THERMAL OIL HEATER

HET 型高效率熱媒鍋爐

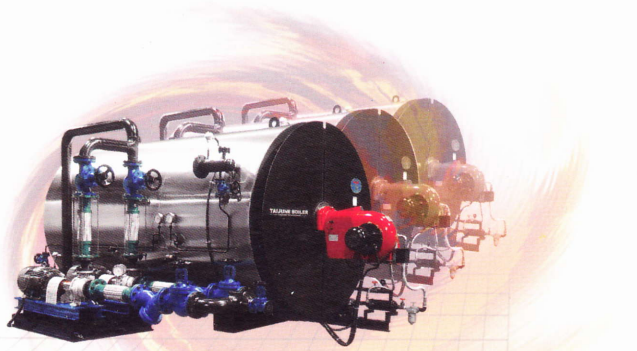
LARGE HEATING AREA . NON-OIL TRAY DESIGN . HIGH FLUID FLOW RATE

超大傳熱面積 . 無油盤構造 . 高熱媒流量

WE CARE FOR THE EARTH

大　震　鍋　爐

TAIJUNE BOILER



HET SEIRES - THERMAL OIL HEATER

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TAIJUNE BOILER

ISO 9001
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超高效率, 耐用, 安全. . .
ULTRA HIGH EFFICIENCY, DURABILITY AND SAFETY

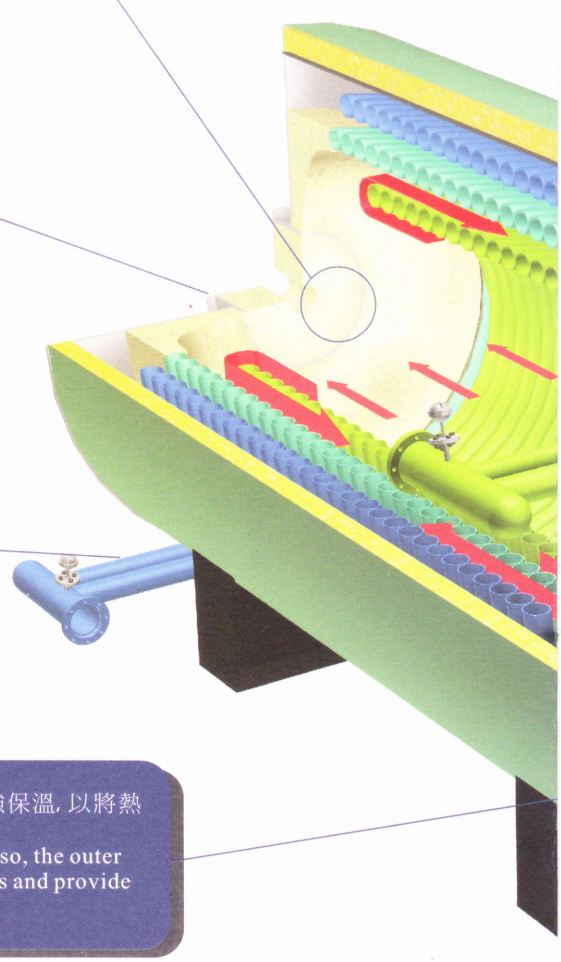
大震 HET 系列熱媒鍋爐係由我們多年之經驗及研究設計而成, 特殊爐身及管圈構造不但擁有最佳之安全性及耐用性, 在長時間運轉後亦能保持超高效率, 再配合大震完美之熱媒流程系統不僅讓熱媒油體發揮最高之使用壽命, 更大幅降低運轉成本並常保最穩定之性能. HET 型熱媒鍋爐的每一個細節都經過我們精心設計, 以帶給使用者最便利, 最可靠的操作.

