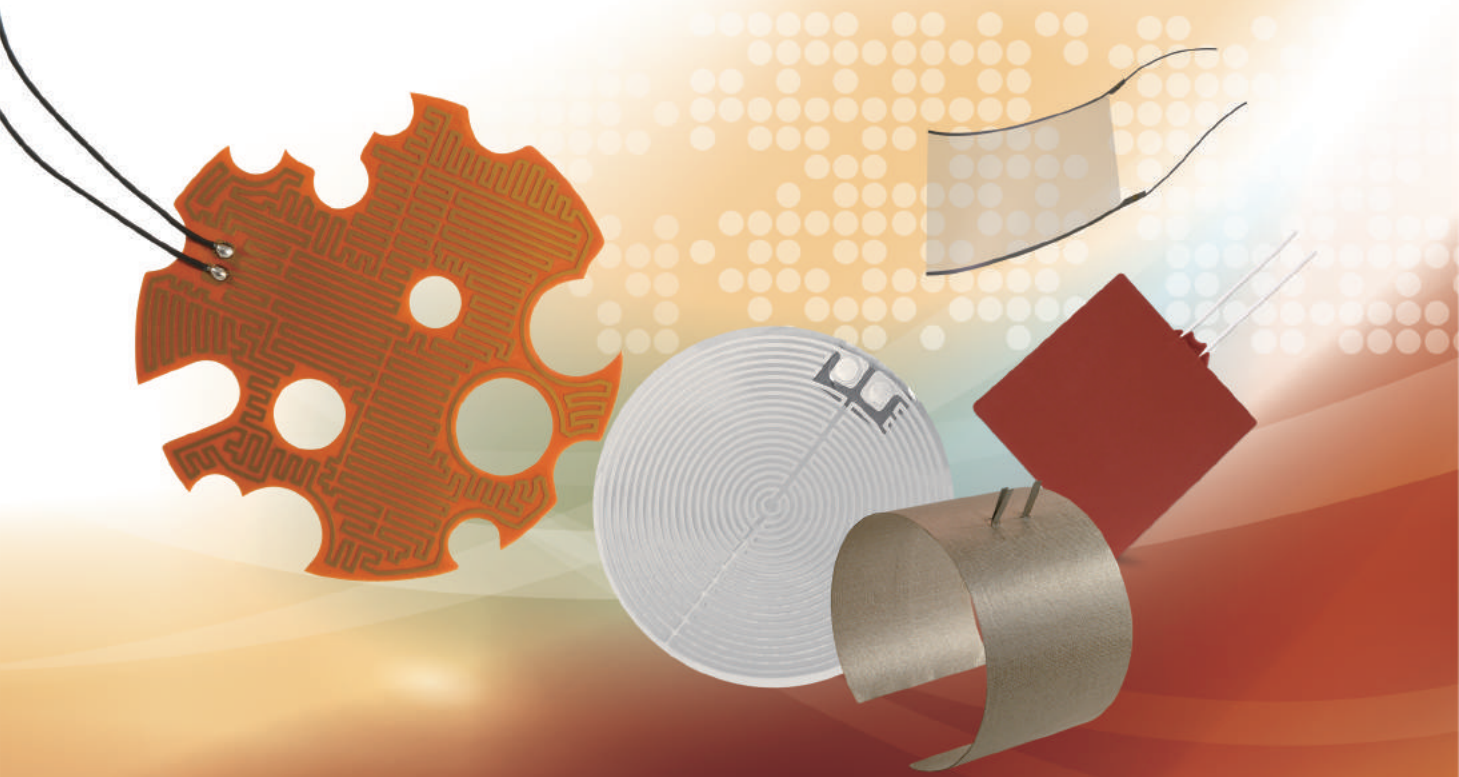
HEATACT®

Flexible Film Heating Elements



We have designed more than 1000 kinds of heating products.

top-of-the-line heating technology.

