



YEOSHE

液壓配件

Hydraulic Components

冷卻器風扇 系列

Air/Oil Cooler

Series



www.yeoshehydraulic.com

Efficient Performance
Innovative Technology
Reliable Quality and Service

YEOSHE HYDRAULICS CO.,LTD.

氣冷式油冷卻器 Air / Oil Cooler



概述 Basic Features

本系列產品特別選用重量輕、抗震強度佳、熱交換效率高的鋁合金材料製成。在結構上，散熱管內另有內置翅片，以增大散熱面積，加快熱傳導度，在風扇之作用下，以空氣為冷卻源，將熱量強制帶走，從而獲得低成本、高效率之冷卻效果，是為市面上最佳之散熱器。

They are light weight、high shock strength、with the high heat exchange of the aluminum alloy. With finned cooling tubes for large cooling areas and high thermal conductivity, the cooler uses the air as the cooling source through the fan to cool efficiently at a low cost and is the best cooler in the market.

具有以下之優點：

- 1.氣冷卻不使用冷卻液，不會對設備造成銹蝕。乾淨、環保、安全。
- 2.氣冷卻不使用水源或冷媒，維修簡便，節能、快速、方便。

There have some features:

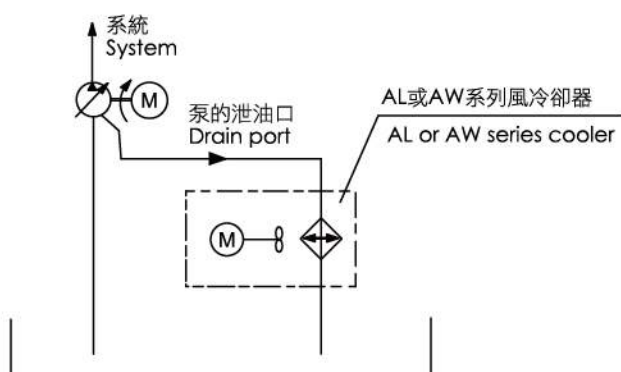
- 1.They do not use the coolant, so they will not to cause the corrosion to the machine. Clean、environmental、safety.
- 2.They do not use water or refrigerant, so they fix easy. Energy-saving、quickly、convenient.



應用場合 Application

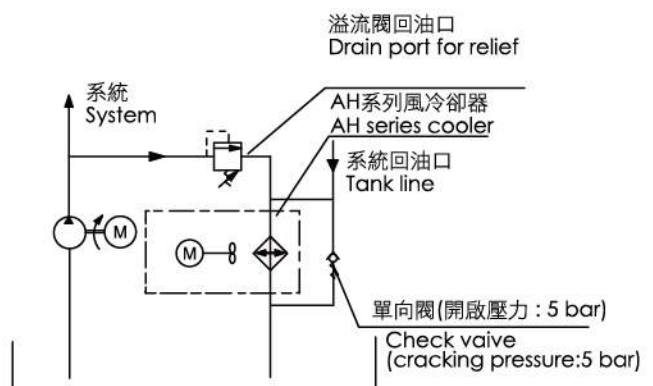
變量泵內泄口的安裝方式

For Drain port of Variable Displacement Pump



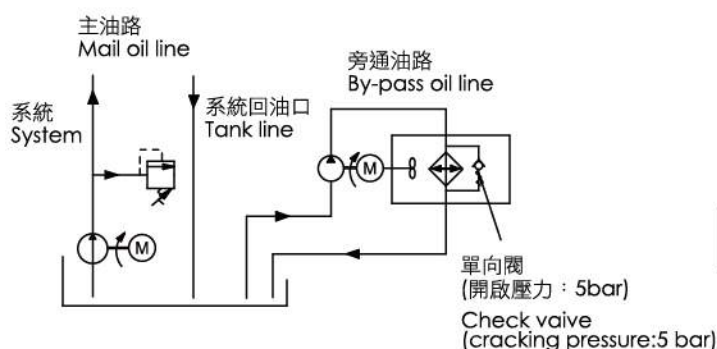
液壓系統回油的安裝方式

For return port (tank line)



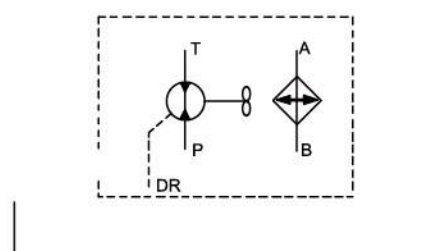
獨立循環旁通油路安裝方式

For By-pass



液壓馬達安裝形式

For Hydraulic Motor

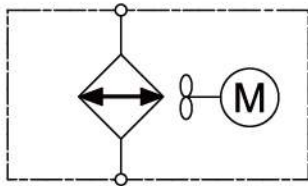


本公司保留修改數據規格的權利，恕不另行通知。

Due to continual improvements, specifications are subject to change without notice.

AH0608T-CA

YEOSHE



技術參數 Data

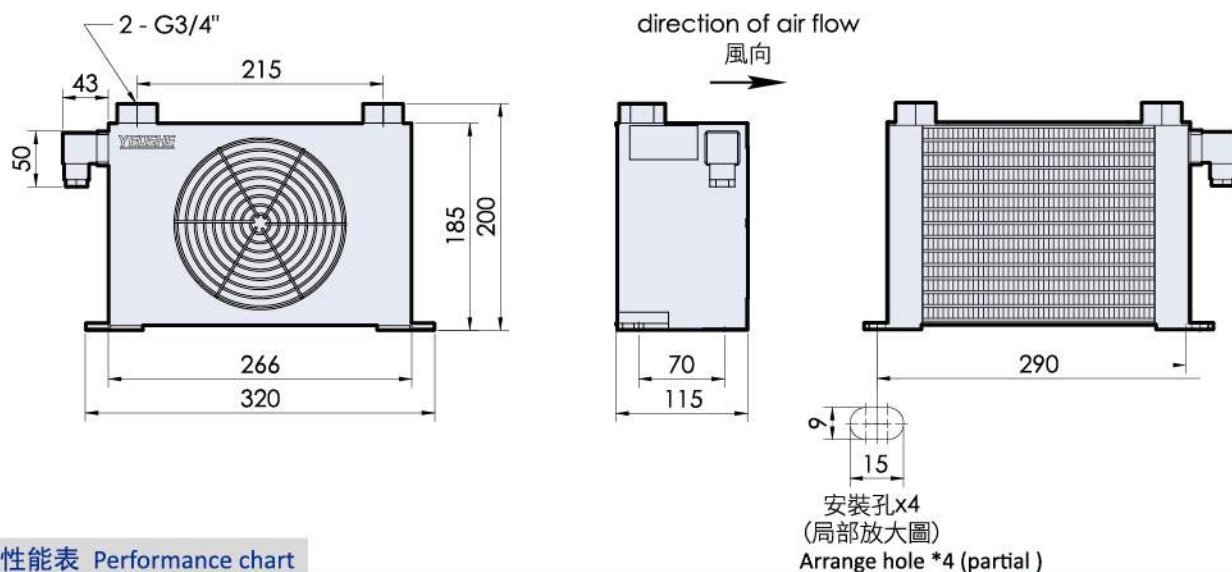
型式 Model	AH0608T
流量 Flow	Max.60 L/min
工作壓力 Working pressure	≤2MPa(20bar)
接口牙型 Thread	PT3/4",G3/4"
風扇功率 KW	48W
風扇電壓 Voltage	AC110V/AC220V/AC380V/DC12V/DC24V

