

Crest Pumping Services



Dry Running Test Report

Model: AMX-553FGACV

Testing Environment: Flooded suction

Inlet Piping Layout: Suction piping with one inlet control valve and one drainage valve

Outlet Piping Layout: Discharge piping with one discharge control valve and one air relief valve

Measuring items:

1. Dry-running time
2. Temperature variation in the process
3. Water temperature distribution around pump inlet and outlet pipe
4. Vibration condition measured in the process
5. Measuring temperature of the pump components
6. Checking condition of the pump contacting parts after dry-running





Case 1.

Simulation Condition: Foot valve sucking in air due to insufficient liquid level

Test Method: 1. Pump in normal operation.

2. Suck in air by opening the inlet drainage valve gradually.
3. Closing inlet control valve and fully open drainage valve.

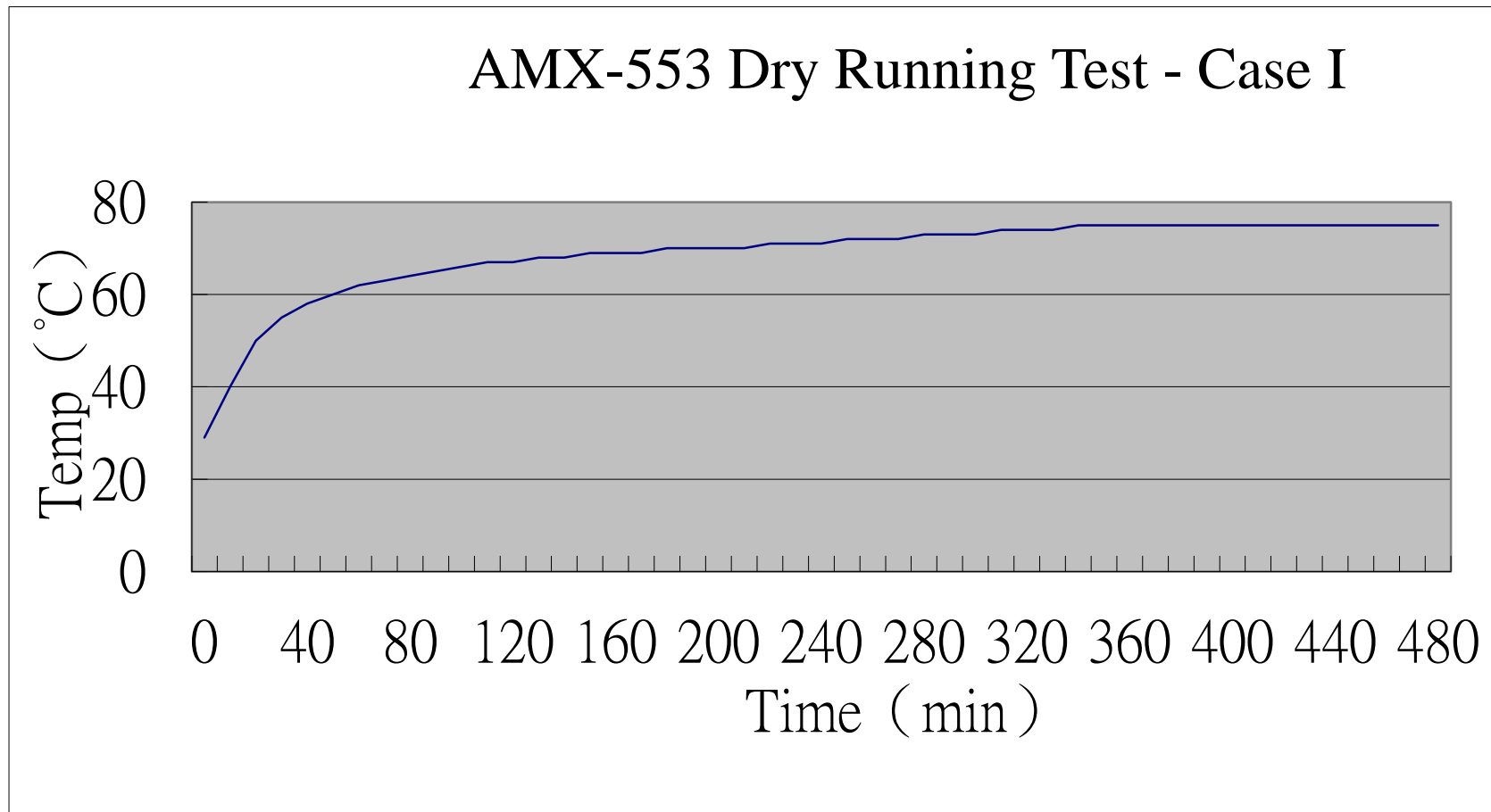
Date : 2004/08/06

Room Temperature : 29°C

Time: 8 Hours

Result							
Time (min.)	Temp (°C)	Time (min.)	Temp (°C)	Time (min.)	Temp (°C)	Time (min.)	Temp (°C)
0	29	17	47	34	56	51	60
1	32	18	48	35	57	52	60
2	33	19	49	36	57	53	61
3	33	20	50	37	57	54	61
4	33	21	50	38	58	55	61
5	34	22	51	39	58	56	61
6	35	23	51	40	58	57	61
7	36	24	52	41	58	58	62
8	37	25	52	42	59	59	62
9	38	26	53	43	59	60	62
10	40	27	53	44	59	120	67
11	41	28	54	45	59	180	70
12	42	29	54	46	59	240	71
13	43	30	55	47	60	300	73
14	44	31	55	48	60	360	75
15	45	32	55	49	60	420	75
16	46	33	56	50	60	480	75

Result	
Parts	Temp °C
Water (in Pump)	54
Shaft	66
Front buffer	58
Front thrust ring	60
Bearing	69
Rear wear ring	70





CASE 2:

Simulation Condition: Foot valve failure

Test Method: 1. Prime the pump

2. Open both air-relief valve and drainage valve until water level is down to the bottom of inlet pipe

3. Start the pump

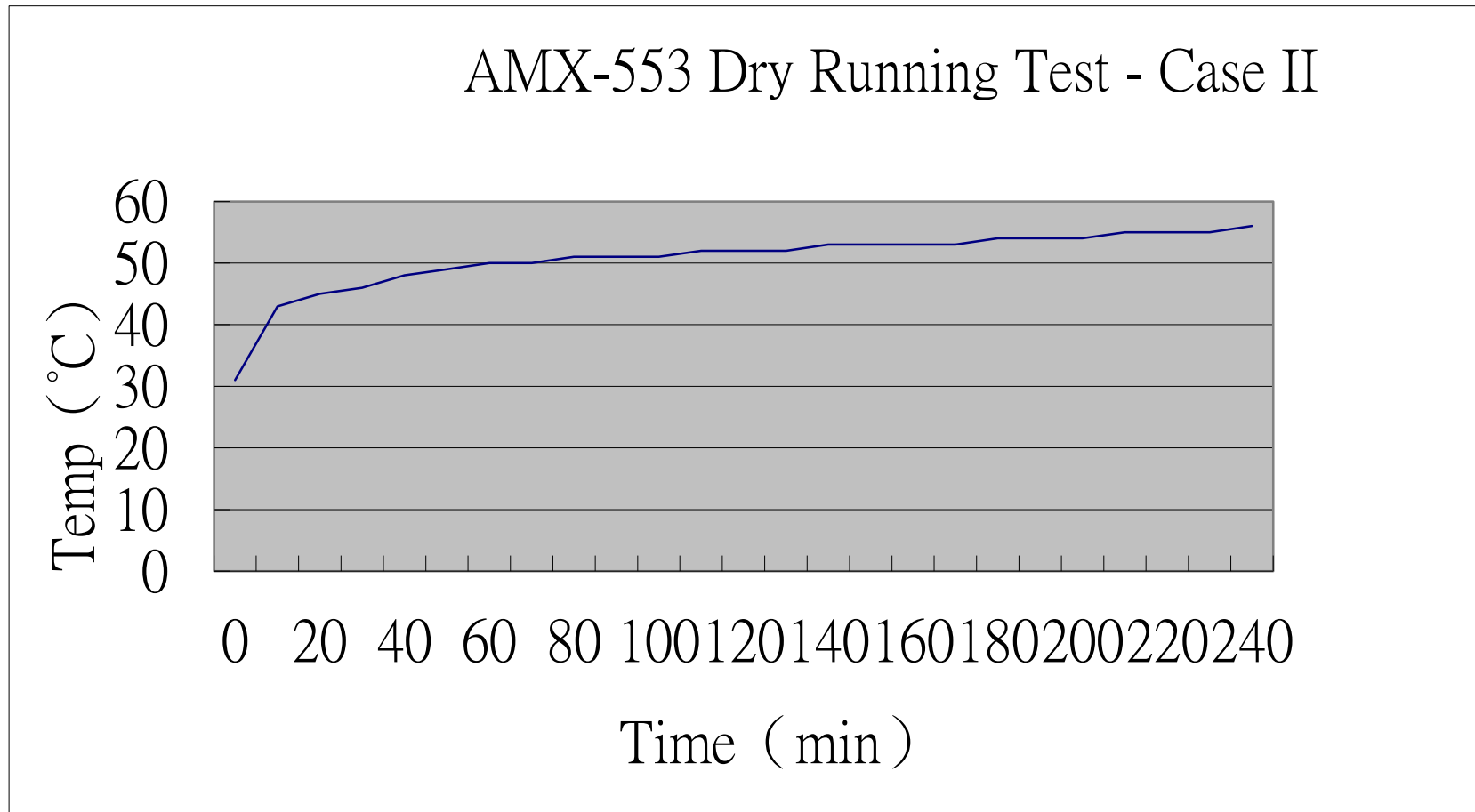
Date: 2004/08/17

Room Temperature: 31°C

Time: 4 Hours

Result - 1							
Time (min.)	Temp (°C)	Time (min.)	Temp (°C)	Time (min.)	Temp (°C)	Time (min.)	Temp (°C)
0	31	17	44	34	47	51	49
1	32	18	44	35	47	52	49
2	35	19	44	36	47	53	49
3	39	20	45	37	47	54	49
4	40	21	45	38	47	55	49
5	40	22	45	39	47	56	50
6	41	23	45	40	48	57	50
7	42	24	45	41	48	58	50
8	42	25	45	42	48	59	50
9	42	26	46	43	48	60	50
10	43	27	46	44	48	90	51
11	43	28	46	45	48	120	52
12	43	29	46	46	48	150	53
13	43	30	46	47	48	180	54
14	43	31	46	48	49	210	55
15	44	32	46	49	49	240	56
16	44	33	47	50	49		

Result - 2	
Parts	Temp °C
Water (in Pump)	55
Shaft	54
Front buffer	48
Front thrust ring	51
Bearing	53
Rear wear ring	58





CASE 3:

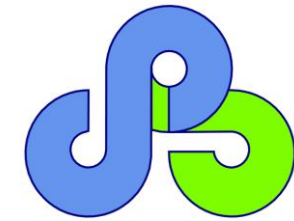
Simulation Condition: Running the pump with inlet control valve completely closed

Test Method: 1. Prime the pump.

