ALLAWAY ACOUSTICS LTD

EQUIPMENT SCHEDULE

PROJECT NAME: BRITSH MUSEUM (EXTRACT FAN ATTENUATORS)

DATE: 11/09/2012

PROJECT No: 33220

SCHEDULE No: 10533220Q36

ITEM	SYSTEM REF/DESCRIPTION	CODE	SUFFIX	DWG	L1 mm	L2 mm	W mm	H/D mm	VOL m3/s	PD Pa	WT kg	NO Off
1	ES/6A/01 FAN EXTRACT	PLP	UM1	A13D	600			315	0.132	15	17	1
2	ES/6A/01 FAN EXHAUST	PL	UM1	A13D	600			315	0.132	5	10	1
3	ES/6A/02 EXTRACT	PLP	GM1	A13D	900			355	0.22	15	24	1
4	ES/6A/02 FAN EXHAUST	PL	GM1	A13D	600			355	0.22	5	12	1
5	ES/6A/02 DAMPER ATTS	PL	GM1	A13D	600			150	0.22	5	6	2
6	ES/6A/03 FAN EXTRACT	SPF4	GM1J	A02E	900		450	400	0.122	35	34	1
7	ES/6A/03 EXHAUST	PL	GM1	A13D	600			355	0.122	5	12	1
8	ES/6A/03 DAMPER ATTS	PL	GM1	A13D	600			150	0.122	5	6	2
9	ES/6A/04 FAN EXTRACT	SPF4	GM1J	A02E	1250		450	400	0.222	35	43	1
10	ES/6A/04 FAN EXHAUST	PLP	GM1	A13D	900			355	0.222	15	24	1
11	ES/6A/04 DAMPER ATTS	PL	GM1	A13D	600			150	0.222	5	6	2
12	ES/02/01 FAN EXTRACT	SPF5	UM1J	A02E	1250		450	425	0.431	35	44	1
13	ES/02/01 FAN EXHAUST	SPF5	UM1J	A02E	900		450	425	0.431	35	34	1
14	ES/02/01 DAMPER ATTS	PL	GM1	A13D	600			150	0.431	5	6	2
15	ES/02/02 FAN EXTRACT	SPF4	GM1J	A02E	1250		450	400	0.176	35	43	1
16	ES/02/02 FAN EXHAUST	PL	GM1	A13D	900			355	0.176	5	16	1
17	ES/02/02 DAMPER ATTS	PL	GM1	A13D	600			150	0.176	5	6	2

NOTES:
LABEL WITH ITEM NO. & SYSTEM REF.
SUFFIX M INDICATES ATTENUATORS TO BE SUPPLIED WITH ACOUSTIC MEDIA LINED IN MELINEX

SUFFIX U INDICATES ATTENUATORS TO BE MANUFACTURED FROM POLYPROPYLENE

RECTANGULAR ATTENUATORS HAVE BEEN SELECTED WHERE NECESSARY IN ORDER TO MEET WITH THE REQUIRED PERFORMANCE CRITERIA. WHEN CONNECTING RECTANGULAR ATTENUATORS TO CIRCULAR DUCTWORK WE WOULD RECOMMEND THE USE OF SMOOTH TRANSFORMATION SECTIONS (BY OTHERS)
TOTAL PRICE SHOWN IS NETT, DELIVERED (MAINLAND UK).

1 Queens Road, Hertford, SG14 1EN Tel: 01992 550825 Fax: 01992 554982
Email: enquiries@allawayacoustics.co.uk Web: www.allawayacoustics.co.uk

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EQUIPMENT SCHEDULE

PROJECT NAME: BRITSH MUSEUM (EXTRACT FAN ATTENUATORS)

DATE: 11/09/2012

PROJECT No: 33220

SCHEDULE No: 10533220Q36

Item	System Reference	Suffix	DWG	L1	L2	W	H/Dia	Vol	PD	Wt		Performance, dB							
				mm	mm	mm	mm	m^3/s	Pa	kg		63	125	250	500	1k	2k	4k	8k
1	ES/6A/01 FAN EXTRACT	UM1	A13D	600			315	0.132	15	17	IL	4	10	12	18	22	21	22	20
2	ES/6A/01 FAN EXHAUST	UM1	A13D	600			315	0.132	5	10	IL	2	3	5	12	14	10	10	9
3	ES/6A/02 EXTRACT	GM1	A13D	900			355	0.22	15	24	IL	4	12	14	22	24	22	24	21
4	ES/6A/02 FAN EXHAUST	GM1	A13D	600			355	0.22	5	12	IL	2	3	5	12	14	10	10	9
5	ES/6A/02 DAMPER ATTS	GM1	A13D	600			150	0.22	5	6	IL	0	2	5	13	17	13	14	10
6	ES/6A/03 FAN EXTRACT	GM1J	A02E	900		450	400	0.122	35	34	IL	11	19	21	29	40	28	21	17
7	ES/6A/03 EXHAUST	GM1	A13D	600			355	0.122	5	12	IL	2	3	5	12	14	10	10	9
8	ES/6A/03 DAMPER ATTS	GM1	A13D	600			150	0.122	5	6	IL	0	2	5	13	17	13	14	10
9	ES/6A/04 FAN EXTRACT	GM1J	A02E	1250		450	400	0.222	35	43	IL	15	25	28	39	52	37	27	22
10	ES/6A/04 FAN EXHAUST	GM1	A13D	900			355	0.222	15	24	IL	4	12	14	22	24	22	24	21
11	ES/6A/04 DAMPER ATTS	GM1	A13D	600			150	0.222	5	6	IL	0	2	5	13	17	13	14	10
12	ES/02/01 FAN EXTRACT	UM1J	A02E	1250		450	425	0.431	35	44	IL	14	23	26	37	45	32	22	17
13	ES/02/01 FAN EXHAUST	UM1J	A02E	900		450	425	0.431	35	34	IL	11	18	20	28	34	24	17	13
14	ES/02/01 DAMPER ATTS	GM1	A13D	600			150	0.431	5	6	IL	0	2	5	13	17	13	14	10
15	ES/02/02 FAN EXTRACT	GM1J	A02E	1250		450	400	0.176	35	43	IL	15	25	28	39	52	37	27	22
16	ES/02/02 FAN EXHAUST	GM1	A13D	900			355	0.176	5	16	IL	3	4	7	14	17	12	11	10
17	ES/02/02 DAMPER ATTS	GM1	A13D	600			150	0.176	5	6	IL	0	2	5	13	17	13	14	10

NOTES:
LABEL WITH ITEM NO. & SYSTEM REF.
IL = STATIC INSERTION LOSS (dB)

ILA.
SUFFIX M INDICATES ATTENUATORS TO BE SUPPLIED WITH ACOUSTIC MEDIA LINED IN MELINEX

SUFFIX U INDICATES ATTENUATORS TO BE MANUFACTURED FROM POLYPROPYLENE

RECTANGULAR ATTENUATORS HAVE BEEN SELECTED WHERE NECESSARY IN ORDER TO MEET WITH THE REQUIRED PERFORMANCE CRITERIA. WHEN CONNECTING RECTANGULAR ATTENUATORS TO CIRCULAR DUCTWORK WE WOULD RECOMMEND THE USE OF SMOOTH TRANSFORMATION SECTIONS (BY OTHERS)

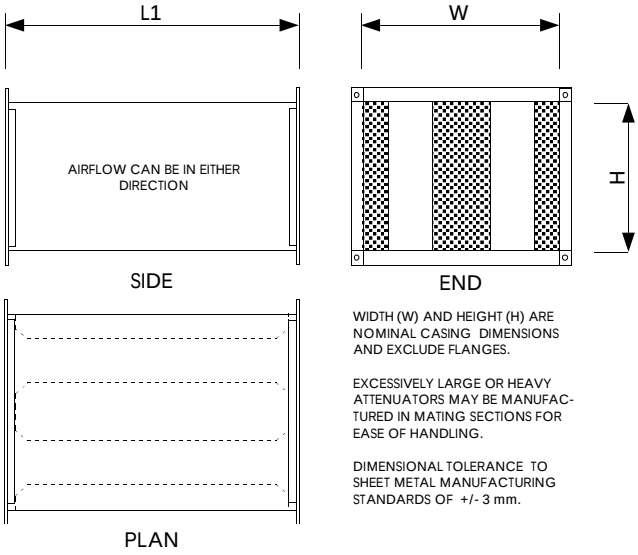
1 Queens Road, Hertford, SG14 1EN Tel: 01992 550825 Fax: 01992 554982
Email: enquiries@allawayacoustics.co.uk Web: www.allawayacoustics.co.uk

DATA SHEET A02E
RECTANGULAR ATTENUATOR MODEL SP

THIS IS NOT A STAND ALONE DOCUMENT AND UNLESS REFERRED TO IN A DATED EQUIPMENT SCHEDULE IS SUBJECT TO REVISION WITHOUT NOTICE.

