

สารบัญแบบ		
แผ่นที่	แบบงานปรับอากาศ, ระบายอากาศ	มาตราส่วน
AC-01	สารบัญแบบ, สัญลักษณ์และคำย่อ	NTS.
AC-02	ตารางเครื่องปรับอากาศและระบายอากาศ 1	NTS.
AC-03	ตารางเครื่องปรับอากาศและระบายอากาศ 2	NTS.
AC-04	ไดอะแกรมท่อน้ำเย็น ชั้น 4 NICU	NTS.
AC-05	ไดอะแกรมไฟฟ้า ชั้น 4 NICU(1)	NTS.
AC-06	ไดอะแกรมไฟฟ้า ชั้น 4 NICU(2)	NTS.
AC-07	ผังแสดงระบบปรับอากาศและระบายอากาศ SUPPLY AIR	1:150
AC-08	ผังแสดงระบบปรับอากาศและระบายอากาศ RETURN AIR	1:150
AC-09	ผังแสดงระบบปรับอากาศและระบายอากาศ FRESH AIR & EXHAUST AIR	1:150
AC-10	ผังแสดงระบบปรับอากาศและระบายอากาศ ท่อน้ำเย็น	1:150
AC-11	TYPICAL DETAIL AHU-1,2	NTS.
AC-12	TYPICAL DETAIL AHU-3	NTS.
AC-13	TYPICAL DETAIL AHU-4,5(1)	NTS.
AC-14	TYPICAL DETAIL AHU-4,5(2)	NTS.
AC-15	TYPICAL DETAIL OAU-1,2(1)	NTS.
AC-14	TYPICAL DETAIL OAU-1,2(2)	NTS.
AC-17	แบบมาตรฐาน 1	NTS.
AC-18	แบบมาตรฐาน 2	NTS.
AC-19	แบบมาตรฐาน 3	NTS.
AC-20	แบบมาตรฐาน 4	NTS.