Contents

ABOUT HEATACT

HEATACT®

SINCE 1979

1982-1993

Passed the UL certification, and developed the KAPTON foil heating elements, EMH-100 super-conductive heating fans, Industrial high efficient super conductive heating dryer, piping heating equipment and super conductive heating recycling machine.

In 1990

Du Pont Company in the U.S. highly recommended the KAPTON film heating pad produced by our company in a special column published in LIFE TECHNOLOGY.

In 1993

We had the honor of being selected by the National Space Program Office to participate in the research of the national first satelite.
It is necessary to have considerable stability and high precise technology for the very arduous and high-tech elements.

1997-2009

Our company continually researched and developed various heating elements. During that same time, we produced a series of warming finished products. These include the heating vest, heating glove, toilet seat warmer, healthy heating pad and also far infrared super conductive sauna heating box, pet warming pad, etc. There are too many to be cited.

In 1999-2002

Heatact participated in the space project to jointly develop and manufacture the heating elements for ROCSAT-2 & 3.

In 2003

1. Our company acquired certificates from the National Space center, Taiwan and Orbital, U.S.
2. During 2004-2006, our company acquired ISO9001-2000 pharmaceutical and food certificates.
3. In 2010, our company passed ISO9001 quality management system certification. The approved range includes electronic parts, electrical appliances, heating fans, sauna heater boxes, etc.

In 2012

New factory expansion planning began in February. Relevant documents were then sent to governmental authorities for evaluation. We estimated that new factory construction would start in July. The plan was completed in December, 2015.

In 2016

The heating pads produced by HEATACT have exceeded 30 million of pieces.

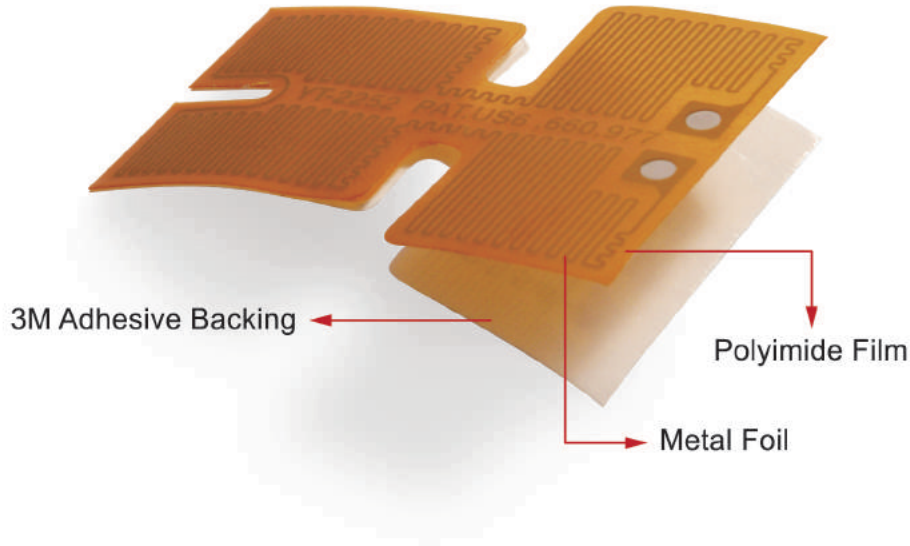
In 2017

The area of the factory is about 20,000 square meters.

Corporate Philosophy

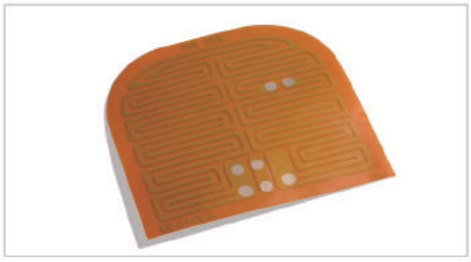
- Product category：heating product, flexible heating element, electric heater, heating blanket, custom made heater, heating solution, etc.
- Business concept：honest, quality, professional, responsibility, service first
- Management principle：professional OEM and ODM We have the one that the others have not. We have the best well-designed and manufactured products.
- Purpose of operation：energy saving, creating high efficient products Let you now touch the technology of tomorrow.
- Enterprise mission：From the parts to the finished products, we are well equipped to be internationally competitive to satisfy our customers.

