

NPC

NAKANO PRECISION

複合式加工・雷射切割・配電箱系列冷卻機

Compound processing, laser cutting, Electrical cabinet series cooler



中野精密工業有限公司
Nakano Precision Co., Ltd.

產品特性 Product Features



油冷卻機 Oil cooler

維持穩定的工具機油溫，防止工具機中心軸偏移以及因加工產生的過熱變形。

提升工具機運轉時數，保證加工尺寸的精準度。

延長工具使用壽命，減少公司支出成本，提高工作效益。

維持工具機的油質和油壓，防止油的氧化、油震。

Stabilize the oil temperature of the machine tool to prevent the center axis deviation and overheating deformation during operation.

Enhance the operating hours of machine tools and ensure the accurate performance.

Extend the tool life and reduce the expenditure costs of company for the working efficiency.

Maintain oil quality and keep oil pressure, prevent oil shock and deterioration.

水冷卻機 Water cooler

穩定保持機器的水溫，可延長加長工作時數，提高加工精度與產品良率。

提升機台的生產效率和品質，維持機台最佳運轉狀態，降低生產成本。

機體採用防鏽設計，防止機身氧化破損。

無須額外安裝冷卻水塔，裝配快速、保養便利。

Stabilize the operating temperature of equipment, enhance processing accuracy and product yield rate.

Improve the operating hours and quality of equipment to maintain the best operating performance.

The body is with a rust-free design to prevent the oxidation and blockage of pipeline.

No need to install additional cooling water tower, fast assemble and convenient maintenance.

電氣箱空調 Air condition

機體冷卻系統採用內外分離設計，防止外部的濕氣、灰塵、油氣等影響箱體內部元件。

精準調控箱體內之溫濕度，保持低溫乾燥，提升內部元件壽命。

強大的冷卻能力和足夠的散熱風量，可預防箱體內部元件因高溫引發故障。

The cooling system of body adopts internal and external separation to prevent external air from affecting internal components.

Precisely control the temperature for the inside of box, keep it dry at low temperature, and improve the life of internal components.

Maintaining at a low temperature for the inside of box can prevent internal components from malfunctioning due to high temperature.

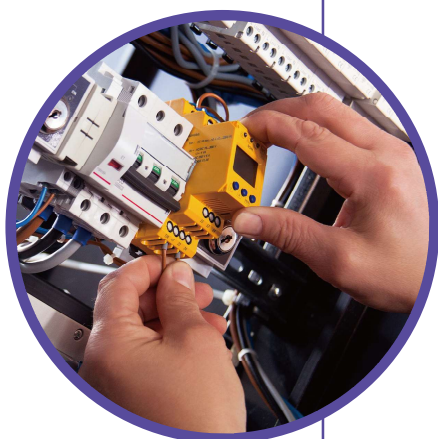
產品實現 Product realization



開發設計 Research & Design

我們擁有一支經驗豐富的設計開發團隊，所有產品開發都以客戶所需的測試條件來驗證，並且提供客製化的產品以及高品質的生產。

NPC has an experienced design and development team. Each product development is verified according to the condition requirement by the customer, and we provide customized, quantitative, high - quality and stable scale production.



製造生產 Manufacturing

全系列冷卻機皆採用高環境溫度工業專用壓縮機，我們擁有完整生產線，及訓練有素的生產人員，從下單到出貨，全製程嚴格為您掌控品質，確保準時交期出貨。

The entire series of models adopt high ambient temperature industrial compressors, with a completed production line, and well-trained production personnel. From order to shipment, the entire process is under strict control the quality for you to ensure punctual delivery.