ALLAWAY ACOUSTICS
LIMITED
www.allawayacoustics.co.uk

DIMENSIONS



WIDTH (W) AND HEIGHT (H) ARE NOMINAL CASING DIMENSIONS AND EXCLUDE FLANGES.

EXCESSIVELY LARGE OR HEAVY ATTENUATORS MAY BE MANUFACTURED IN MATING SECTIONS FOR EASE OF HANDLING.

DIMENSIONAL TOLERANCE TO SHEET METAL MANUFACTURING STANDARDS OF +/- 3 mm.

SPECIFICATION

ATTENUATORS ARE CONSTRUCTED TO DW144 SPECIFICATION FOR MEDIUM PRESSURE DUCTWORK.

CASES ARE FORMED FROM PRE-GALVANISED STEEL OF THE SPECIFIED GAUGE, BUT IN NO INSTANCE LESS THAN 0.8 mm. CASE SEAMS ARE LOCK FORMED AND MASTIC SEALED.

CASES ARE STIFFENED AND FITTED WITH PROPRIETARY FLANGES.

SOUND ABSORBENT ELEMENTS ARE ARRANGED WITHIN THE CASING TO FORM A SERIES OF CENTRAL SPLITTERS AND SIDE LININGS. SPLITTER FRAMES ARE FORMED FROM PRE-GALVANISED STEEL, AND CONTAIN A FIBROUS INFILL THAT IS NON-SHEDDING, NON-COMBUSTIBLE, NON-HYGROSCOPIC AND CHEMICALLY INERT. THE INFILL IS FACED WITH GLASS CLOTH AND PRE-GALVANISED PERFORATED STEEL.

SPLITTER ELEMENTS HAVE AERODYNAMIC FAIRINGS ON AIR ENTRY AND AIR EXIT END OF ATTENUATOR.

NOTES

THIS DATA SHEET IS TO BE READ IN CONJUNCTION WITH THE EQUIPMENT SCHEDULE.

EXCESSIVELY LARGE OR HEAVY ATTENUATORS MAY BE MANUFACTURED IN MATING SECTIONS FOR EASE OF HANDLING.

ATTENUATORS WILL BE SUPPLIED WITHOUT SUPPORT STEELWORK, BRACKETS, FIXINGS, GASKET, MASTIC OR OTHER SUCH ITEMS, UNLESS OTHERWISE STATED.

ATTENUATOR SEAMS AND JOINTS WILL BE FACTORY SEALED, HOWEVER, THE FLANGE CONNECTION SEAL , INCLUDING THE FLANGE CORNERS, IS THE RESPONSIBILITY OF THE INSTALLER.

THE PRESSURE LOSS STATED ON THE EQUIPMENT SCHEDULE IS DERIVED FROM TESTS CARRIED OUT IN ACCORDANCE WITH ISO 7235.

DIMENSIONAL TOLERANCE TO SHEET METAL MANUFACTURING STANDARDS OF +/- 3 mm.

WEIGHT

WEIGHTS ARE GIVEN ON THE EQUIPMENT SCHEDULE.

CODE

THE ATTENUATOR CODE DEFINES THE SPLITTER AND AIRWAY DIMENSIONS AND IS GIVEN ON THE EQUIPMENT SCHEDULE.

SUFFIX

THE SUFFIX DEFINES ADDITIONAL FEATURES OR SPECIAL CONSTRUCTIONAL DETAILS.

G - GALVANISED STEEL CONSTRUCTION.

S - STAINLESS STEEL CONSTRUCTION.

U - UPVC/GRP CONSTRUCTION TO DW154 SPECIFICATION (SEPARATE DRAWING)

H1 - 2 HOUR/300°c CONSTRUCTION.

H2 - FIRE DUCT CONSTRUCTION (FINAL TREATMENT BY SPECIALIST CONTRACTOR)

C - CHLORINATED RUBBER PAINT TO INSIDE SURFACES.

J - SPLITTERS ARRANGED HORIZONTALLY.

L - SPLITTERS ONLY (REFER TO DATA SHEET A10 FOR DETAILS).

D - DOUBLE SKIN CASING.

M1 - MELINEX LINED INFILL.

M2 - MELINEX ENCAPSULATED INFILL.

X - SPECIAL CONSTRUCTION, REFER TO EQUIPMENT SCHEDULE FOR DETAILS.

FLANGE DETAILS

ATTENUATORS ARE FITTED WITH PROPRIETARY FLANGES AS FOLLOWS:

GREATEST DIMENSION (W or H)	FLANGE
0 - 1000 mm	DOBY 20
1001 - 1250 mm	DOBY 30
1251 and above	DOBY 40

NOTE: IT IS THE INSTALLERS RESPONSIBILITY TO PROVIDE THE FLANGE SEAL TO THE CONNECTING DUCT, INCLUDING THE FLANGE CORNERS.

STANDARD SIZES

THERE ARE NO STANDARD SIZES. ALL ATTENUATORS ARE MADE TO ORDER.

DATA SHEET A13D
CIRCULAR ATTENUATOR
MODEL PL (WITHOUT POD)
MODEL PLP (WITH POD)

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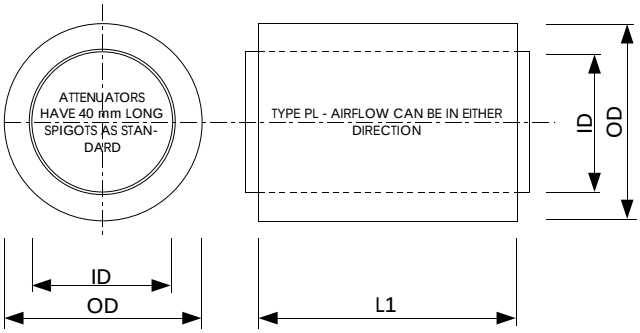
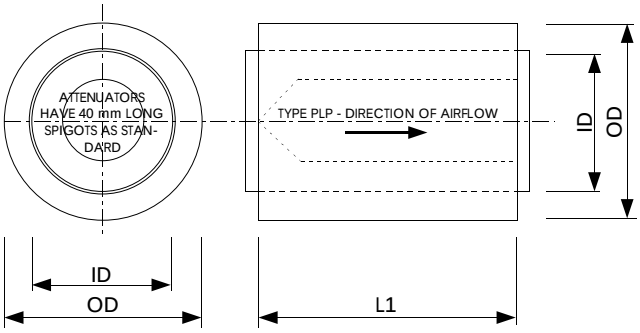
DIMENSIONS

TYPE PL ATTENUATOR (WITHOUT POD)



TYPE PLP ATTENUATOR (WITH POD)



ID (mm)	OD (mm)
0 - 400	ID + 100
401 - 600	ID + 150
601 - 1000	ID + 150
1001 - 1500	ID + 200
1501 - 2000	ID + 200

SPECIFICATION

ATTENUATORS ARE CONSTRUCTED TO DW144 SPECIFICATION FOR MEDIUM PRESSURE DUCTWORK.

CASES ARE FORMED FROM PRE-GALVANISED STEEL OF THE SPECIFIED GAUGE, BUT IN NO INSTANCE LESS THAN 0.8 mm. CASE SEAMS ARE LOCK FORMED AND MASTIC SEALED.

CASES ARE FITTED WITH SPIGOTS AS STANDARD OR END FLANGES WITH THREADED INSERTS (SPECIAL ORDER).