Taijune's HET series - thermal oil heater has been developed with years of research and field experience. The unique construction of the heater body and coils not only brings the great safety and durability but also keeps ultra high efficiency after a long period of operation. With Taijune's system flow, it lengthens the service life of the heat transfer fluids significantly, and reduces the running costs of the system and maintains the best performance. Every little detail of HET series- thermal oil heater has been carefully designed, providing the most convenient and reliable operation to users.

無集油盤構造, 熱媒油流動無死角, 亦防止集油盤應力高產生破損漏油之危險.
Non-oil tray construction, providing smoothest flow to the fluid and eliminating the hazards of leakage caused by stress over oil trays.

燃燒室人孔. 可提供快速檢查及保養, 並附有觀火視窗, 可清楚地監視燃燒狀況. 一般有集油盤構造之熱媒爐無法提供此裝置.
Furnace manhole with a sight glass, providing quick inspection and maintenance and combustion flame can be monitored clearly. This equipment is not found on conventional thermal oil heaters with the oil tray construction.

理想之傳熱管徑設計, 以確保適當之薄膜溫度及提供充足之熱媒流量及流速. 不但延長傳熱管壽命並減緩熱媒油質劣化.
Proper tube sizing, avoiding high film temperature developed on the inner tube walls and providing sufficient flow and high velocity of the heat transfer fluid. This not only lengthens the service life of heating coils but also slows the deterioration of the fluid.

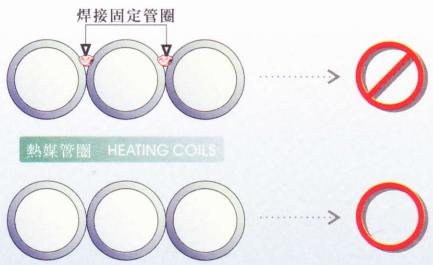


鍋爐門蓋除內面以陶磁纖維及耐火泥斷熱外, 外面並以岩棉板加強保溫, 以將熱損減至最低並提供良好之操作環境.
The inner side of the lid is insulated with fire clay and ceramic fiber. Also, the outer side is insulated with rock wool boards in order to decrease the heat loss and provide fine operation environment.

主要用途 APPLICATIONS

1. 化學工業.....反應，蒸餾，溶融，濃縮，乾燥等過程之加熱與冷卻。
2. 塑膠工業.....押出機，壓花滾輪，加熱成型機之加熱。
3. 塗料及汽車工業.....樹脂塗料之反應，塗裝面之烘乾，汽車車體之塗裝乾燥。
4. 合成纖維工業.....熔融紡絲機，樹脂加工機之加熱。
5. 橡膠工業.....加硫機之加熱。
6. 瓦楞工業.....壓波紋機之加熱，蠟之熔融。
7. 食品工業.....蒸煮，乾燥，炸油之間接加熱。
8. 瀝清工業.....熔融裝置之加熱。
9. 建築設備工業.....公寓，大廈之暖氣及區域暖氣。
10. 造船工業.....燃料油之預熱，船艙之暖氣設備。
11. 電子工業.....銅箔基板壓合,玻纖布含浸機等。
12. 其他工業.....上膠品之乾燥等。