訂購代碼 Code

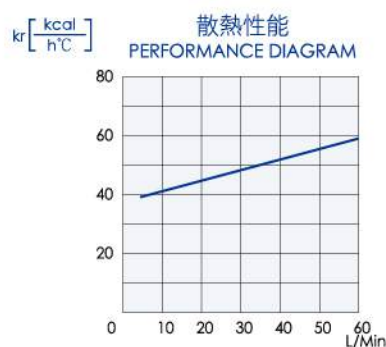
		AH0608T-CA		-	PT		-	3		-	藍Blue		
		1			2			3			4		
		高壓型系列型式 High pressure			牙型 Thread			電壓 Voltage			顏色 Color		
2	PT	3	A220 / A380 (標準品 Standard)									4	黑或藍 Black or blue (隨機出貨 Random)
	G		A110 / D12 / D24 (特殊規格 Special specification)										

*特殊規格: 訂購前, 請先詢問。
The special dimension, please to check with us before order it.

尺寸圖 Dimension

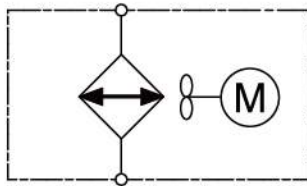


性能表 Performance chart



本公司保留修改數據規格的權利, 恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AH0608TL-CA



技術參數 Data

型式 Model	AH0608TL
流量 Flow	Max.60 L/min
工作壓力 Working pressure	≤2MPa(20bar)
接口牙型 Thread	PT3/4", G3/4"
風扇功率 KW	2X48W
風扇電壓 Voltage	AC110V/AC220V/AC380V/DC12/DC24V

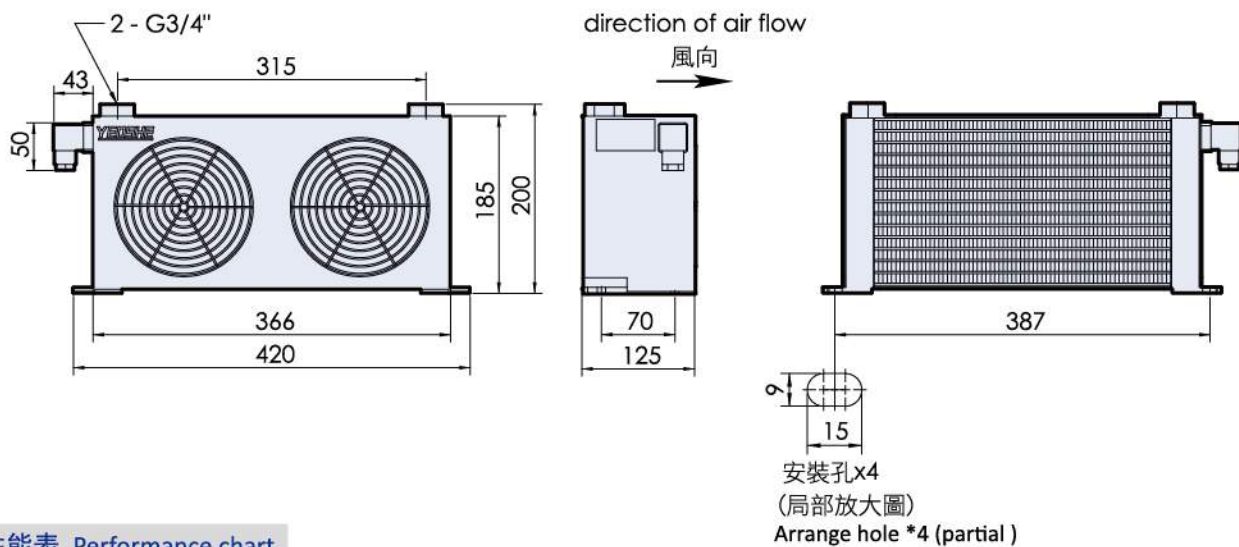
訂購代碼 Code

AH0608TL-CA	PT		藍Blue
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color

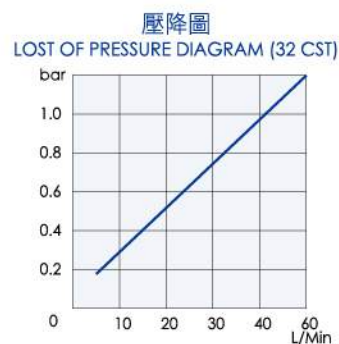
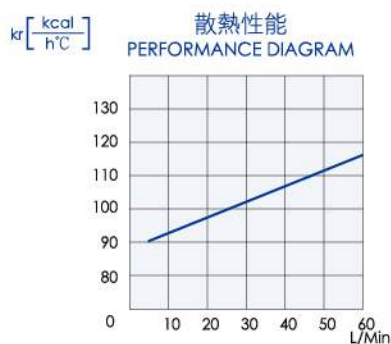
2	PT G	3	A220 / A380 (標準品 Standard) A110 / D12 / D24 (特殊規格 Special specification)	4	黑或藍 Black or blue (隨機出貨 Random)
---	---------	---	---	---	------------------------------------

*特殊規格: 訂購前, 請先詢問。
The special dimension, please to check with us before order it.

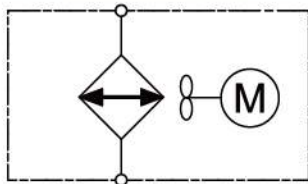
尺寸圖 Dimension



性能表 Performance chart



本公司保留修改數據規格的權利, 恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.



技術參數 Data

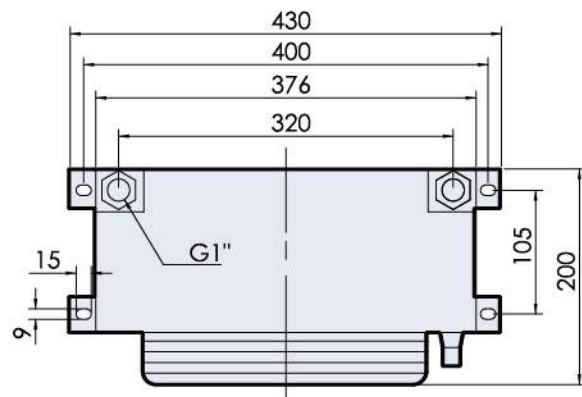
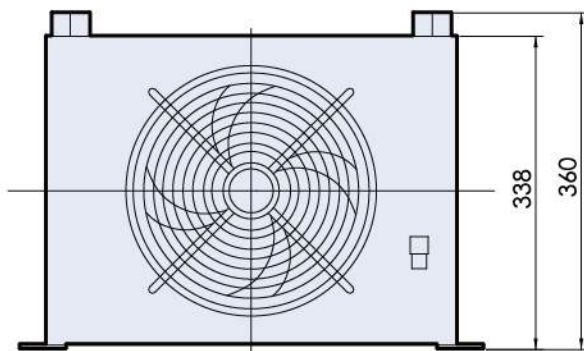
型式 Model	AH1012T
流量 Flow	Max.100 L/min
工作壓力 Working pressure	≤2MPa(20bar)
接口牙型 Thread	PT1",G1"
風扇功率 KW	60W
風扇電壓 Voltage	AC220V/AC380V/DC24V

