DUNNAIR
Established 1961

WSR14

R410a Refrigerant

Water Cooled Split Ducted

TECHNICAL SPECIFICATION

Total Cooling Capacity	13.9 kW	Refrigerant	R410A
Electrical Input (Cooling)	3.82 kW	Refrigerant Charge	3.4 kg
E.E.R.(Cooling)	3.64	Minimum Water Flow	0.72 l/s
Running Amps (Total)	23.7A	Water Coil Pressure Drop	40 kPa
Fan Motor Full Load Amps	3.2A	Filter (Option)	EU1
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heat (Option)	10.5 kW

COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)			760		
COIL E.A.T.	DB ℃		23	27	31
	WB ℃		17	19	21
Entering Water Temperature (E.W.T) ℃	20	T	14.8	15.5	16.3
		S	10.8	12.4	13.9
		FL	0.9	0.9	0.9
		HR	18.5	19.2	20.1
	25	T	14.0	14.9	16.4
		S	10.9	12.2	14.0
		FL	0.9	0.9	0.9
		HR	17.8	18.7	20.4
	30	T	13.2	13.9	15.5
		S	10.1	11.7	13.6
		FL	0.9	0.9	0.9
		HR	16.9	17.7	19.5
	35	T	12.3	13.0	13.5
		S	9.8	11.4	12.8
		FL	0.9	0.9	0.9
		HR	15.9	16.6	17.2
	40	T	11.8	12.1	12.7
		S	9.5	11.0	12.5
		FL	0.9	0.9	0.9
		HR	15.4	15.6	16.4

T = Total Capacity (kW) **S** = Sensible Capacity (kW) **FL** = Water Flow rate (l/s)
E.A.T.= Entering Air Temperature (℃) __ = 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℃ water temperature difference.

HEATING CAPACITY (kW)