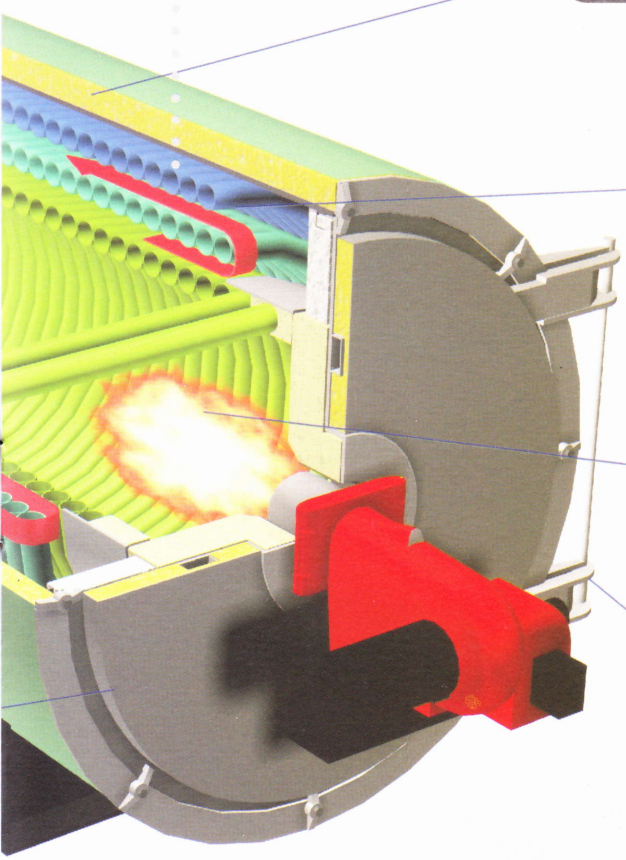
1. Chemical industry: for heating or cooling in the process of reaction, distillation, melting, evaporation, dring etc.
2. Plastic industry: for the heating extruder, calender, roller, hot press.
3. Paint and automobile industry: heating and cooling in the reaction of synthetic resin paint, hot air Drying of coating surface and the coating drying of automobile body.
4. Synthetic firber industry: for the heating of filament and resin machinery.
5. Rubber industry: heating of sulfur kettle.
6. Corrugated cardboard industry: heating of embossing roller, melting of wax.
7. Food industry: indirect heating of cooking, drying and fried oil.
8. Asphalt industry: asphalt melting apparatus.
9. Architectural interior industry: for the temperature control of apartment building of districts.
10. Ship industry: preheating of fuel oil or cabin warming.
11. Electronics industry: cooper clad lamination, fiber glass clothes treating.
12. The other industry: drying coated substances etc.



一般熱媒鍋爐管圈間之固定採用焊接方式強制牽連,此施工法容易因管材與焊道熱膨脹係數不同而產生對熱媒管壁之破壞而洩漏.
Conventionally, the forced welding between tube loops is used for fastening the coils. The method of construction easily brings serious destructions to the tube walls due to the difference of expansion coefficient of the tube and solder.

大震熱媒鍋爐管圈間完全無採用焊接強制牽,管圈係以特殊技術構成之自由膨脹體,管圈完全不受熱膨脹影響,無任何破壞力.
Taijune's thermal oil heaters apply no welding between tube loops. Our special techniques provide excellent flexibility to the coils against thermal expansion. Therefore, there is no destructive forces.

二層式鍋爐爐殼保溫,內層採用陶化纖維外加岩棉板保溫,以降低散熱損失..
Dual-layer insulation for shell. The inner layer applies ceramic fiber and rock wool boards on the outside. Heat loss from the heater surface is minimized.



三迴路管圈設計,傳熱面積比市面一般熱媒鍋爐大約30%,以降低排氣溫度並大幅提高鍋爐效率.
3-pass coil design, heating area is larger than other thermal oil heaters by approximately 30%. Thus, the boiler efficiency is increased significantly with low exhaust temperature.

大型燃燒室,避免火焰接觸管壁而產生破壞,並降低氮氧化物排放..
Large combustion chamber, preventing flame from contacting tube walls, also decreasing NOx content in flue gas.

快開式門蓋,提供快速檢查及保養.特殊構造無漏煙之問題
Hinged-open lid, making inspection and maintenance easy and quick. Special lid construction and tight seal with no leakages.

