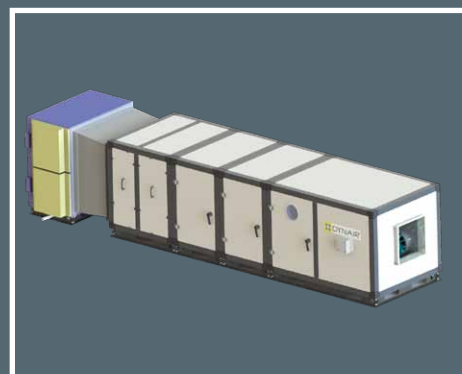


DEV RANGE

Commercial Kitchen Exhaust System



ETL CLASSIFIED



Intertek

DYN AIR® is the industrial division of Maico Italia S.p.A. and is a well known brand name at global level in the industrial ventilation and plant engineering sector. Technological expertise, high production capacities, strong research and investment policies together with a personalized back-up service focused on customer needs have, for over 30 years, been the qualities that distinguish our company: Italian excellence renowned throughout the world and an industrial concern fortified by belonging to Maico Holding GmbH, the German group that leads the way in the ventilation industry.

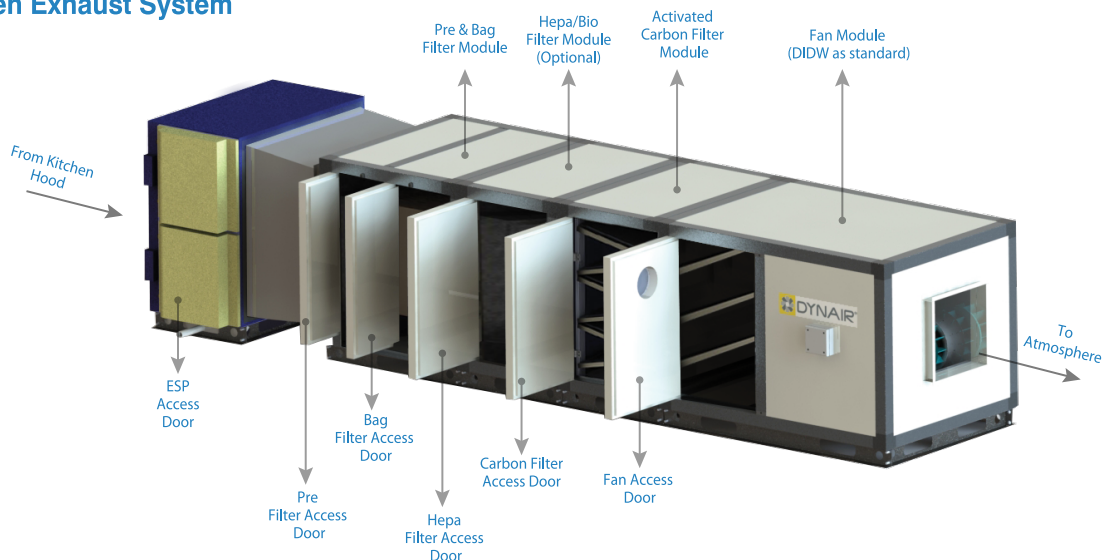
Experience and high technology at your service

Living in a market in continuous evolution, DYN AIR® bases its force on a step by step project follow-up in close collaboration with the customer to create tailored and highly reliable solutions.

With the new and wide range of kitchen exhaust units (DEV), Dynair has diversified its current range of products to meet customers requirement in HVAC field. DYN AIR's products follow stringent policy of research and development. With safety as a priority during production, all products use top quality components that meet ETL relevant as per UL 710 standards.

Our Total Quality policy is ensured by standard working procedures, with tests and inspections during all production phases.

DEV Range Commercial Kitchen Exhaust System



GENERAL DESCRIPTION

An efficient & economical solution to exhaust contaminated air from kitchen hood.

They are suitable for conveying kitchen exhaust air, upto a maximum temperature of 80°C.

