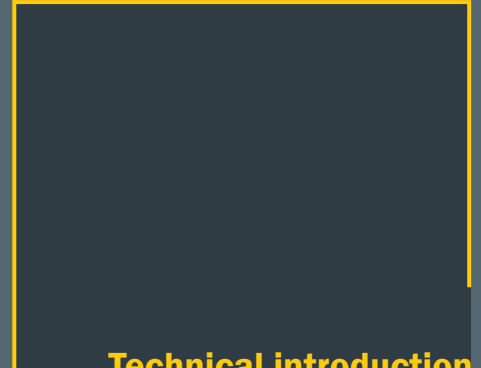


DRV RANGE

Energy Recovery Ventilator



Technical introduction



DYNAIR®

Introduction to DRV range of Energy Recovery Ventilators



DYNNAIR® 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, DYNNAIR® bases its force on a step by step project follow-up in close collaboration with the customer to create tailored and highly reliable solutions.

The latest addition to the ever evolving DYNNAIR® range of products is the DRV range of Energy Recovery Ventilators.

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



Maico Ventilation Pvt. Ltd is ISO 9001: 2015 company certified.

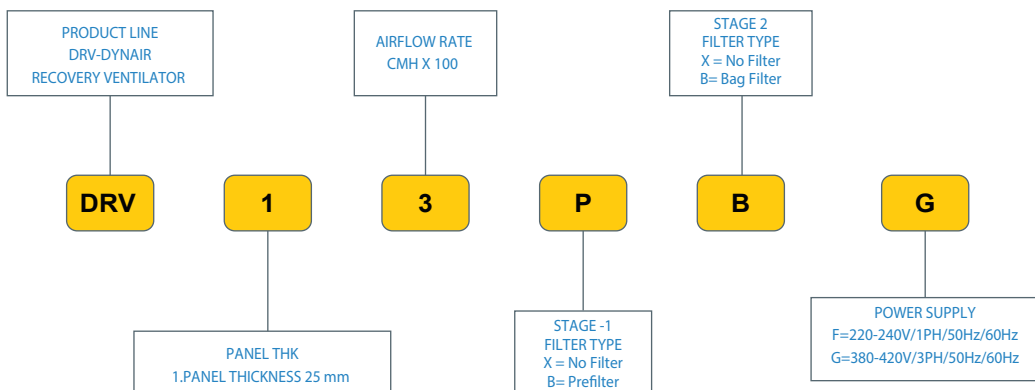
With our production capability, wide range of finished products and components warehouse, we ensure quick delivery to all our customers. Our staff is trained and dedicated to provide before and after technical plus sales services.

DRV Range



Home
Ventilation
&
Indoor
Air
Quality

NOMENCLATURE





FAN SECTION :

DRV Series 300 to 900

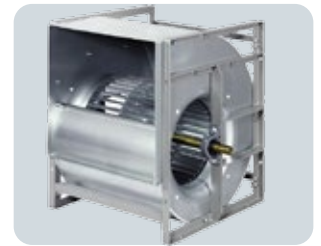
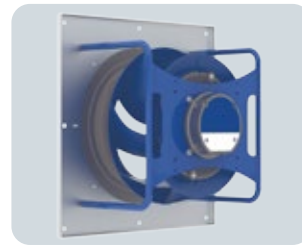
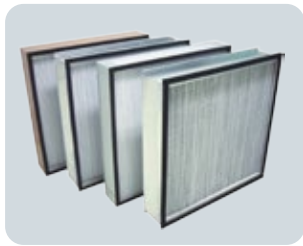
With external rotor AC motor.

DRV Series 1100 to 1200

With highly efficient plug fans of the centrifugal series, directly connected to EC motor, which are principally intended for operation without scroll housing with low energy consumption. Complete motor/fan unit statically and dynamically balanced. The impellers are designed with backward curved blades to minimize the bearing load of the motor and to maximize the durability with high rotational velocity. The position of the impellers on the EC external-rotor motors has been optimised in terms of aerodynamics and installation requirements.

DRV series 1600 to 3000

Belt driven DIDW forward curved fans which are AMCA certified for Air and Sound Performance with class F, IP 55, TEFC motor as per IEC standards.