Super Conductive Flexible Heating Element



We have five types of heating elements including: kapton, polyester (PET), silicon rubber, mica and transparent. The flexible heating pad is laminated between two insulation layers. For example, kapton, silicon rubber, polyester or transparent heating element are all flexible heating films with the minimum bending radius about 1mm.

Characteristics of Heating Element
· Fast heat conduction and cooling fast
· Lightweight, and flexible, to be wound and bent
· AC/DC 1 - 1000V
· Withstand 3000V test
· The heating pad can be custom manufactured to match any size.
· It may be pierced with holes, or the center may be removed to allow the heating pad to conform with any shape.
· It can also be divided into many areas with different power specifications and temperatures on a heating pad.
· The heating pad can be installed with temperature control elements such as NTC, temperature sensor, temperature fuse, etc.
· Safe and reliable The service life exceeds 20 years (except a special application).



Polyimide Film Heating Element

Can be applied with back adhesive the same as the material of Kapton of DuPont in USA. With a tested temperature range of -200 ~310°C, the PI film heating element can be used in a frigid environment and is widely used in electric appliances and medical applications.

- Temperature range : -240~310℃ (-400~590℉)
- Light-weight, 0.1mm thick
- The heating element can be wound and bent. The minimum bending radius is about 0.2 mm.

Polyester Heating Element

PET is a translucent heating element, which can be applied with double sided adhesive backing, and is as flexible as the Kapton heating element. PET is the most economical and least expensive flexible heating element.

- Temperature range : -25~120℃ (-13~248°F)
- Waterproof and moist-proof
- Can be wound and bent.

Silicon Rubber Heating Element

The silicon rubber heating element heats up rapidly with an even temperature, and can be applied with an adhesive backing. It is primarily composed of super conductive heating alloy sheet and high temperature silicon rubber insulation cloth.

- Temperature range : -200~300℃ (-328~572℉)
- Acid resistance
- It is waterproof, insulating and oil environment resistant.

Mica Heating Element

This ultra-thin film heating pad is constructed to have a high tensile strength and withstand high temperatures. It is in compliance with insulation testing of a high voltage resistance. It can be integrated with a metal mold. With the high heating efficiency, the mica heating element replaces conventional heating elements and heating pipes.

- Temperature range : -200~1000℃ (-328~1832℉)
- Applicable to various high temperature resistant insulation materials such as electrical appliances and industrial equipment.

Transparent Film Heating Element

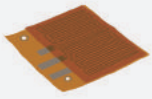
With the construction of an ultra-thin film heating element, the transparent film heating element will not affect any sight line with the high-performance or common double sided adhesive backing stuck onto both sides.

- Temperature range : -25~120℃ (-13~248°F)
- The film heating element heats up quickly and evenly.
- The visible transparency is up to 85% higher than that of conventional glass.
- No harmful effects from glare

Application Category

- Aviation Equipment
- Medical Equipment
- Industrial Equipment
- Fittings of Traffic Equipment
- Electrical Appliance
- LCD Display
- Bathroom Mirror Defogger
- Automobile Electronic Part
- Food Warmer
- Laboratory Equipment

HEATACT flexible heaters can be applied to many fields and have been proven particularly successful in the following applications：temperature control, electric appliance, medical instrument, test and research, agriculture and animal husbandry, transportation, etc.