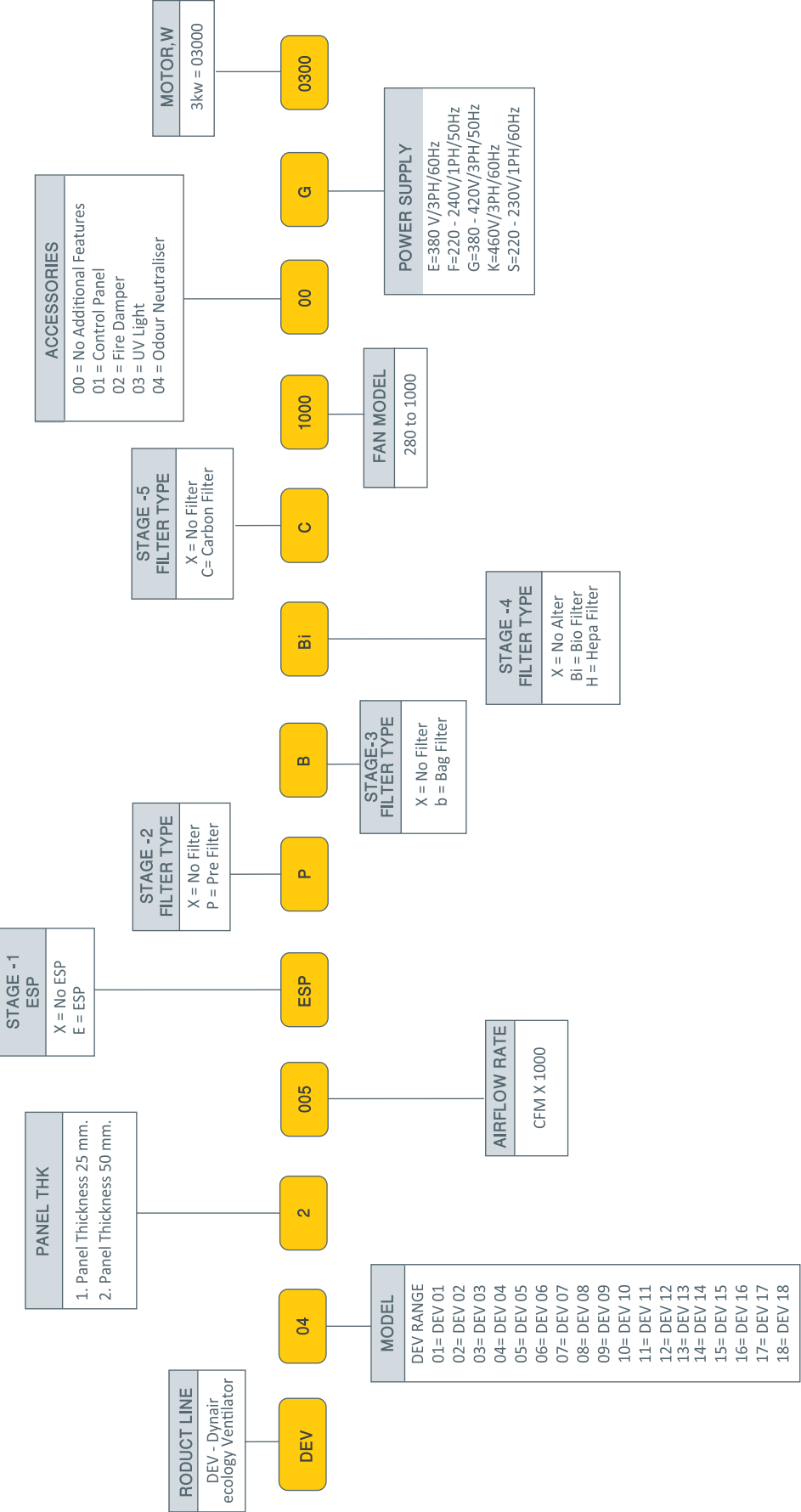
The removal of grease from the exhaust air flow is a very important part of commercial kitchen operation. If there is no proper grease trap at kitchen hood it could:

1. Increase fire hazard at exhaust duct.
2. Increase the frequency of expensive duct cleaning.
3. Create bad odor in or near the restaurant surroundings.
4. Increase the collection of grease on the roof top which could cause deterioration of roof material (Filter Bank), These problems can be greatly reduced through the use of proper grease trap device at kitchen hood itself.



Maico Gulf is ISO 9001: 2008, ISO 14001: 2004, OHSAS 18001: 2007 company certified.

With our production capability, wide range of finished products and components warehouse, we ensure quick delivery to all our customers. Our staff is trained and dedicated to provide before and after technical plus sales services.