構造剖面示意圖 CUT-AWAY DRAWING OF THERMAL OIL HEATER

標準規格 SPECIFICATION

型式 Serial No.		HET-030	HET-040	HET-060	HET-080	HET-100	HET-120	HET-150	HET-200	HET-250	HET-300	HET-350	HET-400	HET-500	HET-600
熱出力 Thermal Output	MJ/hr kcal/hr	1260 300,000	1680 400,000	2520 600,000	3360 800,000	4200 1,000,000	5040 1,200,000	6300 1,500,000	8400 2,000,000	10500 2,500,000	12600 3,000,000	14700 3,500,000	16800 4,000,000	21000 5.000,000	25200 6,000,000
設計壓力 Design Pressure	Mpa kg/cm²	0.7 7													
最高使用溫度 Max. working Tem.	°C	300													
熱媒油容量 Inner Thermal Oil	GAL.	69	85	155	240	318	372	626	872	952	1268	1320	1980	2075	2206
燃料種類 Fuel		柴油，鍋爐油，燃料油，瓦斯 DIESEL, HEAVY OIL, GAS													
控制方式 Control Method		三段式 HIGH-LOW-OFF							比例式 PROPORTIONAL						
燃料消耗量 Fuel Consumption	kg/hr	36.4	49	73	97	121	145	182	242	303	358	420	485	600	728
燃燒機馬達 Burner Motor	KW	0.4	0.75	1.5	3.3	3.3	4.8	4.8	5.4	9.5	13	13	13.5	22	22
燃油加熱器 Fuel Heater	KW	3	4	4.5	13.2	13.2	13.2	13.2	13.2	13.2	22.4	22.4	22.4	22.4	22.4
循環泵浦流量 Circulation Pump Flow Rate	m³/hr	32	42	62	83	104	124	155	208	259	310	362	415	520	620
循環泵浦揚程 Circulation Pump Head	mAq	47	50	58	50	55	51	51	63	50	60	60	60	60	60
熱媒循環泵浦 Circulation Pump	KW	7.5	7.5	11	15	19	22.5	37.5	45	57	57	75	94	94	112.5
總電器容量 Total Electric	KW	10.9	12.25	17	31.5	35.5	40.5	55.5	63.6	80	92.4	110.4	130	138.4	157
熱媒油出入口 Thermal Oil Out & In Dia.	øA	65A	65A	80A	100A	100A	100A	125A	125A	150A	150A	200A	200A	200A	250A
煙囪口徑 Chimney Dia.	mmø	300	320	380	400	480	500	550	650	720	800	850	960	960	1050
製品重量 Appx.Weight	kg	2200	2600	3000	4200	5600	6200	9200	12500	14400	18200	19150	23200	25500	27100

本表所列規格及尺寸裝備因產品改良等原因，敝公司得不經預告而變之.

The characteristics mentioned above are indicative and can be modified at any time without prior notice.