Polyimide Flexible Film Heating Element

Applications: used for precisely heating medical equipment, rotary acceleration measuring device, tail operating device, aviation camera and aircraft, satellite, space craft, and critical electronic temperature control of defense systems

Polyester Flexible Film Heating Element

Applications : include: water fountain heater, milk bottle warming, glove heating pads for snowmobile, automobile seat heating pad, freezer compartment defroster, refrigerator compartment defroster, instrument dehumidifier, bathroom mirror demister, humidifier heating pad, and sauna heating box

Silicon Rubber Heating Element

Applications: electrical box dehumidifier, cup heater, IC Wafer heater, food warming insulation bag, water heater, towel warmer box, drying oven, automobile snow melting heater, heated motorcycle handle, beauty slimming heating blanket, and eyelashes device

Mica Heating Element

Applications: water heater, iron, mould process, sealing machine for foodstuff machine, heating stove, warming saucer, electric rice cooker, coffee pot, crystal pot, mold heating, model heater, hair dryer, etc.

Transparent Film Heating Element

Applications: automotive glass, optical lens, LCD screen, indoor and outdoor gauge and instrument, bathroom mirror demister, TV screen defogger, rearview mirror defogging, helmet lenses, windshield, dashboard, industrial screen, outdoor computer, camera, glasses, mirror and other de-fogging products

Flexible Heating Element

The insulation materials listed below are often used for flexible heaters. They can also be applied to the higher temperature or greater voltage resistant insulation material or insulation materials of other special properties.

Kind of Heating Pad	Polyimide Film	Silicon Rubber	Mica	Polyester	Transparent PET Optical Film
HEATER PROPERTIES	0.002" Kapton with 0.001" FEP adhesive	0.008" glass reinforced Silicon Rubber Teflon	0.1mm~1mm thick Mica sheet	0.005" Polyester with 0.001" insulation	0.005" Transparent film with 0.001" insulation
COLOR	transparent amber color	red elastomer on glass fiber substrate	white or green mica sheet	transparent film	transparent film
TEMPERATURE RANGE	-240 to 310°C (-400 to 590°F)	-200 to 300°C (-328 to 572°F)	-200 to 1000°C (-328 to 1832°F)	-25 to 120°C (-13 to 248°F)	-25 to 120°C (-13 to 248°F)
DIELECTRIC STRENGTH	1000 VRMS	1000 VRMS	1000 VRMS	1000 VRMS	1000 VRMS
MAX. THICKNESS OVER ELEMENT	0.010" (0.25mm)	0.020" (0.5mm)	0.017" (0.43mm)	0.008" (0.2mm)	0.008" (0.2mm)
MAXIMUM WATTAGE	25°C 60w / inch²	25°C 60w / inch²	25°C 100w / inch²	25°C 35w / inch²	25°C 15w / inch²

Application References

① Water-Resistance :

Kapton, Silicon Rubber, Teflon and Polyester are water-resistant insulation materials. Take caution to the seal around heater edges and exit area of leads before operating. Kapton, Nomex and Polyester are oil-resistant, but they must be modified before immersing. HEATACT Flexible Heaters are absorbent. By immersing the heater in 40°C water for a week with a 2.9% weight increased, the flexible heater must be varnished with fluorine or Silicon Rubber before being used in a high twmperature.

② Dielectric Strength :

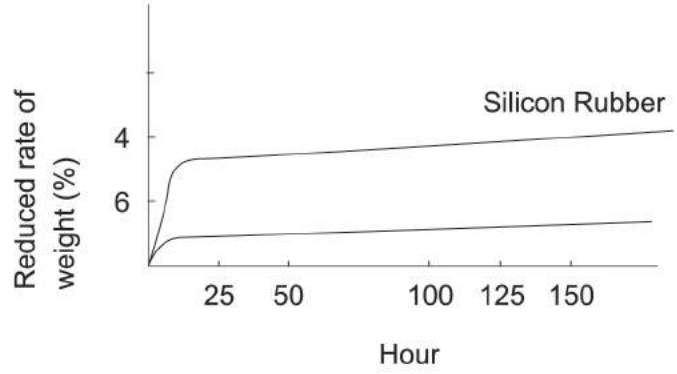
0.02 mm HEATACT flexible heater can withatand 0.06mm heater of 2500V & 7500V.