CONSTRUCTION

FILTER SECTION:

Supply Side :

Stage1:Polyfiber Pleated Filter: (50 mm)

1. EN 779 : G4
2. Arrestance (ASHRAE 52.1) : 90-94%
3. MERV Rating (ASHRAE 52.2) : MERV7
4. Eurovent : EU4
5. Dust Spot Efficiency (ASHRAE 52.1) : 30-35%

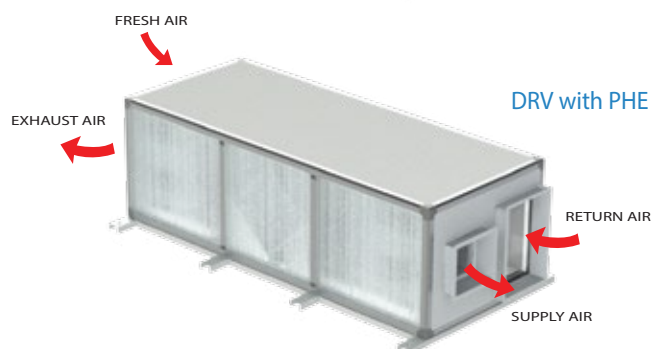
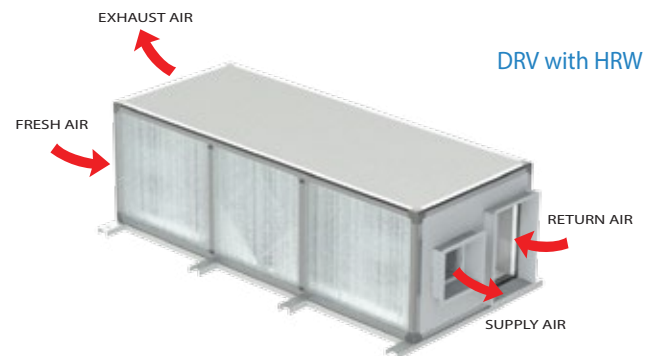
Stage2: Synthetic Bag Filter: (380 mm)

1. EN 779 : F7
2. Arrestance (ASHRAE 52.1) : 95%
3. MERV Rating (ASHRAE 52.2) : MERV13
4. Eurovent : EU7
5. Dust Spot Efficiency (ASHRAE 52.1) : 95%

Return Side :

Stage1:Polyfiber Pleated Filter: (50 mm)

1. EN 779 : G4
2. Arrestance (ASHRAE 52.1) : 90-94%
3. MERV Rating (ASHRAE 52.2) : MERV7
4. Eurovent : EU4
5. Dust Spot Efficiency (ASHRAE 52.1) : 30-35%



CONSTRUCTIONS:

DRV 300 to 3000

Pentapost design and have strong three way angel joints of reinforced nylon corners to form a rigid frame structure. Rigidframe work comprises an assembly of externally chamfered extruded aluminium profile and nylon corner joint, double skin, Inner skin G.I 0.5 and Outer skin pre painted G.I 0.5.

Note: DRV 300 & 600 with HRW exchanger are without profile.

INSULATION:

DRV 300 to 3000

Double Skin 25mm PUF insulation with a density of 42 kg/m³ and thermal conductivity of 0.024 W/mk (according to ASTM C518)

HEAT RECOVERY WHEEL

Heat wheels are revolving cylinders consisting of an air permeable matrix with large interior surface. The matrix is cooled as cold air is passed through the wheel. This cools the fresh air stream when the cooled rotating wheel comes in line with the supply air stream.

Heat wheels recover both sensible heat and latent heat and gives efficiency as high as 85%. These are mainly used where there is a demand of high percentage of fresh air intake like in hospitals, research labs, school and pharmaceutical labs. Heat Recovery wheels are recommended to acquire green Building certification by LEED.