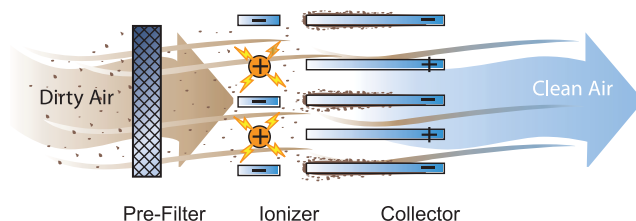
FILTRATION SYSTEM:

A. First stage of filtration

Three stage filtration systems, which includes:

Stage 1 : Electrostatic Precipitator

Air is drawn by the motor/blower through a filter bank which traps large dust particles. The remaining particles, some as small as 0.01 microns, pass into a strong electrical field (ionizing section) where the particulate receives an electrical charge. The charged particles then pass into a collector plate section made up of a series of equally spaced parallel plates. Each alternate plate is charged with the same polarity as the particles, which repel, while the interleaving plates are grounded, which attract and collect.



Stage 2 : Polyfibre Pleated Filter:

- | | |
|------------------------------|----------|
| 1. EN 779 | : G4 |
| 2. Arrestance (ASHRAE 52.1) | : 90-94% |
| 3. MERV Rating (ASHRAE 52.2) | : MERV8 |
| 4. Eurovent | : EU4 |

Stage 3 : Synthetic Bag Filter:

- | | |
|------------------------------|----------|
| 1. EN 779 | : F9 |
| 2. Arrestance (ASHRAE 52.1) | : 99% |
| 3. MERV Rating (ASHRAE 52.2) | : MERV15 |
| 4. Eurovent | : EU9 |

Stage 4 : Bio-Hepa Filter (Optional)

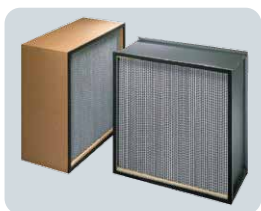
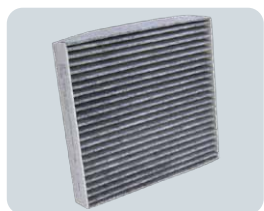
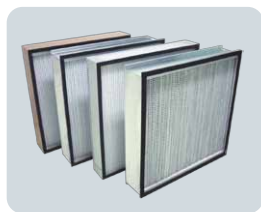
- | | |
|------------------------------|-----------|
| 1. EN 779 | : H14 |
| 2. Arrestance (ASHRAE 52.1) | : 99.995% |
| 3. MERV Rating (ASHRAE 52.2) | : NA |
| 4. Eurovent | : EU14 |

B. Second stage of filtration

S4: Carbon Filter:

Durable non-woven polyester base media, impregnated with activated carbon.

The unique combination of high quality activated carbon and polyester affords odour and particulate trapping efficiency while maintaining excellent airflow properties.



FAN SECTION:

- DEV series are with DIDW, fan which allows obtaining two orientations (0° & b 90°) with the same fan.
- The key features associated with DEV:
 - AMCA certified fan for air and sound
 - PPGI casing, suitable for outdoor installation
 - Backward curved impellers are made of cold-rolled sheet steel
 - Statically & dynamically balanced
 - Fan & motor assembly mounted on a common base frame and isolated from the main structure by anti vibration mounts and flexible joint on inlet and outlet (optional)
 - DIDW backward curved type fan (SISW Optional)
 - Standard accessories with inspection door & drain plug for periodic maintenance
 - Powder coated impeller, (non-sticky)

CONSTRUCTION:

- Filter section: Pentapost design & have strong three way angle joints of reinforced nylon corners to form a rigid frame structure. Rigid frame work comprises an assembly of externally chamfered extruded aluminium profile & nylon corner joints. Inner & outer skin: Standard pre-coated GI sheet, the double skin is to retain the insulation surface clean & to have a smooth surface.
- Asynchronous three-phase motors according to international standards IEC 60034, IEC 60072, EMC2004/108/CE, LVD2006/95/CE, CE marked, IP55, class F, suitable to S1 service (continuous working at constant load).

OPTIONAL FEATURES:

- Spray system works by producing a fine atomized mist that is delivered through strategically placed nozzles in the stack, which actively reduces odour, neutralizing it before it leaves the stack.
- UV filtration - UVC in DEV are another option in odour & grease control, the most effective method common today for eliminating unpleasant odours, grease & oil mist from kitchen hood.
- Electrostatic precipitator with wash module

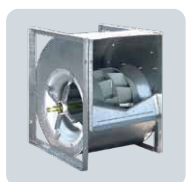
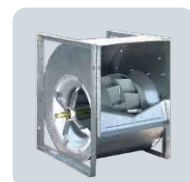
Features & benefits Of UV filtration -

- Quick and easy snap in installation.
- No noise.
- No pressure drop.
- Easy maintenance.
- High output green lamps contain < 8 mg. of mercury.
- Water tight connections for lamp and wiring.
- Produce no Ozone or other contaminants.