SOUND ABSORBENT LINING AND CENTRAL POD CONTAIN A FIBROUS INFILL THAT IS NON-SHEDDING, NON-COMBUSTIBLE, NON-HYGROSCOPIC AND CHEMICALLY INERT. THE INFILL IS FACED WITH GLASS CLOTH AND PRE-GALVANISED PERFORATED STEEL.

THE POD ELEMENT (TYPE PLP ONLY) HAS AN AERODYNAMIC FAIRING ON THE AIR ENTRY END OF ATTENUATOR.

STANDARD SIZES

THERE ARE NO STANDARD SIZES. ALL ATTENUATORS ARE MADE TO ORDER.

WEIGHT

WEIGHTS ARE GIVEN ON THE EQUIP-MENT SCHEDULE.

NOTES

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EXCESSIVELY LARGE OR HEAVY ATTENUATORS MAY BE MANUFACTURED IN MATING SECTIONS FOR EASE OF HANDLING.

ATTENUATORS WILL BE SUPPLIED WITHOUT MATCHING FLANGES, SUPPORT STEEL-WORK, BRACKETS, FIXINGS, GASKET, MASTIC, OR OTHER SUCH ITEMS, UNLESS OTH-ERWISE STATED.

ATTENUATOR SEAMS AND JOINTS WILL BE FACTORY SEALED, HOWEVER, SEALING THE ATTENUATOR TO THE CONNECTING DUCT IS THE RESPONSIBILITY OF THE IN-STALLERS.

THE PRESSURE LOSS STATED ON THE EQUIPMENT SCHEDULE IS DERIVED FROM TESTS CARRIED OUT IN ACCORDANCE WITH ISO 7235.

DIMENSIONAL TOLERANCE TO SHEET METAL FABRICATION STANDARDS OF +/- 3 mm.

SUFFIX

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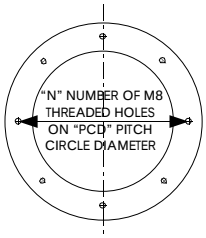
M1 - MELINEX LINED INFILL.

M2 - MELINEX ENCAPSULATED INFILL.

X - SPECIAL CONSTRUCTION, REFER TO EQUIPMENT SCHEDULE FOR DETAILS.

FLANGE DRILLING (SPECIAL ORDER)



ID (mm)	N (Nº HOLES)	PCD (mm)
100 - 400	4	DIA + 44
401 - 600	8	DIA + 44
601 - 1000	12	DIA + 56
1001 - 1500	16	DIA + 56
1501 - 2000	20	DIA + 56

RBU/Q005/59999E16
Michael J Lonsdale Limited
British Museum - Smoke Extract

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Ref	Required Duty	Product Code	Motor Frame	Speed (rpm)	Sound Level (dB)	Motor Power (kW)	Full Load Current (A)	Starting Current (A)	Electrical Supply (V/Hz/ph)
SEF/00/1A&1B	1.74m³/s @ 400Pa (static)	HT45JM/20/2/6/18	(P) 90L	2910		2.640	5.360	30.020	380-420/50/3
SEF/00/2A&2B	3.60m³/s @ 400Pa (static)	HT56JM/20/2/6/16	(P) 100L	2910		4.600	8.880	61.270	380-420/50/3
SEF/00/3A&3B	3.10m³/s @ 300Pa (static)	HT50JM/20/2/3/28	(P) 100L IE2	2910		3.600	6.930	41.500	380-420/50/3
SEF/00/4A&4B	4.85m³/s @ 1143Pa (static)	HT71JM/31/2/9/14	(P) 160M	2910		18.000	33.300	193.140	380-420/50/3
SEF/B2/01&02	5.20m³/s @ 500Pa (static)	HT56JM/20/2/6/28	(P) 112M IE2	2910		8.250	15.500	99.400	380-420/50/3
SEF/02/1A&1B	4.20m³/s @ 826Pa (static)	HT71JM/31/2/9/12	(P) 160M	2910		13.200	24.600	142.550	380-420/50/3
SEF/02/2A&2B	2.70m³/s @ 720Pa (static)	HT63JM/25/2/9/12	(P) 112M	2910		6.330	11.660	76.950	380-420/50/3
SEF/01/1A+B	0.50m³/s @ 400Pa (static)	HT40JM/16/2/5/12	(P) 80 IE2	2840		1.730	3.650	19.300	380-420/50/3
JEF/00/01	850N	71JMTS/31/2/9/39/-/1.0D N	180L IE2	2920		40.000	69.700	530.000	380-420/50/3
FFA/RF/1.1&1.2	530l/s @ 420Pa (static)	40JM.ATEX/16/2/5/12	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/1.3&1.4	530l/s @ 350Pa (static)	35JM.ATEX/16/2/5/18	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/1.5	155l/s @ 350Pa (static)	35JM.ATEX/16/2/5/8	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/2.1&2.2	375l/s @ 430Pa (static)	40JM.ATEX/16/2/5/10	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/2.3	165l/s @ 300Pa (static)	35JM.ATEX/16/2/5/8	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/2.4	550l/s @ 450Pa (static)	40JM.ATEX/16/2/5/14	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/3.1	100l/s @ 350Pa (static)	35JM.ATEX/16/2/5/8	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/3.2&3.3	530l/s @ 420Pa (static)	40JM.ATEX/16/2/5/12	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/3.5	400l/s @ 300Pa (static)	35JM.ATEX/16/2/5/12	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/3.6	330l/s @ 450Pa (static)	40JM.ATEX/16/2/5/10	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/3.4	400l/s @ 400Pa (static)	35JM.ATEX/16/2/5/18	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/4.1-4.5	530l/s @ 420Pa (static)	40JM.ATEX/16/2/5/12	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
FFA/RF/4.6&4.7	420l/s @ 350Pa (static)	35JM.ATEX/16/2/5/14	(P) ENV89	2840		0.750	1.900	9.500	380-420/50/3
ES/6A/01	115l/s @ 400Pa (static)	ILC - MS315L	Integral	2440		0.300	1.300		220-240/50/1
ES/6A/02	220l/s @ 650Pa (static)	ILC - MS355L	Integral	2340		0.610	2.600		220-240/50/1

RBU/Q005/59999E16 - SEF/00/1A&1B
British Museum - Smoke Extract
JM Aerofoil HT (300°C/2)
HT45JM/20/2/6/18

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Product Specification

Requested Duty:	1.74m³/s @ 400Pa (static)		
Actual Duty:	1.77m³/s @ 414Pa (static)		
Obtained Duty:	102%		
Fan Code:	HT45JM/20/2/6/18	Electrical Supply:	380-420volts 50Hz 3phase
Fan Diameter:	450 mm	Rated Motor Power:	2.640 kW
Fan Hub Diameter:	200 mm	Full Load Current:	5.360 A
Fan Speed:	2 Pole, 2910 rpm	Starting Current:	30.020 A
No. of Blades:	6		
Pitch Angle:	18°		
Form of Running:	B	Absorbed Power:	1.469 kW
Fan Casing:	Long Cased	Peak Power:	1.570 kW
Motor Frame Size:	(P) 90L	Fan Total Efficiency:	59%
High Temp. Cat.:	300°C/2		

	Sound Power Level Spectrum (Lw)								L w	LpA @ 3.00m
	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz		
Inlet	83dB	81dB	87dB	89dB	87dB	87dB	82dB	79dB	95dB	72dB
Outlet	85dB	81dB	89dB	90dB	87dB	87dB	83dB	80dB	95dB	73dB
Breakout	75dB	63dB	67dB	67dB	62dB	59dB	61dB	56dB	77dB	48dB

Special Features

FMEG Rating: 58 (D, Total); Efficiency: 52.7% (1.82m³/s @ 422Pa); Input Power: 1.731kW; SFP Value: 0.99

- Damper loss include within selection, fan suitable for run/stand by in PARALLEL

- Motor suitable for inverter control

Ancillaries & Price

	Qty	Price	Total
JM Aerofoil HT (300°C/2): HT45JM/20/2/6/18	2.0		
Set of Mounting Feet (2)	2.0		
Spring Anti Vibration Mounts (Set of 4)	2.0		
Matching Flange	4.0		
Flex connector c/w 2 clips	4.0		
Air Operated Damper - Horizontal	2.0		
Key Information White/black/white Traffolyte Labels - Fitted	2.0		

Despatch: 8.0 working weeks

Performance and Sound Data are to BS 848 parts 1 & 2.
This offer is made subject to the terms and conditions detailed on the accompanying letter.