③ Vacuum Stability :

In a 200°C and 3 X 10^{-6} Torr vacuum, we test the heater and find that there is no free air molecule from the insulation so HEATACT flexible heater has good stability in a vacuum. The following list is for the curvature of weight of HEATACT flexible Silicon Rubber heater for your reference.

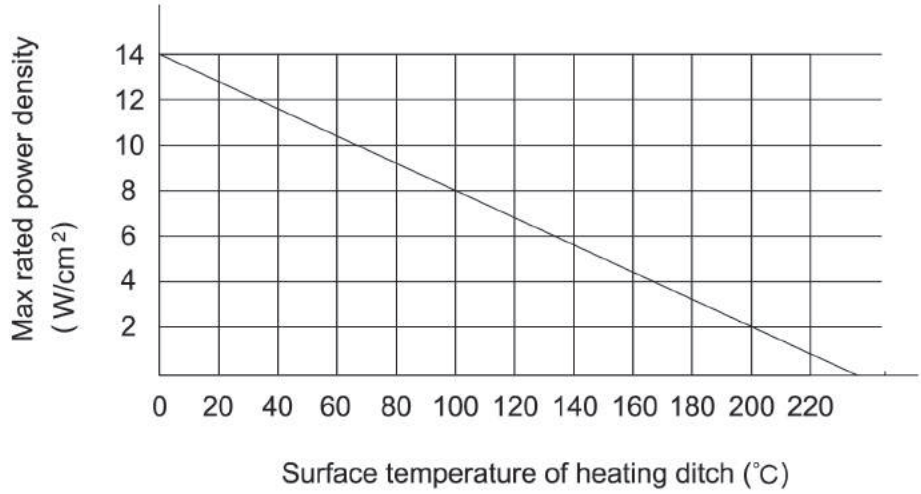
④ Radiation Resistance :

Kapton, Silicon Rubber, Teflon, Nomex and Polyester are radiation resistant. HEATACT flexible heater can resist radiative rays upto 10^{9} rad with the same curvature.



⑤ Max rated power density chart :

The chart is for heating of the heater mounted with heatproof cement.



Customization of Non-standard Products

If what you need are not for our standard heaters, please fill in the form and send it back.
We will help you immediately.

COMPANY : _____

NAME : _____ PHONE : _____

ADDRESS : _____

① VOLTAGE & WATTAGE : _____ v _____ w

② TEMPERATURE RANGE : _____ ℃ to _____ ℃.

③ SPECIFICATION : Length _____ m/m, Height _____ m/m, Width _____ m/m.

④ WIRE LENGTH : Positive wire _____ m/m, Negative wire _____ m/m.

☐ Solder ☐ Rivet ☐ Tin solder (Please mark √)

⑤ INSULATION MATERIAL : Polyester _____ or Silicon Rubber _____ or Mica _____

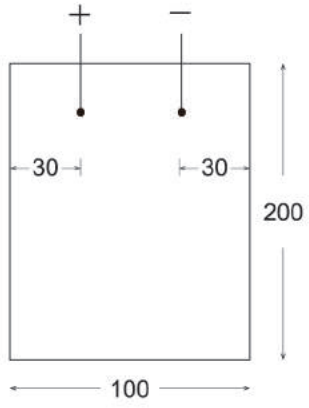
or Kapton _____ or Teflon _____ or others _____ (Please mark √)

⑥ MOUNTING METHODS : (1) PSA _____ (2) Cement _____

(3) Shrink bands _____ (4) Vulcanization _____ (5) Mechanical Clamping _____

(Please mark √) More than one method are available.