ACCESSORIES:

- Control panel (motor starter, status panel for filter bank)
- Fire damper
- Inlet/outlet flexible connectors
- Anti vibration supports
- Outlet flange
- Inverter speed controllers
- Weatherproof canopy
- Belt protection

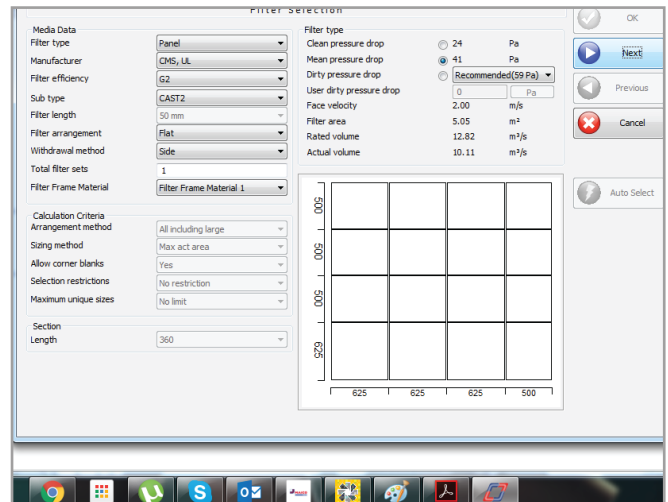
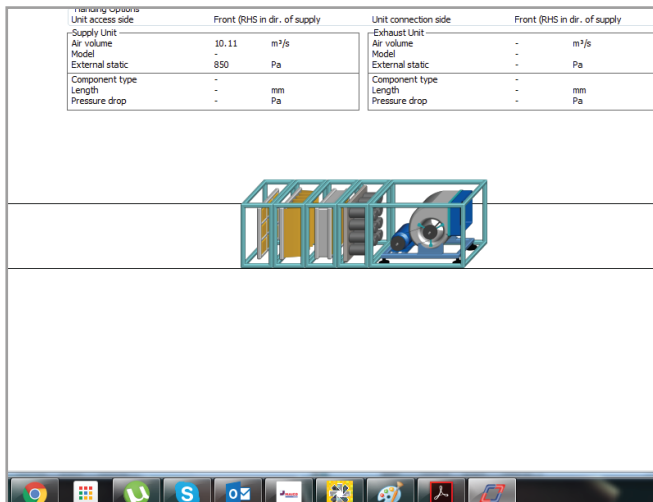
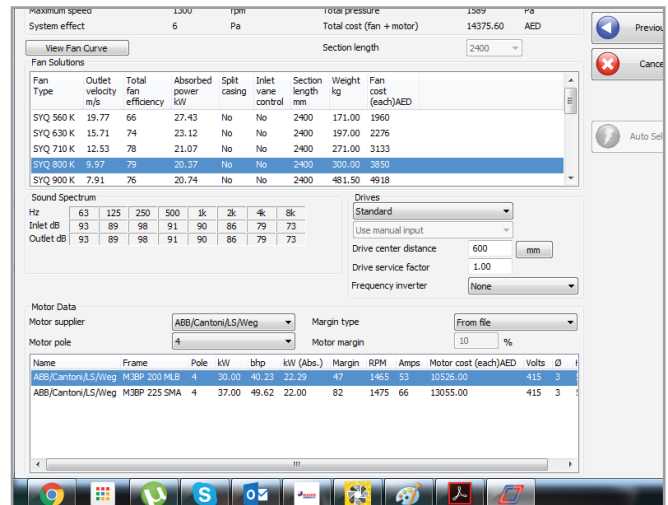
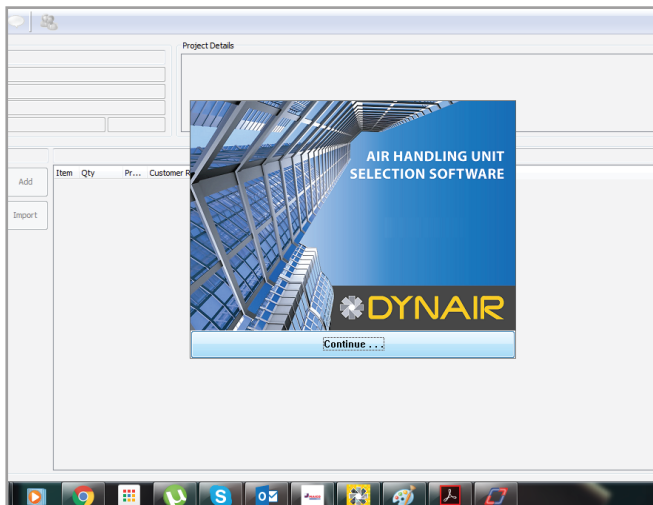


