



DUNNAIR

Established 1961

WSR12

R410a Refrigerant

Water Cooled Split Ducted

TECHNICAL SPECIFICATION

Total Cooling Capacity	11.6 kW	Refrigerant	R410A
Electrical Input (Cooling)	3.2kW	Refrigerant Charge	2.5 kg
E.E.R.(Cooling)	3.63	Minimum Water Flow	0.528 l/s
Running Amps (Total)	21.2A	Water Coil Pressure Drop	40 kPa
Fan Motor Full Load Amps	3.3A	Filter (Option)	EU1
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heat (Option)	9.0 kW

COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)			660		
COIL E.A.T.	DB °C		23	27	31
	WB °C		17	19	21
Entering Water Temperature (E.W.T) °C	20	T	12.3	13.0	13.6
		S	8.2	9.2	10.1
		FL	0.7	0.7	0.7
		HR	15.3	15.9	16.7
	25	T	11.7	12.5	13.7
		S	8.3	9.0	10.2
		FL	0.7	0.7	0.7
		HR	14.9	14.8	16.2
	30	T	11.0	11.6	13.0
		S	8.3	9.0	9.9
		FL	0.7	0.7	0.7
		HR	14.1	14.8	16.2
	35	T	10.3	10.8	11.3
		S	7.2	8.3	9.2
		FL	0.7	0.7	0.7
		HR	13.4	13.9	14.4
	40	T	9.8	10.1	10.6
		S	7.0	7.9	8.9
		FL	0.7	0.7	0.7
		HR	12.9	13.1	13.8

T = Total Capacity (kW)

S = Sensible Capacity (kW)

FL = Water Flow rate (l/s)

E.A.T.= Entering Air Temperature (°C)

— = Nominal Capacity (kW)

HR = Heat Rejection

Note: 1. Capacities are indicative and do not include allowance for fan motor heat loss. For fan motor heat loss, please refer to Air Handling Performance.
 2. Water flow rate and cooling capacity are based on 5°C water temperature difference.

HEATING CAPACITY (kW)

WSR Reverse Cycle Version

AIR FLOW RATE (L/S)			660		
WATE FLOW RATE (L/S)			0.70		
COIL E.A.T.	DB °C		18	21	25
Entering Water Temperature (E.W.T) °C	10	HC	10.8	10.6	10.2
		Hab	7.5	7.3	7.0
		LWT	6.3	6.3	6.5
		INPT	3.3	3.3	3.3
	15	HC	11.7	11.6	11.0
		Hab	8.3	8.2	7.7
		LWT	11.0	11.0	11.2
		INPT	3.3	3.3	3.3
	20	HC	12.4	12.3	11.7
		Hab	9.1	8.9	8.5
		LWT	15.7	15.8	16.0
		INPT	3.3	3.3	3.3
	25	HC	13.5	13.3	12.8
		Hab	10.0	9.8	9.2
		LWT	20.4	20.4	20.6
		INPT	3.5	3.5	3.6

HC = Heating Capacity (kW)

Hab = Heat Absorbed (kW)

L.W.T.= Leaving Water Temperature (°C)