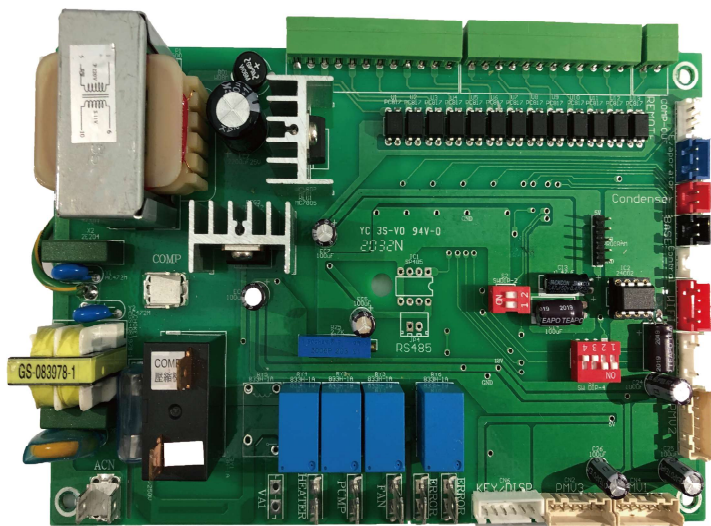


服務&維修 Service and Maintenance

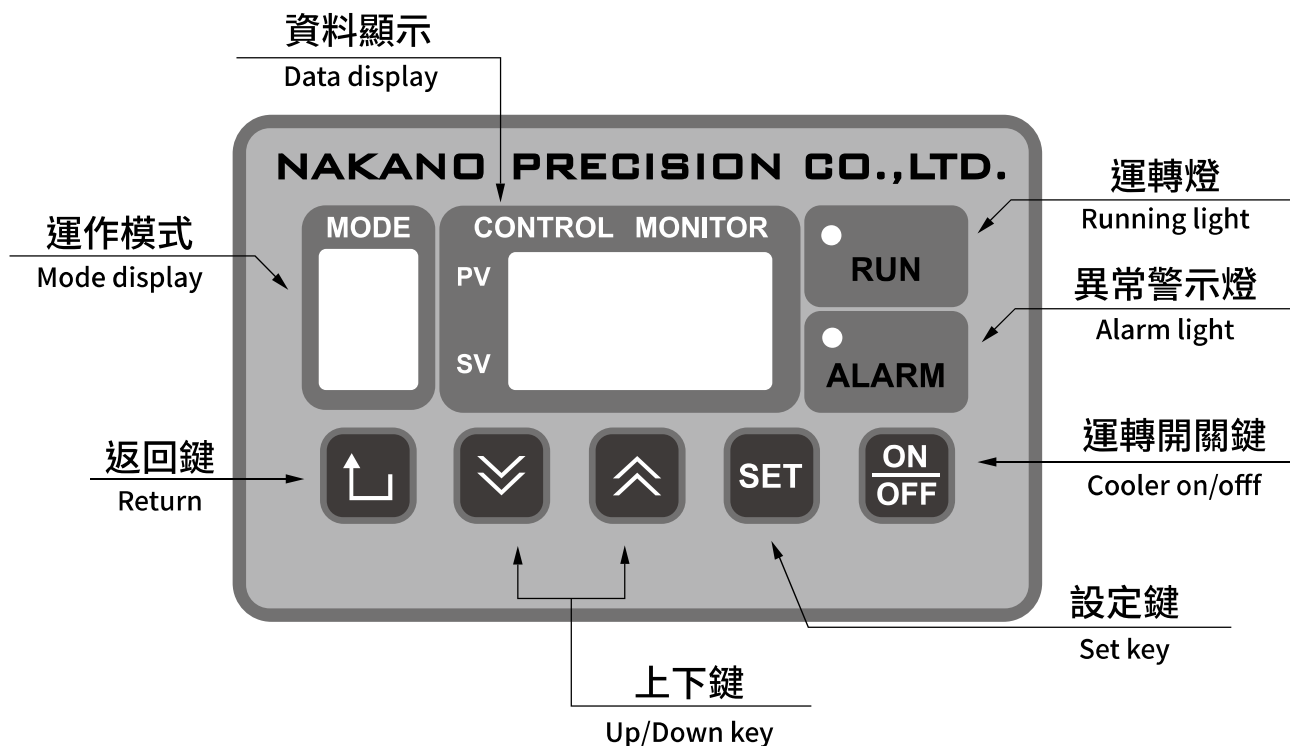
我們承接來自世界各地的客製化訂單，可及時給予客戶專業的服務以及技術支援，實現準確無障礙之溝通。

NPC accepts customized orders from all over the world and can provide customers with professional support in time to achieve accurate and barrier-free communication.

基板優點 & 操作面板 PCB Advantages & Operation panel



- 多功能溫度調節設計
Multifunctional temperature regulation design
- 具遠端遙控啟動機制
With remote start up
- 可選配高精度系統使用
Optional high precies control
- 具RS485/WiFi通訊端口
Optional Rs485&WiFi communication port
- 日系廠商技術支援
Japanese manufacturers technology support
- 安全防護機完善
Consummate Protection
- 基板功能客製化
PCB function customize



機型編碼原則

Model code indentification

1 2 3 4 5 6 7 8

N C H 40 - X P T E H

1 機型 Model	C - 油冷卻機 W - 水冷卻機 E - 放電冷卻機 J - 切削冷卻機 K - 研磨冷卻機 A - 電器箱冷卻機	C - Oil Cooler W - Water cooler E - EDM cooler J - Cutting liquid cooler K - Grinding liquid cooler A - Air condition
2 控制方式 Control category	D - 變頻 H - 高精度 S - ON/OFF	D - Frequency conversion H - High precision S - ON/OFF
3 能力 Cooling capacity	15/20/30/40/60/80/120/180/240/360/600 範例 (Example): 40 *100 = 4000BTU	
4 溫控別 Temperature control series	X - 定溫控制 Y - 溫差控制(追蹤環境溫度) Z - 溫差控制(追蹤機體溫度)	X - Fixed temperature control Y - Differential temp. control(tracking ambient temp.) Z - Differential temp. control(tracking machine temp.)
5 泵浦 Pump	空白 - 無泵浦 P - 有泵浦	Blank - Without pump P - With pump
6 容器 Tank	空白 - 無箱體 T - 有箱體	Blank - Without tank T - With tank
7 加熱器 Heater	空白 - 無加熱器 E - 有加熱器	Blank - Without heater E - With heater
8 款式 Style	空白 - 直式 H - 臥式	Blank - Vertical plancement H - Horizontal p lacement