Ecology Unit Selection Software:

DYN AIR's Ecology Unit selection software provides the complete details of design and submittal generated for the Ecology Units. The system is integrated so as to eliminate wherever possible the re-entry of information and thereby minimize data entry errors. The program is user-friendly and maintained wherever practical for the customers.

The software intelligently selects the optimum requirement of Ecology Units from our standard database and selects the optimum selection as per the customers' specifications.

The software will carry out the calculations and generate sufficient information to have options available within the program.



Technical Output Of DEV (Technical Specification)



Date: 8/14/2016

Technical Specification

Project name : Salwa Beach Resort Doha WinTADS Lite - 1.10.00042.0
Quotation no : 0194-15-00 / 001



Conforms to UL STD 710

CUSTOMER DETAILS

Customer Name
Address
Town
Postcode
Country

Customer Number

GENERAL DATA

Product Ecology Unit Customer reference ECU PS-401
Number off 1 Unit configuration Infile
Total weight (each) kg 582.09 Location Internal
Outdoor design 0.0 Roof type None

Frequency 125Hz 250Hz 500Hz 1kHz 2kHz 4kHz 8kHz dB(A)
Radiated casework SWL, 52 48 74 66 63 55 33 73

PANEL DATA

Panel internal finish Standard Panel external finish Standard

CASING DATA

Base frame material Galvanised 1.5mm C-channel Base frame height mm 80

SUPPLY DATA

Type DEV-02 Air volume m³/s 1.00
External static Pa 623 Unit velocity m/s 1.02
Internal skin material GI 0.5mm Pre Painted GI 0.5mm
Panel type SFPv kW/m² 2.00 SFPv kW/m² 1.82

Operating sound power level

Frequency 125Hz 250Hz 500Hz 1kHz 2kHz 4kHz 8kHz dB(A)
Inlet dB 90 83 87 84 80 78 70 89
Outlet dB 90 83 87 84 80 78 70 89

Page 1 of 3



Date: 2/6/2013

Technical Specification

Project name : WinTADS Lite - 1.2
Quotation no : 0363-13-00 / 009

SINGLE MIXING SECTION			
Length: 725mm		Pressure drop: 21Pa	
Recirc opening			
Opening, width x height	mm 2150 x 1450	Damper torque	Nm
Damper motor	None		
Fresh air opening			
Opening, width x height	mm 2150 x 225	Damper torque	Nm
Damper motor	None		

COMBINED FILTER SECTION		Length: 550mm		Pressure drop: 301Pa	
Pre-filter		General Filters		Face velocity	
Manufacturer				m/s 2.13	
Sub type		CFA-W		Initial pressure drop	
Filter class		G4		Pa 66	
Final filter		General Filters		Initial pressure drop	
Manufacturer				Pa 95	
Sub type		ABS70-20		Final pressure drop	
Filter class		F7		Pa 303	
Combined filter		Media length		mm 380	
Withdrawal method		Side		Filter size: Qty x W x H	
				mm 4 x 400 x 400	
				mm 2 x 400 x 500	
				mm 4 x 625 x 400	
				mm 2 x 625 x 500	

ACCESS
Access type Hinged door Access side Right

HEPA FILTER SECTION		Length: 700mm	Pressure drop: 458Pa
Manufacturer	AAF	Face velocity	m/s 2.55
		Initial pressure drop	Pa 407
Sub type	AstroCel III NG	Final pressure drop	Pa 509
Filter class	H12	Media length	mm 292
Withdrawal method	Side	Filter size: Qty x W x H	mm 6 x 610 x 610
ACCESS			
Access type	Hinged door	Access side	Right

PLENUM SECTION			
Length: 800mm		Pressure drop: 6Pa	

CARBON FILTER SECTION			
Length: 200mm		Pressure drop: 309Pa	
Manufacturer	General Filters	Face velocity	m/s 2.57
		Initial pressure drop	Pa 128
Sub type	CCA18	Final pressure drop	Pa 490
Filter class		Media length	mm 18
Withdrawal method	Side	Filter size: Qty x W x H	mm 16 x 237 x 583