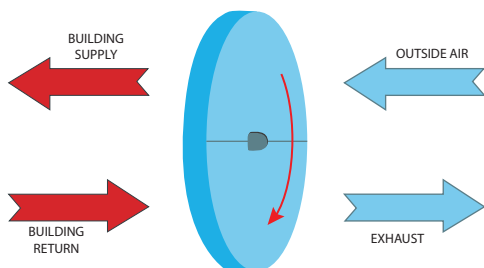
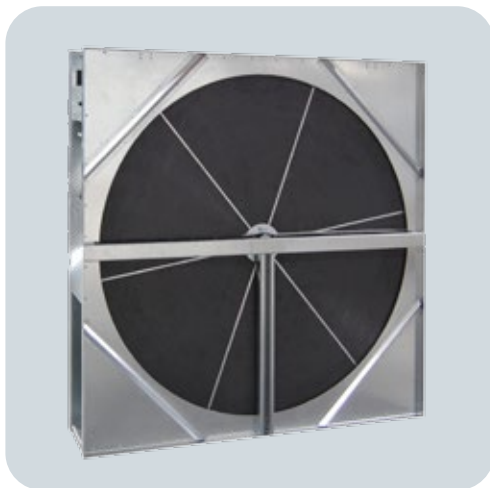
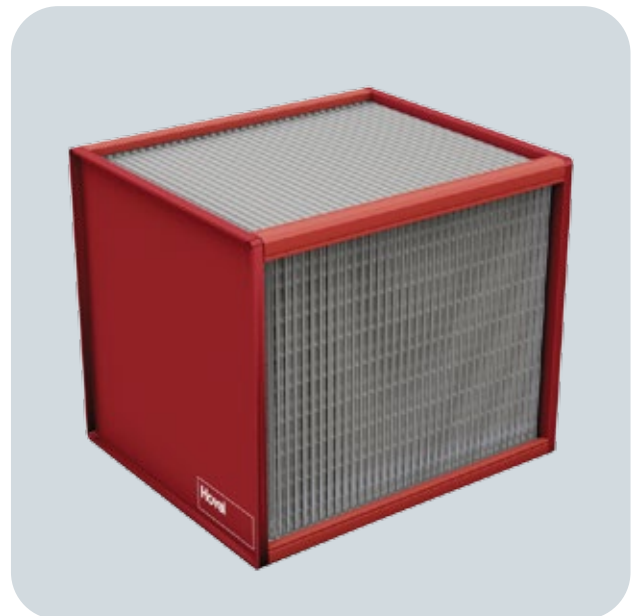


Plate Heat Exchangers

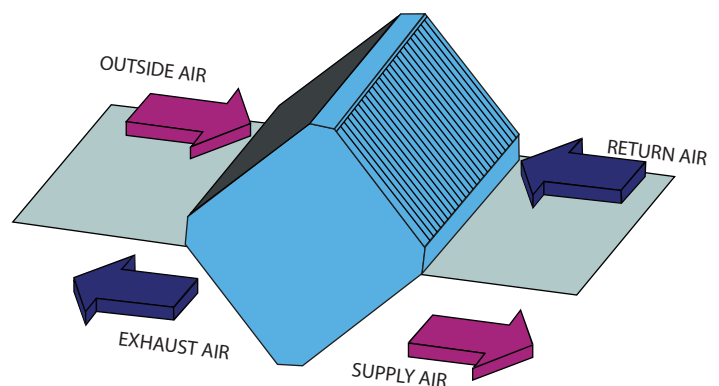
Plate heat exchangers have no moving parts. Their function requires no electrical connection. There are therefore no extra running cost or operation cost involved in such technology.

Plate heat exchangers are extraordinarily resistant to dirt build up, therefore no special maintenance is required.



ACCESSORIES:

- 1) Light switch
- 2) View port and marine light
- 3) Fresh Air & Return Air Damper