訂購代碼 Code

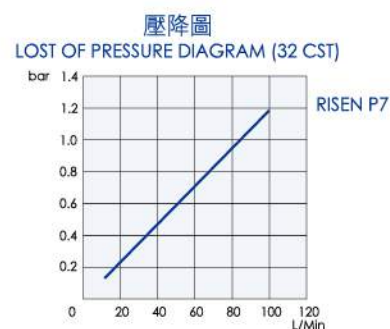
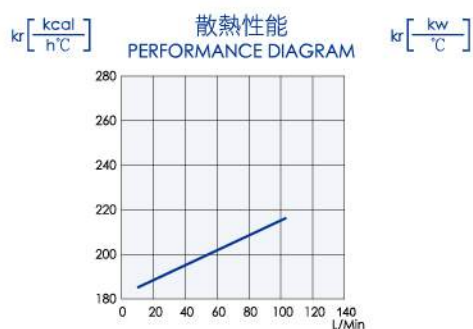
AH1012T-CA	PT		黃Yellow
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color
2	PT G	3	4
		A220 / A380 (標準品 Standard) D24 (特殊規格 Special specification)	黃或白 Yellow or white (隨機出貨 Random)

*特殊規格: 訂購前, 請先詢問。
The special dimension, please to check with us before order it.

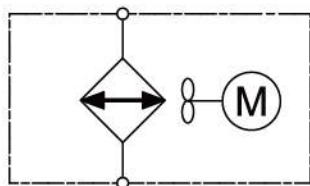
尺寸圖 Dimension



性能表 Performance chart



本公司保留修改數據規格的權利, 恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.



技術參數 Data

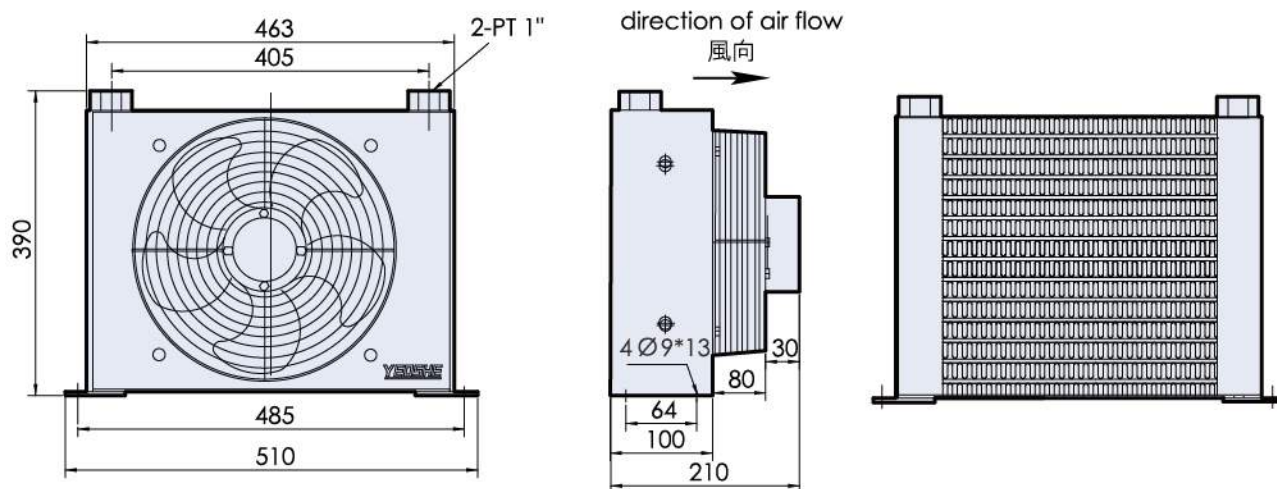
型式 Model	AH1215T
流量 Flow	Max.100 L/min
工作壓力 Working pressure	$\leq 2\text{MPa}(20\text{bar})$
接口牙型 Thread	PT1",G"1
風扇功率 KW	130W
風扇電壓 Voltage	AC220V/AC380V

訂購代碼 Code

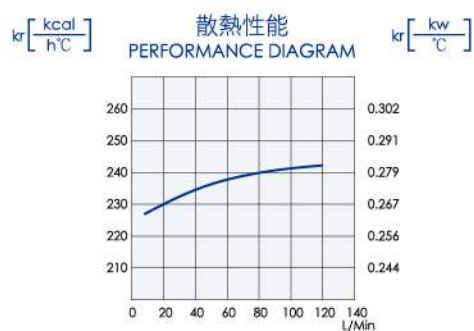
AH1215T-CA	PT		黃Yellow
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color

2	PT G	3	A220 / A380 (標準品 Standard)	4	黃或白 Yellow or white (隨機出貨 Random)
---	---------	---	----------------------------	---	--------------------------------------

尺寸圖 Dimension



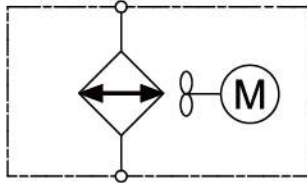
性能表 Performance chart



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AH1417T-CA

YEOSHE



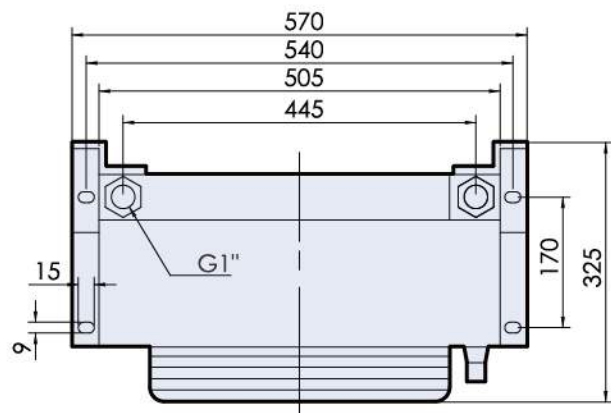
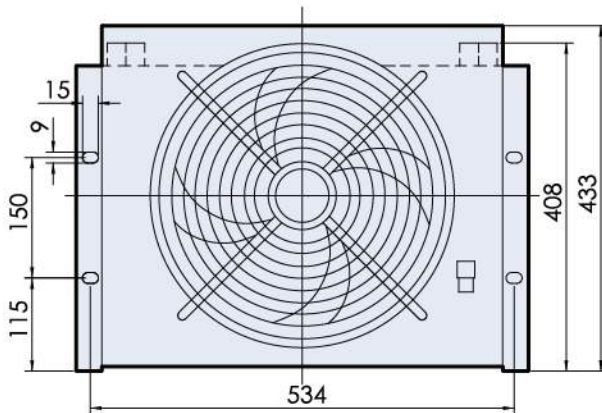
技術參數 Data

型式 Model	AH1417T
流量 Flow	Max.150 L/min
工作壓力 Working pressure	$\leq 2\text{MPa}(20\text{bar})$
接口牙型 Thread	PT"1,G1"
風扇功率 KW	130W
風扇電壓 Voltage	AC220V/AC380V

訂購代碼 Code

AH1417T-CA		PT		黑Black
1	2	3	4	
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color	
2	PT G	3	A220 / A380 (標準品 Standard)	4 黑或藍 Black or blue (隨機出貨 Random)