2. Start the pump after completely closing inlet control.

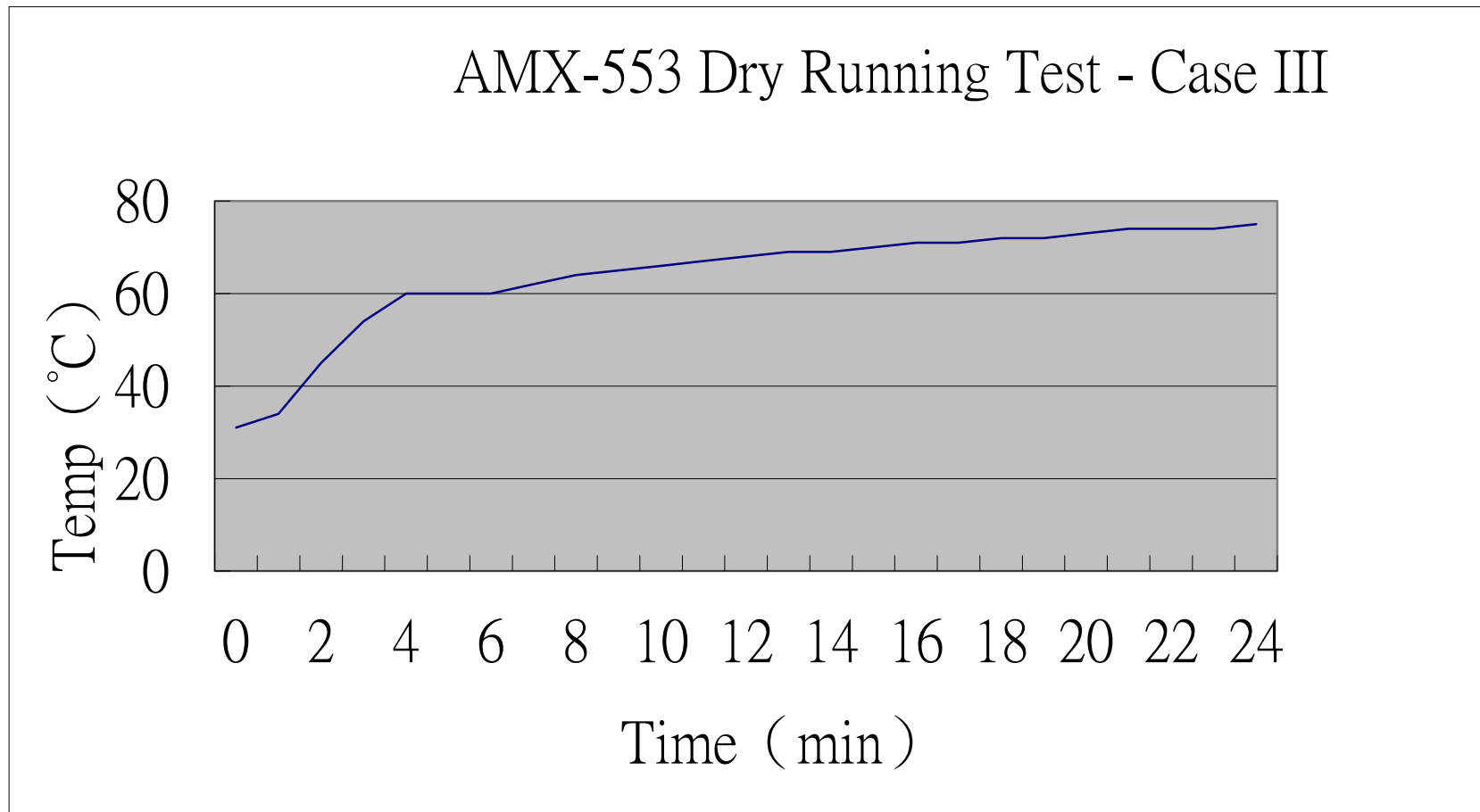
Date: 2004/08/27 Room Temperature: 31°C Time: 30 Minutes

Result - 1			
Time (min.)	Temp (°C)	Time (min.)	Temp (°C)
0	31	12	69
1	45	13	69
2	54	14	70
3	60	15	71
4	59	16	71
5	60	17	72
6	62	18	72
7	64	19	73
8	65	20	74
9	66	21	74
10	67	22	74
11	68	23	75



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Result - 2	
Parts	Temp °C
Water (in Pump)	54
Shaft	56
Front buffer	48
Front thrust ring	51
Bearing	53
Rear wear ring	58





CASE 4:

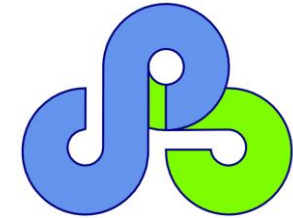
Simulation Condition: Running the pump with outlet control valve completely closed

Test Method: 1. Prime the pump.

2. Start the pump after completely closing outlet control.

Date: 2004/08/26 Room Temperature: 29°C Time: 30 Minutes

Result - 1			
Time (min.)	Temp (°C)	Time (min.)	Temp (°C)
0	29	13	58
1	34	14	59
2	37	15	60
3	40	16	61
4	42	17	63
5	44	18	64
6	46	19	64
7	49	20	65
8	52	21	65
9	53	22	67
10	54	23	67
11	55	24	69
12	57	25	70



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Result - 2	
Parts	Temp °C
Water	48
Shaft	56
Front buffer	53
Front thrust ring	55
Bearing	58
Rear wear ring	60