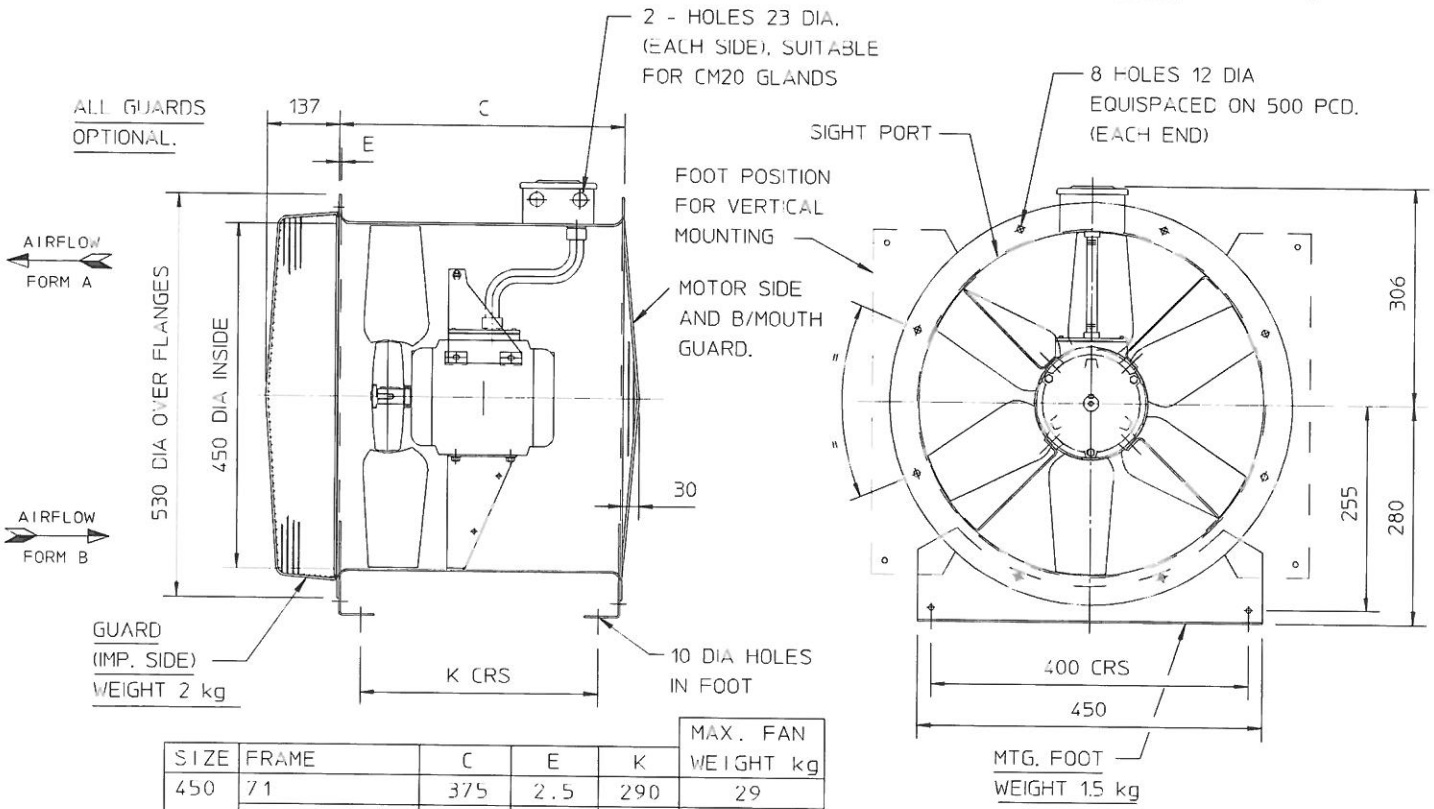
Fläkt Woods Limited

Drawing and Dimensions

JM Aerofoil

Date: : Monday, March 25, 2013
Fan Code : HT45JM/20/2/6/18
Item Reference: : SEF/00/1A&1B

Project Name :
Quotation Number : 59999E16
Customer :



SIZE	FRAME	C	E	K	MAX. FAN WEIGHT kg
450	71	375	2.5	290	29
150mm & 200mm hubs.	80	375	2.5	290	37
	90S/L	520	3.0	434	53
	100L	520	3.0	434	60
	112M	520	3.0	434	71

Notes : Dimensions shown in mm / Weight in kg

Reference :D275253

This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

, ,
Tel: Fax:

Web site:
Email: Ryan.Butcher@flaktwoods.com

Printed on 25 March 2013

Selection Engine: 2.9.2.0c(1)(UK.3.6.0)

RBU/Q005/59999E16 - SEF/00/2A&2B
British Museum - Smoke Extract
JM Aerofoil HT (300°C/2)
HT56JM/20/2/6/16

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Product Specification

Requested Duty:	3.60m³/s @ 400Pa (static)		
Actual Duty:	3.74m³/s @ 432Pa (static)		
Obtained Duty:	104%		
Fan Code:	HT56JM/20/2/6/16	Electrical Supply:	380-420volts 50Hz 3phase
Fan Diameter:	560 mm	Rated Motor Power:	4.600 kW
Fan Hub Diameter:	200 mm	Full Load Current:	8.880 A
Fan Speed:	2 Pole, 2910 rpm	Starting Current:	61.270 A
No. of Blades:	6		
Pitch Angle:	16°		
Form of Running:	B	Absorbed Power:	3.348 kW
Fan Casing:	Long Cased	Peak Power:	3.810 kW
Motor Frame Size:	(P) 100L	Fan Total Efficiency:	64%
High Temp. Cat.:	300°C/2		

	Sound Power Level Spectrum (Lw)								L w	LpA @ 3.00m
	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz		
Inlet	91dB	85dB	95dB	93dB	91dB	91dB	85dB	84dB	100dB	76dB
Outlet	92dB	86dB	97dB	94dB	92dB	91dB	86dB	84dB	101dB	77dB
Breakout	82dB	65dB	71dB	69dB	67dB	64dB	67dB	60dB	83dB	53dB

Special Features

FMEG Rating: 63 (D, Total); Efficiency: 60.6% (3.76m³/s @ 485Pa); Input Power: 3.884kW; SFP Value: 1.04

- Damper loss include within selection, fan suitable for run/stand by in PARALLEL

- Motor suitable for inverter control

** We do not recommend running our fans below 20% of maximum duty/speed **

Ancillaries & Price

	Qty	Price	Total
JM Aerofoil HT (300°C/2): HT56JM/20/2/6/16	2.0		
Set of Mounting Feet (2)	2.0		
Spring Anti Vibration Mounts (Set of 4)	2.0		
Matching Flange	4.0		
Flex connector c/w 2 clips	4.0		
Air Operated Damper - Horizontal	2.0		
Key Information White/black/white Traffolyte Labels - Fitted	2.0		

Despatch: 8.0 working weeks

Performance and Sound Data are to BS 848 parts 1 & 2.
This offer is made subject to the terms and conditions detailed on the accompanying letter.