MODEL	Unit	DRV 300	DRV 600	DRV 900	DRV 1100	DRV 1200	
Supply / Exhaust Airflow Rate	CMH	300/270	600/540	900/810	1100/990	1200/1080	
Maximum ESP Range	Pa	200	200	200	300	300	
Panel	0.5 mm. GI painted (white-RAL 9002)						
Insulation	CFC & HCFC Free, 25mm PUF Insulation (Inside Density 42kg/m ³)						
Filter	Dust Spot Eff. (ASHRAE 52.1)	80 to 90%					
	Arrestance Eff. (ASHRAE 52.1)	98 to 99%					
	MERV Rating (ASHRAE 52.2)	MERV 13					
	EN779	F7					
	Eurovent	EU7					
Total Heat Recovery Effectiveness Range	Total Eff.	76.8	68.4	70.6	70.9	73.4	
	Diameter	300	350	450	500	550	
	Certification	Eurovent Certified					
Fan	Model	280 / 280T	280 / 280T	280 / 280T	310	310	
	Type	Direct driven backward curved centrifugal fan with AC motor					
Motor	Power input	W	500 ± 10% / 710 ± 10%	500 ± 10% / 710 ± 10%	500 ± 10% / 710 ± 10%	440 ± 16%	440 ± 16%
	Rated current	A	2.2 ± 10% / 1.4 ± 10%	2.2 ± 10% / 1.4 ± 10%	2.2 ± 10% / 1.4 ± 10%	1.9 ± 16%	1.9 ± 16%
	Phase	Ø	1/3	1/3	1/3	1	1
	Voltage	V	220-240 / 400	220-240 / 400	220-240 / 400	220-240	220-240
	Frequency	Hz	50/60	50/60	50/60	50/60	50/60
	Speed	rpm	2750 / 2700	2750 / 2700	2750 / 2700	2700	2700
Pre Filter	(G4) - 2" Deep)	(W X H X Qty.) mm.	300X450X2	300X500X2	300X500X2	450X500X2	450X500X2
	(F7 - 15" Deep)	(W X H X Qty.) mm.	300X450X1	300X500X1	300X500X1	450X500X1	450X500X1
Sound Pressure Level @ 3m (Free Field Condition)		dB(A)	66/87	66/87	66/87	64	64
	Height, H	mm	600	650	620	650	650
Dimensions	Width, W	mm	850	850	800	1050	1050
	Length, L	mm	1200	1200	1600	1650	1650
Weight, Approx	Kg	180	180	225	255	260	

Note 1: Noise level are radiated at 3m distance from the unit, when both ends are ducted (@ free Field Condition).

Note 2: Consider 50 mm extra in height for channel / base frame.

Note 3: Considered supply air temp is 46.1db° c / 30% RH, Return air temp is 24 db° c / 49% RH.

Technical Output Of DRV With HRW (Technical Specification)



MODEL		Unit	DRV 1600	DRV 1900/2000	DRV 3000
Supply / Exhaust Airflow Rate		CMH	1600/1440	(1900/1710) / (2000/1800)	3000/2700
Maximum ESP Range		Pa	300	300	300
Panel		0.5 mm. GI painted (white-RAL 9002)			
Insulation		CFC & HCFC Free, 25mm PUF insulation (Inside,Density 42kg/m ³)			
Filter	Dust Spot Eff. (ASHRAE 52.1)		80 to 90%		
	Arrestance Eff. (ASHRAE 52.1)		98 to 99%		
	MERV Rating (ASHRAE 52.2)		MERV 13		
	EN779		F7		
	Eurovent		EU7		
Total Heat Recovery Effectiveness Range	Total Eff.	%	70.6	70.4/69.3	69.5
	Diameter	mm	600	650	800
	Certification		Eurovent Certified		
Fan	Type		DIDW forward curved, Belt driven centrifugal type		
	Model		160	180	225
Motor	Rating	Kw	1.1	1.1	1.5
	Rated current	A	2.5	2.5	3.4
	Phase	Ø	3	3	3
	Voltage	V	380-420	380-420	380-420
	Frequency	Hz	50/60	50/60	50/60
	Speed	rpm	2780/3380	2780/3380	2780/3380
Pre Filter	(G4) - 2" Deep	(W X H X Qty.) mm.	400x485x2	400x485x2	515x535x2
Bag Filter	(F7 - 15" Deep)	(W X H X Qty.) mm.	400x485x1	400x458x1	515x535x1
Sound Pressure Level @ 3m (Free Field Condition)		dB(A)	60	60	62
Dimensions	Height, H	mm	700	700	700
	Width, W	mm	900	900	1130
	Length, L	mm	2175	2175	2360
Weight, Approx		Kg	350	350	400

Note 1: Noise level are radiated at 3m distance from the unit, when both ends are ducted (@ free Field Condition).

Note 2: Consider 50 mm extra in height for channel / base frame.

Note 3: Considered supply air temp is 46.1db°c / 30% RH, Return air temp is 24 db°c / 49% RH.