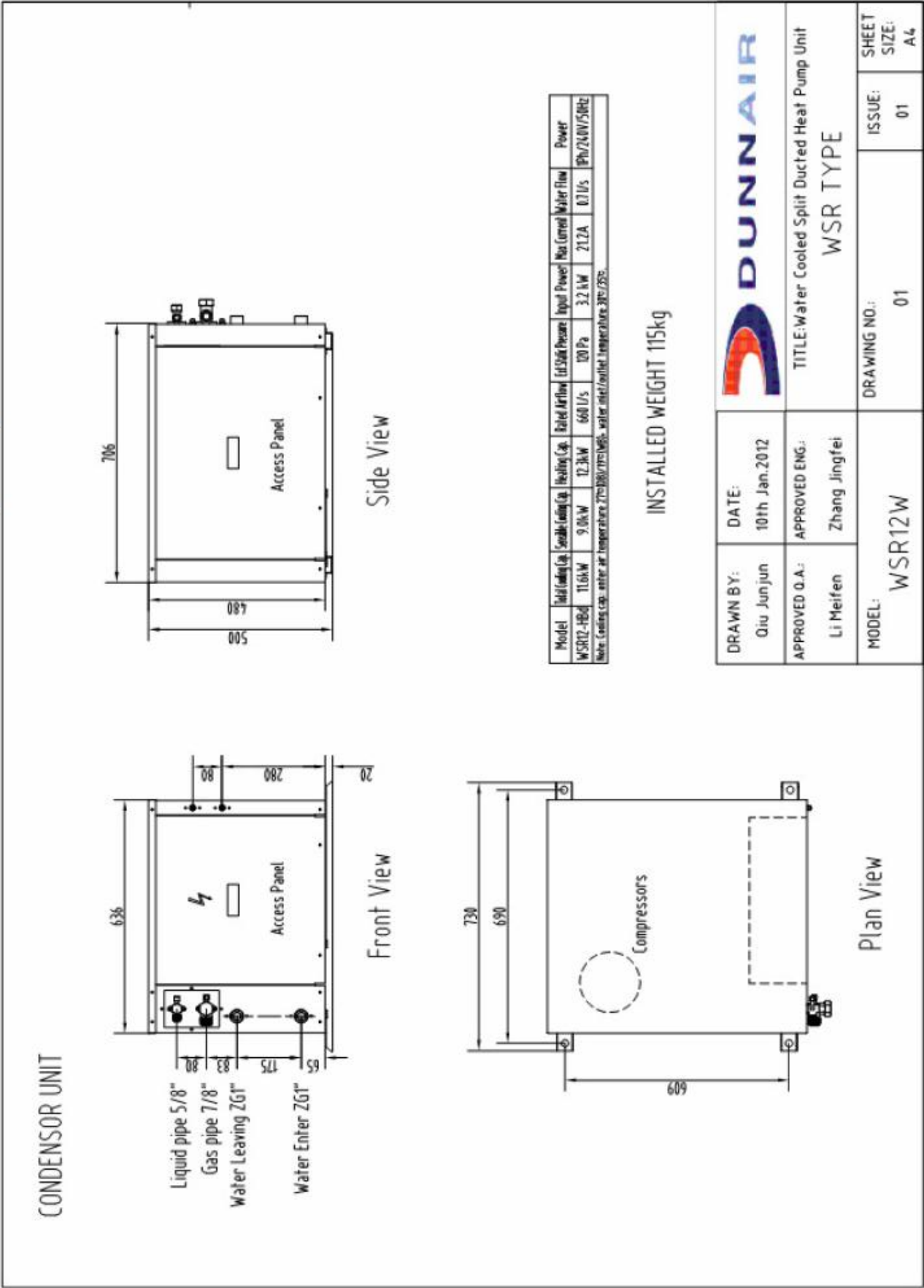
E.A.T.= Entering Air Temperature (°C)

INPT = Compressor Input Power (kW)

