



# DUNNAIR

Established 1961

## WSR5

### R410a Refrigerant

### Water Cooled Split Ducted

#### TECHNICAL SPECIFICATION

Total Cooling Capacity	4.8kW	Refrigerant	R410A
Electrical Input (Cooling)	1.23 kW	Refrigerant Charge	1.2 kg
E.E.R.(Cooling)	3.90	Minimum Water Flow	0.24 l/s
Running Amps (Total)	8.0 A	Water Coil Pressure Drop	38 kPa
Fan Motor Full Load Amps	1.25A	Filter (Option)	EU1
Electrical Supply Required	1 Ph.240V.50Hz	Electric Heat (Option)	3.6 kW

#### COOLING CAPACITY (kW)

AIR FLOW RATE (L/S)			260		
COIL E.A.T.	DB °C		23	27	31
	WB °C		17	19	21
Entering Water Temperature (E.W.T) °C	20	T	5.1	5.4	5.6
		S	3.7	4.3	4.8
		FL	0.3	0.3	0.3
		HR	6.1	6.4	6.7
	25	T	4.9	5.2	5.7
		S	3.7	4.2	4.8
		FL	0.3	0.3	0.3
		HR	6.0	6.2	6.8
	30	T	4.6	4.8	5.4
		S	3.5	4.0	4.7
		FL	0.3	0.3	0.3
		HR	5.6	5.9	6.5
	35	T	4.3	4.5	4.7
		S	3.4	3.9	4.4
		FL	0.3	0.3	0.3
		HR	5.4	5.6	5.8
	40	T	4.1	4.2	4.4
		S	3.3	3.8	4.3
		FL	0.3	0.3	0.3
		HR	5.2	5.2	5.5

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)			260		
WATE FLOW RATE (L/S)			0.30		
COIL E.A.T.	DB °C		18	21	25
Entering Water Temperature (E.W.T) °C	10	HC	4.4	4.3	4.1
		Hab	3.2	3.1	2.9
		LWT	6.4	6.5	6.6
		INPT	1.2	1.2	1.2
	15	HC	4.7	4.7	4.4
		Hab	3.6	3.6	3.3
		LWT	11.1	11.2	11.4
		INPT	1.1	1.1	1.1
	20	HC	5.1	5.0	4.7
		Hab	3.9	3.8	3.6
		LWT	15.9	15.9	16.1
		INPT	1.2	1.2	1.2
	25	HC	5.5	5.4	5.2
		Hab	4.2	4.2	4.0
		LWT	20.5	20.6	20.8
		INPT	1.2	1.2	1.2

HC = Heating Capacity (kW)

Hab = Heat Absorbed (kW)