PLENUM SECTION			
Length: 500mm		Pressure drop: 6Pa	

Page 2 of 3



Date: 2/6/2013

Technical Specification

Project name : WinTADS Lite - 1.2
Quotation no : 0363-13-00 / 009

FAN SECTION			
Length: 1650mm		Pressure drop: 6Pa	
Fan type	SYQ 560 K	Fan arrangement	Single
Air volume	m ³ /s 5.98	Motor x 1	Run
Fan outlet velocity	m/s 11.12	Installed motor power	kW 22.00
Required fan speed	RPM 2043	Max speed	RPM 2400
Motor type	ABB	Motor speed	RPM 1465
External static pressure	Pa 750	Supply	V/0/Hz 415/3/50
Total static pressure	Pa 2121	Current	A 38.5
Dynamic pressure	Pa 74	Motor efficiency	% 91
Fan absorbed power	kW 16.61	Absorbed motor power	kW 18.25
Total pressure	Pa 2196		
Efficiency	% 75		
Fan pulley	BSLAHP144	Motor pulley	BSLAHP147
Fan bush	BSLAHTB005	Motor bush	BSLAHTB006
Belt length	mm 1582	Number of belts	2
Fan sound data SWL			
Frequency	63Hz 125Hz 250Hz 500Hz 1kHz 2kHz 4kHz 8kHz		
Inlet dB	88 86 84 95 86 83 79 75		
Outlet dB	88 86 84 95 86 83 79 75		

MOTOR EXTRAS

1x Motor Extra 1
ACCESS
Access type Hinged door Access side Right
EXTRAS
1 x Light switch 1 x Porthole

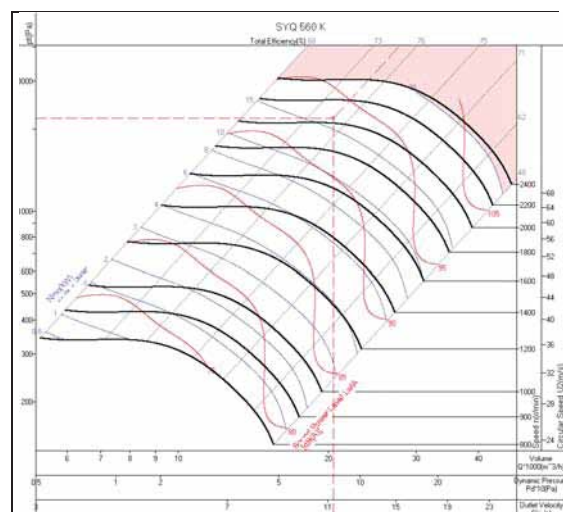
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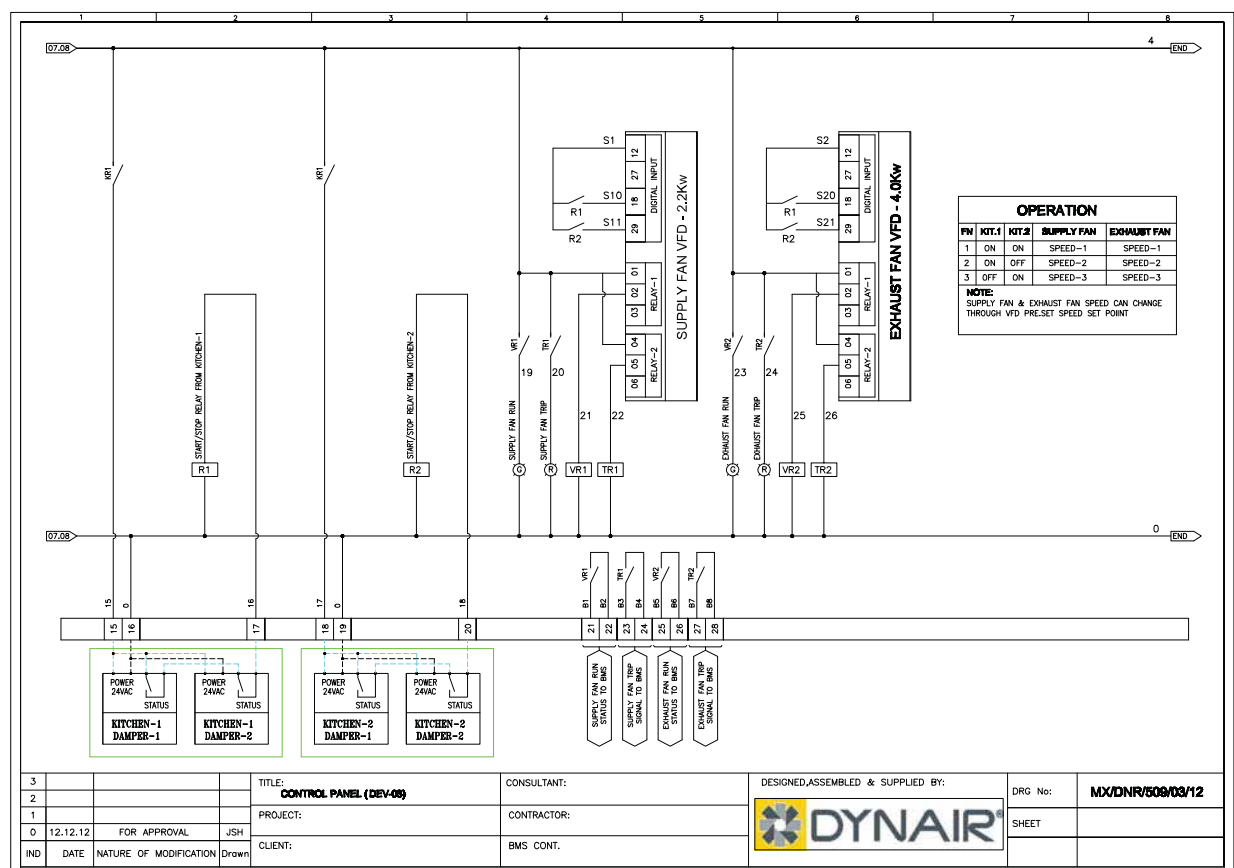
Date: 2/6/2013