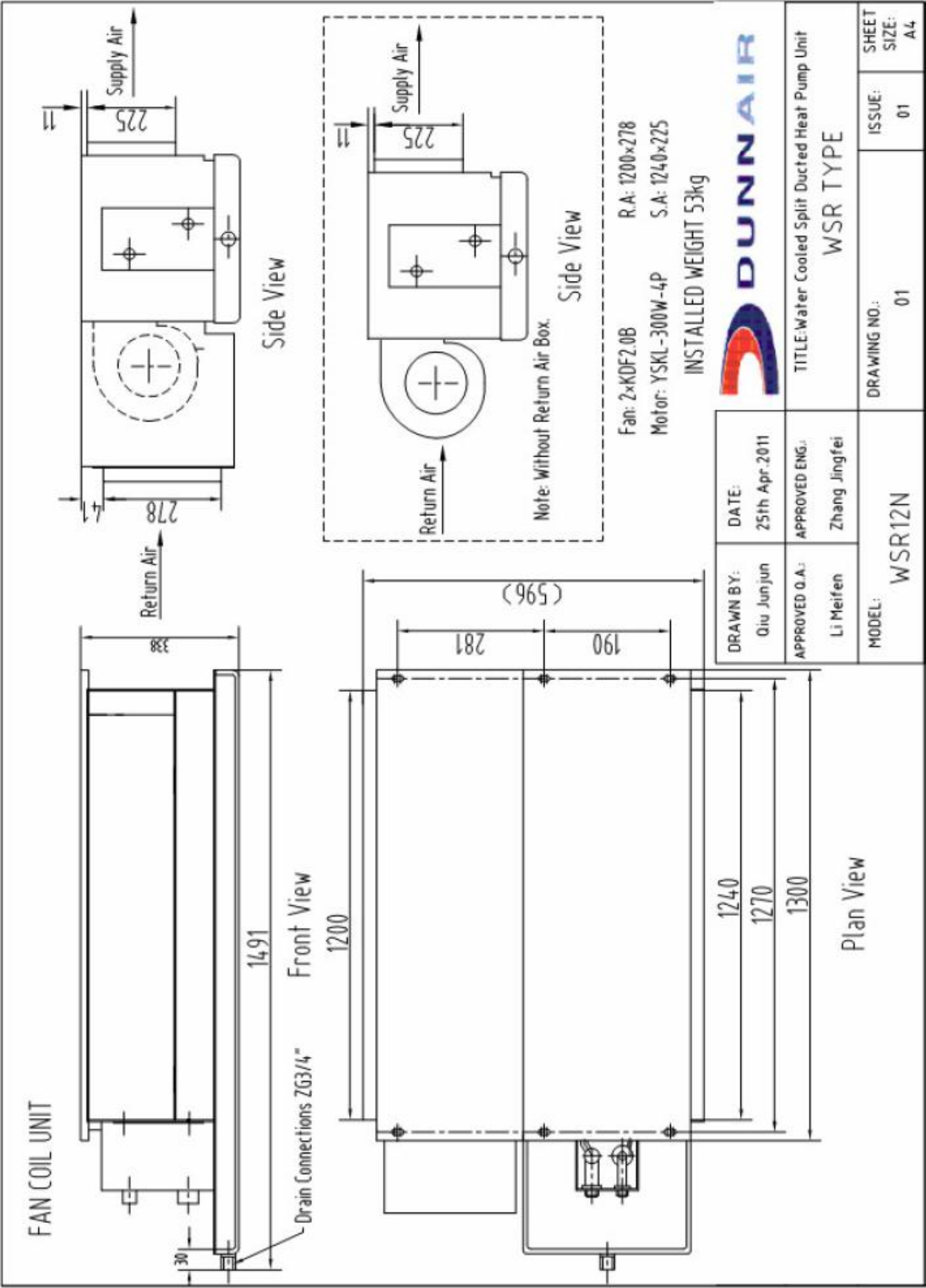
— = Nominal Capacity (kW)

Note: Units are available as cooling only, cooling only with electric heater and heat pump types.