尺寸圖 Dimension

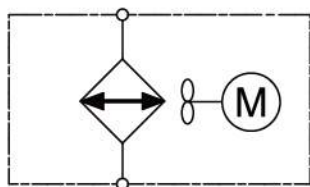


性能表 Performance chart



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AH1470T-CA



技術參數 Data

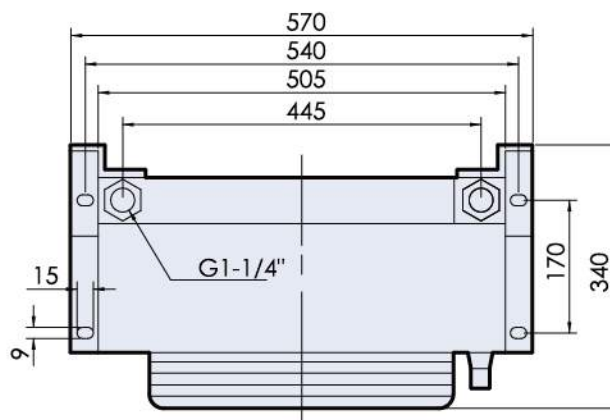
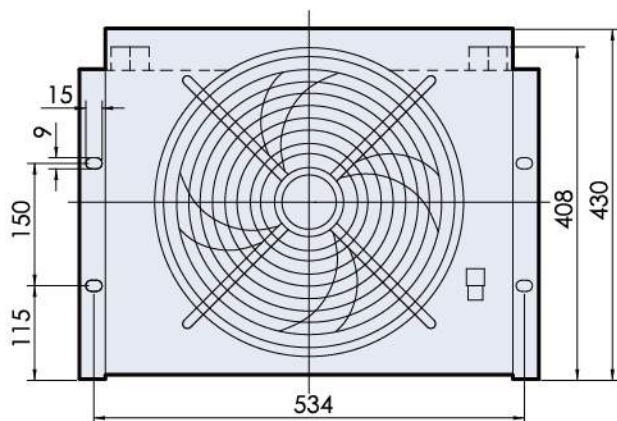
型式 Model	AH1470T
流量 Flow	Max.200 L/min
工作壓力 Working pressure	$\leq 2\text{MPa}(20\text{bar})$
接口牙型 Thread	PT1-1/4", G1-1/4"
風扇功率 KW	130W
風扇電壓 Voltage	AC220/AC380

訂購代碼 Code

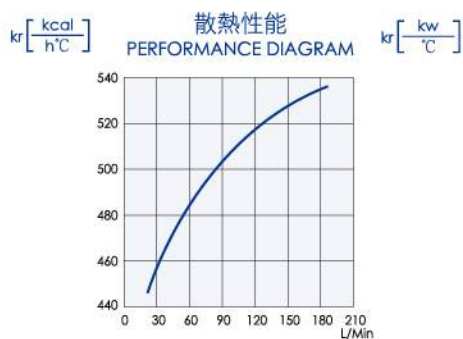
AH1470T-CA	PT		黑Black
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color

2	PT G	3	A220 / A380 (標準品 Standard)	4	黑或藍 Black or blue (隨機出貨 Random)
---	---------	---	----------------------------	---	------------------------------------

尺寸圖 Dimension



性能表 Performance chart

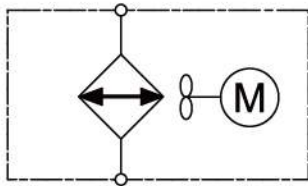


本公司保留修改數據規格的權利，恕不另行通知。

Due to continual improvements, specifications are subject to change without notice.

AH0608T-CA

YEOSHE



技術參數 Data

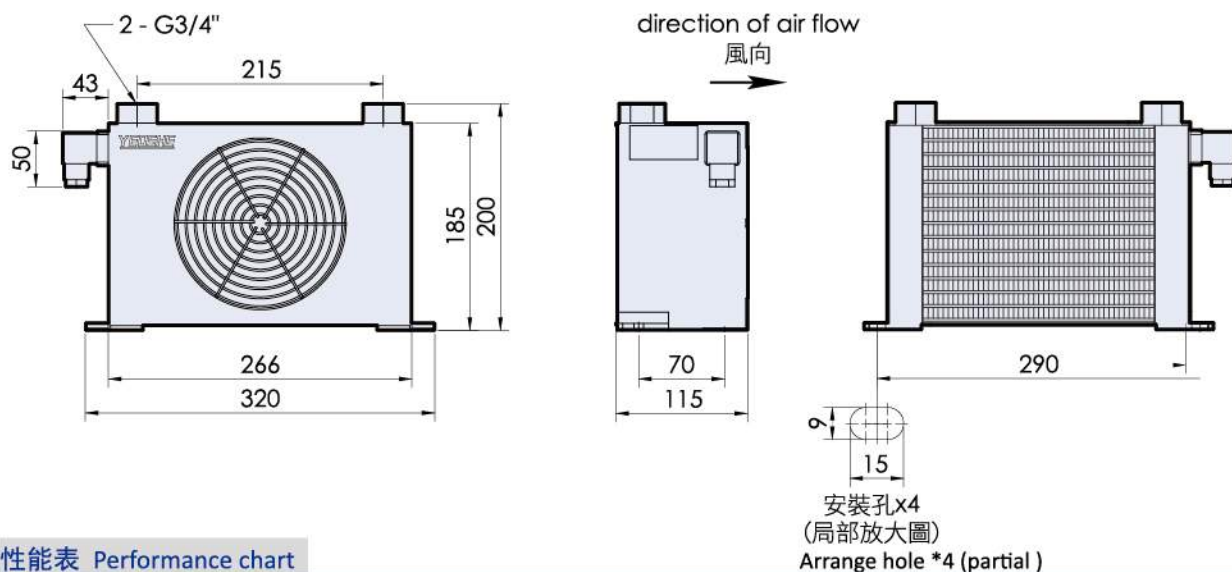
型式 Model	AH0608T
流量 Flow	Max.60 L/min
工作壓力 Working pressure	≤2MPa(20bar)
接口牙型 Thread	PT3/4", G3/4"
風扇功率 KW	48W
風扇電壓 Voltage	AC110V/AC220V/AC380V/DC12V/DC24V

訂購代碼 Code

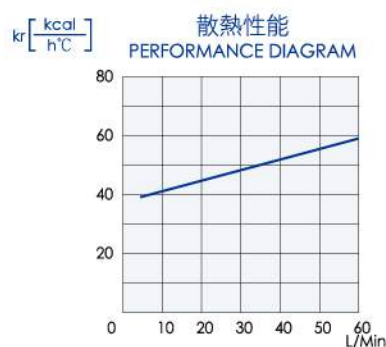
AH0608T-CA		PT	藍Blue
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color
2	PT G	3	4
	A220 / A380 (標準品 Standard)		黑或藍 Black or blue (隨機出貨 Random)
	A110 / D12 / D24 (特殊規格 Special specification)		

*特殊規格: 訂購前, 請先詢問。
The special dimension, please to check with us before order it.

