

GST Semi	Customer

시 험 성 적 서  
(Equipment : DD-853V 8BL)  
S/N : T2DD3-16066-1

1. MFC Data
2. Valve Interlock Check Sheet
3. Pressurized Gas / Water Leak Check
4. Heater Test Data
5. Interlock Check List



\* 측정일, 측정자 등은 반드시 기록 할 것.

## 2 VALVE INTERLOCK CHECK LIST

Equipment	Vertical Diffusion furnace system
Work	LP-OX to PYRO Modify
Work No.	
USER NO.	T2DD3-16066-1
MODEL	DD-853V-8BL
PROCESS	PYRO

FINAL INSPECTION :  INSTALLATION :  Date: 2014-07-02 Checked by: RH. PARK

AV No.	CONDITIONS OF VALVE OPERATION	Soft Start Setting	RESULT
AV 1(NO)	Unconditional Open/Close allowed.		<i>Good</i>
AV 2	Unconditional Open/Close allowed.	MFC1	<i>Good</i>
AV 3(NO)	Unconditional Open/Close allowed.		<i>Good</i>
AV 4	Opening allowed when Furnace port cap is closed.	MFC2	<i>Good</i>
AV 5	Opening allowed when Furnace port cap is closed.	MFC3	<i>Good</i>
AV 6(NO)	Unconditional Open/Close allowed.		<i>Good</i>
AV 7	Opening allowed when AV4, AV14 is Open and Furnace port cap is closed and H2 gas detector is normal operation.	MFC4	<i>Good</i>
AV 8	Opening allowed when AV9 is closed.		<i>Good</i>
AV 9	Opening allowed when AV8 is closed and Hcl gas detector is normal operation.	MFC5	<i>Good</i>
AV 10	Opening allowed when AV11 is closed and Furnace port cap is closed.		<i>Good</i>
AV11	Opening allowed when AV10 is closed.		<i>Good</i>
AV12(NO)	Unconditional Open/Close allowed.		<i>Good</i>
AV13	Opening allowed when AV14 is closed.		<i>Good</i>
AV14	Opening allowed when AV13 is closed.		<i>Good</i>
AV15	Opening allowed when AV16 is closed.		<i>Good</i>
AV16	Opening allowed when AV17 is closed.		<i>Good</i>
AV17	Opening allowed when AV16 is closed.		<i>Good</i>
AV18	Opening allowed when AV17 is closed.		<i>Good</i>
AV51	Opening allowed when Furnace port cap is closed.		<i>Good</i>
WAT	Unconditional Open/Close allowed.		<i>Good</i>
HTR	Unconditional ON/OFF allowed		<i>Good</i>
P.F	Unconditional ON/OFF allowed(Front select)		<i>Good</i>

### 3. Pressurized Gas / Water Leak Check

Result	Date	Charge
O.K	2014.07.03	RH.PARK

Name of Gas panel	PT1	PT2	PT3	PT4	PT5
Item \ GAS Category	N2	O2	H2	HCl	AIR
P0:Pressure Mpa{Kgf/cm <sup>2</sup> }	0.247	0.240	0.224	0.238	-
Check time(Start time)	2014.07.02 14:00	2014.07.02 14:00	2014.07.02 14:00	2014.07.02 14:00	-
P1: Final Pressure Mpa{Kgf/cm <sup>2</sup> }	0.250	0.242	0.226	0.240	-
ΔP:Pressure drop Mpa{Kgf/cm <sup>2</sup> }	+0.003	+0.002	+0.002	+0.002	-
Determination	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	NO CHECK
T:Time of pressure holding(Hr)	14Hr	14Hr	14Hr	14Hr	-

Method ; 
$$a = \frac{\Delta P}{P_0} \times \frac{1}{T} \times 100(\%/Hr)$$
 Determination :pressure drop rate  $\alpha \leq 0.1$  (%/Hr.)