Fan Curve

Project name : WinTADS Lite - 1.2
Quotation no : 0363-13-00 / 009



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DYNAR

DATE:-29/03/16
Engineer:- KS

Project name: STD. DRG. MAICO
Quotation No:

Scale: not draw to scale

Comments: A,B & C dimensions as per ESP

Unit No:
Unit Desc: DEV STD. DRG WITH ESP FOR ALL MODEL

Exh air:
Sine air :

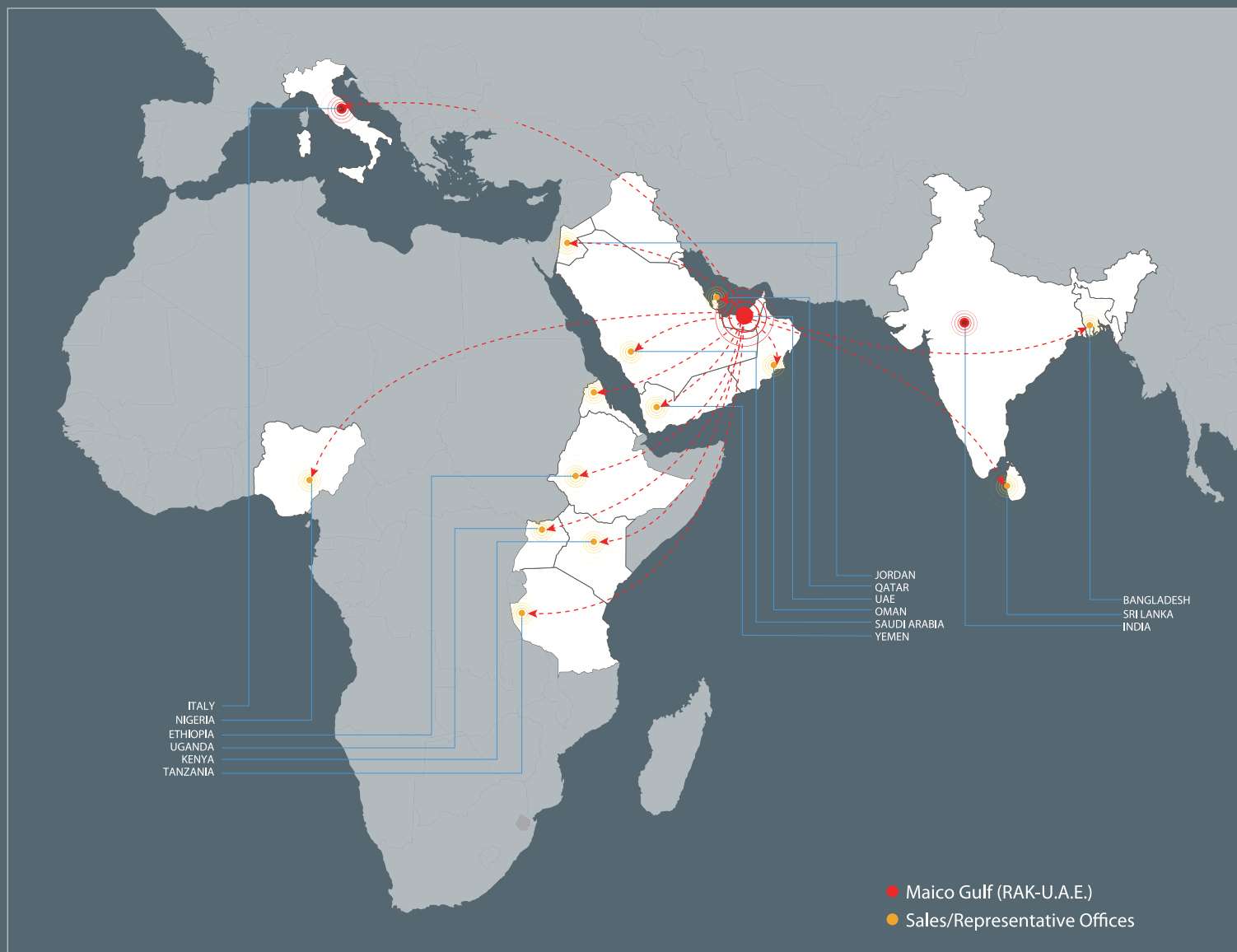
Project Name:STD. DRG. MAICO

Qty Units:1 No./UNIT
Weight:

DEV Model	Airflow Rate		Height	Width	ESP		ESP DUCT	Pre-filter	Pre-Bag Filter	Hepa filter	Carbon filter	Blower & Motor (DIDW)	Blower & Motor (DIDW with UV light)
	CFM	CMH	A	B	MODEL	L x W x H						L7	L8
DEV-1	1500	2549	800	850	Y2500 x 1	635x680x534	500	360	940	700	700	950	1250
DEV-2	2000	3398	900	1200	Y5000 x 1	635x1230x534	500	360	940	700	700	950	1250
DEV-3	2500	4248	950	1200	Y5000 x 1	635x1230x534	500	360	940	700	700	1100	1400
DEV-4	3000	5097	950	1650	Y5000 x 1	635x1230x534	500	360	940	700	700	1100	1400
DEV-5	3500	5947	950	1675	Y7500A x 1	635x1664x534	500	360	940	700	700	1100	1400
DEV-6	4000	6796	1000	1700	Y7500A x 1	635x1664x534	500	360	940	700	700	1285	1565
DEV-7	5000	8495	1050	2150	Y5000 x 2	635x1230x1068	800	360	940	700	700	1285	1565
DEV-8	6000	10194	1650	1700	Y5000 x 2	635x1230x1068	800	360	940	700	700	1400	1700