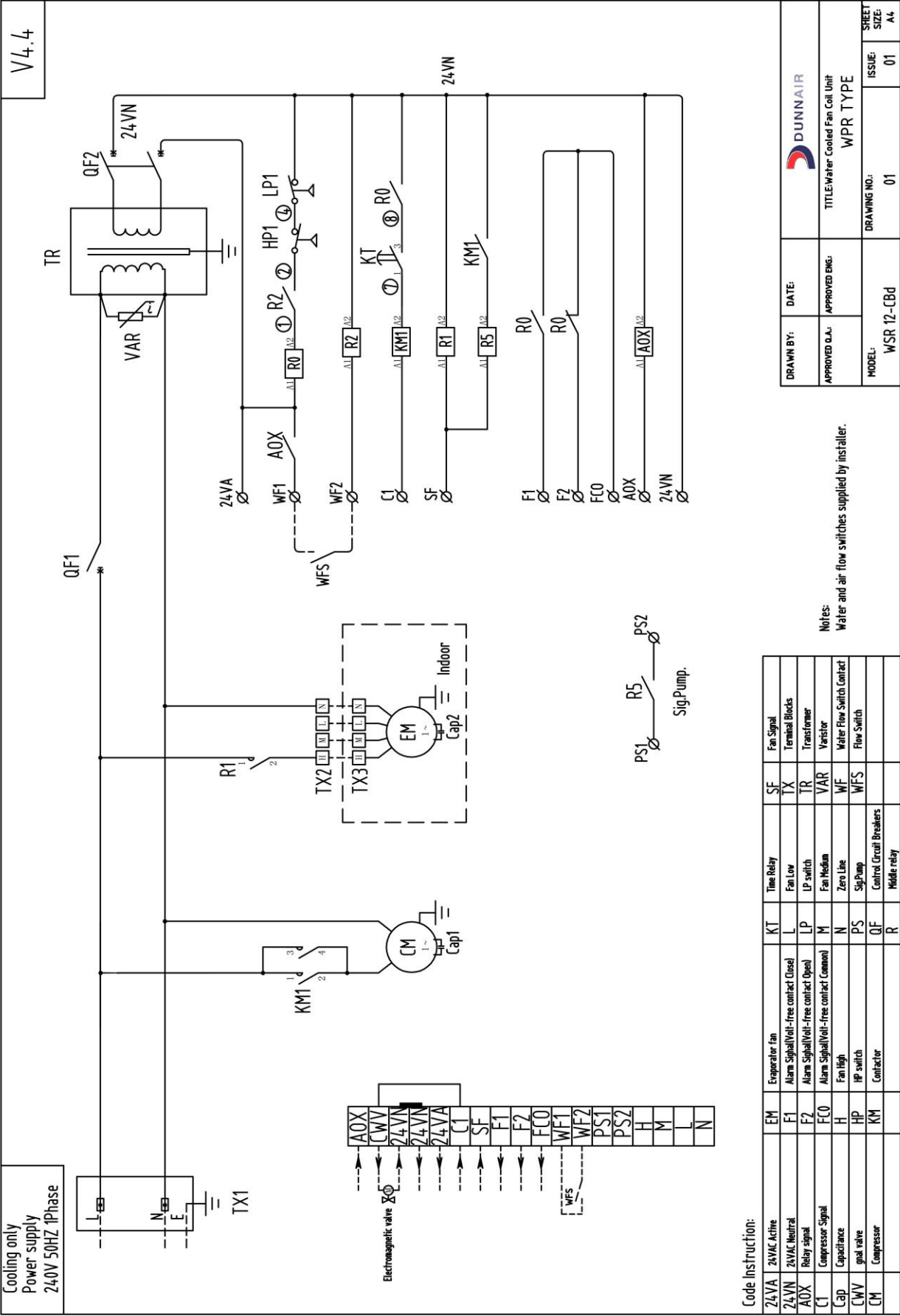
DIMENSIONS (mm) – Outdoor Unit



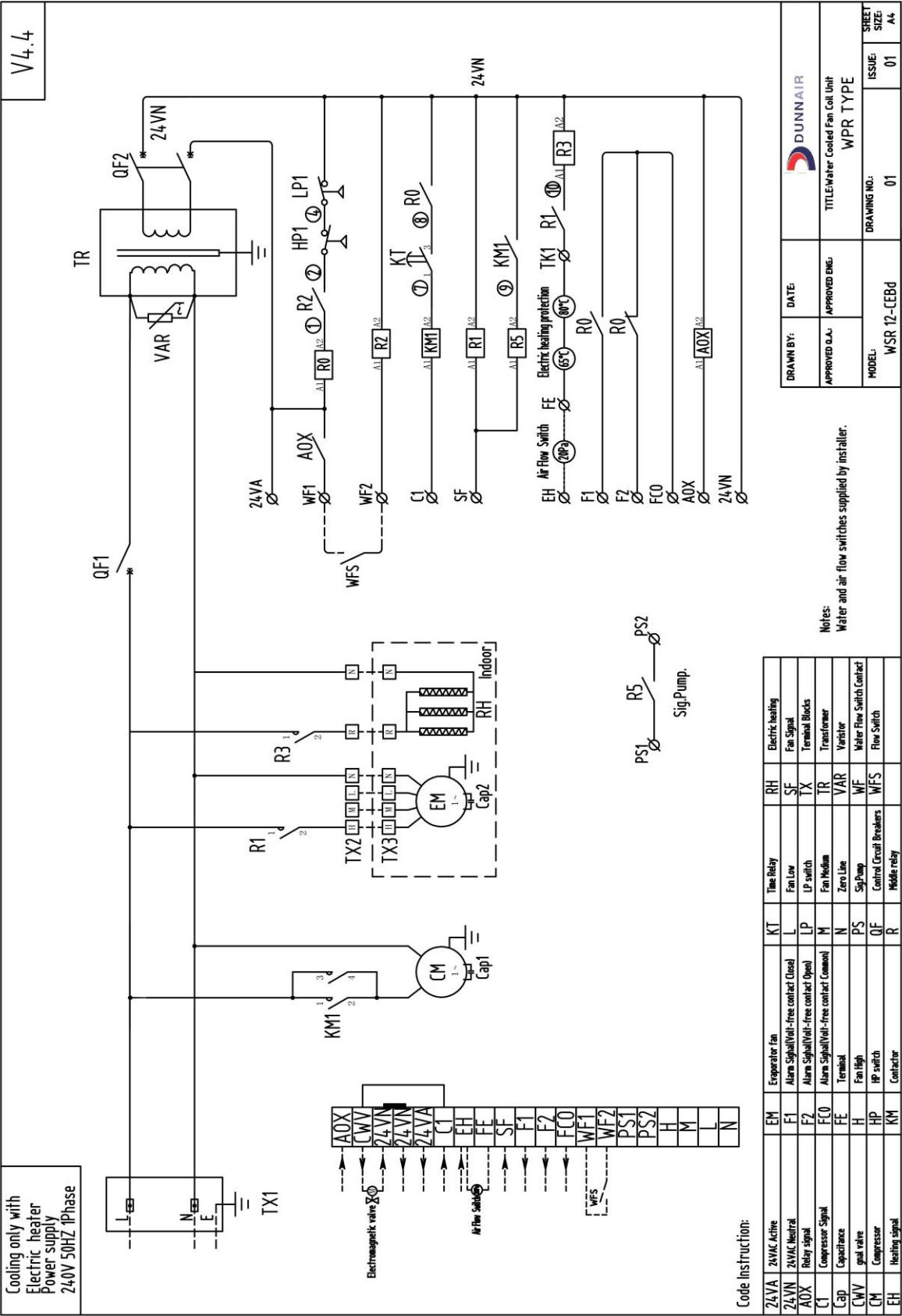
DIMENSIONS (mm) – Indoor Unit



WIRING DIAGRAM - Cooling Only Type



WIRING DIAGRAM - Cooling Only with Electric Heater Type



Heat Pump
Power supply
240V 50HZ 1Phase

Code Instruction:

24VA	24VAC Active	EM	Exhauster fan	KT	Time Relay	RV	Reversing valve
24VN	24VAC Neutral	F1	Alarm Signal/Volt-free contact (Closed)	L	Fan Low	SF	Fan Signal
AS	Anti-freeze Switch	F2	Alarm Signal/Volt-free contact (Open)	LP	LP switch	SH	Sump heater
AOX	Relay signal	FLO	Alarm Signal/Volt-free contact (common)	M	Fan Medium	TX	Terminal Blocks
C1	Compressor Signal	H	Fan High	N	Zero Line	TR	Transformer
Cap	Capacitance	H1	Heating Signal	PS	Sig.Pump	VAR	Varistor
CWV	Signal valve	HP	HP switch	QF	Control (Circuit Breakers)	WFS	Water Flow Switch Contact

Notes:
Water and air flow switches supplied by installer.

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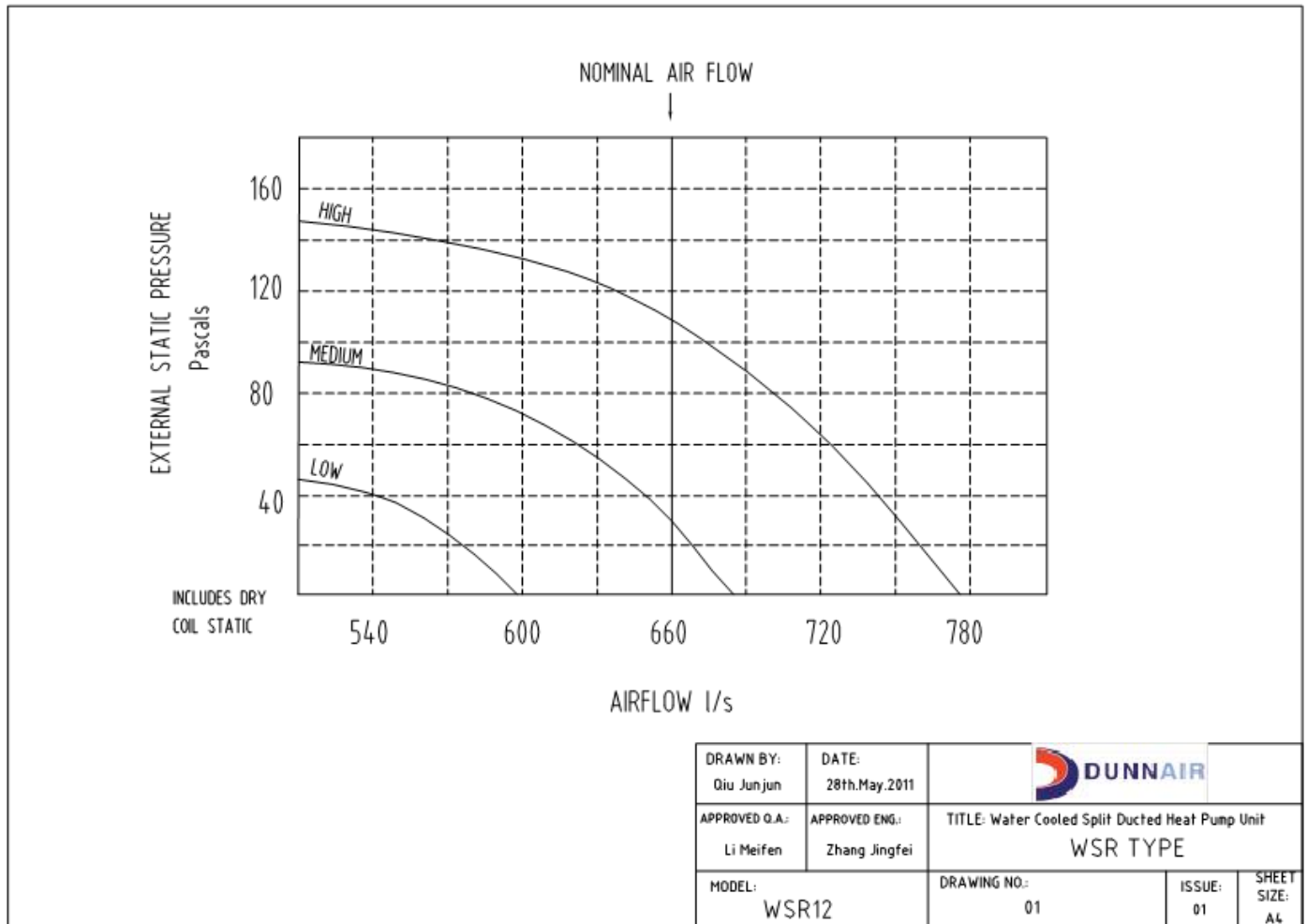
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AIR HANDLING PERFORMANCE