AIR-CONDITIONING SYSTEM SYMBOLS							
LETTER SYMBOL		VALVE AND ACCESSORIES SYMBOL		PIPING SYMBOL		ELECTRICAL SYMBOL	
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
AMCC	AIR CONDITIONING MOTOR CONTROL CENTER		CIRCULATING PUMP		CHILLED WATER SUPPLY TO AHU OR FCU		ON LOAD ISOLATING SWITCH
BLDG	BUILDING		THERMOMETER		CHILLED WATER RETURN FROM AHU OR FCU		MOULD CASE CIRCUIT BREAKER
°C	DEGREE CELSIUS		PRESSURE GAUGE WITH SNUBBER AND NEEDLE VALVE WITH DRAIN		CHILLED WATER REVERSE RETURN		CARTRIDGE FUSE
CD	CEILING DIFFUSER WITH VOLUME DAMPER		FLEXIBLE PIPE CONNECTION		CONDENSER WATER SUPPLY FROM COOLING TOWER		HOLDING COIL OF CONTROL RELAY (C) OR MOTOR STARTER (M)
CH-01	CHILLER (01 = NO. OF UNIT)		GATE VALVE		CONDENSER WATER RETURN TO COOLING TOWER		TIMER RELAY
CHP-02	CHILLED WATER PUMP (02 = NO. OF UNIT)		GLOBE VALVE		CONDENSER WATER REVERSE RETURN		VOLTAGE TRANSFORMER
CHP1-02	PRIMARY CHILLED WATER PUMP (02 = NO. OF UNIT)		BALL VALVE		COMMON PIPE		ALARM BELL
CHP2-04	SECONDARY CHILLED WATER PUMP (04 = NO. OF UNIT)		CHECK VALVE, SILENT TYPE		DRAIN PIPE		DIRECT-ON-LINE MOTOR STARTER
FFP-01	PACKAGE FILTERING PUMP (01 = NO. OF UNIT)		BUTTERFLY VALVE		MAKE-UP WATER		WYE-DELTA MOTOR STARTER
CLG	CEILING		SOLENOID VALVE		EQUALIZER		CURRENT TRANSFORMER
cm	CENTIMETRE		2-WAY ELECTRIC MOTORIZED CONTROL VALVE, SPRING RETURN		OVERFLOW		AMMETER
COP-03	CONDENSER WATER PUMP (03 = NO. OF UNIT)		3-WAY ELECTRIC MOTORIZED CONTROL VALVE, SPRING RETURN		BLEED OFF		VOLTMETER
CT-04	COOLING TOWER (04 = NO. OF UNIT)		2-WAY ELECTRIC MOTORIZED BUTTERFLY VALVE		EXPANSION LINE		SELECTOR SWITCH FOR VOLTMETER OR AMPMETER
D	DRAIN		PRESSURE RELIEF VALVE		REFRIGERANT SUCTION LINE		PILOT LAMP, R=RED, G=GREEN, Y=YELLOW OR ORANGE
DN	DOWN		PACKAGED FILTERING UNIT		REFRIGERANT LIQUID LINE		KILOWATT METER
EAD	EXHAUST AIR DUCT		MULTIPURPOSE BALANCING VALVE (WITH FLOW MEASURING PORT)		REFRIGERANT HOT GAS LINE		KILOWATT HOUR METER
EAG	EXHAUST AIR GRILLE		FLOW METER		FLOW DIRECTION OF ARROW		KILOVAR METER
EAR	EXHAUST AIR REGISTER		PORT FOR FLOW MEASUREMENT		ANCHOR, MAIN		POWER FACTOR METER
F	DEGREE FAHRENHEIT		PITOT TUBE FLOW METER		ANCHOR, INTERMEDIATE		NORMALLY OPENED CONTACT (LOW VOLTAGE OR HIGH VOLTAGE)
FAD	FRESH AIR DUCT		AUTOMATIC AIR VENT WITH VALVE		PIPE SLOPE 1:200		NORMALLY CLOSED CONTACT (LOW VOLTAGE OR HIGH VOLTAGE)
FAG	FRESH AIR GRILLE (WITH INSECT SCREEN)		FLOW SWITCH	AIR SIDE SYMBOL			NORMALLY OPENED CONTACT, RELAY-ON (LOW VOLTAGE OR HIGH VOLTAGE)
FAR	FRESH AIR REGISTER (WITH INSECT SCREEN)		WATER METER		DUCT SIZE, FIRST FIGURE SIZE SHOWN, SECOND FIGURE SIZE NOT SHOWN		NORMALLY OPENED CONTACT, RELAY-OFF (LOW VOLTAGE OR HIGH VOLTAGE)
FD	FLOOR DRAIN		PRESSURE GAUGE TEST WELL		DUCT SECTION, POSITIVE PRESSURE, FIRST FIGURE IS TOP SIDE		NORMALLY CLOSED CONTACT, RELAY-OFF (LOW VOLTAGE OR HIGH VOLTAGE)
FRD	FIRE DAMPER		DIRT POCKET		DUCT SECTION, NEGATIVE PRESSURE, FIRST FIGURE IS TOP SIDE		NORMALLY CLOSED CONTACT, RELAY-ON (LOW VOLTAGE OR HIGH VOLTAGE)
GD	GRAVITY DAMPER		EXPANSION JOINT (STAINLESS STEEL, BELLOW TYPE)		DUCT ELBOW UP		START PUSH BUTTON
IN. WG	INCH. WATER GAUGE		THERMOMETER TEST WELL		DUCT ELBOW DOWN		STOP PUSH BUTTON
KW	KILOWATT		BTU METER		ROUND ELBOW		OVERLOAD OF MOTOR CONTACTOR
LEV	LEVEL		FLOW TRANSMITTER (FOR REMOTE READING)		DUCT ELBOW WITH TURNING VANE		AUTO-OFF-MANUAL SELECTOR SWITCH