**Water Leak Check**

**( 3.0kgf/cm<sup>2</sup> -> 3.0kgf/cm<sup>2</sup> )**

**: Air Supplied ( 3.0 kgf/cm<sup>2</sup> )**

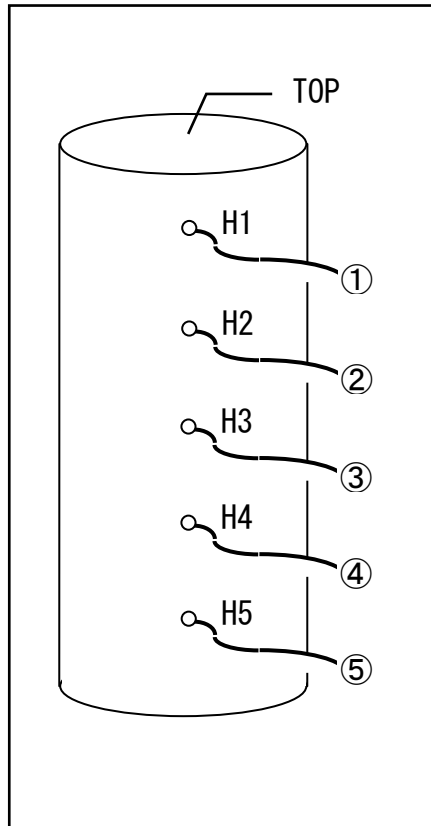
**Date : 2014.07.01 17:00~2014.07.02 10:00 (15Hr)**

### 4. Heater Test Data (Full Power Voltage Check)

Submission No.(USER No.) : T2DD3-16066-1

Type.(형식) : DD-853V-8BL

#### 3. INSULATION RESISTANCE DATA (절연저항 측정) :



at Room Temp	at High Temp [ 800°C ]
<del>MΩ</del>	<del>MΩ</del>

Mega Ohm Tester(500V) Inst No
<del> </del>

Date	<del> </del>
Measured by	<del> </del>

#### 4. MAX VOLTAGE (Each Zone) : GOOD

Max Voltage (at each Zone Full Power Control)	
U (H1-H2)	19.6 V
CU (H2-H3)	121.3 V
CL (H3-H4)	60.8 V
L (H4-H5)	55.6 V

Date	2014.06.30
Measured by	RH.PARK

#### 5. MAX CURRENT (최대상 전류) :

Max Current (at All Zone Full Power Control)	
①	<del>A</del>
②	<del>A</del>
③	<del>A</del>
④	<del>A</del>
⑤	<del>A</del>

Date	<del> </del>
Measured by	<del> </del>

※1:단상의 측정장소(RS,UV), 삼상의 측정장소(RST,UVW), TRANS 출력전압의 측정장소는 실제의 장착되어 있는 CABLE명에 맞추어서 기입 할 것.

## 5. Interlock Check List

Date : 2014.07.01 Checked by RH. PARK

Performance Check													
No	NAME	FACTOR	SENSOR	ALARM	ATC	BUZZER	DISPLAY	200V/DOWN	100V/DOWN	MECHASTOP	ALERT	ANOTHER	Result
1	AIR1 ILK	Too low Air Pressure	Gas Box PG/PS11	40 Kg/ cm <sup>2</sup>	0.41MPa	○	○	----	----	----	----		Good
2	N2 ILK	Too low Gas system N2 Pressure	Gas Box PG/PS1	1.5 Kg/ cm <sup>2</sup>	MPa	○	○	----	----	----	----		Good
3	O2 ILK	Too low Gas system O2 Pressure	Gas Box PG/PS2	1.5 Kg/ cm <sup>2</sup>	MPa	○	○	----	----	----	----		Good
4	H2 ILK	Too low Gas system H2 Pressure Too high Gas system H2 Pressure	Gas Box PG/PS3	1.0 Kg/ cm <sup>2</sup>	MPa	○	○	----	----	----	----		Good
5	HCl ILK	Too low Gas system HCl Pressure	Gas Box PG/PS4	1.0 Kg/ cm <sup>2</sup>	MPa	○	○	----	----	----	----		Good
6						○	○						
7	LEAK1 ILK	H2 Gas leak warning for Gas Box, Scavenger	Gas Detector H2 Indicator	500/100ppm		○	○	----	----	----	----		Good
8	LEAK2 ILK	HCl Gas leak warning for Gas Box, Scavenger	Gas Detector Hcl Indicator	3/10ppm		○	○	----	----	----	----		Good
9	C.UT ILK	Clean Unit Blower Stop	Furnace unit MS301,302,303,311,312	20Pa	-----	○	○	----	----	----	----		Good
10	O.HT ILK	Abnormal temperature in wafer transfer area	Furnace unit TS201	100°C	-----	○	○	----	----	----	----		Good
		Abnormal heater temperature	Cont. Box CQ1600	1250°C	-----	○	○	○	----	----	----	----	
11	WAT1 ILK	Too low cooling water Flow	Utility FS101	12l/min	l/min	○	○	○	----	----	----		Good
12	WAT2 ILK	Too low cooling water Flow for furnace port flange	Furnace unit FS102	0.5 l/min	l/min	○	○	----	----	----	----		Good
		Too low cooling water for cap	Furnace unit FS103	0.5 l/min	l/min	○	○	----	----	----	----		Good
		Too low cooling water for shutter	Furnace unit FS104	0.5 l/min	l/min	○	○	----	----	----	----		Good
13	TEMP1 ILK	Abnormal temp in heater box	Furnace unit TS306	130°C	-----	○	○	○	----	----	----		Good
		Abnormal temp in radiator	Furnace unit TS307	100°C	-----	○	○	○	----	----	----	----	
14	TEMP2 ILK	Abnormal temp in SCR	Power Box TS101	80°C	-----	○	○	○	----	----	----		Good
		Abnormal temp in trans	Power Box TS102/TS104	150°C	-----	○	○	○	----	----	----	----	
15	TEMP3 ILK	Abnormal temp in Flange/Cap	Upper,Low Flange SW01, SW02	Thermo Switch	-----	○	○	----	----	----	----		Good
16	H.DOR ILK	Abnormal temp Heater Door	Door Switch S1 , S2	Door Switch	-----	○	○	----	----	----	----		Good
17	G.EXH ILK	Too low Gas System Exhaust Pressure	Cont. Box MS308	40Pa	-----	○	○	----	----	----	----		Good
18	H.EXH ILK	Too low Heater Exhaust Pressure	Cont. Box MS304	60Pa	-----	○	○	----	----	----	----		Good
19	S.EXH ILK	Too low Scavenger Exhaust Pressure	Cont. Box MS305	40Pa	-----	○	○	----	----	----	----		Good
20	B.EXH ILK	Too low Burn Box Exhaust Pressure	Cont. Box MS310	40Pa	-----	○	○	----	----	----	----		Good



