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FORM NO.

## SERVICE REPORT PREVENTIVE MAINTENANCE

## PRECISION AIR CONDITIONING (PAC)

			T. HM SA LANT	MPOER	NA SUKC	OREJO			Tipe Form PM04
Lokasi : Code unit :		Model Unit : No. Seri :			Tourn Engineer Eist i			Date : Start PM :	
INT TE						?	OK	?	NOT OK
A	Filter Section  Item Checked	Spec. Range / Cond. Std.	Actual	Checked	Item (	Checked	Spec. Range	A	ctual Checked
	1. Check/Replace filters	Clean or Dirty	Clean		5. Clean co	ondensate	Clean or Dirty	Clean	
	2. Grille area unrestricted	OK / Not OK	Ok		6. Clean tr			Clean	
	3. Wipe section clean	Clean or Dirty	Clean		7. Check/I	Test filter-		Ok	
	4. Coil clean	Clean or Dirty				n operation	Ok or No		
В	Blower Section	,	l				ı		
	Itam Chaalaad	Spec. Range /	Blo	wer 1	Blo	wer 2	Blo	wer 3	Vatamamaan
	Item Checked	Cond. Std.	Before	After	Before	After	Before	After	Keterangan
	1. Mounting bolts tight	Ok or No	OK	OK	OK	OK	OK	OK	OK
	2. Fan-guard bolts tight	Ok or No	OK	OK	OK	OK	OK		OK
	3. Impeller spins freely	Ok or No	OK	OK	OK	OK	OK	OK	OK
	4. Check/Test air sail switch	Ok or No	OK	OK	OK	OK	OK	OK	OK
	5. Motor amp draw	FLA L1 =····	L1	L1	L1	L1	L1	L1	1
	• Compare to nameplate amps	FLA L2 =····	L2	L2	L2	L2	L2	L2	1
		FLA L3 =····	L3	L3	L3	L3	L3	L3	1
	6. Check belt tension and condition	Ok or No	Ok	Ok	Ok	Ok	Ok	Ok	Ok
	7. Check sheave/pulley	Ok or No	Ok	Ok	Ok	Ok	Ok	Ok	Ok
С	7. Check sheave/pulley Reheat								Ok
С	Reheat  Item Checked	Spec. Range / Cond. Std.		Ok  ater 1  After		Ok ater 2 After		Ok  After	Ok Keterangan
C	Reheat  Item Checked  1. Reheat amp draw	Spec. Range /	Неа	ater 1	Неа	ater 2	Hea	nter 3	
С	Reheat  Item Checked	Spec. Range / Cond. Std. FLA =	Неа	ater 1	Неа	ater 2	Hea	nter 3	
С	Item Checked  1. Reheat amp draw  2. Check Heater	Spec. Range / Cond. Std. FLA = A	Hea Before	After 1  After 1  Ok	Hea Before	After 2  After  I  Ok	Hea Before 1	After 1  Ok	Keterangan  1  Ok
C	Item Checked  1. Reheat amp draw  2. Check Heater Resistance	Spec. Range / Cond. Std.  FLA = A  18-22 ohm	Hea Before	After 1	Hea Before	After 1	Hea Before	After 1	Keterangan
	Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No	Hea Before	After 1  After 1  Ok	Hea Before	After 2  After  I  Ok	Hea Before 1	After 1  Ok	Keterangan  1  Ok
	Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire connections	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No	Hez Before 1 1 Ok Ok	After 1  After 1  Ok	Hes Before 1 1 Ok Ok	After 2  After  I  Ok	Hea Before 1 1 Ok Ok	After  1  Ok Ok Spec. Range	Keterangan  1  Ok Ok Actual Checked
	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance  3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No	Hez Before 1 1 Ok Ok	After 1  After 1  Ok Ok	Hea Before	After 2 After 1 1 Ok Ok	Hea Before 1 1 Ok Ok	After  Ok Ok Spec.	Keterangan  1  Ok Ok Actual Checked
	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance  3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer  Spec. Range	Hez Before 1 1 Ok Ok	After 1  After 1  Ok Ok	Hea Before  1  Ok Ok  4. Check of	After 1  Ok Ok Ok Condition of	Hea Before 1 1 Ok Ok	After 3 After 1  Ok Ok Ok Spec. Range Ok or No	Keterangan  1  Ok Ok Ok  Actual Checked  Clean
	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve and all supply	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No idiffer Spec. Range	Hea Before  1  Ok Ok Actual	After 1  After 1  Ok Ok	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st	After 1  Ok Ok Ok Condition of	Hea Before 1 1 Ok Ok	After 3 After 1  Ok Ok Spec. Range Ok or No	Keterangan  1  Ok Ok Ok  Actual Checked  Clean  Clean
