



VS/VT Series Vertical Packaged Unit Quick Reference Technical Guide



P/N 20D236-02NN



LED Identification

FAULT CODE	CONDITION	LEDs						
		Green HP	Orange LP	Red FS	Yellow CO	Green Status	Terminal L	
01	NORMAL MODE	-	-	-	-	FLASH	-	
02	TEST MODE	-	-	-	-	-	-	
03	HIGH PRESSURE FAULT (HP)	FLASH	-	-	-	FLASH	-	
04	HIGH PRESSURE LOCKOUT (HP)	ON	-	-	-	FLASH	ON	
05	LOW PRESSURE FAULT (LP)	-	FLASH	-	-	FLASH	-	
06	LOW PRESSURE LOCKOUT (LP)	-	ON	-	-	FLASH	ON	
07	SOURCE HEAT EXCHANGER FREEZE/ WATER FLOW FAULT (T4/FS)	-	-	FLASH	-	FLASH	-	
08	SOURCE HEAT EXCHANGER FREEZE/ WATER FLOW LOCKOUT (T4/FS)	-	-	ON	-	FLASH	ON	
09	LOAD HEAT EXCHANGER FREEZE FAULT (T1)	-	FLASH	FLASH	-	FLASH	-	
10	LOAD HEAT EXCHANGER FREEZE LOCKOUT (T1)	-	ON	ON	-	FLASH	ON	
11	CONDENSATE FAULT (CO)	-	-	-	FLASH	FLASH	-	
12	CONDENSATE LOCKOUT (CO)	-	-	-	ON	FLASH	ON	
13	OVER/UNDER VOLTAGE	FLASH	FLASH	FLASH	FLASH	FLASH	ON	
14	SENSOR T1 BAD LOCKOUT	FLASH	-	-	ON	FLASH	FLASH	
15	SENSOR T2 BAD	-	FLASH	-	ON	FLASH	FLASH	
16	SENSOR T3 BAD	-	-	FLASH	ON	FLASH	FLASH	
17	SENSOR T4 BAD LOCKOUT	-	ON	-	FLASH	FLASH	FLASH	
18	T1 & T4 SWAPPED	ON	-	-	ON	-	FLASH	
19	HGT(T2) > 220F FAULT	FLASH	-	FLASH	ON	FLASH	-	
20	HGT(T2) > 220F LOCKOUT	ON	-	ON	ON	FLASH	ON	

VS Pressure Drop Tables

Model	GPM	Source Brine Pressure Drop (PSI)			
		30 °F	50 °F	70 °F	90 °F
VS009	1.1	0.8	0.7	0.6	0.5
	1.7	1.5	1.3	1.1	1.0
	2.3	2.3	2.0	1.8	1.6
	3.0	3.4	3.0	2.6	2.4
VS012	1.5	1.4	1.2	1.0	0.9
	2.3	2.5	2.1	1.8	1.7
	3.0	3.6	3.1	2.7	2.4
	4.0	5.5	4.7	4.1	3.7
VS015	1.9	1.0	0.9	0.8	0.8
	2.8	1.5	1.3	1.2	1.1
	3.8	2.0	1.8	1.6	1.5
	5.0	2.8	2.5	2.2	2.1
VS018	2.3	1.3	1.2	1.1	1.0
	3.4	1.9	1.7	1.6	1.5
	4.5	2.6	2.3	2.1	1.9
	6.0	3.7	3.3	3.0	2.8
VS024	3.0	1.7	1.5	1.3	1.2
	4.5	2.7	2.3	2.1	1.9
	6.0	3.8	3.3	3.0	2.7
	7.0	4.7	4.1	3.6	3.3
VS030	3.8	1.8	1.7	1.7	1.7
	5.6	2.3	2.2	2.1	2.1
	7.5	2.9	2.8	2.7	2.7
	9.0	3.7	3.5	3.4	3.3
VS036	4.5	2.0	1.9	1.8	1.6
	7.0	2.8	2.6	2.5	2.3
	9.0	3.9	3.7	3.5	3.1
	11.0	5.2	4.9	4.7	4.2

VT Operating Mode Logic Table (VS Table on Page 2)

Two Stage Units	Heating Modes				Cooling Modes		Blower On	Dehum On
	1st Stg	2nd Stg	3rd Stg	Emer Heat	1st Stg	2nd Stg		
Thermostat Call	Y1, G	Y1, Y2, G	Y1, Y2, W1, G	W1, G	Y1, O, G	Y1, Y2, O, G	G	
Compressor - Part Load	Yes	Yes	Yes	No	Yes	Yes	No	
Compressor - Full Load	No	Yes	Yes	No	No	Yes	No	
ECM Normal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
ECM Dehum								Yes
Reversing Valve	No	No	No	No	Yes	Yes	No	
Loop Pumps	Yes	Yes	Yes	No	Yes	Yes	No	
DHW Pump	Yes	Yes	Yes	No	Yes	Yes	No	
Aux Heater	No	No	Yes	Yes	No	No	No	

VT Pressure Drop Tables

Model	GPM	Source Brine Pressure Drop (PSI)			
		30 °F	50 °F	70 °F	90 °F
VT024 Part Load	2.0	1.2	1.1	1.0	0.9
	3.0	1.8	1.6	1.4	1.3
	4.0	2.3	2.1	1.9	1.8
	5.0	3.0	2.7	2.5	2.3
VT024 Full Load	3.0	1.8	1.6	1.4	1.3
	4.5	2.8	2.4	2.2	2.0
	6.0	3.9	3.4	3.1	2.8
	8.0	5.6	4.9	4.4	4.0
VT036 Part Load	3.0	1.8	1.6	1.5	1.4
	4.5	1.9	1.7	1.6	1.6
	6.0	2.5	2.2	2.1	2.0
	8.0	3.5	3.1	2.9	2.9
VT036 Full Load	4.5	2.3	2.2	2.2	2.1
	7.0	3.1	3.0	2.9	2.9
	9.0	3.6	3.4	3.4	3.3
	11.0	4.5	4.3	4.2	4.1