MODEL	Unit	DRV 300	DRV 600	DRV 900	DRV 1100	DRV 1200		
Supply / Exhaust Airflow Rate	CMH	300/270	600/540	900/810	1100/990	1200/1080		
Maximum ESP Range	Pa	200	200	200	300	300		
Panel	0.5 mm. Gl painted (white-RAL 9002)							
Insulation	CFC & HCFC Free, 25mm PUf Insulation (Inside, Density 42kg/m ³)							
Filter	Dust Spot Eff. (ASHRAE 52.1)	80 to 90%						
	Arrestance Eff. (ASHRAE 52.1)	98 to 99%						
	MERV Rating (ASHRAE 52.2)	MERV 13						
	EN/79	F7						
Pleat Heat Exchanger Temp Efficiency Range	Eurovent	EU7						
	Temp Eff.	51		48.5		48.3		
	Length	200		225		300		
Fan	Certification	Eurovent Certified						
	Model	250		280 / 280T		280 / 280T		
Motor	Type	Direct driven backward curved centrifugal fan with AC motor				Direct driven backward curved centrifugal fan with EC motor		
	Power Input	W	176		500 ± 10% / 710 ± 10%		500 ± 10% / 710 ± 10%	
	Rated current	A	0.79		2.2 ± 10% / 1.4 ± 10%		2.2 ± 10% / 1.4 ± 10%	
	Phase	Ø	1		1/3		1/3	
	Voltage	V	220-240		220-240 / 400		220-240 / 400	
	Frequency	Hz	50/60		50/60		50/60	
	Speed	rpm	2237		2750 / 2700		2750 / 2700	
	Pre Filter	(G4) - 2" Deep	(W X H X Qty), mm. 300X500X2		450x550x2		450x550x2	
	Bag Filter	(F7 - 15" Deep)	(W X H X Qty), mm. 300X500X1		450x550x1		450x550x1	
	Sound Pressure Level (Free Field Condition) @ 3m	dB(A)	59		66/87		66/87	
Dimensions	Height, H	700		700		700		
	Width, W	800		800		1050		
	Length, L	1650		1650		1800		
Weight, Approx	Kg	205		205		255		

Note 1: Noise level are radiated at 3m distance from the unit, when both ends are ducted (@ free Field Condition).

Note 2: Consider 50 mm extra in height for channel / base frame.

Note 3: Considered supply air temp is 46.1db°c / 30% RH, Return air temp is 24 db°c / 49% RH.

Technical Output Of DRV With PHE (Technical Specification)



MODEL		Unit	DRV 1600	DRV 1900/2000	DRV 3000
Supply / Exhaust Airflow Rate		CMH	1600/1440	(1900/1710) / (2000/1800)	3000/2700
Maximum ESP Range		Pa	300	300	300
Panel		0.5 mm. GI painted (white-RAL 9002)			
Insulation		CFC & HCFC Free, 25mm PUF insulation (Inside,Density 42kg/m ³)			
Filter	Dust Spot Eff. (ASHRAE 52.1)		80 to 90%		
	Arrestance Eff. (ASHRAE 52.1)		98 to 99%		
	MERV Rating (ASHRAE 52.2)		MERV 13		
	EN779		F7		
	Eurovent		EU7		
Plate Heat Exchanger Temp Efficiency Range	Temp Eff.	%	48	48.1/48.2	48.1
	Length	mm	475	600	850
	Certification		Eurovent Certified		
Fan	Type		DIDW forward curved, Belt driven centrifugal type		
	Model		160	180	225
Motor	Rating	Kw	1.1	1.1	1.5
	Rated current	A	2.5	2.5	3.4
	Phase	Ø	3	3	3
	Voltage	V	380-420	380-420	380-420
	Frequency	Hz	50/60	50/60	50/60
	Speed	rpm	2780/3380	2780/3380	2780/3380
Pre Filter	(G4 - 2" Deep)	(W X H X Qty.) mm.	350x500x2	350x500x2	450x500x2
Bag Filter	(F7 - 15" Deep)	(W X H X Qty.) mm.	350x500x1	350x500x1	450x500x1
Sound Pressure Level @ 3m (Free Field Condition)		dB(A)	60	60	62
Dimensions	Height, H	mm	700	700	700
	Width, W	mm	900	900	1130
	Length, L	mm	2175	2175	2360
Weight, Approx		Kg	300	300	350