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

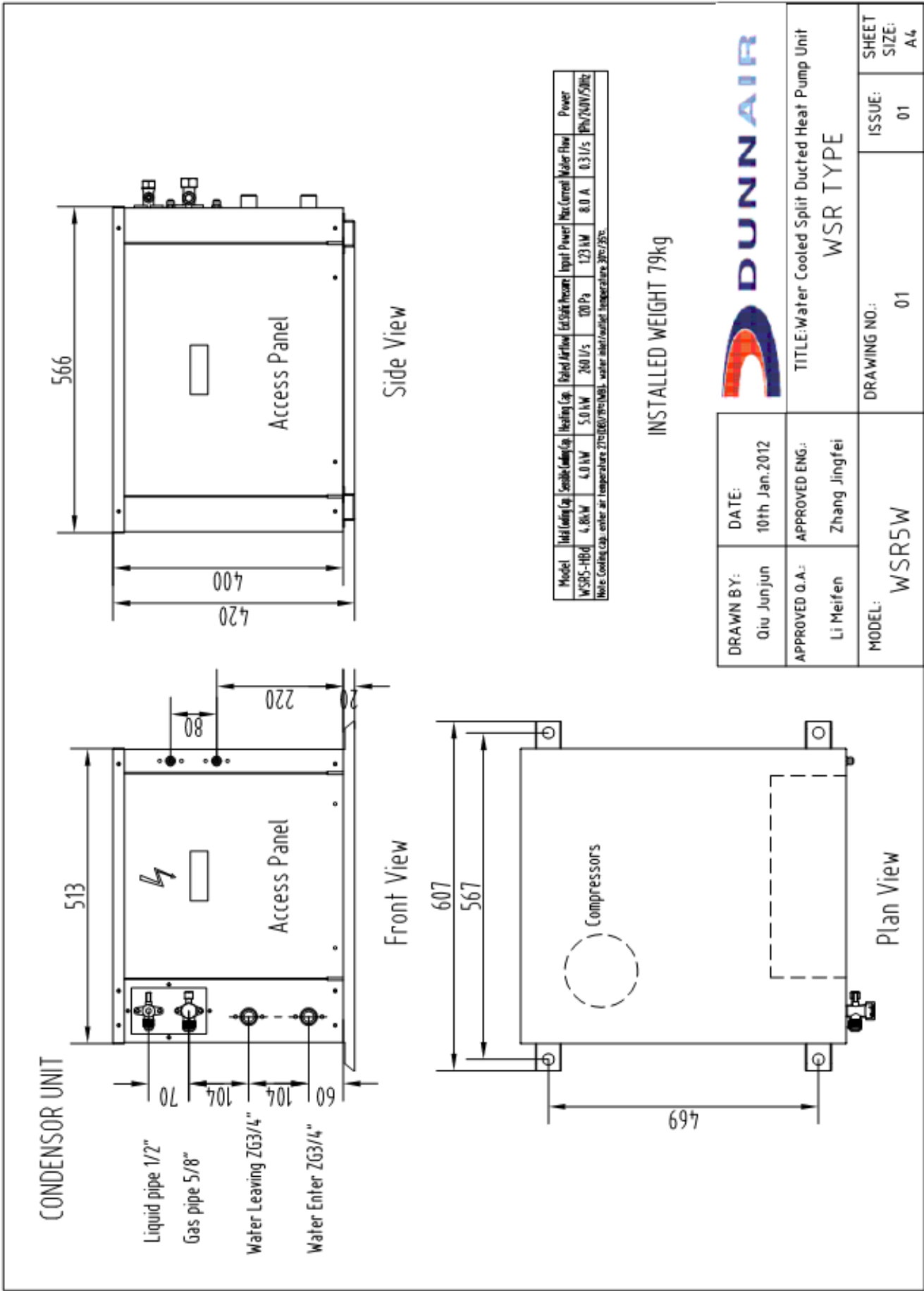
E.A.T.= Entering Air Temperature (°C)

INPT = Compressor Input Power (kW)