熱媒油物理性參考 REFERENCE OF THERMAL OIL

廠牌 BRAND		SOLUTIA				ESSO	PETRO-CANADA		
熱媒油型號 THERMAL OIL		THERMINOL VP-1	THERMINOL 55	THERMINOL 66	THERMINOL XP	ESSO THERM 500	HTF	FG	AF
比重 DENSITY	℃	1.061	0.89	1.005	0.87	0.86	0.859	0.853	0.888
流動點 POUR-POINT	℃	-12	-40	-32	-29	-9	-15	-18	-40
沸點 BOILING-POINT	℃	257	335-390	392	332-416	371	364	363	343
閃火點 FLASH-POINT	℃	124	177	191	182	204	226	209	210
體膨脹係數 EXPANSION COF	cc/cc ℃	4.3×10^{-4}	7.5×10^{-4}	8.19×10^{-4}	9.5×10^{-4}	6.7×10^{-4}	1.011×10^{-4}	1.041×10^{-4}	1.016×10^{-4}
比熱 SPECIFIC HEAT	kcal/kg ℃	0.487 (200℃)	0.6 (200℃)	0.5 (200℃)	0.603 (200℃)	0.597 (200℃)	0.6449 (200℃)	0.6449 (200℃)	0.6449 (200℃)
CST 粘度 VISCOSITY	20 ℃ 200 ℃ 300 ℃	4.6 0.34 0.19	7.5 1.2 0.65	128 0.935 0.5	423 4.40 1.79	100 1.5 0.75	35.6 6.0 0.73	35.6 6.0 0.72	32.1 5.4 0.73
熱傳導率 kcal/mh℃ HEAT CONDUCT	100 ℃ 200 ℃ 300 ℃	0.1102 0.097 0.085	0.1113 0.1032 0.0951	0.098 0.0905 0.0809	0.093 0.085 0.077	0.094 0.083 0.071	0.1379 0.1327 0.1275	0.1379 0.1327 0.1275	0.1379 0.1327 0.1275
蒸汽壓 mmHg STEAM PRESSURE	200 ℃ 260 ℃ 300 ℃	319 1252 1838	33 112 333	19.1 89.6 254	- - -	7.5 50 120	0.44 2.66 11.44	0.44 3.01 14.27	0.67 3.77 15.3
最高使用溫度 MAX.BULK TEMP.	℃	400液相 400氣相	315	345	315	316	326	326	300
燃燒性 COMBUSTIBLE		有 YES	有 YES	有 YES	有 YES	有 YES	有 YES	有 YES	YES
毒性 TOXICITY		微 LITILE	微 LITILE	微 LITILE	食品用 (符)F.D.A.	微 LITILE	無 (非食用)	食品用 (符)F.D.A.	無 (非食用)

註：本表數據僅供參考用

Remark: This specification sheet is for reference only.

常用燃料性質參考
Property of various fuel

	低位發熱量 L.H.V.	比重 SP. GRAVITY
天然氣 NATURAL GAS	8500 kcal/nm^3	
液化瓦斯 L.P.G.	11800 kcal/kg	558kg/m^3
柴油 DIESEL OIL	10300 kcal/kg	790 kg/m^3
鍋爐油 BOILER OIL	9850 kcal/kg	900 kg/m^3
重油 HEAVY OIL	9700 kcal/kg	960 kg/m^3