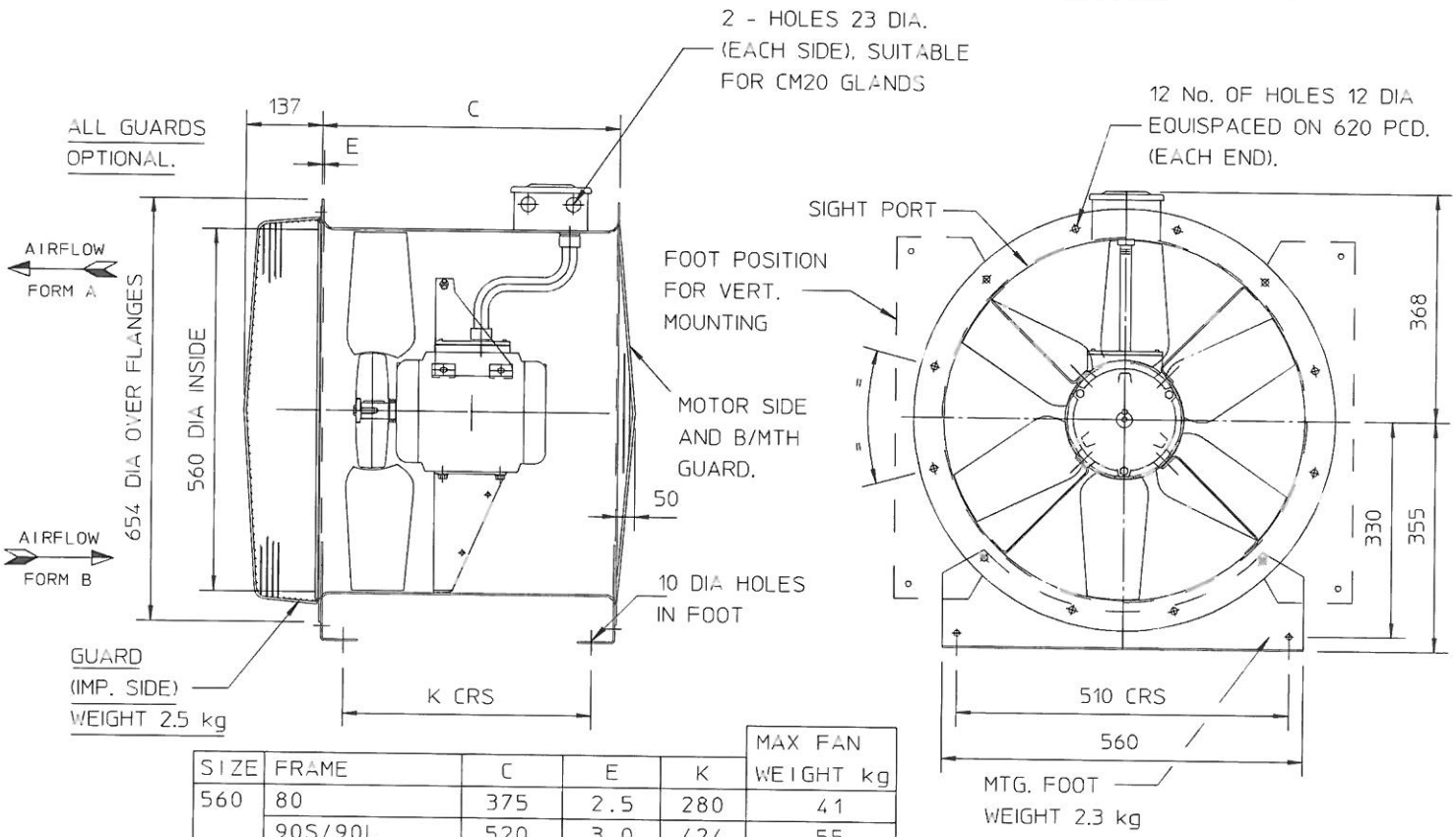
Fläkt Woods Limited

Drawing and Dimensions

JM Aerofoil

Date: : Monday, March 25, 2013
Fan Code : HT56JM/20/2/6/16
Item Reference: : SEF/00/2A&2B

Project Name :
Quotation Number : 59999E16
Customer :



SIZE	FRAME	C	E	K	MAX FAN WEIGHT kg
560	80	375	2.5	280	41
	90S/90L	520	3.0	424	55
	100L	520	3.0	424	67
	112M	520	3.0	424	78

Notes : Dimensions shown in mm / Weight in kg

Reference :D275256

This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

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Tel: Fax:

Web ste:
Email: Ryan.Butcher@flaktwoods.com

Printed on 25 March 2013

Selection Engine: 2.9.2.0c(1)(UK.3.6.0)

RBU/Q005/59999E16 - SEF/00/3A&3B
British Museum - Smoke Extract
JM Aerofoil HT (300°C/2)
HT50JM/20/2/3/28

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Product Specification

Requested Duty:	3.10m³/s @ 300Pa (static)
Actual Duty:	3.17m³/s @ 313Pa (static)
Obtained Duty:	102%

Fan Code:	HT50JM/20/2/3/28
Fan Diameter:	500 mm
Fan Hub Diameter:	200 mm
Fan Speed:	2 Pole, 2910 rpm
No. of Blades:	3
Pitch Angle:	28°
Form of Running:	B
Fan Casing:	Long Cased
Motor Frame Size:	(P) 100L IE2
High Temp. Cat.:	300°C/2

Electrical Supply:	380-420volts 50Hz 3phase
Rated Motor Power:	3.600 kW
Full Load Current:	6.930 A
Starting Current:	41.500 A
Start Type:	Direct on Line
Absorbed Power:	2.607 kW
Peak Power:	2.690 kW
Fan Total Efficiency:	57%

	Sound Power Level Spectrum (Lw)								L w	LpA @ 3.00m
	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz		
Inlet	90dB	95dB	89dB	92dB	89dB	87dB	82dB	78dB	99dB	74dB
Outlet	92dB	97dB	90dB	92dB	89dB	87dB	83dB	80dB	100dB	74dB
Breakout	82dB	79dB	68dB	69dB	64dB	59dB	61dB	56dB	84dB	50dB

Special Features

FMEG Rating: 60 (D, Total); Efficiency: 56.5% (3.53m³/s @ 283Pa); Input Power: 2.975kW; SFP Value: 0.97

- Damper loss include within selection, fan suitable for run/stand by in PARALLEL

- Motor suitable for inverter control

Ancillaries & Price

	Qty	Price	Total
JM Aerofoil HT (300°C/2): HT50JM/20/2/3/28	2.0		
Set of Mounting Feet (2)	2.0		
Spring Anti Vibration Mounts (Set of 4) (25mm Deflection)	2.0		
Matching Flange	4.0		
Flex connector c/w 2 clips	4.0		
Air Operated Damper - Horizontal	2.0		
Key Information White/black/white Traffolyte Labels - Fitted	2.0		

Despatch: 8.0 working weeks

Performance and Sound Data are to BS 848 parts 1 & 2.
This offer is made subject to the terms and conditions detailed on the accompanying letter.