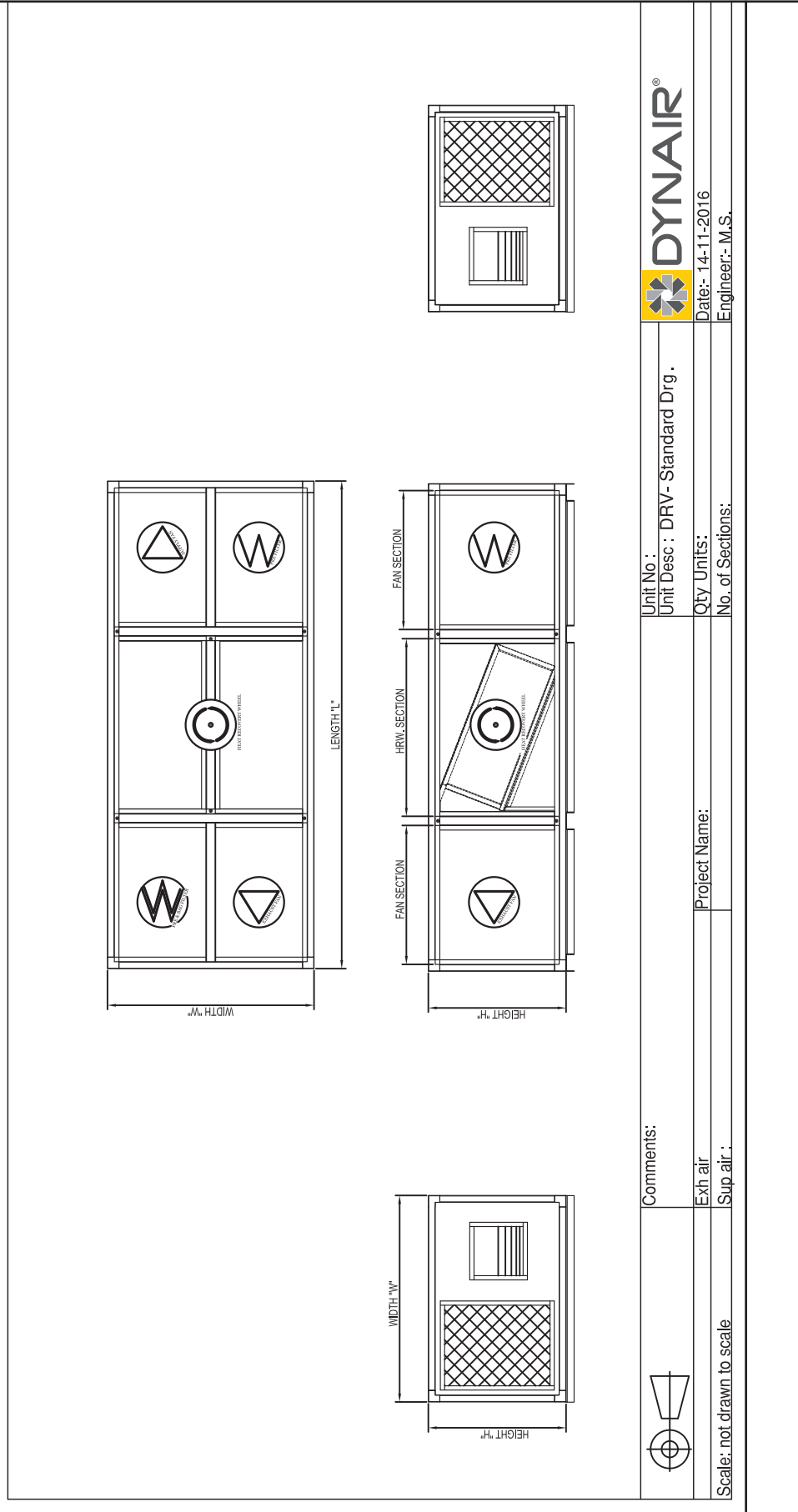
Note 1: Noise level are radiated at 3m distance from the unit, when both ends are ducted (@ free Field Condition).








Note 2: Consider 50 mm extra in height for channel / base frame.

Note 3: Considered supply air temp is 46.1 db°c / 30% RH, Return air temp is 24 db°c / 49% RH.