⑦ EXAMPLE PATTERN



⑧ YOUR SAMPLE PATTERN

⑩ WITH ADHESIVE : Yes ____ No ____

Single side ____ or Double side ____

(Please mark √)

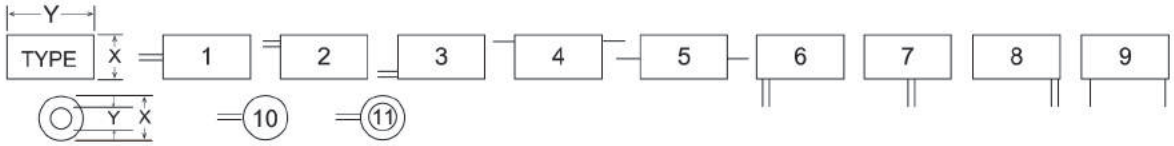
⑪ Heat-resistant silicone glue(260℃)

We need _____ bottles/kg

⑫ Heat-resistant ceramic glue(1800℃)

We need _____ bottles/kg

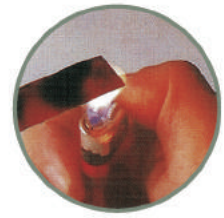
⑨ WIRE POSITION : Please find out the position you need and mark √ .



Super Conductive Industral Heating Fan

The traditional heating wire takes 1-2 minutes to produce heat.

Not safe
Easy to burn paper, for it cannot drop the temperature after one minute.



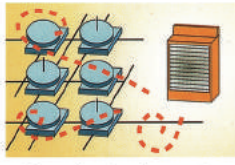
Super conductive heater
The efficiency of heat reaches 95% in one second.

The safest to use Return to the constant temperature immediately in 2-3 seconds and won't burn Paper.

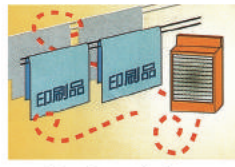
FEATURES :

1. Adopt the super conductive heater to produce heat for an instant.The machine reaches the highest temperature preset within one second as it is turned on.The efficiency of heat is above 95%, saving 65% in electricity, better than general heaters.
2. Without radiant heat, the super conductive heater does neither emit fire light, nor will it burn when adhering to fluffed cotton and miscellaneous articles.It is the safest to use.
3. This super conductive heater disperses heat for an instant and returns to the constant temperature within 2-3 seconds, not igniting oxygen.You will not feel suffocated, and nor will you feel lacking in oxygen even if the room is heated up to 100℃.

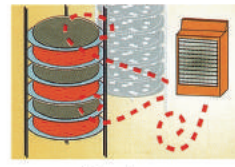
APPLICATIONS : Five great functions: Drying, keeping warm, dehumidifying, having a warm and adjusting room temperature



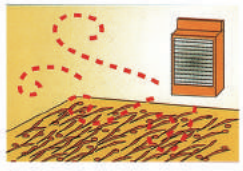
Dry electronic parts.



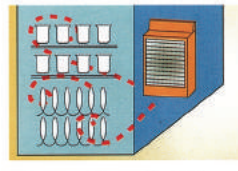
Dry for printing.



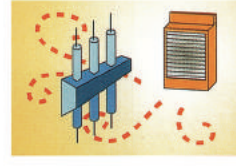
Dry tea.



Dry wheat red bean,etc.



Dry and heat for killing becteria on the glassware in the chemical laboratory.



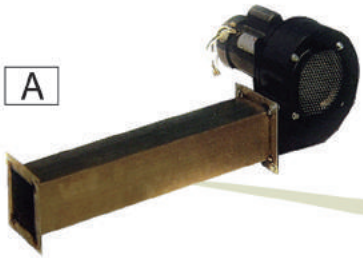
Dry the iron or copper wire which have been washed clean.