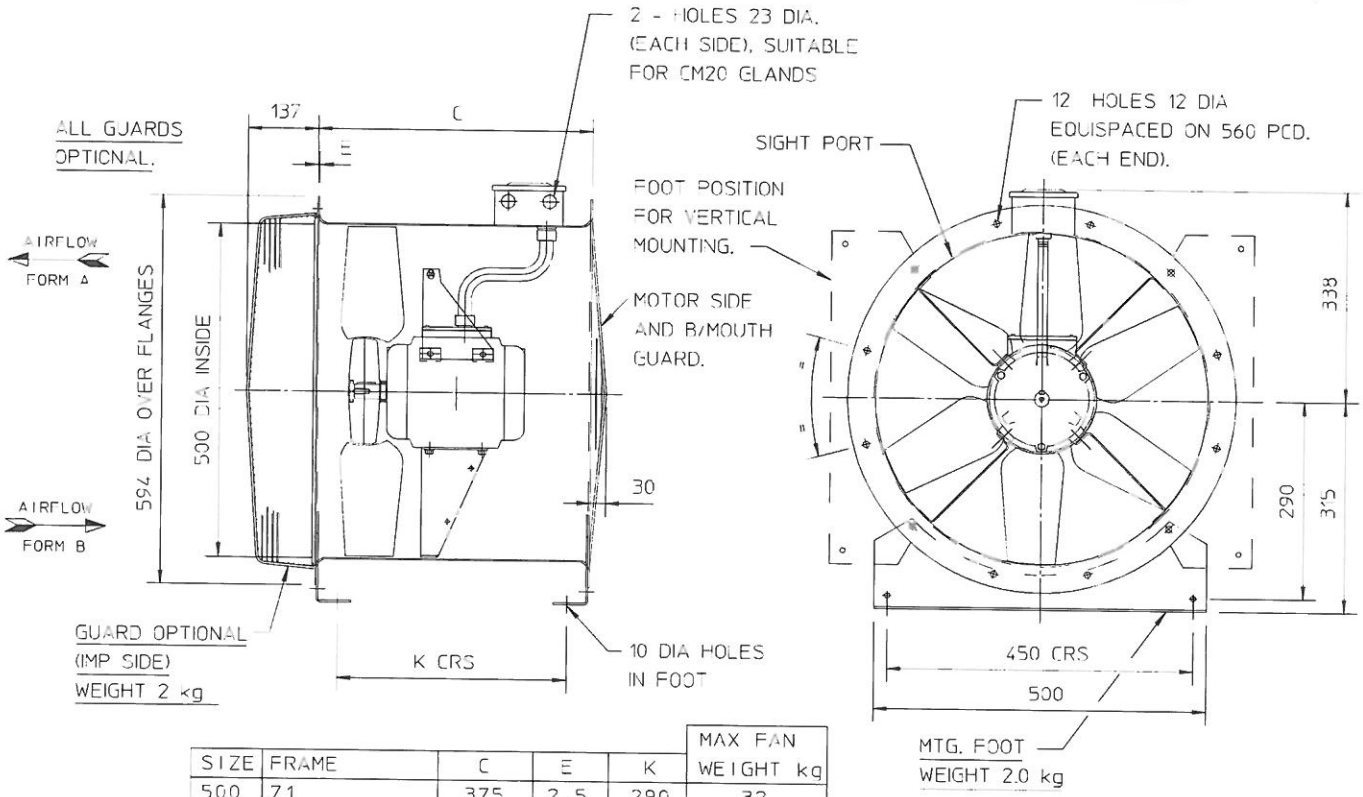
Fläkt Woods Limited

Drawing and Dimensions

JM Aerofoil

Date: : Monday, March 25, 2013
Fan Code : HT50JM/20/2/3/28
Item Reference: : SEF/00/3A&3B

Project Name :
Quotation Number : 59999E16
Customer :



SIZE	FRAME	C	E	K	MAX FAN WEIGHT kg
500	71	375	2.5	290	32
160mm & 200mm hubs.	80	375	2.5	290	39
	90S/L	520	3.0	434	56
	100L	520	3.0	434	66
	112M	520	3.0	434	76

Notes : Dimensions shown in mm / Weight in kg

Reference :D275255

This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

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Printed on 25 March 2013

Selection Engine: 2.9.2.0c(1)(UK.3.6.0)

RBU/Q005/59999E16 - SEF/00/4A&4B
British Museum - Smoke Extract
JM Aerofoil HT (300°C/2)
HT71JM/31/2/9/14

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Product Specification

Requested Duty:	4.85m³/s @ 1143Pa (static)		
Actual Duty:	5.11m³/s @ 1271Pa (static)		
Obtained Duty:	105%		
Fan Code:	HT71JM/31/2/9/14	Electrical Supply:	380-420volts 50Hz 3phase
Fan Diameter:	710 mm	Rated Motor Power:	18.000 kW
Fan Hub Diameter:	315 mm	Full Load Current:	33.300 A
Fan Speed:	2 Pole, 2910 rpm	Starting Current:	193.140 A
No. of Blades:	9		
Pitch Angle:	14°		
Form of Running:	B	Absorbed Power:	12.948 kW
Fan Casing:	Long Cased	Peak Power:	14.616 kW
Motor Frame Size:	(P) 160M	Fan Total Efficiency:	54%
High Temp. Cat.:	300°C/2		

	Sound Power Level Spectrum (Lw)								Lw	LpA @ 3.00m
	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz		
Inlet	102dB	101dB	100dB	104dB	105dB	104dB	99dB	95dB	111dB	89dB
Outlet	103dB	102dB	101dB	106dB	105dB	104dB	100dB	97dB	112dB	90dB
Breakout	93dB	81dB	75dB	81dB	80dB	76dB	80dB	74dB	94dB	65dB

Special Features

FMEG Rating: 51 (D, Total); Efficiency: 51.0% (5.32m³/s @ 1243Pa); Input Power: 14.089kW; SFP Value: 2.79

- Damper loss include within selection, fan suitable for run/stand by in PARALLEL

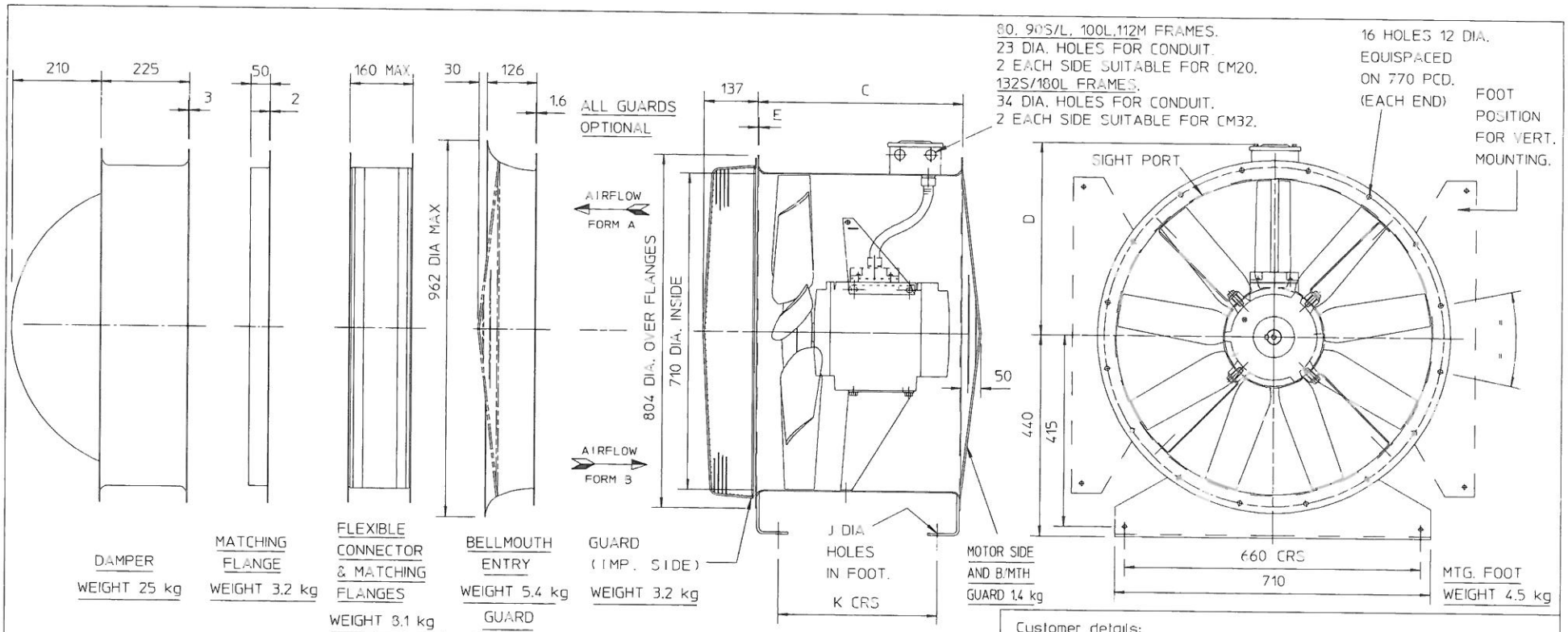
- Motor suitable for inverter control

SFP @ 100% requested duty = 2.28 W/l/s (lowest available with high pressure specified)

Ancillaries & Price	Qty	Price	Total
JM Aerofoil HT (300°C/2): HT71JM/31/2/9/14	2.0		
Set of Mounting Feet (2)	2.0		
Spring Anti Vibration Mounts (Set of 4)	2.0		
Matching Flange	4.0		
Flex connector c/w 2 clips	4.0		
Air Operated Damper - Horizontal	2.0		
Key Information White/black/white Traffolyte Labels - Fitted	2.0		

Despatch: 12.0 working weeks

Performance and Sound Data are to BS 848 parts 1 & 2.
This offer is made subject to the terms and conditions detailed on the accompanying letter.



SIZE	FRAME	C	D	E	J	K	MAX. FAN WEIGHT kg
710	80	375	443	3	10	259	48
160	90S/90L	520	443	3	10	434	65
TO	100L	520	443	3	10	434	84
250mm	112M	520	443	3	10	434	95
hubs	132S/M	520	443	4	12	434	147
	160M	625	443	5	12	539	223
	160L	711	443	6	12	625	245

2 STAGE FANS
STAGE 1 - JMR IMPELLER FORM A.
STAGE 2 - JML IMPELLER FORM B.
OVERALL LENGTH = 2 x DIM 'C'
TOTAL WEIGHT = 2 x WEIGHT SHOWN.