熱媒油容量與膨脹量計算
Calculation of thermal oil volume & expansion volume

系統總熱媒油容量 =(鍋爐本體容積＋管線容積＋膨脹槽及儲槽基本容積＋使用機台熱媒油容量) x 安全係數

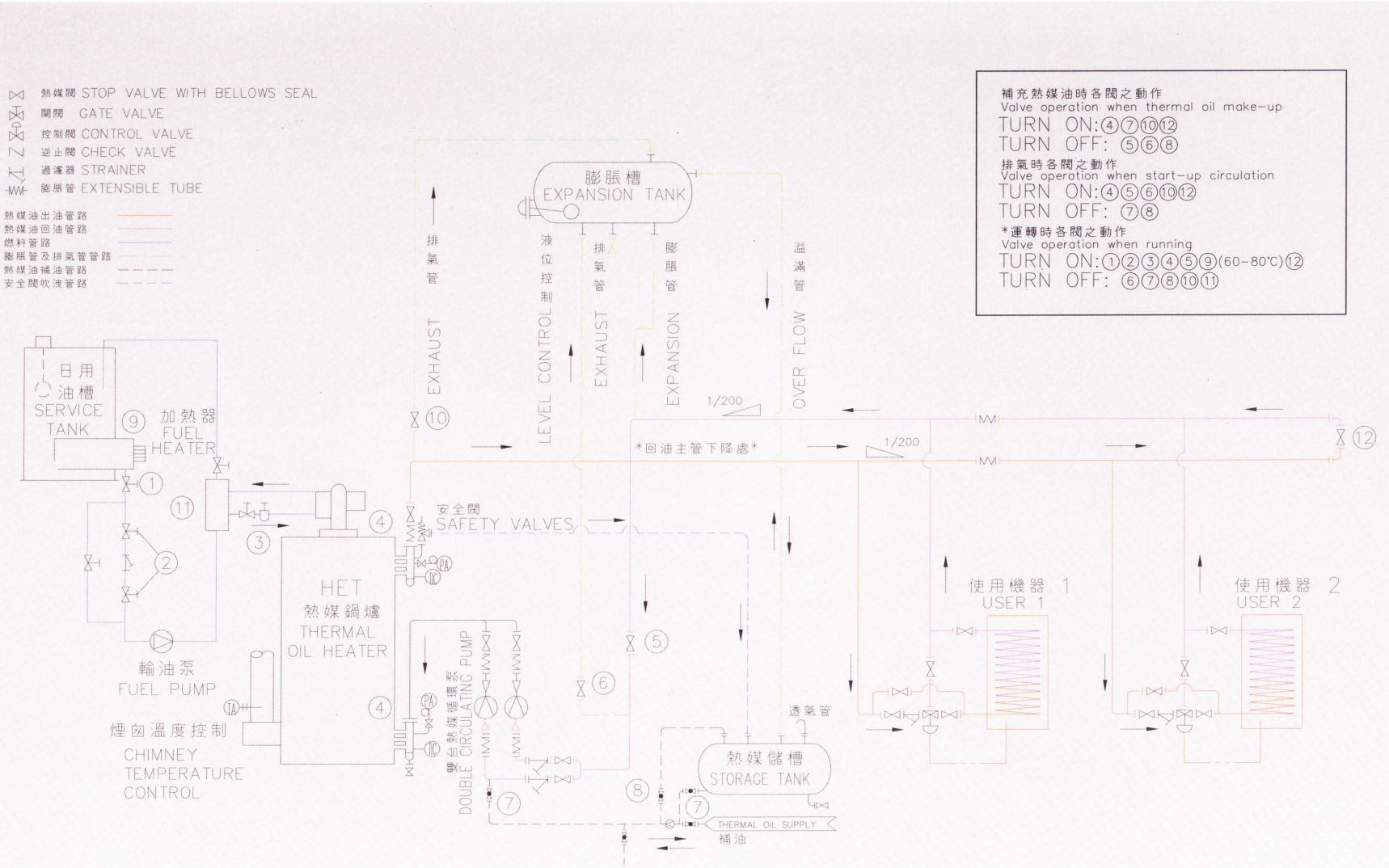
總熱媒油膨脹量 =總熱媒油容量x 熱媒油膨 脹係數 X 熱媒使用溫度

TOTAL THERMAL OIL LOAD = (OIL VOL. OF HEATER PROPER＋OIL VOIL. OF PIPELINE＋MINIMAL OIL VOIL. OF EXPANSION TANK AND STORAGE TANK＋OIL VOL. OF HEAT USERS) x SAFETY COEFF.

TOTAL HEAT EXPANSION OF THERMAL OIL = TOTAL THERMAL OIL LOAD x EXPANSION COEFF. OF THERMAL OIL x THERMAL OIL WORKING TEMPERATURE

THERMAL OIL HEATER

系統流程圖 SYSTEM FLOW SHEET



備註:
1. 膨脹應設置高於使用機台4米以上.
2. 12號閥爲流量調整閥. 可用壓力自動控制閥, 或手動調節閥.
3. 圖面標示之燃油流程爲重油系統.

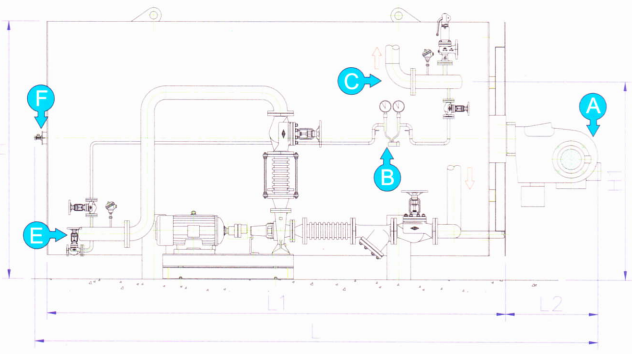
Remarks:
1. Expansion tank shall be positioned at least 4 meters above users.
2. Valve No.12 is for by-pass control, which can be either auto. Pressure controlled valves or manual stop valves.
3. The fuel flow shown is for heavy oil system.