尺寸圖 Dimension



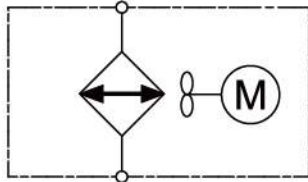
性能表 Performance chart



本公司保留修改數據規格的權利, 恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AH1490T-CA

YEOSHE



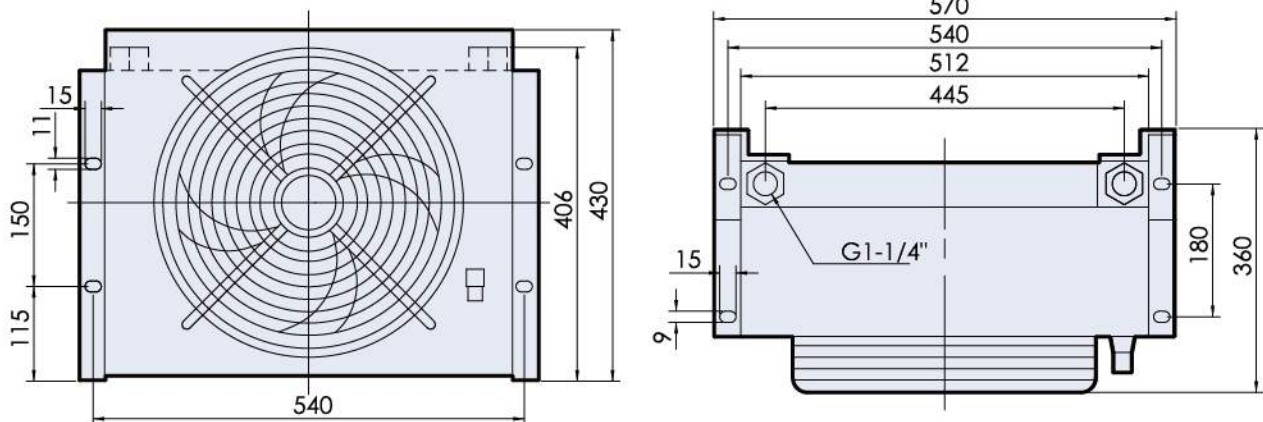
技術參數 Data

型式 Model	AH1490T
流量 Flow	Max.250 L/min
工作壓力 Working pressure	≤2MPa(20bar)
接口牙型 Thread	PT1-1/4", G1-1/4"
風扇功率 KW	150W
風扇電壓 Voltage	AC220V/AC380V

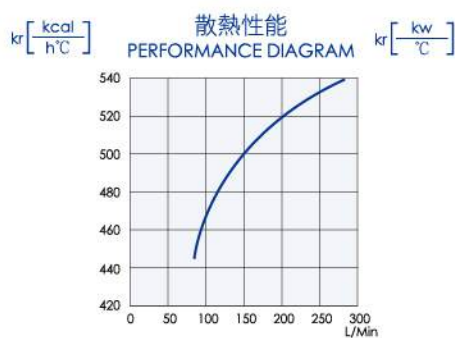
訂購代碼 Code

AH1490T-CA		PT		黑Black
1	2	3	4	
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color	
2	PT G	3	A220 / A380 (標準品 Standard)	4 黑或藍 Black or blue (隨機出貨 Random)

尺寸圖 Dimension

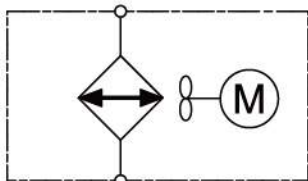


性能表 Performance chart



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AH1680T-CA



技術參數 Data

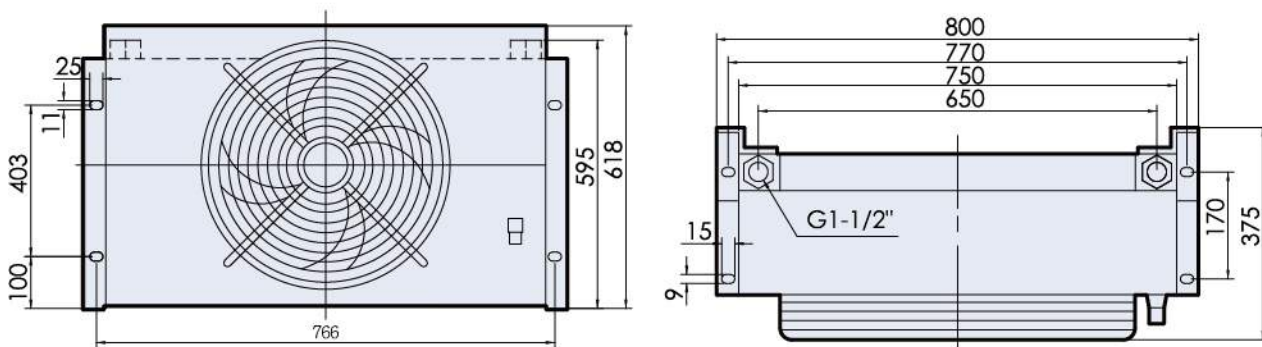
型式 Model	AH1680
流量 Flow	Max.300 L/min
工作壓力 Working pressure	$\leq 2\text{MPa}(20\text{bar})$
接口牙型 Thread	PT1-1/2", G1-1/2"
風扇功率 KW	380W
風扇電壓 Voltage	AC220V / AC380V

訂購代碼 Code

AH1680T-CA	PT		黑Black
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color

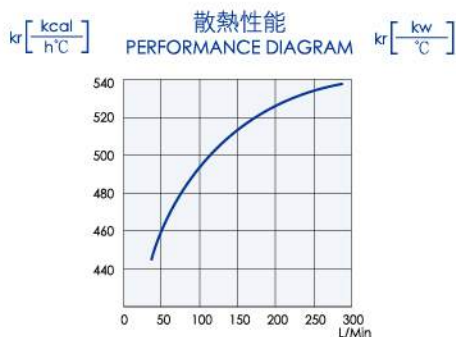
2	PT G	3	A220 / A380 (標準品 Standard)	4	黑或藍 Black or blue (隨機出貨 Random)
---	---------	---	----------------------------	---	------------------------------------

尺寸圖 Dimension

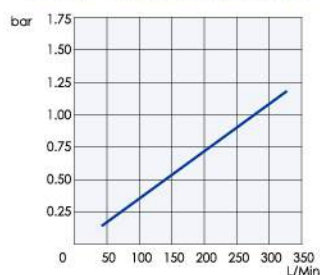


性能表 Performance chart

散熱性能
PERFORMANCE DIAGRAM



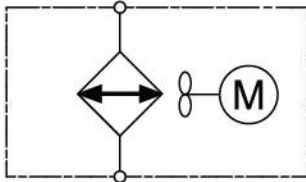
壓降圖
LOST OF PRESSURE DIAGRAM (32 CST)