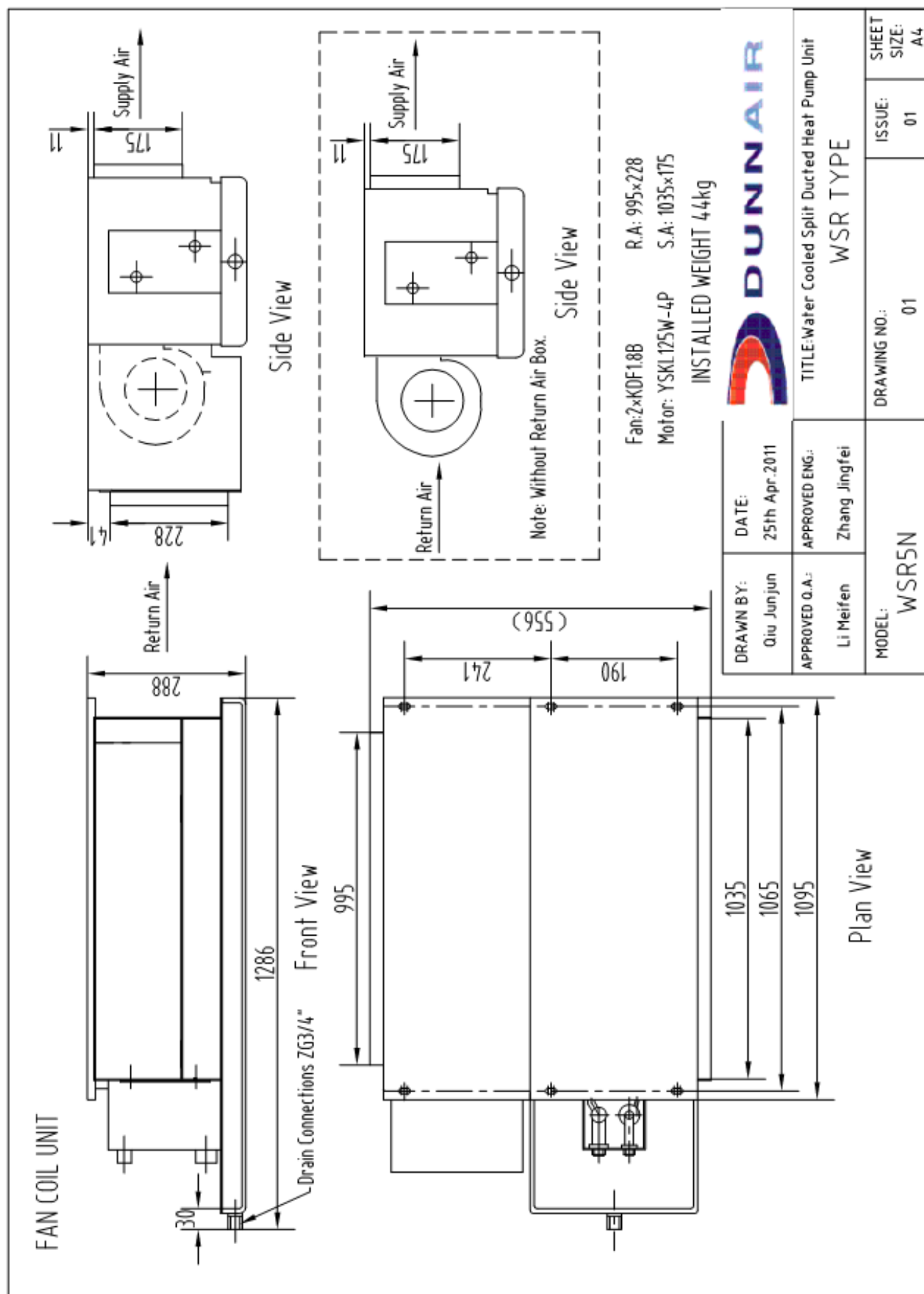
— = Nominal Capacity (kW)

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

DIMENSIONS (mm) – Outdoor Unit



## DIMENSIONS (mm) – Indoor Unit



Cooling only  
Power supply  
240V 50HZ 1Phase

V4.4

The diagram illustrates the electrical control system for a water-cooled fan coil unit. It features a 240V 50Hz 1-phase power supply connected to a transformer (TR) with a variable autotransformer (VAR) and a 24VN secondary. The primary is protected by a circuit breaker (QF1). The secondary is connected to a 24VA terminal block. The control circuit includes a thermal relay (KT) with a normally closed contact (R0) and a normally open contact (R1). The relay is controlled by a 24VN terminal block. The fan motor (F1) is connected to a 24VN terminal block. The compressor motor (CM) is connected to a 24VN terminal block. The diagram also shows a water flow switch (WFS) and a pressure switch (PS1).