LSO	LINEAR SLOT DIFFUSER		TEMPERATURE TRANSMITTER (FOR REMOTE READING)		DUCT TRANSITION		MAIN DISTRIBUTION BOARD OR DISTRIBUTION BOARD
MAX	MAXIMUM		TEMPERATURE INDICATOR AND CONTROLLER		CEILING DIFFUSER, WITH NECK SIZE, CFM CAPACITY		WALL MOUNTED PANEL BOARD
MIN	MINIMUM		FLOW INDICATOR AND CONTROLLER		2 x 3/4" L.S.D. 1.2 m. LONG (2=NO. OF SLOT, 3/4"=WIDTH OF SLOT 1.20 m. LENGTH OF SLOT)		PANELBOARD ON CEILING
m	METRE		TEMPERATURE INDICATOR (FOR LOCAL READING)		EXHAUST AIR GRILLE, WITH NECK SIZE, CFM CAPACITY		REMOTE PUSH BUTTON ON-OFF WITH LAMP
mm	MILLIMETRE		FLOW INDICATOR (FOR LOCAL READING)		RETURN AIR GRILLE, WITH NECK SIZE, CFM CAPACITY		CONNECTED TO GROUNDING SYSTEM
ND	NEAREST DRAIN	FITTING SYMBOL			SIDE WALL SUPPLY AIR GRILLE, WITH NECK SIZE, CFM CAPACITY		SPACE THERMOSTAT
PS	PRESSURE SWITCH		ELBOW 90°		SIDE WALL RETURN AIR GRILLE, WITH NECK SIZE, CFM CAPACITY		THERMOSTAT WITH 3-SPEED SWITCH
PVC	POLYVINYL CHLORIDE		ELBOW 45°		SIDE WALL FRESH AIR GRILLE, WITH NECK SIZE, CFM CAPACITY		REMOTE BULB THERMOSTAT
RAD	RETURN AIR DUCT		ELBOW LOOKING UP		DOOR LOUVRE, SUPPLIED BY OTHER		ROOM HUMIDISTAT
RAG	RETURN AIR GRILLE		ELBOW LOOKING DOWN		VOLUME DAMPER		FAN SPEED SWITCH
RAR	RETURN AIR REGISTER		ELBOW REDUCING		MOTORIZED VOLUME DAMPER		FIRE STAT
RD	ROOF DRAIN		LONG RADIUS ELBOW		FIRE DAMPER AND SLEEVE		SMOKE DETECTOR
SAD	SUPPLY AIR DUCT		TEE LOOKING UP		ACCESS DOOR, INDICATED SIZE		DUCT TYPE SMOKE DETECTOR
SAG	SUPPLY AIR GRILLE		TEE LOOKING DOWN		SOUND ATTENUATOR		DISCONNECTING SWITCH (NON FUSE TYPE)
SAR	SUPPLY AIR REGISTER		CONNECTION TOP		FLEXIBLE DUCT CONNECTION		DISCONNECTING SWITCH BY OTHER (NON FUSE TYPE)
SP	SERVICE PANEL		CONNECTION BOTTOM		AIR FILTER		DISCONNECTING SWITCH, WEATHER PROOF TYPE (NON FUSE TYPE)
TAG	TRANSFER AIR GRILLE		TEE		COOLING COIL		VARIABLE SPEED DRIVE MOTOR
TAR	TRANSFER AIR REGISTER		REDUCER		SPLITTER DAMPER		DIFFERENTIAL PRESSURE SWITCH
VD	VOLUME DAMPER		REDUCER CONCENTRIC		INSIDE INSULATION OR DUCT LINER		PRESSURE TRANSMITTER AND CONTROLLER
W/O	WITHOUT		REDUCER ECCENTRIC STRAIGHT INVERT		VARIABLE AIR VOLUME TERMINAL BOX WITH MULTI-OUTLET		CEILING MOUNTED SPACE THERMOSTAT
2A-01	AIR HANDLING UNIT (2=NO. OF FLOOR, 01=NO. OF UNIT)		REDUCER ECCENTRIC STRAIGHT CROWN		VARIABLE AIR VOLUME TERMINAL BOX WITH ATTENUATOR AND MULTI-OUTLET		PRESSURE TRANSMITTER
2AP01	PANELBOARD FOR AIR CONDITIONING UNIT AND VENTILATION FAN (2=NO. OF FLOOR, 01=NO. OF PANELBOARD)		FLANGE		DUCT SLOPE 1:200		DIFFERENTIAL PRESSURE TRANSMITTER
3CAP02	PANELBOARD FOR AIR CONDITIONING UNIT AND VENTILATION FAN EMERGENCY SUPPLY (3=NO. OF FLOOR, 02=NO. OF PANELBOARD)		UNION		GRAVITY DAMPER		MOTOR
3BA-03	BUILT-UP AIR HANDLING UNIT (3=NO. OF FLOOR, 03=NO. OF UNIT)		REMOVABLE CAP END		SPIRAL DUCT		
2CDU-03	AIR COOLED CONDENSING UNIT (2=NO. OF FLOOR, 03=NO. OF UNIT)		BLIND FLANGE END		FLEXIBLE DUCT		
4F-03	FAN COIL UNIT FOR CHILLED WATER (4=NO. OF FLOOR, 03=NO. OF UNIT)		CLEANOUT OR PLUG				
2FCU-04	FAN COIL UNIT FOR DIRECT EXPANSION (2=NO. OF FLOOR, 04=NO. OF UNIT)		STRAINER WITH BLOW-OFF				
3PA-01	PACKAGED AIR COOLED AIR CONDITIONING UNIT (3=NO. OF FLOOR, 01=NO. OF UNIT)		DRAIN PIPE CONNECTION (SEE TYPICAL DETAIL)				
3PW-01	PACKAGED WATER COOLED AIR CONDITIONING UNIT (3=NO. OF FLOOR, 01=NO. OF UNIT)						
3V-02	VENTILATION FAN (3=NO. OF FLOOR, 02=NO. OF UNIT)						
VSD	VARIABLE SPEED DRIVE						