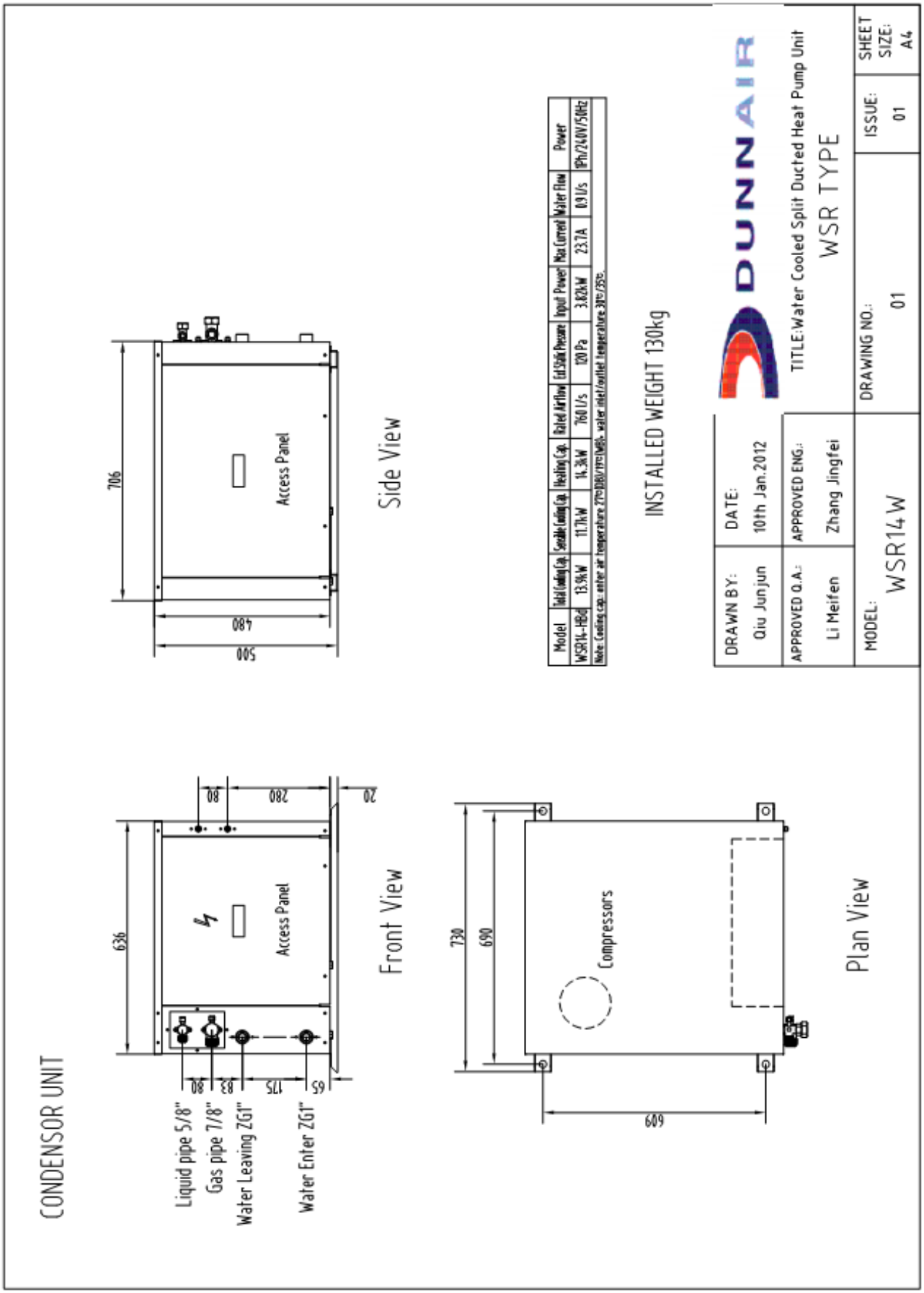
WSR Reverse Cycle Version

AIR FLOW RATE (L/S)			760		
WATE FLOW RATE (L/S)			0.90		
COIL E.A.T.	DB ℃		18	21	25
Entering Water Temperature (E.W.T) ℃	10	HC	12.6	12.4	11.9
		Hab	8.9	8.7	8.3
		LWT	5.6	6.7	6.8
		INPT	3.7	3.7	3.6
	15	HC	13.6	13.4	12.8
		Hab	9.9	9.7	9.3
		LWT	11.4	11.4	11.6
		INPT	3.7	3.7	2.6
	20	HC	14.4	14.3	13.6
		Hab	10.7	10.6	10.0
		LWT	16.2	16.2	16.4
		INPT	3.8	3.7	3.6
	25	HC	15.7	15.4	14.9
		Hab	11.8	11.5	10.9
		LWT	20.8	20.9	21.0
		INPT	3.8	3.9	4.0

HC = Heating Capacity (kW) **Hab** = Heat Absorbed (kW) **L.W.T.**= Leaving Water Temperature (℃)
E.A.T.= Entering Air Temperature (℃) **INPT** = Compressor Input Power (kW) __ = Nominal Capacity (kW)