Customer details:

GEOMETRICAL TOL. SPEC. AS BS.308.

PART No. N275106

MATERIAL:

FINISH:

MASS kg

M. OF I. kg-m²

PARTS CLASSIFICATION CODE

	SIG.	DATE		SIG.	DATE
DRAWN	pdg	22/12/2004	TRACED		
CHECKED	mjn	05/01/2007	CHECKED		
APPROVED	meh	21/02/2007			

THIRD ANGLE PROJECTION

132-180 FRAMES
T-BOX HOLE SIZE FOR CONDUIT WAS 40 DIA.
18103

MOD | MJN | 08.1.07

CLIENTS NAME	CLIENTS O/NO.	WOODS O/NO.	NO. OFF	HAND

TITLE OUTLINE - 710JM SERIES - L
TYPE - 160-250 HUBS - WEG MTRS

SCALE	DRAWING NO.	MOD	STATUS
1:10 A3	D275106	B	RELEASED

ISSUE A

DO NOT SCALE

ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE
General Tolerances as Drg. No. 152400 Except Where Stated.

IF IN DOUBT ASK

Flakt Woods Ltd.
COLCHESTER, ESSEX. CO4 5AR
Telephone: 01206 544122 Fax: 01206 573436

mm 0 10 50 100 150

SHEET SIZE 420 X 297 PN.411253

RBU/Q005/59999E16 - SEF/B2/01&02

British Museum - Smoke Extract
JM Aerofoil HT (300°C/2)
HT56JM/20/2/6/28

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Product Specification

Requested Duty:	5.20m³/s @ 500Pa (static)		
Actual Duty:	5.35m³/s @ 529Pa (static)		
Obtained Duty:	103%		
Fan Code:	HT56JM/20/2/6/28	Electrical Supply:	380-420volts 50Hz 3phase
Fan Diameter:	560 mm	Rated Motor Power:	8.250 kW
Fan Hub Diameter:	200 mm	Full Load Current:	15.500 A
Fan Speed:	2 Pole, 2910 rpm	Starting Current:	99.400 A
		Start Type:	Direct on Line
No. of Blades:	6		
Pitch Angle:	28°		
Form of Running:	B	Absorbed Power:	7.297 kW
Fan Casing:	Long Cased	Peak Power:	7.670 kW
Motor Frame Size:	(P) 112M IE2	Fan Total Efficiency:	60%
High Temp. Cat.:	300°C/2		

	Sound Power Level Spectrum (Lw)								L w	LpA @ 3.00m
	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz		
Inlet	98dB	98dB	99dB	95dB	94dB	91dB	88dB	85dB	105dB	78dB
Outlet	101dB	98dB	101dB	96dB	94dB	92dB	89dB	86dB	106dB	79dB
Breakout	91dB	77dB	75dB	71dB	69dB	65dB	70dB	62dB	91dB	56dB

Special Features

FMEG Rating: 62 (D, Total); Efficiency: 61.6% (6.01m³/s @ 441Pa); Input Power: 7.781kW; SFP Value: 1.56

- Damper loss include within selection, fan suitable for run/stand by in parallel

- Motor suitable for inverter control

Ancillaries & Price

	Qty	Price	Total
JM Aerofoil HT (300°C/2): HT56JM/20/2/6/28	2.0		
AS021107: Set of Mounting Feet (2)	2.0		
AS032425: Spring Anti Vibration Mounts (Set of 4) (25mm Deflection)	2.0		
DA501355: Matching Flange	4.0		
AS040560: Flex connector c/w 2 clips	4.0		
414474: Air Operated Damper - Horizontal	2.0		
Key Information White/black/white Traffolyte Labels - Fitted	2.0		

Despatch: 8.0 working weeks

Performance and Sound Data are to BS 848 parts 1 & 2.
This offer is made subject to the terms and conditions detailed on the accompanying letter.

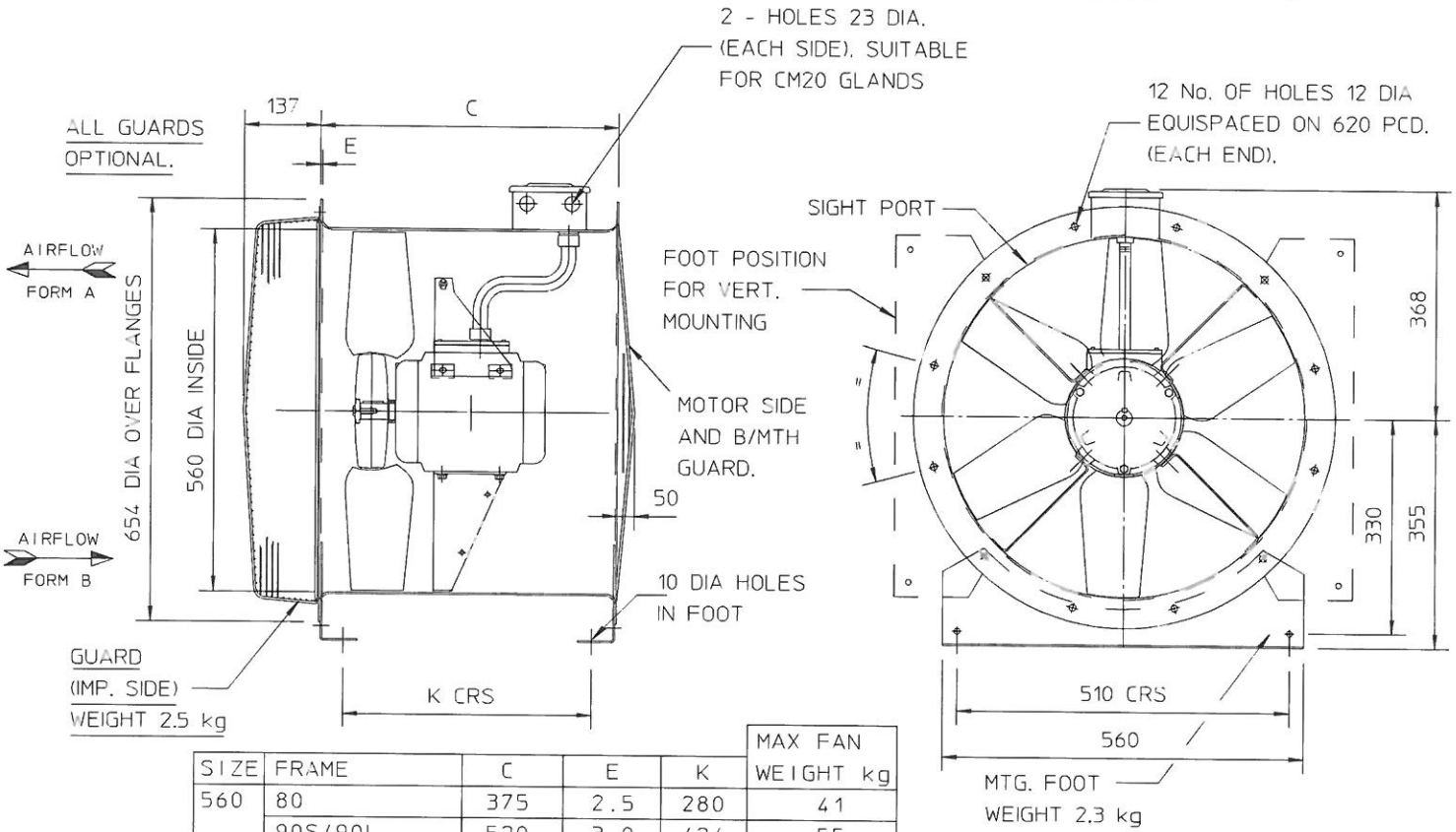
Fläkt Woods Limited

Drawing and Dimensions

JM Aerofoil

Date: : Monday, March 25, 2013
Fan Code : HT56JM/20/2/6/28
Item Reference: : SEF/B2/01&02

Project Name :
Quotation Number : 59999E16
Customer :