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AH1890T-CA

YEOSHE



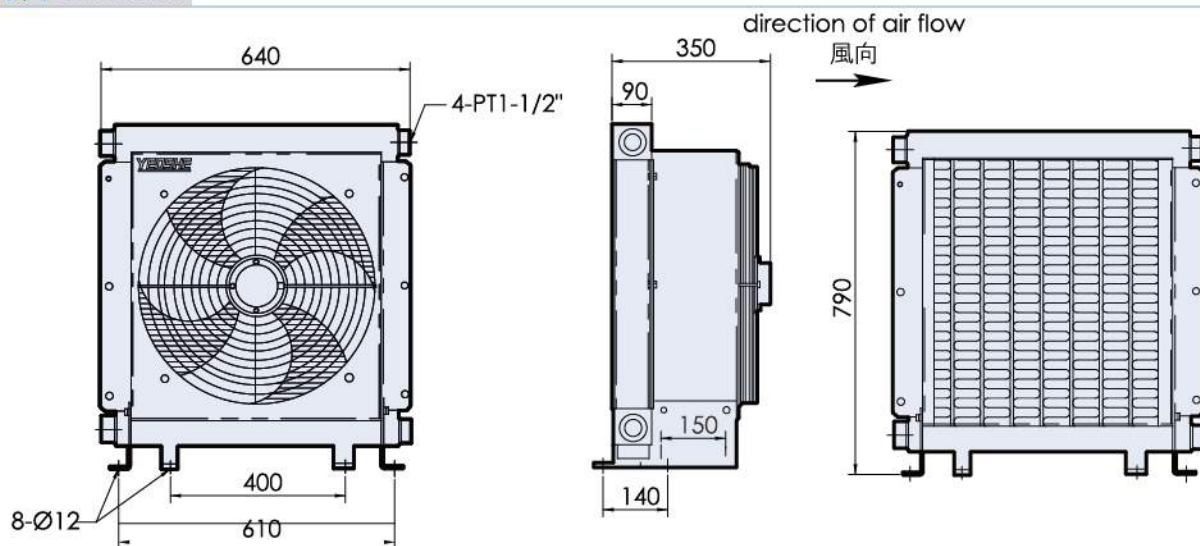
技術參數 Data

型式 Model	AH1890
流量 Flow	Max.250 L/min
工作壓力 Working pressure	≤2MPa(20bar)
接口牙型 Thread	PT1-1/2", G1-1/2"
風扇功率 KW	250W
風扇電壓 Voltage	AC220V/AC380V

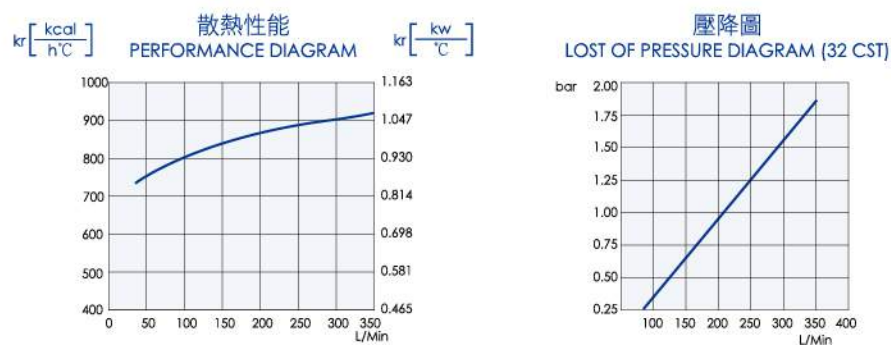
訂購代碼 Code

AH1890T-CA		PT		白White
1	2	3	4	
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color	
2	PT G	3	A220 / A380 (標準品 Standard)	4 黃或白 Yellow or white (隨機出貨 Random)

尺寸圖 Dimension



性能表 Performance chart



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

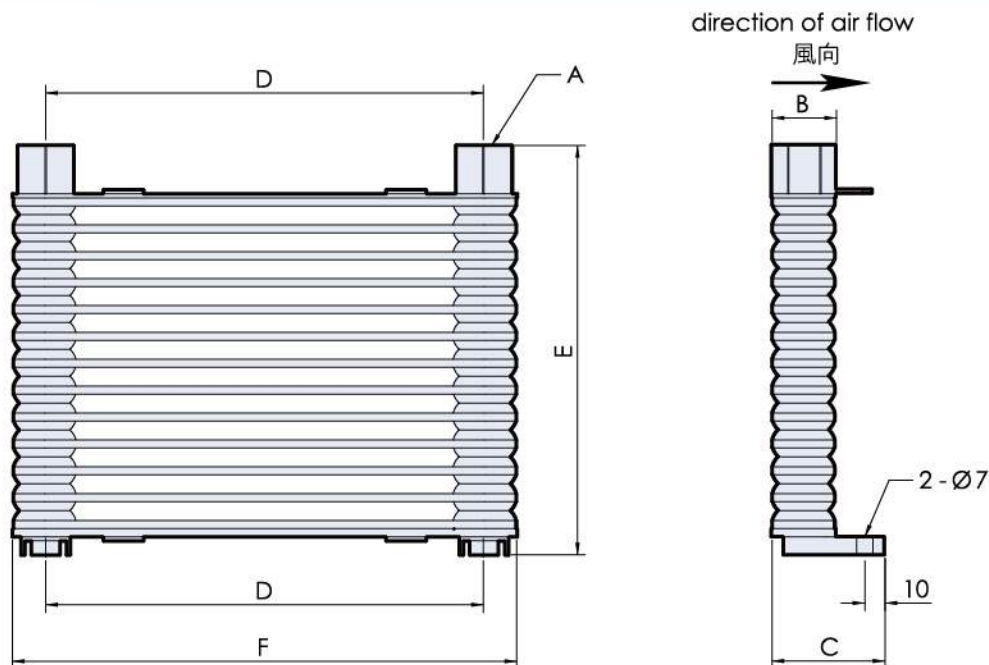


技術參數 Data

型式 Model	AL***
流量 Flow	Max.10 L/min
工作壓力 Working pressure	≤1MPa(10bar)
接口牙型 Thread	PT1/2", PT 3/8

*無風扇
No fan

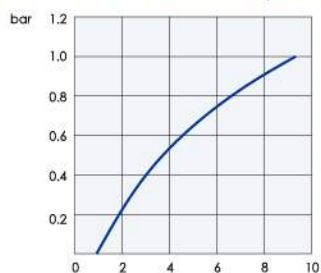
尺寸圖 Dimension



	A	B	C	D	E	F	重量 WEIGHT Kg
AL404	1/2"	42	66	217	203	250	1
AL609	1/2"	32	56	217	203	250	0.75
AL608	3/8"	32	56	217	203	250	0.75

性能表 Performance chart

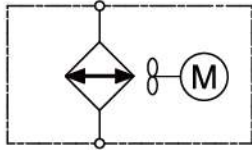
壓降圖
LOST OF PRESSURE DIAGRAM (32 CST)



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

AL404-CA

YEOSHE



技術參數 Data

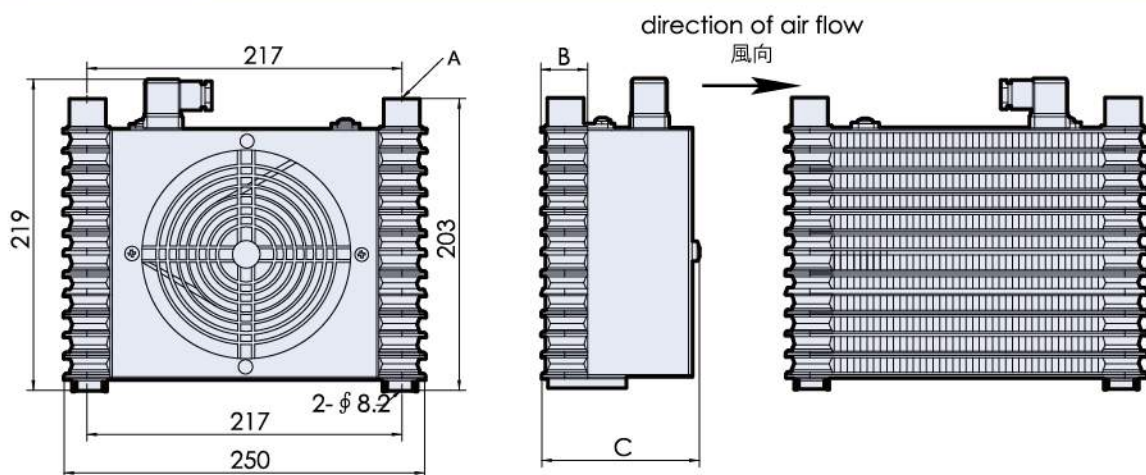
型式 Model	AL404-CA
流量 Flow	Max.10 L/min
工作壓力 Working pressure	≤1MPa(10bar)
接口牙型 Thread	PT1/2",G1/2"
風扇功率 KW	45W
風扇電壓 Voltage	AC220V/AC380V/DC24V