DEV-9	7500	12743	1650	1725	Y7500A x 2	635x1664x1068	800	360	940	700	700	1650	1950
DEV-10	10000	16990	1800	2150	Y7500A x 3	635x1664x1602	800	360	940	700	700	1760	2060
DEV-11	12000	20388	1800	2600	Y7500A x 3	635x1664x1602	800	360	940	700	700	1760	2060
DEV-12	15000	25485	1800	2625	Y7500A x 4	635x3328x1068	800	360	940	700	700	2000	2300
DEV-13	18000	30582	1800	2650	Y7500A x 4	635x3328x1068	800	360	940	700	700	2100	2400
DEV-14	20000	33980	2300	2600	Y7500A x 6	635x3328x1602	800	360	940	700	700	2100	2400
DEV-15	24000	40776	2300	2600	Y7500A x 6	635x3328x1602	800	360	940	700	700	2250	2550
DEV-16	30000	50970	2450	2600	Y7500A x 8	635x3328x2136	800	360	940	700	700	2400	2700
DEV-17	35000	59485	3350	2600	Y7500A x 8	635x3328x2136	800	360	940	700	700	2400	2700
DEV-18	40000	67960	3350	2600	Y7500A x 10	635x3328x2670	800	360	940	700	700	2700	3000

Note :-

- 1) All Dimensions are in mm.
- 2) Lengths Shown are of Individual Module.
- 3) Please consider these dimensions for 25mm panel.
- 4) Add 100 mm in the Ecology unit height for base channel.
- 5) Dynair reserve the right, while leaving the essential characteristics the same, to modify the data, photograph and anything else shows in the above without prior warning.



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