	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer Spec. Range	Hea Before  1  Ok Ok Actual	After 1  After 1  Ok Ok	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st 6. Check h (Boiler tank)	After 2  After 1  Ok Ok Ok  Item Check condition of	Hea Before 1 1 Ok Ok ed	After 3 After 1  Ok Ok Spec. Range Ok or No Ok or No	Keterangan  1  1  Ok Ok Ok  Actual Checked  Clean  Clean  Clean
D	Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve and all supply lines/connection for leaks	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer Spec. Range	Hea Before  1  Ok Ok Actual	After 1  After 1  Ok Ok	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st 6. Check h (Boiler tank)	After  After  Ok  Ok  Condition of	Hea Before 1 1 Ok Ok ed	After 3 After 1  Ok Ok Spec. Range Ok or No Ok or No	Keterangan  1  1  Ok Ok Ok  Actual Checked  Clean  Clean  Clean
D	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve and all supply	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer Spec. Range	Hea Before  1  Ok Ok Actual	After 1  After 1  Ok Ok Checked	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st (Boiler tank)  7. Check of Act	After 2  After 1  Ok Ok Ok  Item Check condition of	Hea Before 1 1 Ok Ok ed steam	After 3 After 1  Ok Ok Spec. Range Ok or No Ok or No	Keterangan  1  1  Ok Ok Ok  Actual Checked  Clean  Clean  Clean
D	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance  3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve and all supply lines/connection for leaks  Electrical Panel Item Checked	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer Spec. RangeA  Ok or No  Ok or No  Spec. Range / Cond. Std.	Hea Before  1  Ok Ok  Actual  Clean	After 1  After 1  Ok Ok	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st (Boiler tank)  7. Check of Act	After  After  Ok Ok Ok  Item Check condition of crainer numidifier b	Hea Before 1 1 Ok Ok ed	After 3 After 1  Ok Ok Spec. Range Ok or No Ok or No	Keterangan  1  1  Ok Ok Ok  Actual Checked  Clean  Clean  Clean  Ok  Keterangan
D	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance 3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve and all supply lines/connection for leaks  Electrical Panel Item Checked  1. Check fuses	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer Spec. RangeA  Ok or No  Ok or No	Hea Before  1  1  Ok  Ok  Clean	After 1  After 1  Ok Ok Checked	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st (Boiler tank)  7. Check of Act	After  After  Ok  Ok  Ok  Item Check  condition of  crainer  numidifier b  operation of  tual  cked	Hea Before 1 1 Ok Ok ed steam	After 3 After 1  Ok Ok Spec. Range Ok or No Ok or No	Keterangan  1  1  Ok Ok Ok  Actual Checked  Clean  Clean  Clean  Ok  Keterangan  Ok
D	Reheat  Item Checked  1. Reheat amp draw  2. Check Heater Resistance  3. Inspect elements  4. Check wire connections  Steam Generating Hum Item Checked  1. Humidifier amp draw  2. Check drain valve/drain lines/trap fordamage/clogs/leaks  3. Check water fill valve and all supply lines/connection for leaks  Electrical Panel Item Checked	Spec. Range / Cond. Std.  FLA = A  18-22 ohm Ok or No Ok or No  idiffer Spec. RangeA  Ok or No  Ok or No  Spec. Range / Cond. Std.	Hea Before  1  Ok Ok  Actual  Clean	After 1  After 1  Ok Ok Checked	Hea Before  1  Ok Ok Ok  4. Check of hose  5. Clean st (Boiler tank)  7. Check of Act	After  After  Ok Ok Ok  Item Check condition of crainer numidifier b	Hea Before 1 1 Ok Ok ed steam	After 3 After 1 1 Ok Ok Spec. Range Ok or No Ok or No Ok or No	Keterangan  1  1  Ok Ok Ok  Actual Checked  Clean  Clean  Clean  Ok  Keterangan