熱量單位轉換表 Heat Capacity Calculation Method
1 Kcal = 3.968 BTU
1 Btu = 0.252 K cal
1 RT = 3320 Kcal/h
1 Kw = 860 Kcal/h
1 HP = 632 Kcal/h

熱量傳遞公式	Heat Transfer Rate formula
$Q = C_p \times r \times V_s \times \Delta T$	
Q	熱容量 Heat Capacity (Kcal/h)
C_p	液體比熱 Liquid Specific Heat Kcal/Kg x °C
r	液體比重 Liquid Specific Weight Kg/m³
V_s	液體流量 Flux(m³/h)
ΔT	液體溫度差值 Liquid temperature Difference °C(Inlet-Outlet)

NAKANO PRECISION

ON/OFF
標準控制

PID
高精度控制

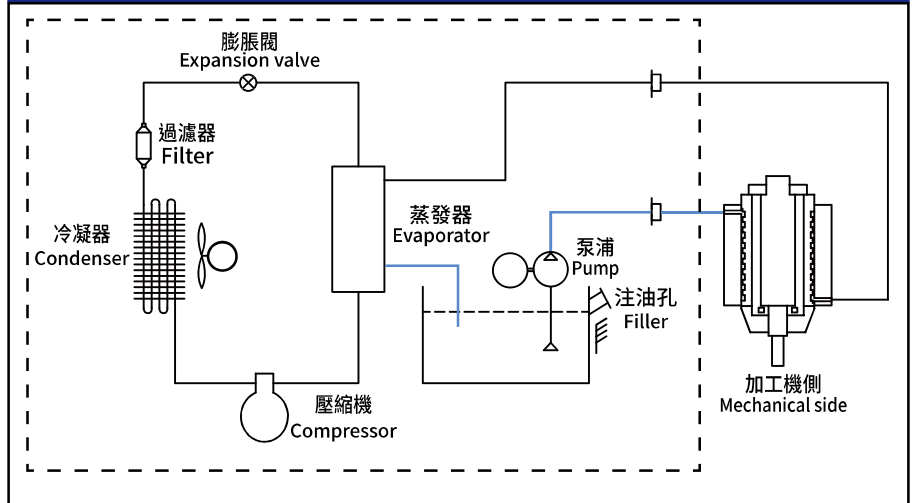
INVERTER
變頻控制

適用機種 Applicable machines

- CNC車床
- CNC沖床
- CNC綜合加工機
- 各式油壓作動設備
- CNC Lathe
- CNC Punch press
- CNC Machining center
- Various hydraulic equipment



系統圖 System diagram



型號 Model		NC-40	NC-60	NC-80	NC-120	NC-180	NC-240	NC-360
冷卻能力 Cooling capacity	Btu/H 50/60Hz	3360/4000	5000/6000	6400/8000	9600/12000	14400/18000	19200/24000	30000/36000
	Kcal/H 50/60Hz	840/1000	1250/1500	1600/2000	2400/3000	3600/4500	4800/5800	7500/9000
	W 50/60Hz	980/1170	1450/1750	1860/2325	2790/3488	4185/5232	6760/8120	8720/10470
溫度使用範圍 Temperature range	環境溫度 Ambient temperature	10~40°C						
	液溫 Liquid temperature	10~45°C						
溫度設定範圍 Temperature setting range	定溫控制 Fixed temperature control	10~40°C						
	溫差控制 Differential temperature control	-9.9~+9.9°C						
電源 Power Source	V	3Φ 220VAC 50/60Hz						
總負荷電流 Current	A	3.3	4.8	6.2	9.8	12.3	16.0	19.2
油泵浦功率 Pump power	W	180	375	375	750	750	750	750
油泵浦流量 Pump flow rate (L/min) 50/60Hz	L/min 50/60Hz	3.7/4.5	10.5/12.6	16.6/20	21.6/26	25/30	33.3/40	33.3/40
入出口管徑 Pipe diameter	Inch	1/2"x1/2"	1/2"x1/2"	3/4"x3/4"	3/4"x 3/4"	1"x1"	1"x1"	1-1/4"x1-1/4"
最大壓損 Maximum pressure loss	Kgf/cm ²	3.0						
適用油黏度範圍 Available viscosity range		潤滑油、礦物油 4-300cSt Hydraulic Oil , Lubricating Oil 4-300 cSt						
油箱容量 Tank capacity	L	16	22	37	39	47	47	56
機體尺寸 Dimension WxDxH(mm)	無輪子 Without wheels	372x478x835	422x530x835	499x586x906	554x619x989	591x675x994	591x675x1036	641x725x1288
	有輪子 With wheels	374x478x920	422x530x920	499x586x991	554x619x1074	591x675x1099	591x675x1141	641x725x1393
重量 Weight(Kg)	無油箱 Without tank	48	60	77	101	115	121	138
	有油箱 With tank	55	68	88	113	128	134	153
噪音 Noise	dB(A)	70dB(A)以下 Below 70 db(A)					80dB(A)以下 Below 80 db(A)	