REVISION	
NO.	DESCRIPTION
1.	04/12/2563
2.	01/02/2564
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PROJECT :
โครงการพัฒนาระบบปรับอากาศ
พื้นที่ห้องผู้ป่วย ร.9
และพื้นที่ห้องผู้ป่วย ร.9
(ชั้น 9-NICU)

LOCATION :
สถาบันสุขภาพเด็กแห่งชาติมหาราชินี
420/8 ถนนราชวิถี แขวงทุ่งพญาไท
เขตราชวิถี กรุงเทพมหานคร 10400

CLIENT :
กองเวชภัณฑ์และเภสัชกรรม
80 พรรษา มหาราชินี
มูลนิธิโรงพยาบาลเด็ก

ARCHITECT :
จิรายุ พรหมดี รหัส 11944

INTERIOR :
จิรายุ พรหมดี รหัส 11944

ENGINEER :
STRUCTURAL ENGINEER :
พญ.พ. เชื้อตะขกัล รหัส 64050
พิริวัฒน์ อ้วนน้อย รหัส 12008

ELECTRICAL ENGINEER :
ปริญญ์ บัณฑิตสิทธิ์ รหัส 5936

SANITARY ENGINEER :
ณัฐพล ประชาผล รหัส 1816

MECHANICAL ENGINEER :
ณัฐพล ประชาผล รหัส 3352

DRAWN : 999
CHECK : 999
JOB No : 999

DATE : 99/99/9999

SCALE : NTS.

SHOWING :
สารบัญแบบ
สัญลักษณ์และคำย่อ

AC-01

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