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	<b>Electrical Panel</b>								
	Item Checked	Spec. Range / Cond. Std.	Actual Checked					Keterangan	
				Before			After		
	4. Voltage Line to Neutral Ground	220 + 10%	L1/L2/L3 =1		V	L1/L2/L3 =1		V	1
	5. Voltage Line to Line	380 + 10%	L1L2/L2L3/L1L3 = 1 V		L1L2/L2L3/L1L3 = 1 V			1	
	6. Frequency	50 + 10%	F=1		Hz	F = 1		Hz	1
R	Controls								
	Item Checked	Spec. Range / Cond. Std.	Ok		Item Checked		Spec. Range	Actual Checked	
	1. Check/Verify control operation	Ok or No			detectiond	3. Check/Test water- detectiondevice		Ok or No	Ok
	2. Check/Test changeover device	Ok or No				4. Check/Test CAN connection between indoor and outdoor units			Ok
$\mathbf{G}$	<b>Refrigeration Piping</b>								
	Item Checked	Spec. Range	Actual	Checked		Item Check	ced	Spec. Range	Actual Checked
	1. Check refrigerant lines (clamps secure/no	Ok or No	Ok		3. Check for restriction temperature drop across filterdrier			Ok or No	Clean
	rubbing/no leaks)  2. Check for moisture (sight glass)	Ok or No	Ok						
Ħ	Compressor Section								
		Spec. Range /	Cor	mp. 1	Co	mp. 2	Cor	np. 3	
	Item Checked	Cond. Std.	Before	After	Before	After	Before	After	Keterangan
	1. Ampere draw	OA··· A	1	1	1	1	1	1	1
	2. Check oil level	55 - 90 PsiG	1	1	1	1	1	1	1
	3. Check for oil leaks	200 - 300 PsiG	1	1	1	1	1	1	1
	4. Check compressormounts (springs/bushings)	Ok or No	Ok	Ok	Ok	Ok	Ok	Ok	Ok
	5. Cap tubes (not rubbing)	Ok or No	Ok	Ok	Ok	Ok	Ok	Ok	Ok
	6. Check/Re-torque wireconnections (inside compressor box)	Ok or No	Ok	Ok	Ok	Ok	Ok	Ok	Ok
	7. Compressor operation	Hz	4		1				
	(vibration/noise)	dB		1	1	1	1	1	1
			Ok	1 Ok	1 Ok	1 Ok	1 Ok	1 Ok	l Ok
	(vibration/noise) 8. Check crank-case	dB	Ok	Ok	1 Ok Ok	Ok	Ok		Ok
	(vibration/noise) 8. Check crank-case heater fuses/operation 9. Check for	Ok or No							
	(vibration/noise) 8. Check crank-case heater fuses/operation 9. Check for refrigerantleaks 10. Suction pressure Circuit 11. Discharge Pressure Circuit	dB Ok or No Ok or No 55 - 90 PsiG 200 - 300 PsiG	Ok 1						
	(vibration/noise) 8. Check crank-case heater fuses/operation 9. Check for refrigerantleaks 10. Suction pressure Circuit 11. Discharge	Ok or No Ok or No 55 - 90 PsiG	Ok 1	Ok 1 1 1 1			Ok 1 1 1 1	Ok 1 1	Ok 1
	(vibration/noise) 8. Check crank-case heater fuses/operation 9. Check for refrigerantleaks 10. Suction pressure Circuit 11. Discharge Pressure Circuit	dB Ok or No Ok or No 55 - 90 PsiG 200 - 300 PsiG	Ok  1  1  Ok	Ok 1 1 1 1 Ok	Ok  1  1  1  Ok	Ok  1  1  1  Ok	Ok  1  1  1  Ok	Ok  1  1  Ok	Ok  1  1  Ok
	(vibration/noise) 8. Check crank-case heater fuses/operation 9. Check for refrigerantleaks 10. Suction pressure Circuit 11. Discharge Pressure Circuit 12. Superheat Circuit 13. Low-pressure	Ok or No Ok or No 55 - 90 PsiG 200 - 300 PsiG	Ok 1 1	Ok 1 1 1 1	Ok 1 1 1 1	Ok 1 1 1 1	Ok 1 1 1 1	Ok  1  1  Ok	Ok 1 1
	(vibration/noise) 8. Check crank-case heater fuses/operation 9. Check for refrigerantleaks 10. Suction pressure Circuit 11. Discharge Pressure Circuit 12. Superheat Circuit 13. Low-pressure switchcut out Circuit 14. Low pressure cut	dB Ok or No Ok or No 55 - 90 PsiG 200 - 300 PsiG	Ok  1  1  Ok	Ok 1 1 1 1 Ok	Ok  1  1  1  Ok	Ok  1  1  1  Ok	Ok  1  1  1  Ok	Ok  1  1  Ok  Ok  Ok	Ok  1  1  Ok