SIZE	FRAME	C	E	K	MAX FAN WEIGHT kg
560	80	375	2.5	280	41
	90S/90L	520	3.0	424	55
	100L	520	3.0	424	67
	112M	520	3.0	424	78

Notes : Dimensions shown in mm / Weight in kg

Reference :D275256

This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

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Email: Ryan.Butcher@flaktwoods.com

Printed on 25 March 2013

Selection Engine: 2.9.2.0c(1)(UK.3.6.0)

RBU/Q005/59999E16 - SEF/02/1A&1B
British Museum - Smoke Extract
JM Aerofoil HT (300°C/2)
HT71JM/31/2/9/12

Fläkt Woods Limited
Axial Way
Colchester CO4 5ZD, UK
Tel: +44 (0) 1206 222555
Fax: +44 (0) 1206 222777
www.flaktwoods.com

Product Specification

Requested Duty: 4.20m³/s @ 826Pa (static)
Actual Duty: 4.29m³/s @ 1368Pa (static) inc idling losses
Obtained Duty: 102%

Fan Code:	HT71JM/31/2/9/12	Electrical Supply:	380-420volts 50Hz 3phase
Fan Diameter:	710 mm	Rated Motor Power:	13.200 kW
Fan Hub Diameter:	315 mm	Full Load Current:	24.600 A
Fan Speed:	2 Pole, 2910 rpm	Starting Current:	142.550 A
		Start Type:	Direct on Line
No. of Blades:	9		
Pitch Angle:	12°		
Form of Running:	B	Absorbed Power:	11.355 kW
Fan Casing:	Long Cased	Peak Power:	13.104 kW
Motor Frame Size:	(P) 160M	Fan Total Efficiency:	54%
High Temp. Cat.:	300°C/2		

	Sound Power Level Spectrum (Lw)								Lw	LpA @ 3.00m
	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz		
Inlet	100dB	100dB	100dB	103dB	106dB	106dB	100dB	93dB	112dB	90dB
Outlet	102dB	102dB	102dB	106dB	106dB	106dB	100dB	95dB	113dB	91dB
Breakout	92dB	81dB	76dB	81dB	81dB	78dB	80dB	72dB	93dB	66dB

Special Features

FMEG Rating: 49 (D, Total); Efficiency: 49.1% (4.74m³/s @ 1180Pa); Input Power: 12.226kW; SFP Value: 2.93

- Damper loss include within selection, fan suitable for run/stand by in SERIES

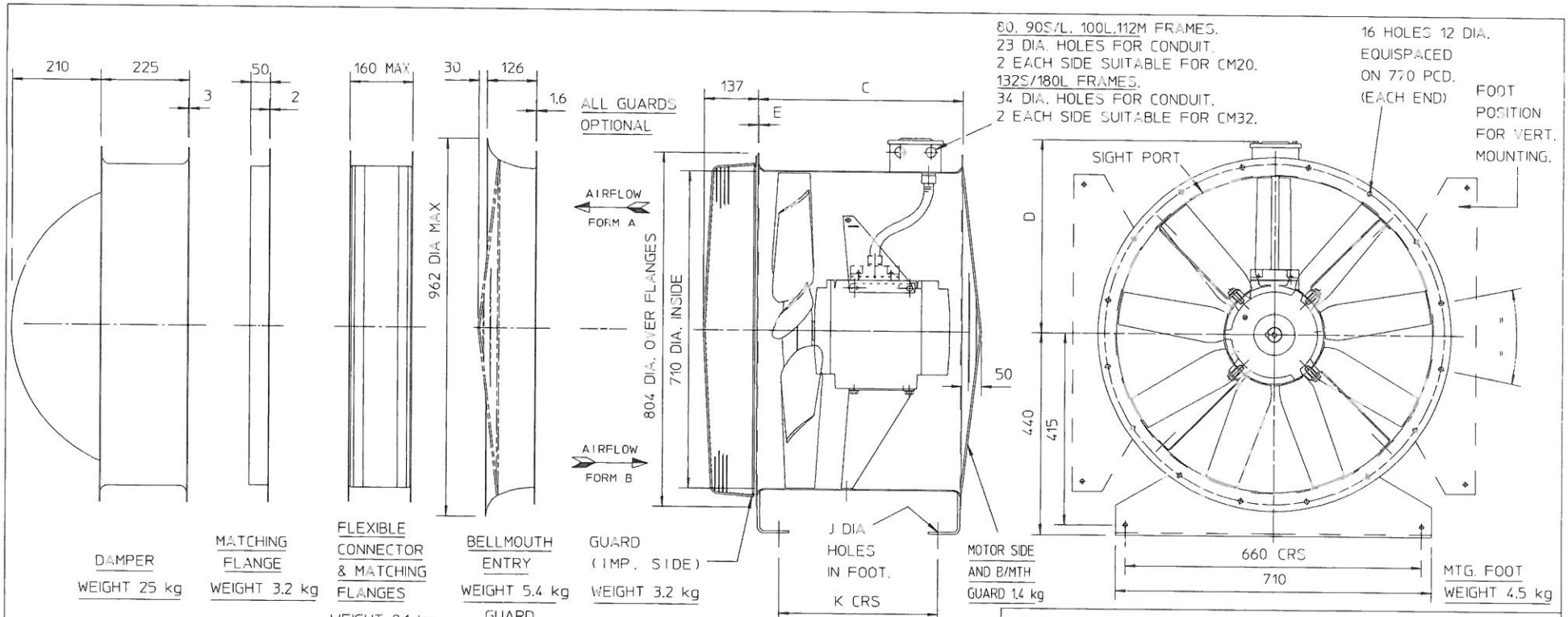
- Motor suitable for inverter control

Ancillaries & Price

	Qty	Price	Total
JM Aerofoil HT (300°C/2): HT71JM/31/2/9/12	2.0		
Set of Mounting Feet (2)	2.0		
Spring Anti Vibration Mounts (Set of 4)	2.0		
Matching Flange	2.0		
Flex connector c/w 2 clips	2.0		
Air Operated Damper - Horizontal	1.0		
Key Information White/black/white Traffolyte Labels - Fitted	2.0		

Despatch: 12.0 working weeks

Performance and Sound Data are to BS 848 parts 1 & 2.
This offer is made subject to the terms and conditions detailed on the accompanying letter.



SIZE	FRAME	C	D	E	J	K	MAX. FAN WEIGHT kg
710	80	375	443	3	10	259	48
160	90S/90L	520	443	3	10	434	65
TO	100L	520	443	3	10	434	84
250mm	112M	520	443	3	10	434	95
hubs	132S/M	520	443	4	12	434	147
	160M	625	443	5	12	539	223
	160L	711	443	6	12	625	245

2 STAGE FANS
STAGE 1 - JMR IMPELLER FORM A.
STAGE 2 - JML IMPELLER FORM B.
OVERALL LENGTH = 2 x DIM 'C'
TOTAL WEIGHT = 2 x WEIGHT SHOWN.

Customer details:

GEOMETRICAL TOL. SPEC. AS BS.308.

PART No. N275106 | MATERIAL: | FINISH: | MASS kg | M. OF I. kg-m² | PARTS CLASSIFICATION CODE

	SIG.	DATE		SIG.	DATE
DRAWN	pdg	22/12/2004	TRACED		
CHECKED	mjn	08/01/2007	CHECKED		
APPROVED	meh	21/02/2007			

THIRD ANGLE PROJECTION

132-180 FRAMES
T-BOX HOLE SIZE FOR CONDUIT WAS 40 DIA.
18103
MOD 60 | MJN | 08.1.07

CLIENTS NAME	CLIENTS O/NO.	WOODS O/NO.	NO. OFF	HAND

TITLE OUTLINE - 710JM SERIES - L
TYPE - 160-250 HUBS - WEG MTRS

SCALE	DRAWING NO.	MOD	STATUS
1:10 A3	D275106	B	RELEASED

ISSUE A | DO NOT SCALE | ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE
General Tolerances as Drg. No. 152400 Except Where Stated. | IF IN DOUBT ASK

Flakt Woods Ltd.
COLCHESTER, ESSEX. CO4 5AR
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mm 0 10 50 100 150

SHEET SIZE 420 X 297 PN 411953