Code Instruction:

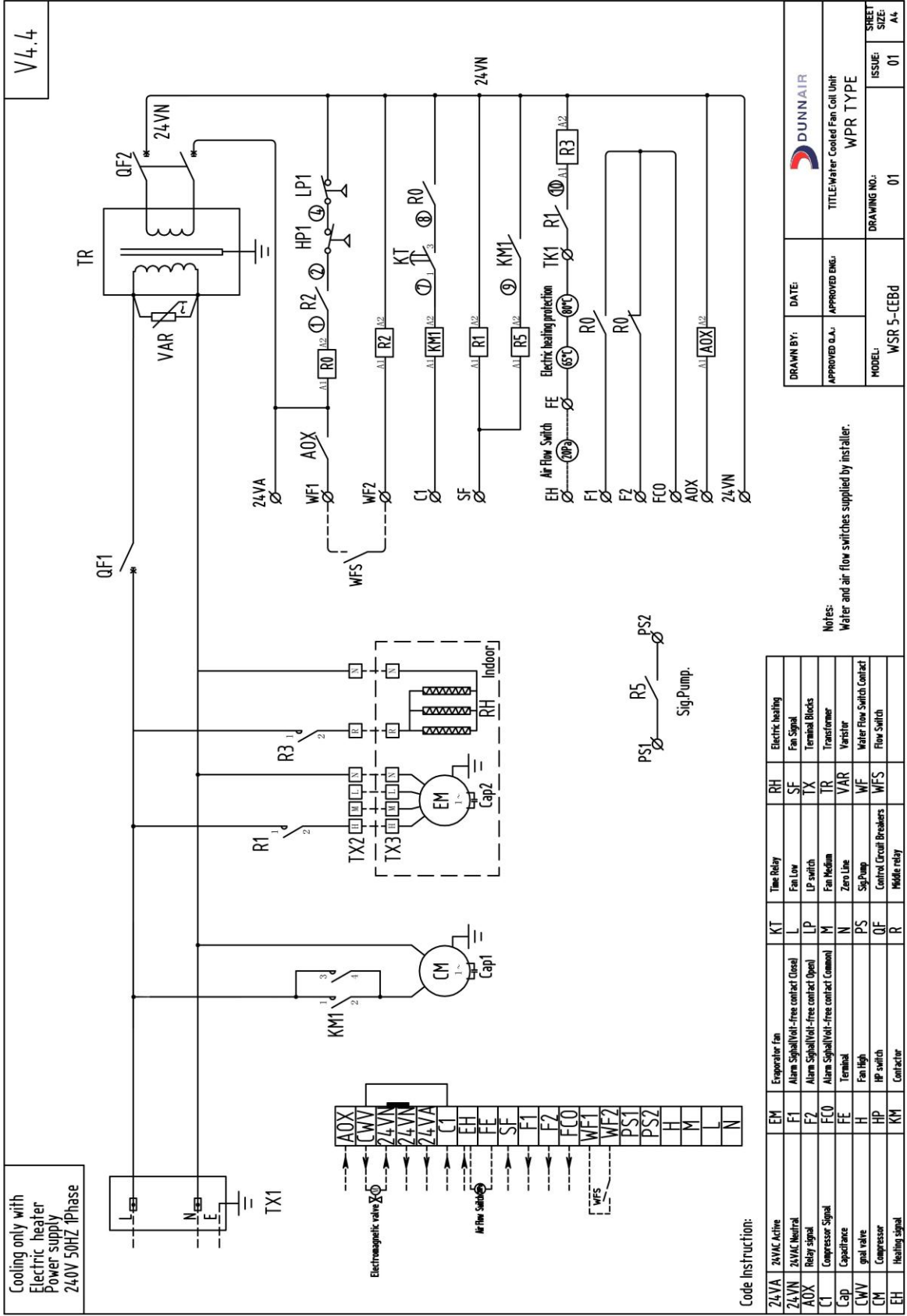
24VA	24VAC Active	EM	Exhaustor fan	KT	Time Relay	SF	Fan Signal
24VN	24VAC Neutral	F1	Alarm Signal(Vall-free contact Close)	L	Fan Low	TX	Terminal Blocks
A0X	Relay signal	F2	Alarm Signal(Vall-free contact Open)	LP	LP switch	TR	Transformer
C1	Compressor Signal	FC0	Alarm Signal(Vall-free contact Common)	M	Fan Medium	VAR	Variable
Cap	Capacitance	H	Fan High	N	Zero Line	WF	Water flow Switch Contact
CWV	gval valve	HP	HP switch	PS	Sig.Pump	WFS	Flow Switch
CM	Compressor	KM	Contactor	QF	Control Circuit Breakers		
				D	Water valve		

Notes:

Water and air flow switches supplied by installer.