Fan Curve (Without Filter)



Note:

1. In tropical (high humidity) conditions, care must be taken to select an air flow which gives a suitable coil face air velocity, to prevent water carry over.
2. For applications with low resistance, be sure not to exceed the fan motor full load Amps.
3. Applications using full or high proportions of fresh air should be referred to DUNNAIR engineering office to establish of unit model.
4. EU1 rate filter pressure loss 15Pa.

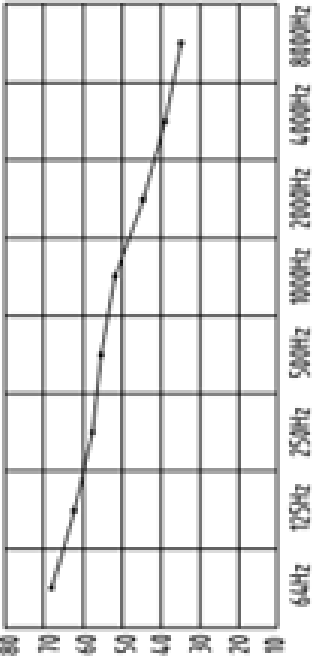
AIR HANDLING PERFORMANCE

Sound Levels

WSR12W Condenser unit sound pressure curve
A Class: 57.1dB

Hz	dB
64Hz	68.6
125Hz	62.8
250Hz	58.3
500Hz	54.5
1000Hz	52.0
2000Hz	45.8
4000Hz	39.5
8000Hz	35.0

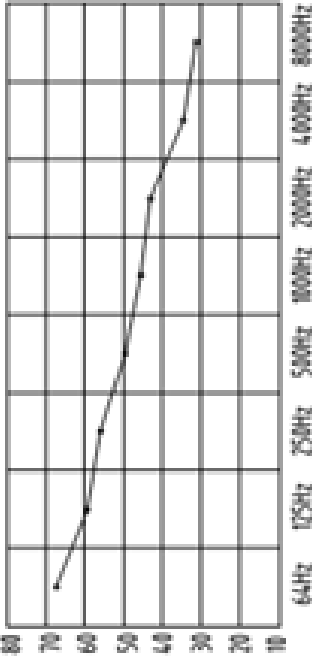
Sound pressure curve (A Class: 57.1dB) dB



WSR12N Fan coil unit sound pressure curve
A Class: 52.2dB

Hz	dB
64Hz	67.9
125Hz	59.5
250Hz	56.1
500Hz	49.7
1000Hz	45.6
2000Hz	41.5
4000Hz	34.3
8000Hz	30.7

Sound pressure curve (A Class: 52.2dB) dB



Note: Occupant at least 1.0m from sound source.

	DRAWN BY: Gao Junjun	DATE: 28th May 2011	WSR TYPE TITLE:Water Cooled Split Ducted Heat Pump Unit		
	APPROVED O.A.: Li Hefen	APPROVED Eng.: Zhang Jingfei			
MODEL: WSR12		DRAWING NO.: 01		ISSUE: 01	SHEET SIZE: A4