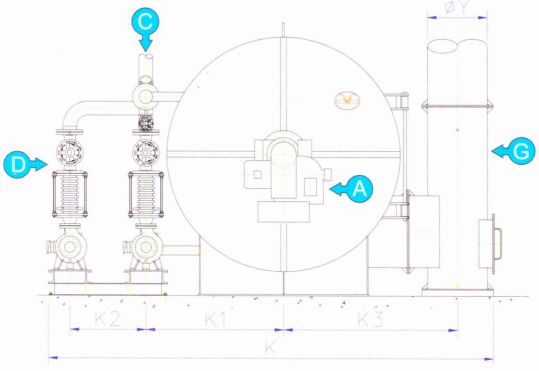
外型尺寸 | DIMENSION

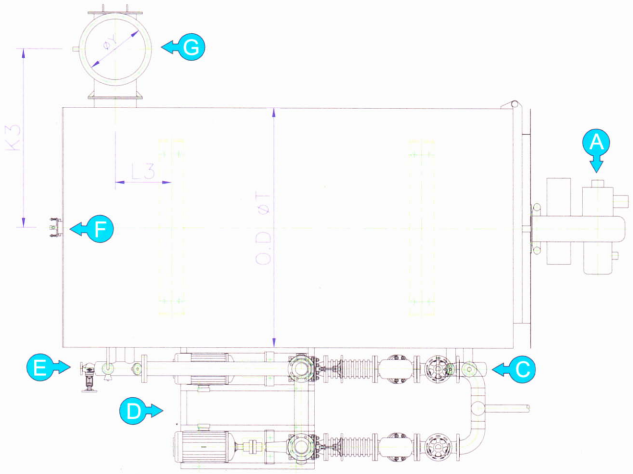
外型尺寸表 DIMENSION CHART

TYPE \ DIM.	L	L1	L2	L3	K	K1	K2	K3	H	øT	øY
HET-060	3426	2595	750	326	3390	940	520	1250	1710	1660	ø380
HET-080	3722	2842	778	326	3780	1040	640	1360	1960	1860	ø400
HET-100	4424	3543	780	345	3735	1100	640	1450	2160	1960	ø480
HET-120	4760	3855	803	463	3735	1100	640	1450	2160	1960	ø500
HET-150	5608	4680	828	475	3960	1250	640	1535	2198	2098	ø550
HET-200	5894	4709	1003	530	4605	1380	800	1800	2690	2490	ø650
HET-250	6374	5188	1003	570	4658	1430	760	1838	2696	2496	ø720
HET-300	7098	6120	978	721	5030	1495	850	1962	2864	2664	ø800
HET-350	7630	6190	1118	765	5327	1520	1100	1962	2864	2664	ø850
HET-400	8200	6550	1550	860	5580	1520	1200	2100	3180	2980	ø960
HET-500	8552	6840	1550	875	5895	1640	1200	2150	3280	3080	ø960

上列尺寸可能因配備不同而改變
The above dimensions may vary due to different outfits.







Ⓐ 燃燒機	BURNER
Ⓑ 差壓控制器	DIFF. PRESSURE CONTROLLER
Ⓒ 熱媒油出口	THERMAL OIL OUTLET
Ⓓ 熱媒循環泵	CIRCULATION PUMP
Ⓔ 熱媒油入口	THERMAL OIL INLET
Ⓕ 火焰監視孔	FLAME VIEWING HOLE
Ⓖ 廢氣出口	EXHAUST OUTLET

以上僅供參考
FOR REFERENCE ONLY