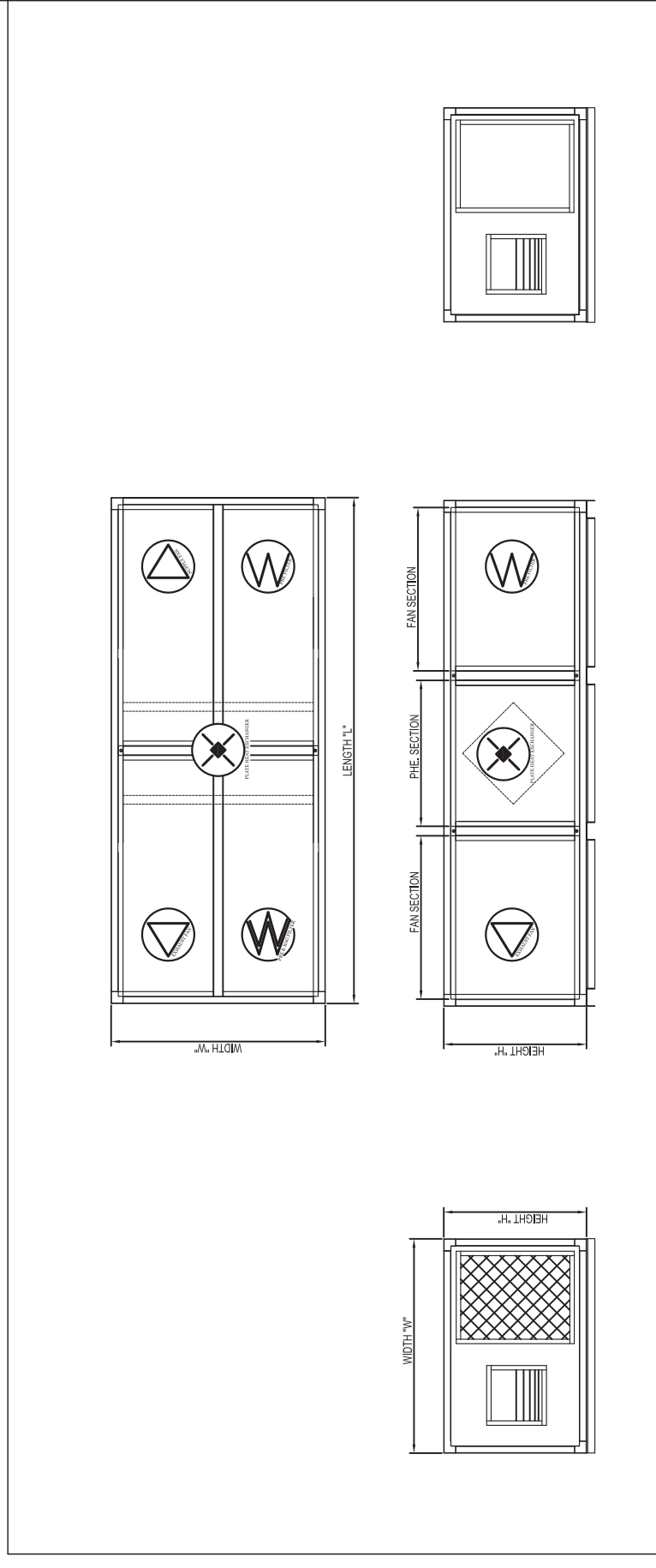
Project name:
Quotation no. :





 DYNAIR[®]	Unit No. :	
	Unit Desc : DRV - Standard Drg .	
 DYNAIR[®]	Qty Units:	
	Date:- 14-11-2016	
 DYNAIR[®]	Project Name:	
	No. of Sections:	
 DYNAIR[®]	Comments:	
 DYNAIR[®]	Exh air	
 DYNAIR[®]	Sup air :	
 DYNAIR[®]	Scale: not drawn to scale	



Project name:
Quotation no.:



	Comments:	Unit No.:	DYNAIR[®]
	Exh air	Unit Desc : P-DRV- Standard Drg.	Date:- 14-11-2016
	Scale: not drawn to scale	Qty Units:	Engineer:- M.S.
		No. of Sections:	



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Code: DRV/11/17

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