※表列中冷卻能力為環境溫度35°C，冷卻器出口油溫35°C，油品ISO VG32的條件下測得

Cooling capacity is according to the condition with ambient temperature 35°C, cooler output temperature 35°C and working fluid is ISO VG32 oil type .

※特殊規格、電壓等需求皆可與我司聯繫

Please contact NPC if you have special specification & voltage needs.

※設計與規格如有變更，恕不另行通知。

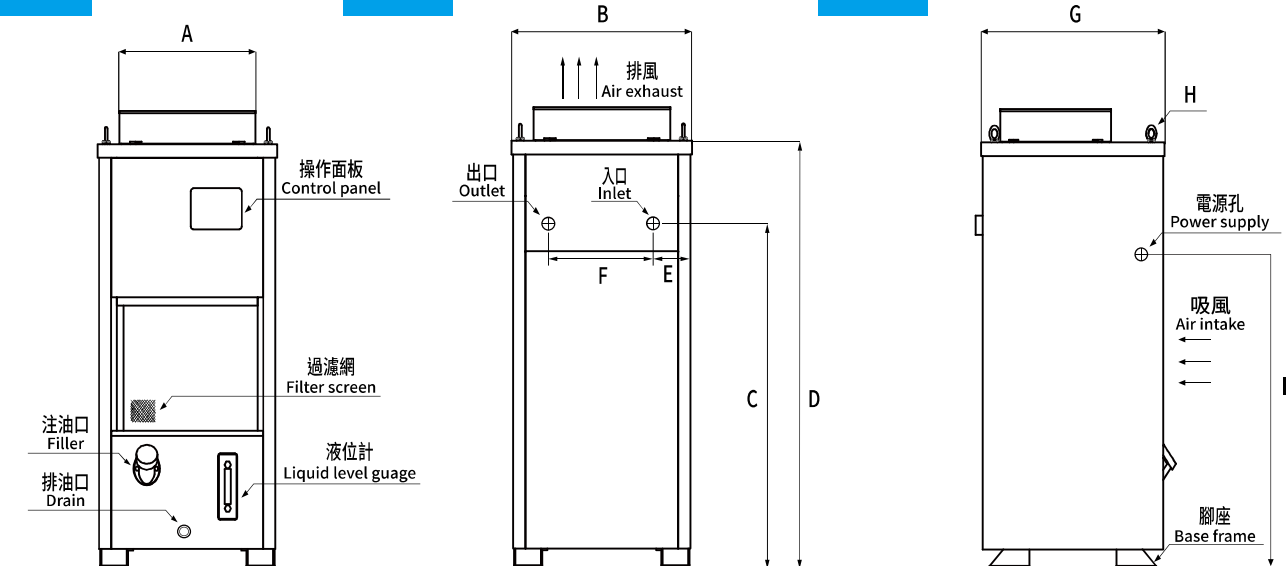
Design and specifications are subject to change without notice.

外觀尺寸(單位mm) Dimension(unit mm)

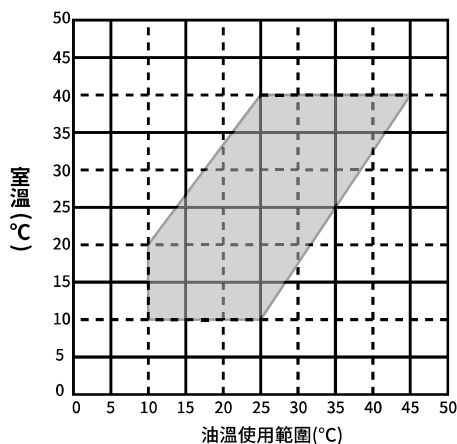
正面圖
Front View

背面圖
Back View

側面圖
Side View



尺寸表 Dimension table	A	B	C	D	E	F	G	H	I
NC-40	296	372	622	774	79	206	478	M8吊環 M8 Slinger ring	569
NC-60	343	320	622	774	79	256	530	M8吊環 M8 Slinger ring	569
NC-80	393	370	694	844	79	334	586	M8吊環 M8 Slinger ring	639
NC-120	443	420	777	928	79	389	619	M8吊環 M8 Slinger ring	725
NC-180	491	470	781	923	94	397	677	M12吊環 M12 Slinger ring	725
NC-240	491	470	823	975	94	397	677	M12吊環 M12 Slinger ring	767
NC-360	541	520	1075	1227	94	447	727	M12吊環 M12 Slinger ring	1017