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

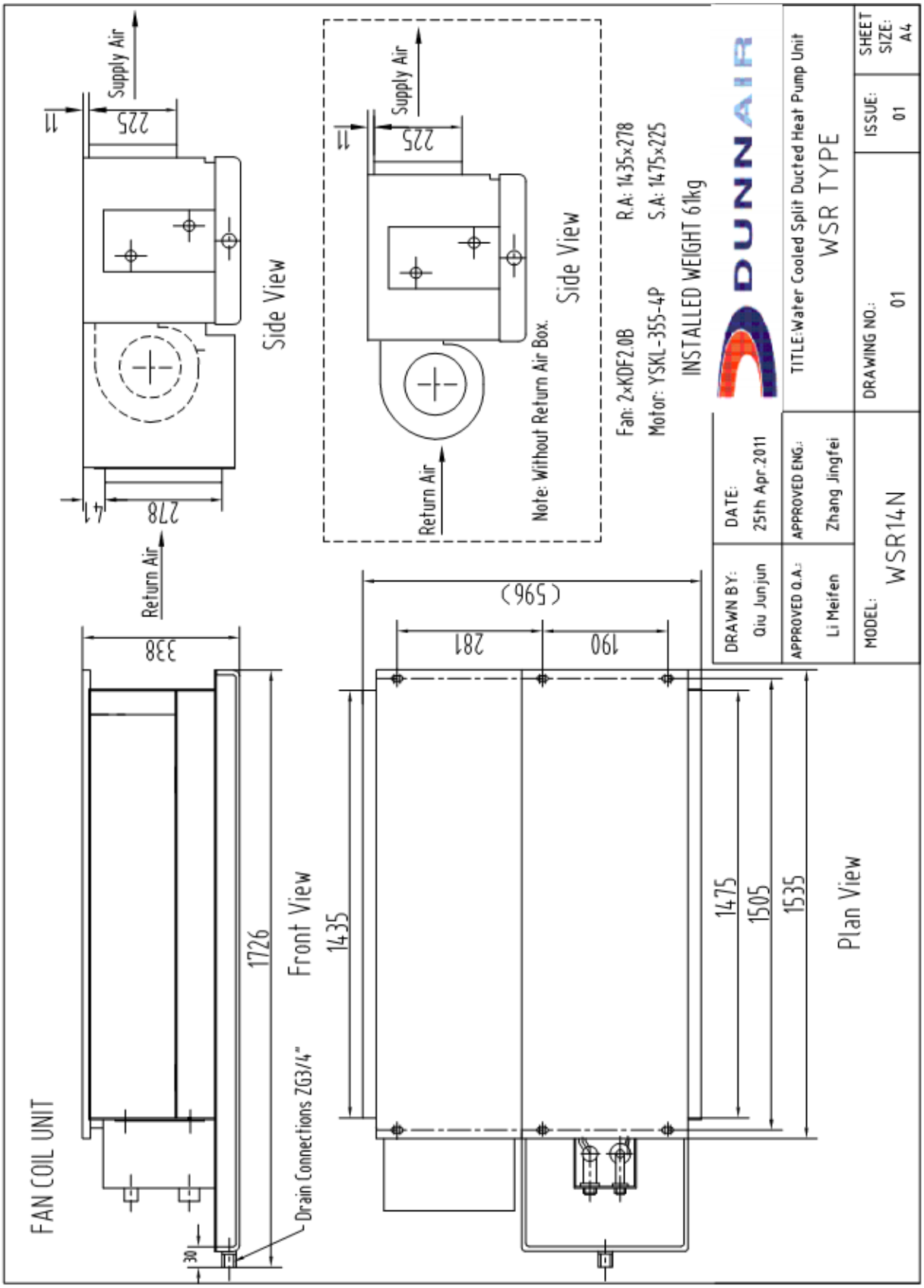
DIMENSIONS (mm) – Outdoor Unit



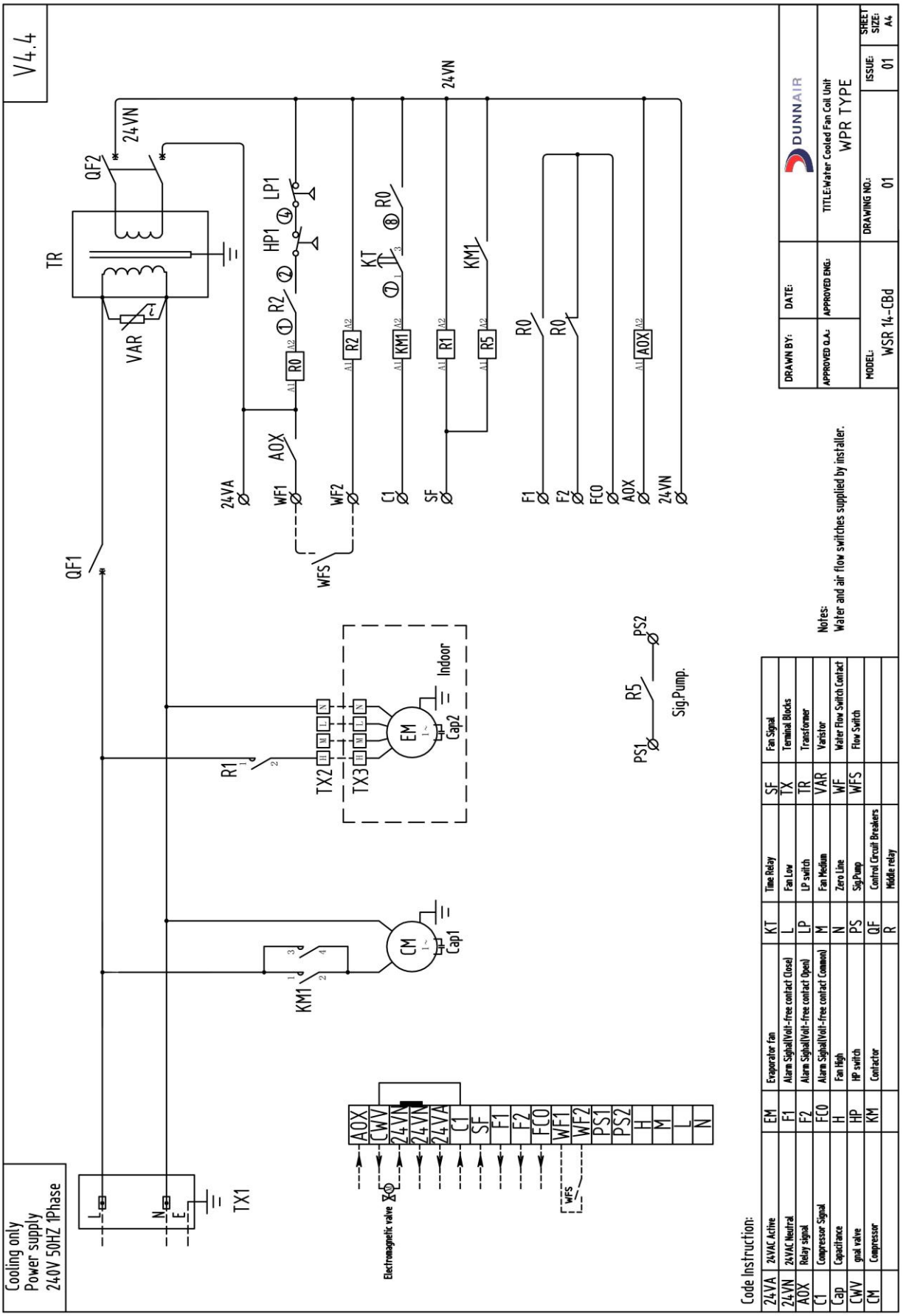
Model	Total Cooling Cap.	Sensible Cooling Cap.	Heating Cap.	Rated Airflow	Ext Static Pressure	Input Power	Max Current	Water Flow	Power
WSR14-HBd	13.9kW	11.7kW	14.3kW	760 L/s	120 Pa	3.82kW	23.7A	0.9 L/s	1Ph/240V/50Hz

Note: Cooling cap: enter air temperature 27°C DB/19°C WB, water inlet/outlet temperature 30°C/35°C.