	Ι	Condensor Section				
ı		Item	Spec. Range	Before	After	Keterangan
ı		Checked				

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1. Coil clean of debris (Clean coil ifrequired)		Clean or Dirty					
	2. Fans free of debris		Clean or Dirty				
	3. Fans securely mounted						
	4. Motor bearings in good						
	5. Check all refrigerant lin						
	vibration		Ok or No				
	isolation. Support as nece	essary	İ				
	6. Check for refrigerant leaks		Ok or No				
	7. Check surge-protection (ifinstalled) status-indicat	n device	Ok or No				
	8. Check/Re-torque wire o		Ok or No				
	9. Check contactors for pitting (replace ifpitted)		Ok or No				
	10. Verify operation seque	ence/set points					
	11. Charge verification:	•					
	a. Outdoor Ambient Tem	perature					
	b. Subcooling	permunt					
	c. Indoor-unit Return-air	Temperature					
	d. Sight-glass level (if Lee-						
$oxed{oxed}$	orpumped refrigerant)			11/12/12	T 1/T 2	27.2	
	12. Motor amp draw		FLA = A	L1/L2/L3 =		2/L3 =	
	•			Amp		 mp	
Ą	General Function			Allip	71	mp	
J	General Function					Spec.	
	Item Checked Spec. Range		Actual	Item Checked			Actual
		Spect Tuninge	Checked			Range	Checked
	1. Cooling Test	Ok or No	Checked	4. Dehumidification T	est	Ok or No	Checked
	1. Cooling Test 2. Heating Test	Ok or No Ok or No	Checked	4. Dehumidification T 5. Alarm Test	est	Ü	Checked
	1. Cooling Test 2. Heating Test 3. Humidification Test	Ok or No	Checked		est	Ok or No	Checked
K	1. Cooling Test 2. Heating Test	Ok or No Ok or No	Checked		est	Ok or No Ok or No	Checked
K	1. Cooling Test 2. Heating Test 3. Humidification Test	Ok or No Ok or No	Checked  Actual Checked			Ok or No	Checked  Actual Checked
K	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition	Ok or No Ok or No Ok or No	Actual	5. Alarm Test		Ok or No Ok or No Spec.	Actual
K	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked	Ok or No Ok or No Ok or No Spec. Range	Actual Checked	5. Alarm Test  Item Checke 2. Humidity		Ok or No Ok or No Spec. Range	Actual
	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature	Ok or No Ok or No Ok or No Spec. Range	Actual	5. Alarm Test  Item Checke 2. Humidity		Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature	Ok or No Ok or No Ok or No Spec. Range	Actual Checked	5. Alarm Test  Item Checke 2. Humidity		Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature	Ok or No Ok or No Ok or No Spec. Range	Actual Checked NOT	5. Alarm Test  Item Checke 2. Humidity  ES		Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature	Ok or No Ok or No Ok or No Spec. Range	Actual Checked	5. Alarm Test  Item Checke 2. Humidity  ES		Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature	Ok or No Ok or No Ok or No Spec. Range	Actual Checked NOT	5. Alarm Test  Item Checke 2. Humidity  ES	ed	Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:	Ok or No Ok or No Ok or No Spec. Range	Actual Checked NOT	5. Alarm Test  Item Checke 2. Humidity  ES	ed	Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:	Ok or No Ok or No Ok or No Spec. Range	Actual Checked  NOT  RESU ? NO, please check on	5. Alarm Test  Item Checke 2. Humidity  ES  ME NOTES	ed	Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:	Ok or No Ok or No Ok or No Spec. Range	Actual Checked NOT	5. Alarm Test  Item Checke 2. Humidity  ES  ME A NOTES	ed	Ok or No Ok or No Spec. Range	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:	Ok or No Ok or No Ok or No Spec. Range	Actual Checked  NOT  RESU ? NO, please check on	5. Alarm Test  Item Checke 2. Humidity  ES  ME A NOTES  OVAL ING	ed	Ok or No Ok or No Spec. Range%	Actual
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:  JOB COMPLETED ?	Ok or No Ok or No Ok or No Spec. Range	Actual Checked  NOT  RESU ? NO, please check on  APPRO SIGNI Verified B	5. Alarm Test  Item Checke 2. Humidity  ES  ME NOTES  OVAL ING	ed	Ok or No Ok or No Spec. Range%	Actual Checked
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:  JOB COMPLETED ?	Ok or No Ok or No Ok or No Spec. Range	Actual Checked  NOT  RESU ? NO, please check on  APPRO SIGNI	5. Alarm Test  Item Checke 2. Humidity  ES  ME NOTES  OVAL ING	ed	Ok or No Ok or No Spec. Range%	Actual Checked
Ten	1. Cooling Test 2. Heating Test 3. Humidification Test Room Condition Item Checked 1. Temperature  muan: comendasi:  JOB COMPLETED ?	Ok or No Ok or No Ok or No Spec. Range	Actual Checked  NOT  RESU ? NO, please check on  APPRO SIGNI Verified B	5. Alarm Test  Item Checke 2. Humidity  ES  ME NOTES  OVAL ING	ed	Ok or No Ok or No Spec. Range%	Actual Checked

Keterangan : Lembar 1 untuk Teknisi; Lembar 2 untuk User; Lembar 3 Arsip Kantor