※本系列機種適用礦物油之油壓油和潤滑油品項，請勿使用下列液體
 ※磷酸酯系油壓油、氯化碳氫系油壓油、水、乙二醇系油壓油及O/W、W/O 乳化系油壓油等不燃性油品。
 ※切削油、研削油、水及水溶性液體。
 ※食品、藥品和腐蝕性強的液體。
 ※汽油、燈油及有機溶劑。

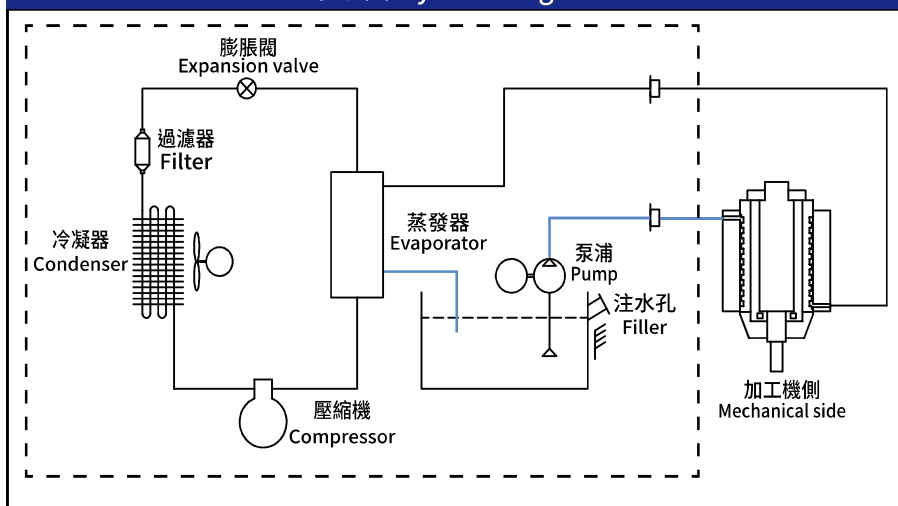
※This series of models is suitable for mineral oil hydraulic oil and lubricating oil.
 Please do not use the following liquids:
 ※Phosphate ester hydraulic oil, chlorinated hydrocarbon hydraulic oil, water, glycol hydraulic oil and O/W, W/O emulsified oil pressure oil and other non-flammable oils.
 ※Cutting oil, grinding oil, water and water-soluble liquid.
 ※Food, medicine and corrosive liquids.
 ※Gasoline, lamp oil and organic solvents.



適用機種 Applicable machines

- CNC綜合加工機
- CNC線切割機
- 射出成形機
- 雷射加工機
- 各式半導體製程及儀器設備
- CNC Machining center
- CNC Wire cutting machine
- Injection machine
- Laser cutting machine
- All product equipments & instruments for semiconductor

系統圖 System diagram



型號 Model		NW-40	NW-60	NW-80	NW-120	NW-180	NW-240	NW-360
冷卻能力 Cooling capacity	Btu/H 50/60Hz	3360/4000	5000/6000	6400/8000	9600/12000	14400/18000	19200/24000	30000/36000
	Kcal/H 50/60Hz	840/1000	1250/1500	1600/2000	2400/3000	3600/4500	4800/5800	7500/9000
	W 50/60Hz	980/1170	1450/1750	1860/2325	2790/3488	4185/5232	6760/8120	8720/10470
溫度使用範圍 Temperature range	環境溫度 Ambient temperature	10~40°C						
	液溫 Liquid temperature	10~30°C						
溫度設定範圍 Temperature setting range	定溫控制 Fixed temperature control	10~40°C						
	溫差控制 Differential temperature control	-9.9~+9.9°C						
電源 Power	V	3Φ 220VAC 50/60Hz						
總負荷電流 Current	A	5.2	7.2	8.6	9.8	12.3	16.0	19.2
水泵浦功率 Pump power	W	750	750	750	750	750	750	750
水泵浦流量 Pump flow rate (L/min)	L/min 50/60Hz	40/50	40/50	40/50	40/50	40/50	40/50	40/50
入出口管徑 Pipe diameter	Inch	1/2"x1/2"	1/2"x1/2"	3/4"x3/4"	3/4"x 3/4"	3/4"x 3/4"	1"x1"	1"x1"
最大壓損 Maximun pressure loss	Kgf/cm ²	3.0						
水箱容量 Tank capacity	L	16	22	37	39	47	47	56
機體尺寸 Dimension WxDxH(mm)	無輪子 Without wheels	372x478x835	422x530x835	499x586x906	554x619x989	591x675x994	591x675x1036	641x725x1288
	有輪子 With wheels	374x478x920	422x530x920	499x586x991	554x619x1074	591x675x1099	591x675x1141	641x725x1393
重量 Weight(Kg)	無油箱 Without tank	48	60	77	101	115	121	138
	有油箱 With tank	55	68	88	113	128	134	153
噪音 Noise	dB(A)	70dB(A)以下 Below 70 db(A)					80dB(A)以下 Below 80 db(A)	

※表列中冷卻能力為環境溫度32°C，冷卻器出口水溫22°C

The cooling capacity is according to the condition with ambient temperature 32°C, cooler output temperature 22°C.