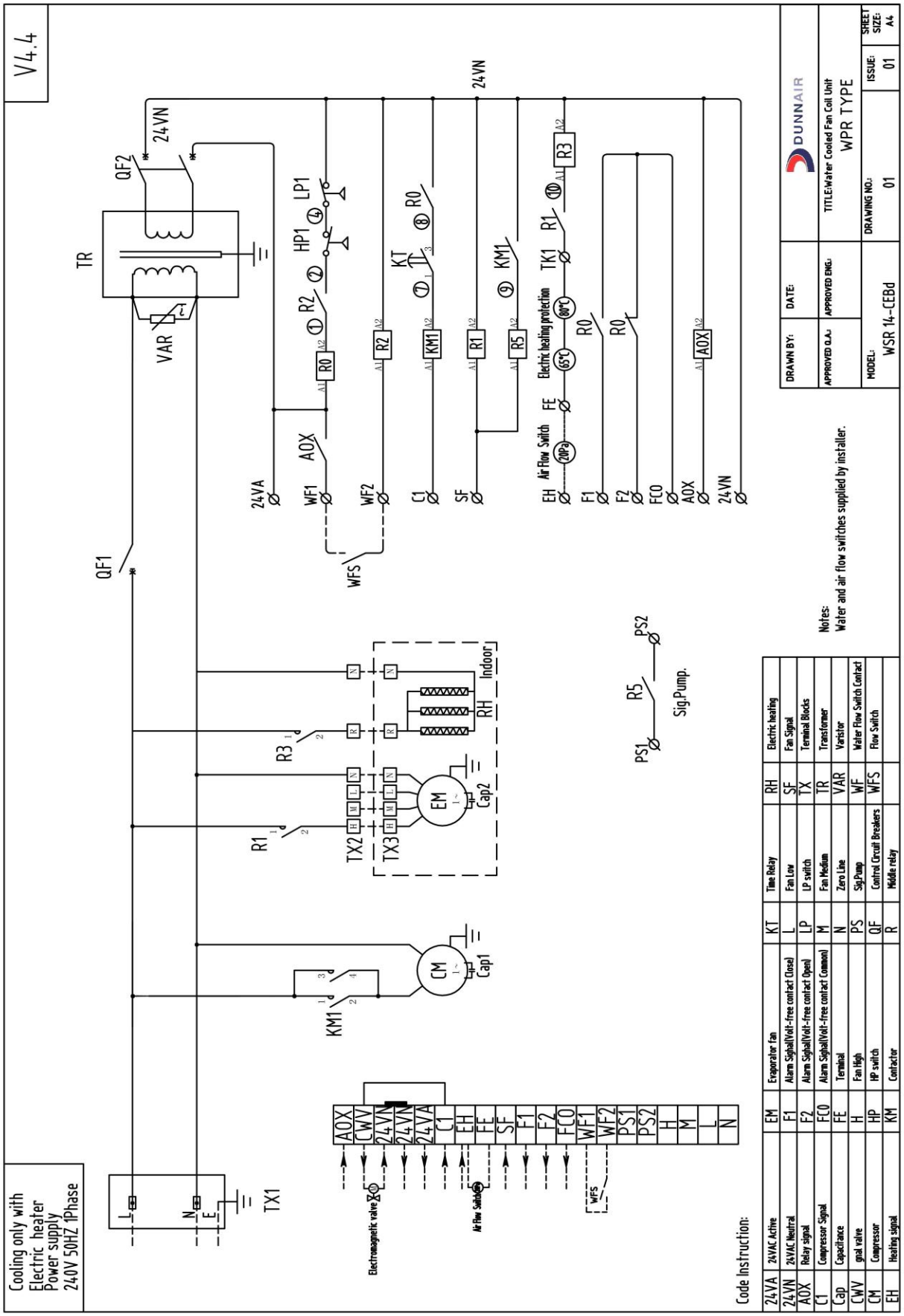
DIMENSIONS (mm) – Indoor Unit



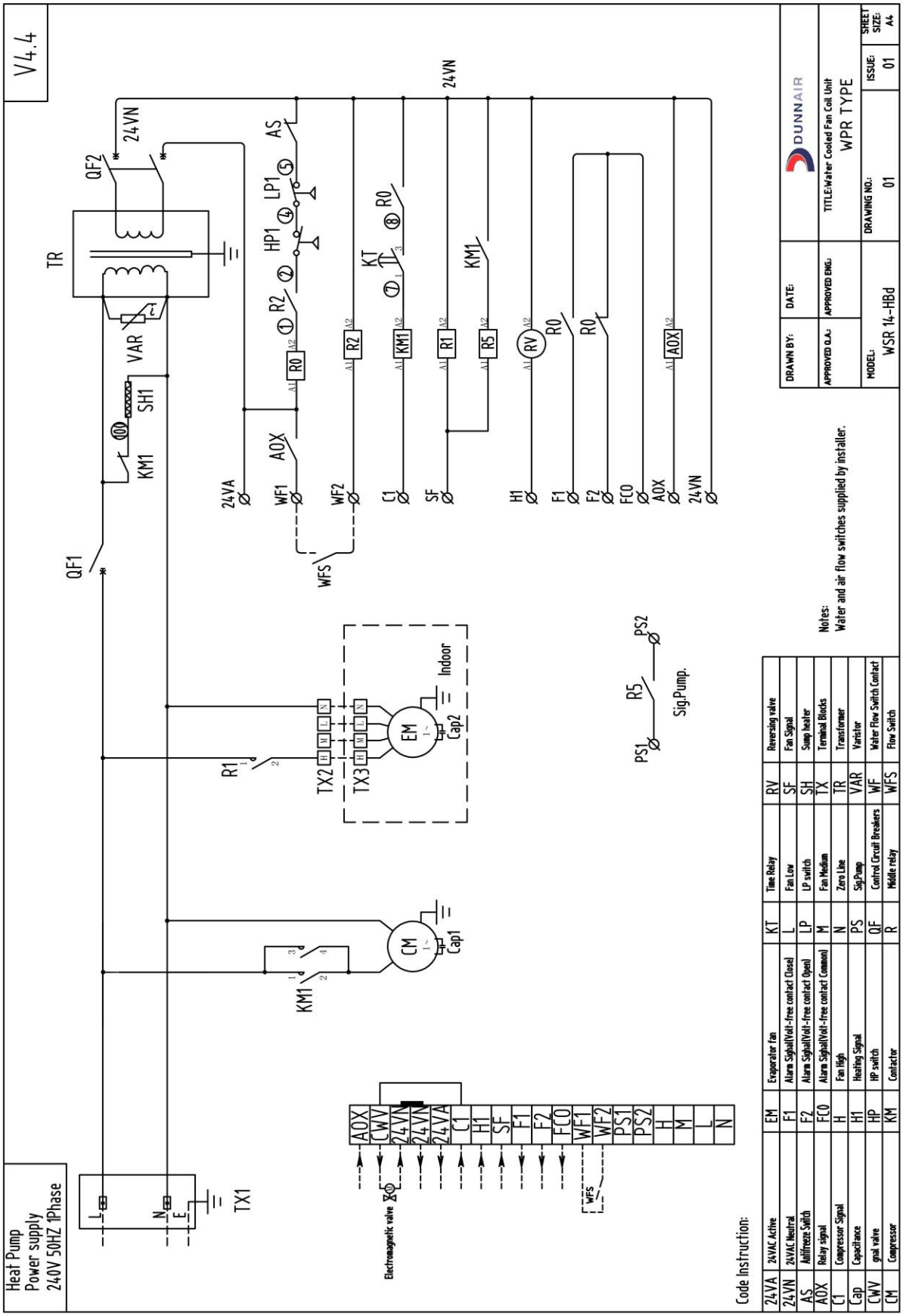
WIRING DIAGRAM - Cooling Only Type



WIRING DIAGRAM - Cooling Only with Electric Heater Type

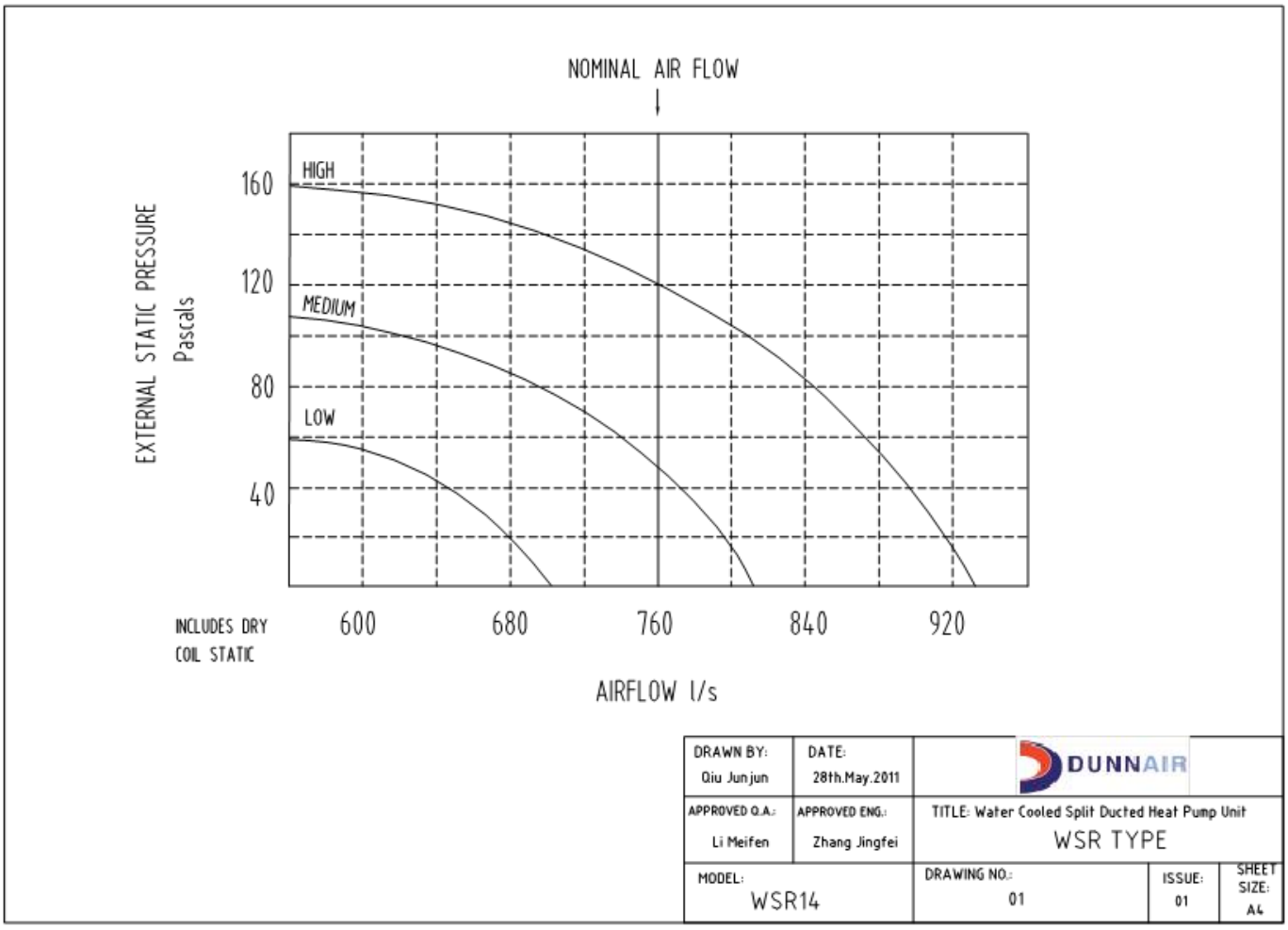


WIRING DIAGRAM - Heat Pump Type



AIR HANDLING PERFORMANCE

Fan Curve (Without Filter)



Note:

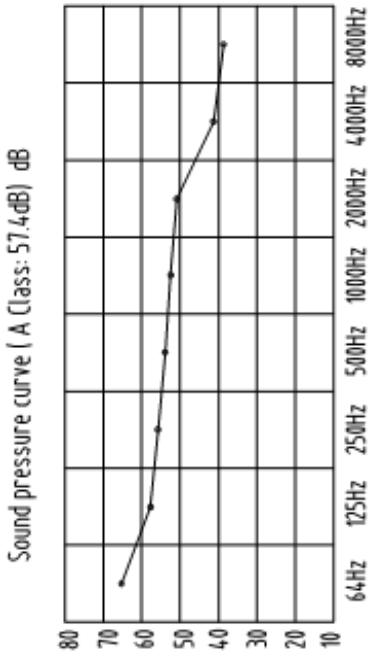