DRAWN BY:	DATE:		TITLE:Water Cooled Fan Coil Unit WPR TYPE	DRAWING NO.: 01	ISSUE: 01	SHEET: 44
APPROVED G.A.	APPROVED ENG.					
MODEL: WSP 5-1R4						

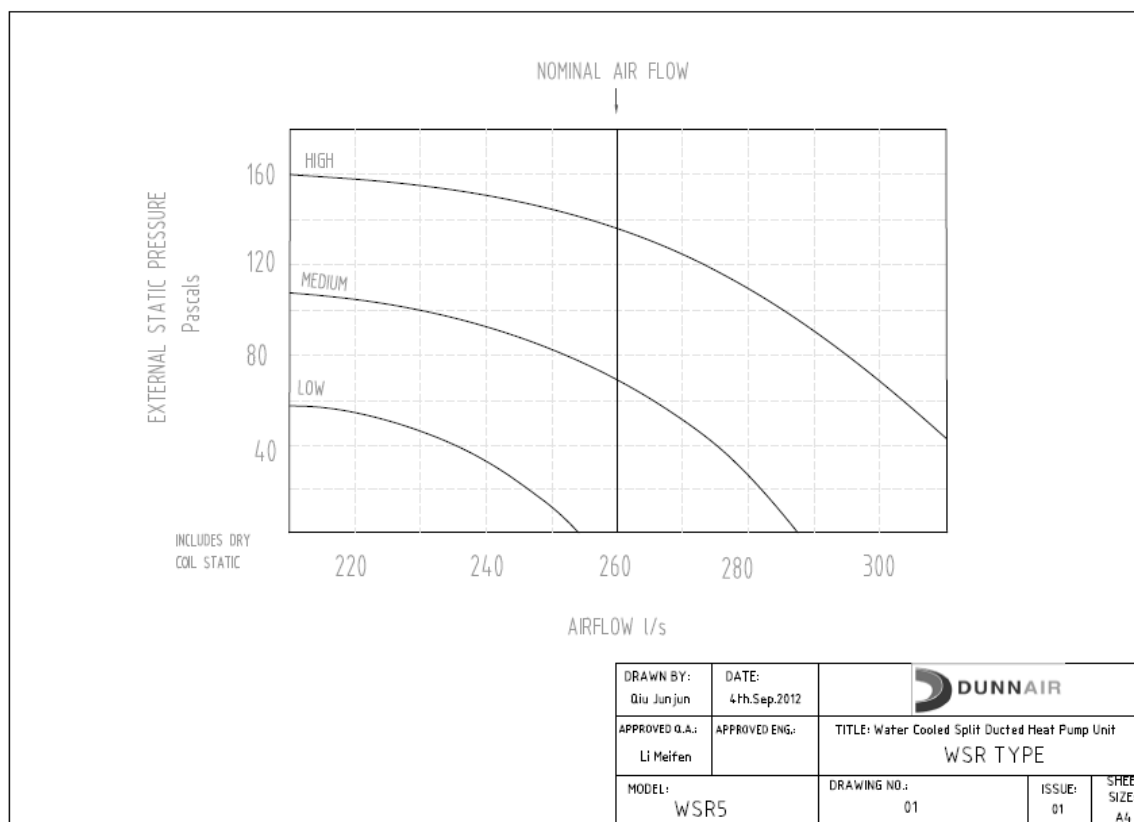
WIRING DIAGRAM - Cooling Only with Electric Heater Type



[illegible]

## 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