※特殊規格、電壓等需求皆可與我司聯繫

Please contact NPC if you have special specification & voltage needs.

※設計與規格如有變更，恕不另行通知。

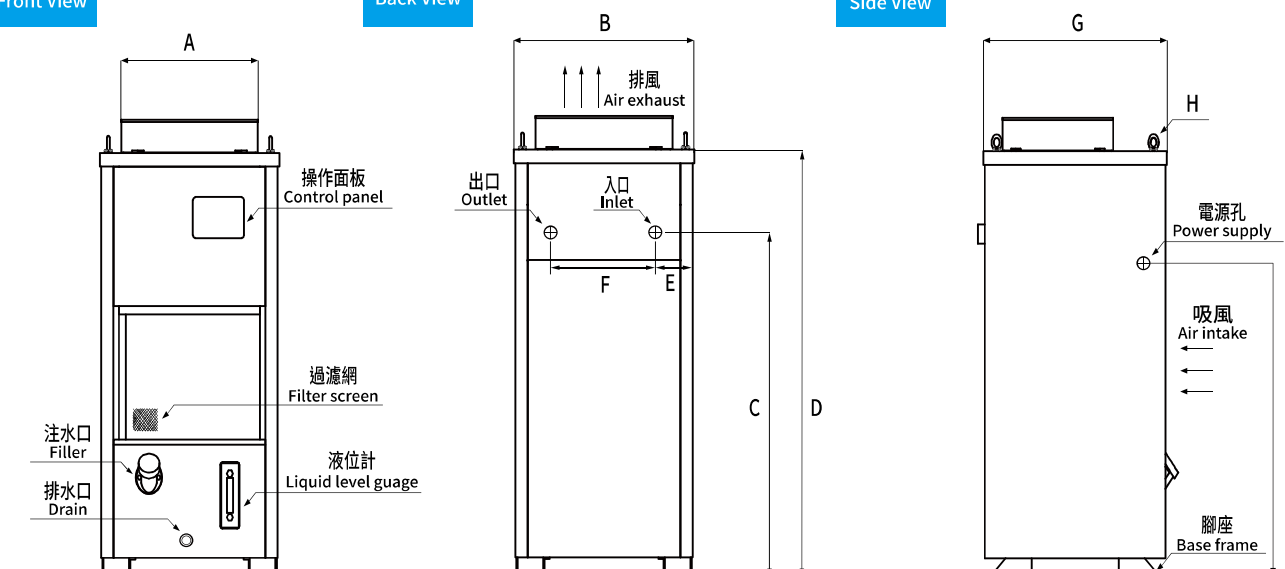
Design and specifications are subject to change without notice.

外觀尺寸(單位mm) Dimension(unit mm)

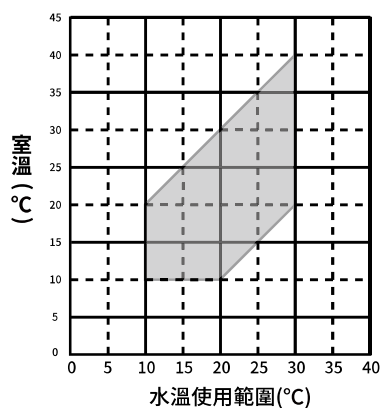
正面圖
Front View

背面圖
Back View

側面圖
Side View



尺寸表 Dimension table	A	B	C	D	E	F	G	H	I
NW-40	296	372	622	774	79	206	478	M8吊環 M8 Slinger ring	569
NW-60	343	320	622	774	79	256	530	M8吊環 M8 Slinger ring	569
NW-80	393	370	694	844	79	334	586	M8吊環 M8 Slinger ring	639
NW-120	443	420	777	928	79	389	619	M8吊環 M8 Slinger ring	725
NW-180	491	470	781	923	94	397	677	M12吊環 M12 Slinger ring	725
NW-240	491	470	823	975	94	397	677	M12吊環 M12 Slinger ring	767
NW-360	541	520	1075	1227	94	447	727	M12吊環 M12 Slinger ring	1017



※本系列機種適用RO逆滲透水和去離子水品項，請勿使用下列液體
 ※磷酸酯系油壓油、氯化碳氫系油壓油、水、乙二醇系油壓油及O/W
 、W/O 乳化系油壓油等不燃性油品。
 ※切削油、研削油、水及水溶性液體。
 ※食品、藥品和腐蝕性強的液體。
 ※汽油、燈油及有機溶劑。

※This series of models is suitable for RO reverse osmosis water and deionized water.