1. In tropical (high humidity) conditions, care must be taken to select an air flow which gives a suitable coil face air velocity, to prevent water carry over.
2. For applications with low resistance, be sure not to exceed the fan motor full load Amps.
3. Applications using full or high proportions of 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

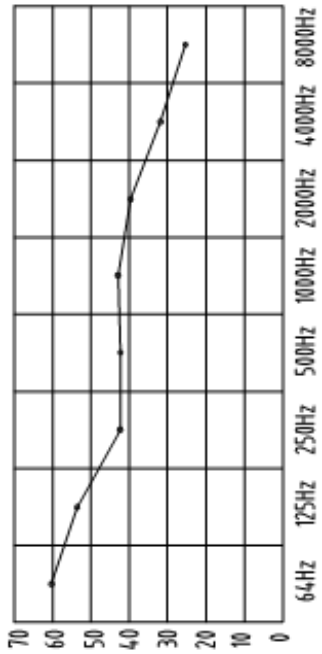
WSR14W Condenser unit sound pressure curve
A Class: 57.4dB

Hz	dB
64Hz	64.7
125Hz	58.4
250Hz	57.0
500Hz	54.6
1000Hz	52.4
2000Hz	51.0
4000Hz	41.2
8000Hz	39.0



WSR14N Fan coil unit sound pressure curve
A Class: 52.5dB

Hz	dB
64Hz	60.6
125Hz	54.7
250Hz	42.8
500Hz	42.9
1000Hz	43.5
2000Hz	39.8
4000Hz	32.5
8000Hz	26.1



Note: Occupant at least 1.0m from sound source.

DRAWN BY: Qiu Junjun	DATE: 28th.May.2011	DUNNAIR	
APPROVED Q.A.: Li Meifen	APPROVED ENG.: Zhang Jingfei	TITLE: Water Cooled Split Ducted Heat Pump Unit WSR TYPE	ISSUE: 01	SHEET SIZE: A4
MODEL: WSR14		DRAWING NO.: 01	