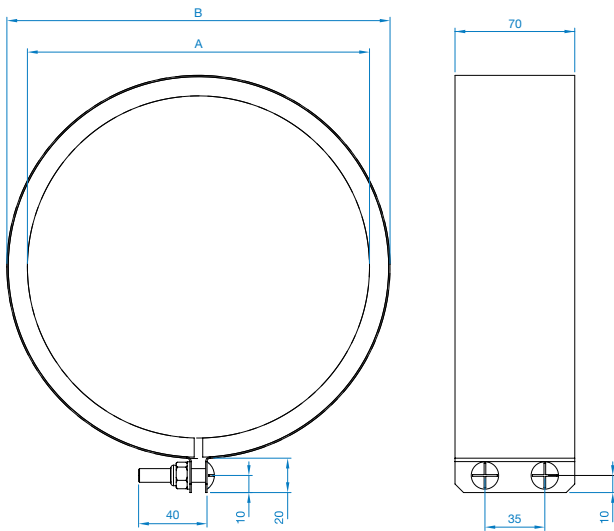
FAST CLAMPS

Accessories

- For quick connection of spigotted fans to circular duct or accessories
- Galvanised steel circular duct clamp with foam lining



Product Code	Fan Size	A Dia.	B Dia.	Weight kg
018-315-CLAMP	315	315	339	0.59
018-400-CLAMP	400	400	424	0.74
018-500-CLAMP	500	500	524	0.87



Dimensions are in mm.

SPIGOT SILENCER

Accessories

- Small metric range of attenuators with spigot connection
- Ideal for small fans
- Ideal for cross talk elimination
- Ideal for flexible or spiral ducting



Construction

Both types are rigidly constructed in galvanised sheet steel, with a highly absorbent sound attenuating lining between the outer casing and the inner perforated steel lining. The end faces of the silencer do not have threaded holes for fixings, but has a steel spigot for ease of mounting.

Melinex lined silencers must be used to prevent grease impregnation into the acoustic media for kitchen extract applications as prescribed in DW/172 HVAC Specification For Kitchen Ventilation Systems. For Melinex insertion losses, please contact Elta Fans. Silencers can be provided with differing lengths: 300, 600, 900 and 1200mm.

Silencer Attenuation

To determine the sound level of a fan fitted with a silencer, the dynamic insertion loss should be subtracted from the sound power level spectrum (dBW) of the fan. This should be done for the entire octave band mid-frequency spectrum. The fan dBW ratings and silencer attenuation apply equally to in duct applications, with a silencer connected between the fan and the duct system.

Dynamic Insertion Loss

The silencer attenuation is defined as the “dynamic insertion loss”. The values quoted in the tables represent the difference between the sound power level of a fan and silencer combination (dBW) and that of the fan alone (dBW). The dynamic insertion losses shown are the attenuations recorded under ideal working conditions. The achieved attenuation will vary according to the air velocity and flow pattern in the airways. Noise regeneration can occur at higher velocities, especially in EP silencers.

Square / Rectangular Silencers

In highly noise sensitive areas, where the circular silencers cannot achieve the necessary attenuation levels, Elta Fans can design and build optional splitter silencers for greater effect.

SPIGOT SILENCER

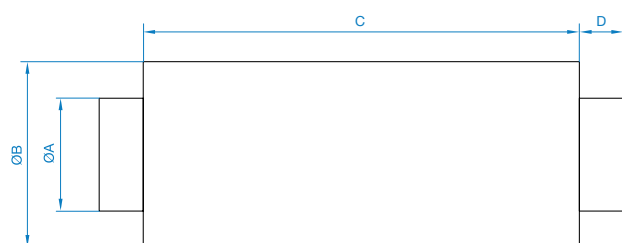
Dynamic Insertion Loss

Product Code	Length	Insertion Loss @ Octave band (Hz)							
		63	125	250	500	1K	2K	4K	8K
068-0315-JF1	300mm	-1	-3	-6	-12	-15	-18	-16	-8
068-0315-JF2	600mm	-3	-5	-8	-16	-21	-22	-16	-14
068-0315-JF3	900mm	-4	-7	-10	-20	-31	-28	-17	-14
068-0315-JF4	1200mm	-6	-9	-14	-23	-32	-32	-18	-15
068-0400-JF1	300mm	-1	-2	-4	-11	-15	-15	-12	-8
068-0400-JF2	600mm	-2	-4	-7	-14	-17	-18	-14	-11
068-0400-JF3	900mm	-3	-6	-9	-18	-26	-23	-15	-12
068-0400-JF4	1200mm	-5	-8	-13	-22	-30	-27	-17	-12
068-0500-JF1	300mm	-1	-1	-3	-10	-14	-14	-11	-7
068-0500-JF2	600mm	-2	-4	-6	-14	-16	-16	-13	-11
068-0500-JF3	900mm	-3	-6	-8	-17	-24	-21	-15	-11
068-0500-JF4	1200mm	-4	-8	-12	-19	-28	-23	-16	-12

SPIGOT SILENCER

Dimensional Data

Product Code	Fan Dia.	A	B	C	D	Weight kg
068-0315-JF1	315	313	420	300	40	6.1
068-0315-JF2	315	313	420	600	40	11.1
068-0315-JF3	315	313	420	900	40	16.1
068-0315-JF4	315	313	420	1200	40	21.0
068-0400-JF1	400	398	505	300	40	7.5
068-0400-JF2	400	398	505	600	40	13.6
068-0400-JF3	400	398	505	900	40	19.8
068-0400-JF4	400	398	505	1200	40	25.9



For 500 model, please contact Elta Fans.
Dimensions are in mm.

Building Services

Tel **+44 (0) 1384 275800**
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