訂購代碼 Code

		AL404-CA	-	PT	-	3	-	藍Blue	
		1		2		3		4	
		高壓型系列型式 High pressure		牙型 Thread		電壓 Voltage		顏色 Color	
2	PT	3	A220 / A380 (標準品 Standard)					4	黑或藍 Black or blue (隨機出貨 Random)
	G		D24 (特殊規格 Special specification)						

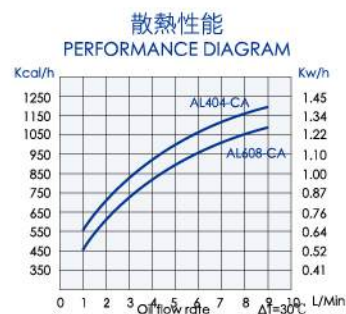
*特殊規格: 訂購前, 請先詢問。
The special dimension, please to check with us before order it.

尺寸圖 Dimension

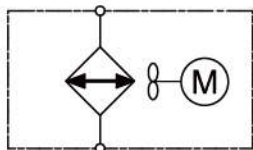


	A管牙PT/RC	B	C	重量WEIGHT Kg
AL404-CA	1/2"	42	120	2.6

性能表 Performance chart



本公司保留修改數據規格的權利, 恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.



技術參數 Data

型式 Model	AL609-CA
流量 Flow	Max.10 L/min
工作壓力 Working pressure	≤1MPa(10bar)
接口牙型 Thread	PT1/2",G1/2"
風扇功率 KW	45W
風扇電壓 Voltage	AC220/AC380V/DC24V

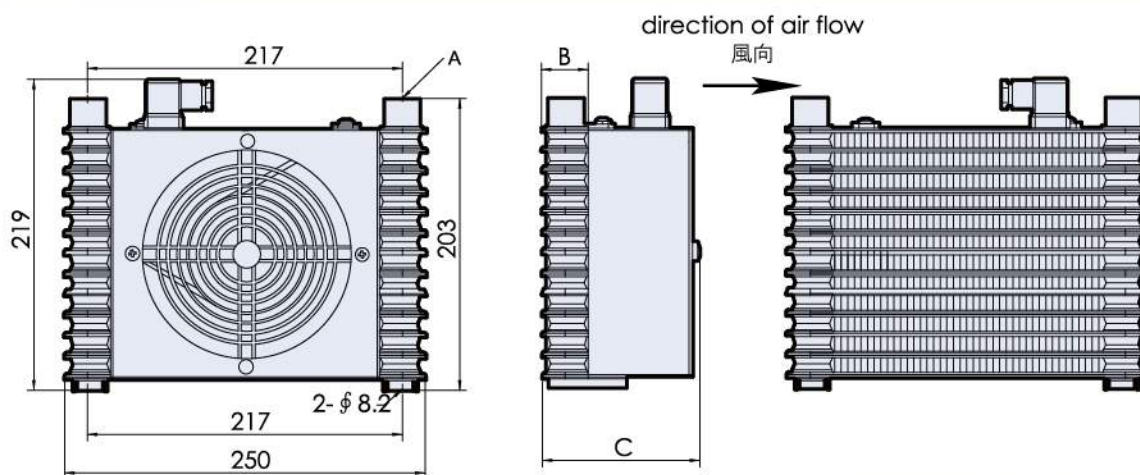
訂購代碼 Code

AL609-CA	PT		藍Blue
1	2	3	4
高壓型系列型式 High pressure	牙型 Thread	電壓 Voltage	顏色 Color

2	PT G	3	A220 / A380 (標準品 Standard) D24 (特殊規格 Special specification)	4	黑或藍 Black or blue (隨機出貨 Random)
---	---------	---	--	---	------------------------------------

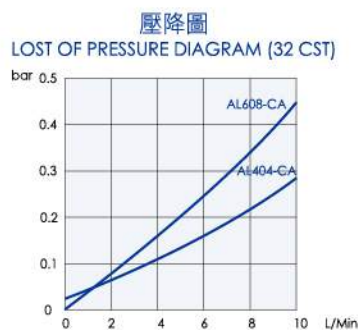
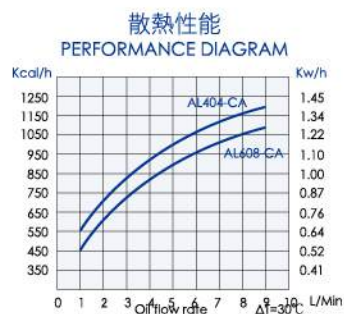
*特殊規格: 訂購前, 請先詢問。
The special dimension, please to check with us before order it.

尺寸圖 Dimension



	A管牙PT/RC	B	C	重量WEIGHT Kg
AL609-CA	1/2"	32	110	2.25

性能表 Performance chart



本公司保留修改數據規格的權利, 恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

注意事項 Notice

YEOSHE

注意事項 Notice

AL 系列

AL series

適合變量泵的泄油口冷卻迴路。

It is suitable for various piston pump's drain with cooling circuit.

AW系列

AW series

適合高壓變量柱塞泵、變量葉片泵的泄油口冷卻或獨立循環迴路。

It is suitable for various axial piston pumps and various vane pumps'drain with cooling or independent circuit.

AH系列

AH series

冷卻器材料系高強度Plate-fin鋁合金材質，經由特殊技術，真空焊接而成。

工作壓力：20bar

最高使用溫度：120℃

為保護冷卻器不致破裂，當冷卻器裝置於回油迴路時，必須加裝旁邊卸載回路（單向閥），與冷卻器並聯，並且確認卸載閥遭遇突破時，能夠優先放卸載。建議最佳使用方式，使用另外一台小泵浦，抽取油箱內熱油供應冷卻器，使成獨立循環回路，並可在此裝置過濾器，稱之為油箱的腎臟迴路。

The material of the air exchange is high Plate-fin aluminum alloy. Special technology and vacuum brazing.

Working pressure: 20bar

Max using temperature: 120℃

In order to protect the air exchange not to broken, it need to add unloading circuit (check valve) to connect when the air exchange install on the return circuit. Also to check unloading valve in the event of a break-through, to give priority to unloading.

配管注意事項 Piping notice

1. 配管管徑請配合牙口，不能變更縮小。

Piping diameter cooperates with the thread mouth, it cannot be shrink.

2. 盡可能使用直接頭，讓鋼管變彎或使用高壓軟管，以減少回油阻力。

Try to use straight pipe, let the pipe become bend or use the high pressure hose to reduce the resistance of the oil return.

3. 折曲角度越小、折彎次數越少為原則。

The smaller the bending angle, the smaller the number of bends.