№	NAME	FACTOR	SENSOR	ALARM	ATC	Performance Check						ANOTHER	Result
						BUZZER	DISPLAY	200VDOWN	100VDOWN	MECHA STOP	ALERT		
	TEMP. ALM	Temperature allowable deviation alarm.	Power Box Temp CON. CQ1600	-----	-----	○	○	----	----	-----	○		Good
	GAS	GAS controller Interface line down	CX3002 ↔CX3202	-----	-----	○	○	----	----	-----	----		Good
	LOAD DWN	Mechanical controller Interface line Down	CX3003A↔CX1215	-----	-----	○	○	----	----	-----	----		Good
	ATC DWN	Temperature controller Power Down.	CX3002A↔CQ1600	-----	-----	○	○	○	----	-----	----		Good
		Optical fiber line Down	CX3002A↔CQ1600	-----	-----	○	○	○	----	-----	----		Good
	T/C OP ERR	T/C Breakage.	TC1 ~ TC8	-----	-----	○	○	○	----	-----	----		Good
	SCOM DWN	SCOM controller Communication Error.	CX3002A↔ Sequencer	-----	-----	○	○	----	----	-----	----		Good
	F-ILK	General error detected by Hardware of burning controller	CX1317	-----	-----	○	○	----	----	-----	----		Good
	F.ERR	H2 gas control software error.	CX1317	-----	-----	○	○	----	----	-----	----		Good
	VALVE ILK	Valve Open/Close condition error	CX1314 Sequencer	-----	-----	○	○	----	----	-----	----		Good
	APC	Precess EXH. Flow deviation alert.	APC controller	-----	-----	○	○	----	----	-----	----		Good
	MFC1(N2-1) ERR	N2 Gas Flow allowable deviation alarm.	Gas Box MFC1	Low / High Limit	-----	○	○	----	----	-----	○		Good
	MFC2 (O2-1) ERR	O2-1 Gas Flow allowable deviation alarm.	Gas Box MFC2	Low / High Limit	-----	○	○	----	----	-----	○		Good
	MFC3 (O2-2) ERR	O2-2Gas Flow allowable deviation alarm.	Gas Box MFC3	Low / High Limit	-----	○	○	----	----	-----	○		Good
	MFC4(H2) ERR	H2 Gas Flow allowable deviation alarm.	Gas Box MFC4	Low / High Limit	-----	○	○	----	----	-----	○		Good
	MFC5(HCL) ERR	HCL Gas Flow allowable deviation alarm.	Gas Box MFC5	Low / High Limit	-----	○	○	----	----	-----	○		Good

PG/PS : Gauge luck Pressure SW, FL : N2 Flow Mater, MS : Manostar SW, TS : Thermal SW, FS : Water Flow Meter