Please do not use the following liquids:

※Phosphate ester hydraulic oil, chlorinated hydrocarbon hydraulic oil, water, glycol hydraulic oil and O/W, W/O emulsified oil pressure oil and other non-flammable oils.

※Cutting oil, grinding oil, water and water-soluble liquid.

※Food, medicine and corrosive liquids.

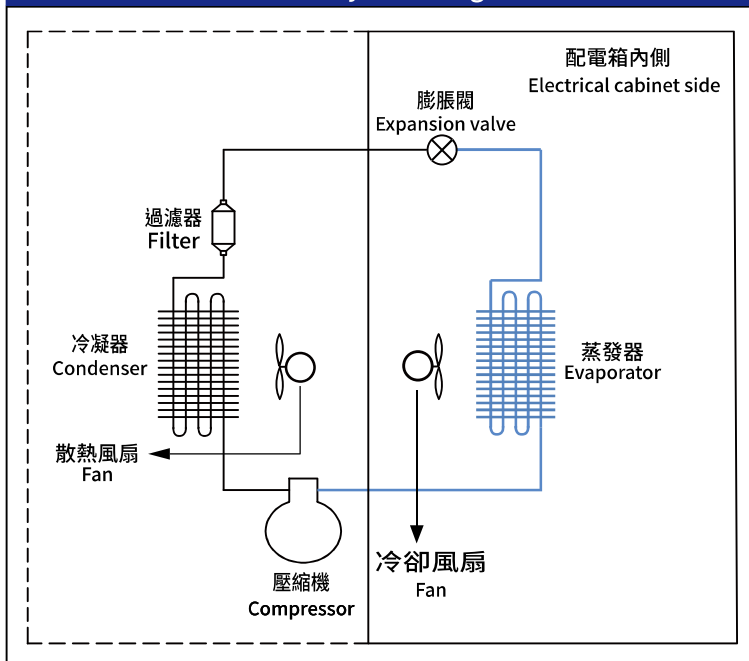
※Gasoline, lamp oil and organic solvents.



適用機種 Applicable machines

- 各式電力、電機之控制箱
- 通信及網路設備
- 測量儀器
- Various electric & electronic control boxes
- Communication and internet equipment
- Measuring instruments

系統圖 System diagram



型號 Model		NA-15	NA-20	NA-30	NA-40	NA-60	NA-80	NA-120
冷卻能力 Cooling capacity	Btu/H 50/60Hz	1200/1500	1650/2000	2500/3000	3360/4000	5000/6000	6400/8000	9600/12000
	Kcal/H 50/60Hz	300/375	415/500	630/760	840/1000	1250/1500	1600/2000	2400/3000
	W 50/60Hz	350/440	480/580	730/880	980/1170	1450/1750	1860/2325	2790/3488
溫度使用範圍 Temperature range	環境溫度 Ambient temperature	5~45°C						
溫度設定範圍 Temperature setting range	定溫控制 Fixed temperature control	25~35°C						
電源 Power Source	V	1Φ220VAC 50/60Hz						
總負荷電流 Current	A	1.5	1.7	2	2.4	3.9	4.3	6.4
風扇功率 Fan power	W	75	75	75	135	135	135	205
機體尺寸 Dimension	WxDxH(mm)	342x186x613	342x186x613	342x186x613	422x209x846	422x209x846	444x226x846	533 x284x912
重量 Weight	Kg	19	19	20	34	36	42	48
噪音 Noise	dB(A)	70dB(A)以下 Below 70 dB(A)						

※表列中冷卻能力為環境溫度35°C條件下測得

The cooling capacity is according to the condition with ambient temperature 35°C.