4. 盡可能使液壓油，回流越快速，越順暢，散熱效果越佳。

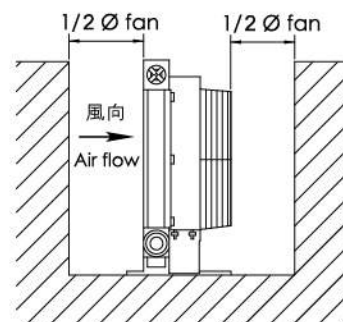
Using the hydraulic oil, return is quick、good radiating.



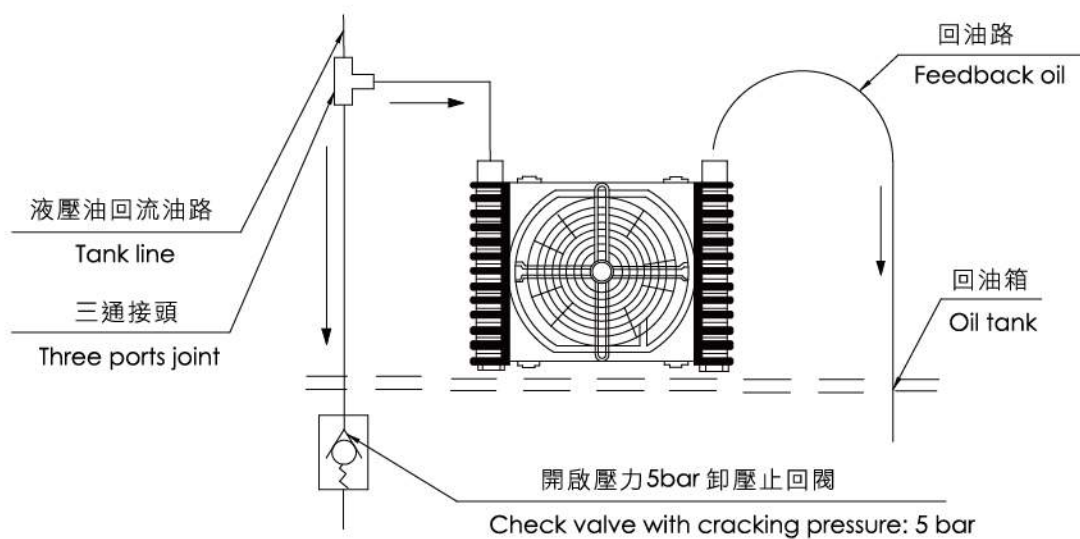
注意事項 Notice

安裝注意事項 Safety notice

1. 冷卻器請安裝於通風良好處。
Air exchange install on the well-ventilated place.
2. 冷卻風扇前吸入及後排風口，至少要預留大約風扇周圍的半徑尺寸範圍以上，以利用空氣對流。
To reserve radius on the in/out exhaust vent to let the air convection.
3. 冷卻風扇前吸入口，需定期清除灰塵及雜物。
The suction port of air exchange need to clean the dust and debris regularly.



AH系列回油迴路配管注意事項 Oil temperature rise rate for the power unit calculation method



本公司保留修改數據規格的權利，恕不另行通知。
Due to continual improvements, specifications are subject to change without notice.

冷卻器選擇 Cooler selection

基本參數 Basic parameters

Pv	發熱量(Kcal/h); heat to be dissipated
P1	當量冷卻功率(Kcal/h°C) ; specific cooling capacity
V	油箱容積(M³) ; tank contents
p	油的比重 density of the oil ; 876(kg/m³)
C	油的比熱 specific heat capacity ; 0.47(Kcal/kg°C)
ΔT	油箱溫升(°C) ; temperature increase
T1	期望的油溫(°C) ; required oil temperature
T2	環境溫度(°C) ; ambient temperature
H	時間(h) ; operating time

油箱的油溫上升率計算法 Oil temperature rise rate for the power unit calculation method

計算現有設備的發熱量，利用測量、定時間內油箱的溫升、從而根據油溫的溫升計算發熱量。

To count the caloric, using the measure and the temperature of the special time.

例如：15分鐘內油箱溫度由40°C上升至65°C，油箱為100升，產生的熱量如下：

For example: 15 minutes the temperature of the power tank from 40°C rise to 65°C, 100rise, the product caloric as below :

$$Pv = p \times C \times V \times \Delta T / H$$

$$= 876 \times 0.47 \times 0.1 \times 25 / 0.25 = 4117.2 \text{ Kcal/h}$$

選擇冷卻器 Cooler selection

$$T1 = 60^\circ\text{C}, T2 = 40^\circ\text{C}$$

$$P1 = Pv / (T1 - T2) = 4117.2 / (60^\circ\text{C} - 40^\circ\text{C}) = 205.86 \text{ Kcal/h}^\circ\text{C}$$

建議考慮10%的安全餘量，則P1(當量冷卻功率)=205.86×1.1=226.45，即226.45Kcal/h°C的發熱量必須通過風冷卻器散出。實際選型，當流量為100 l/mi，選AH1417。

Suggest to use 10% allowance margin, P1(KW) = 205.86*1.1=226.45, it is 226.45Kcal/h°C calorie to through the air exchange. You need to pick the flow 100l/mi, pick AH1417.

電機的輸出損失率計算法 Motor output loss rate calculation method

電機功率(motor power):45kw(1kw=860Kcal/h)

熱消耗功率參數，可估計40%(最大)或按實際工況計算求得

Thermal power consumption parameters estimate 40% (max) or to count on the really working condition.

發熱量 Calorific value

$$Pv = 45 \times 40\% \times 860 = 15.480 \text{ Kcal/h}$$

選擇冷卻器 Cooler selection

$$T1 = 60^\circ\text{C}, T2 = 40^\circ\text{C}$$

$$P1 = Pv / (T1 - T2) = 15.480 / (60^\circ\text{C} - 40^\circ\text{C}) = 774 \text{ Kcal/h}^\circ\text{C}$$

實際選型當流量為240 l/min, 選AH1490

Pick 240l/min, pick AH1490

電機的輸出損失率計算法 Motor output loss rate calculation method

$$1\text{Kw} = 1000\text{w} ; 1\text{w} = 3.413 \text{ BTU} ; 1\text{kw} = 860 \text{ kcal/h} ; 1\text{kcal} = 3.968 \text{ BTU} ; 1\text{kcal} = 1.17 \text{ w/h}$$



YEOSHE HYDRAULICS CO., LTD.

YEOSHE BEST CHOICE

*Innovative Technology
Efficient Performance
Reliable Quality and Service*

油聖液壓科技有限公司
YEOSHE HYDRAULICS TECHNOLOGY CO.,LTD.

413 台灣台中市霧峰區霧工一路68號

No.68, Wugong 1st Rd., Wufong Dist., Taichung City, Taiwan, 413

TEL : +886-4-23332339 FAX : +886-4-23333817 E-mail : yeoshe@yeoshe.com.tw

東莞辦事處 Dongguan TEL : +86-769-85965158 FAX : +86-769-81635359 E-mail : yeoshe@yeoshe.com.tw

上海辦事處 Shanghai TEL : +86-21-69785786 FAX : +86-21-69785787 E-mail : yeoshe@yeoshe.com.tw

經銷商 Distributor

www.yeoshehydraulic.com

版權所有 翻印必究
Copyright © 2020 by YEOSHE