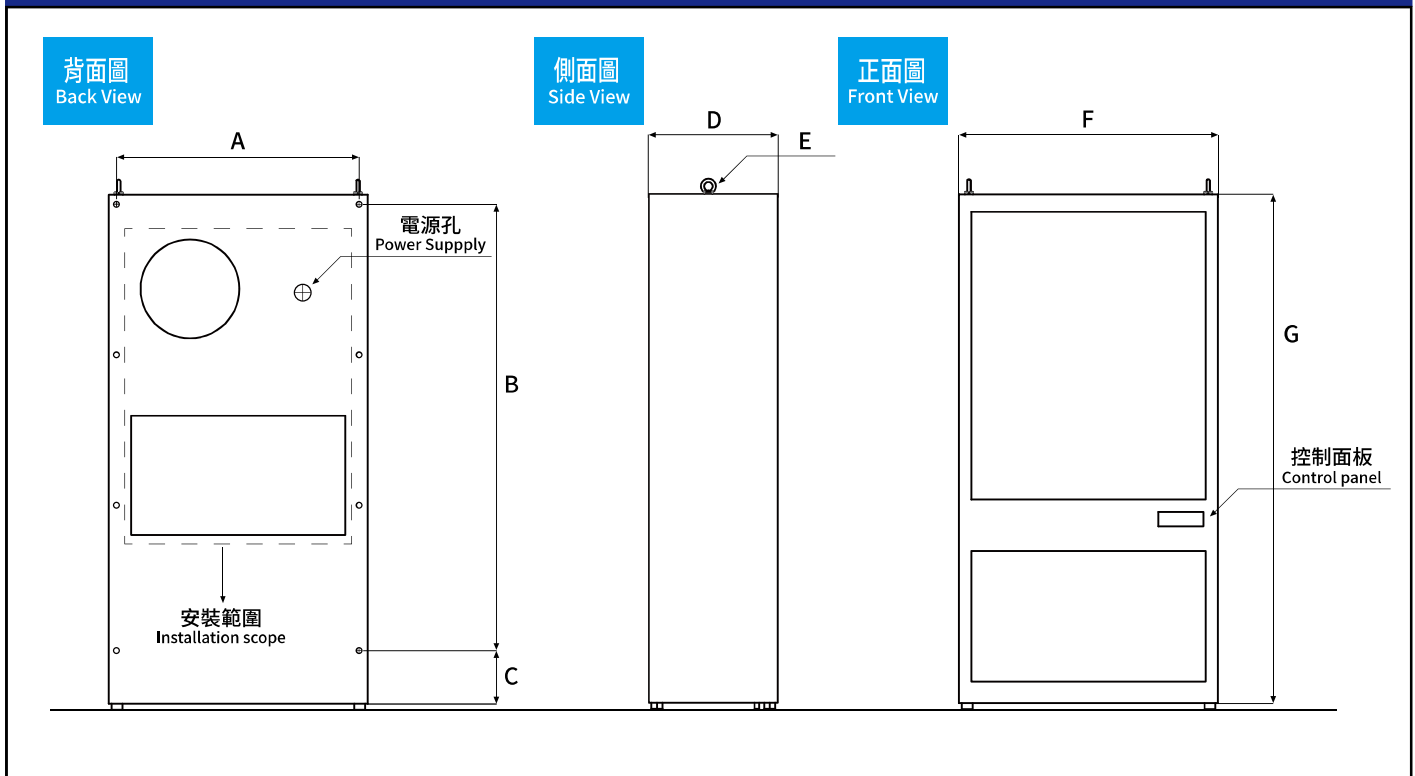
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※設計與規格如有變更，恕不另行通知。

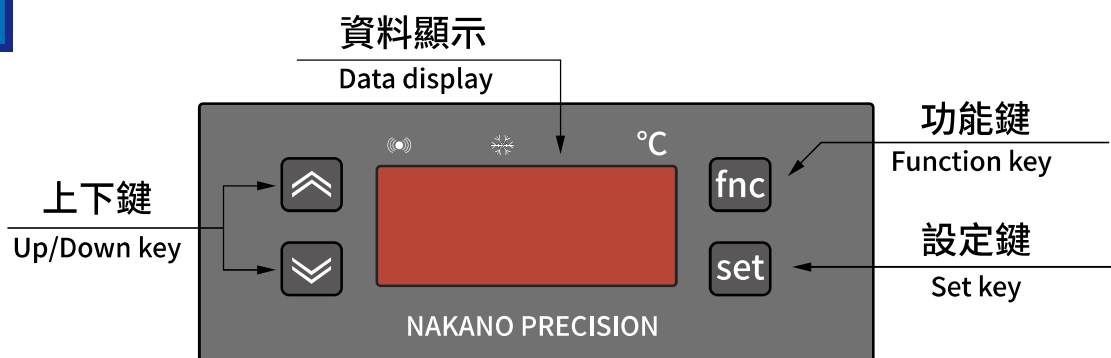
Design and specifications are subject to change without notice.

外觀尺寸(單位mm) Dimension(unit mm)



尺寸表 Dimension table	A	B	C	D	E	F	G
NA-15	314	520	42	186	M8吊環 M8 Slinger Ring	342	601
NA-20	314	520	42	186	M8吊環 M8 Slinger Ring	342	601
NA-30	314	520	42	186	M8吊環 M8 Slinger Ring	342	601
NA-40	393	660	130	209	M8吊環 M8 Slinger Ring	422	834
NA-60	393	660	130	209	M8吊環 M8 Slinger Ring	422	834
NA-80	416	660	130	226	M8吊環 M8 Slinger Ring	444	834
NA-120	504	740	130	284	M8吊環 M8 Slinger Ring	533	900

操作面板 Operation panel





2021.01

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