Hot Air Heating Module

TYPE		A.Muit-blade Type ED-50						B.Muit-blade TypeED-55						C.Multi-blade ED-400 Direct Connection Type					
Power source		Available to 220V/Single Phase						220V/3 Phases			220V/3 Phases			220V/3 Phases					
Heating(kw)		0.6	0.66	1.33	2.33	2	3.5	6	8	10	8	12	16	12	24	36	40	50	60
Current(A)		2.7	3	6	10.5	9	16	16	21	26	21	31	42	31	63	94	105	131	157
Temperature(℃)of Outlet		115	60	95	150	90	140	120	150	180	110	150	195	63	100	140	65	75	85
Inlet(Dia.of Opening)		76Φm/m	100Φm/m			127Φm/m		125Φm/m			150Φm/m			295Φm/m			245Φm/m		
Outlet(Dia.of Opening)		46x46m/m	46x46m/m			46x46m/m		92x92m/m			93x93m/m			155x265m/m			210x340m/m		
Blow Fan	Maximum Volume of Air	1.8M³/Min	2.6M³/Min			3.9M³/Min		11.5M³/Min			14.3M³/Min			45M³/Min			80M³/Min		
	Highest Static Pressure	18MM/AQ	26MM/AQ			22MM/AQ		66.5MM/AQ			84MM/AQ			60MM/AQ			70MM/AQ		
	Method of Adjusting Volume of Air	Easy Adjustable Temperature Switch						Easy Adjustable Temperature Switch						Easy Adjustable Temperature Switch					
	RPM	2800-3200	2800-3200			2800-3200		2800-3200			2800-3200			1720			1720		
	Dryer/Motor	25W	45W			90W		200W			1/2 HP			1.6#1HP			2#2HP		
Spec.LxWxH(mm)		189x140x167	766x165x186			792x175x232		811x272x235			876x272x350			950x380x410			1070x470x520		
Weight(kgs)		18.6	19			19.2		20			23			40.5			47		
Remarks		Available to 110V	Available to 380V/Single Phase																

This chart is as the reference value of this machine tested in room temperature 25℃.

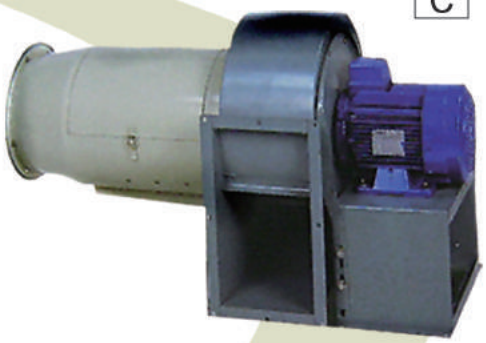
A



B

Remarks: with housing,
without housing

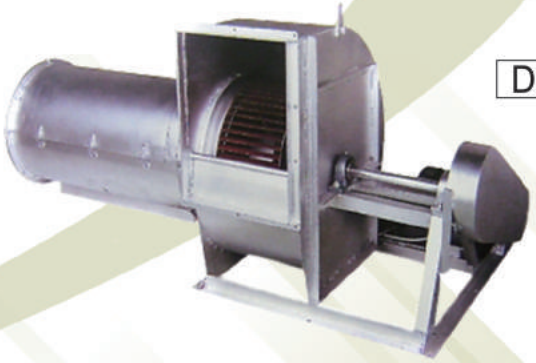
C



F

G

D



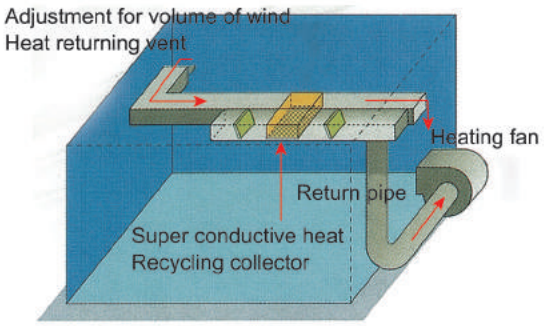
E

TYPE	D.Multi-blade ED-400 Belt Type								E.Axial Flow Type ED-300			F.18"YT-1883B(Box Type)			G.16"YT-1663B(Box Type)	
Power source	220V/3 Phases								220V/3 Phases			220V/3 Phases			220V/Single Phase	
Heating(kw)	40	70	120	90	110	90	120	220	12	16	24	10	16	20	4	6
Current(A)	105	183	31	236	289	236	314	576	31	42	63	26	42	52	18	27
Temperature(℃)of Outlet	100	155	175	115	135	76	95	150	60	70	95	60	80	90	50	60
Inlet(Dia.of Opening)	305Φm/m			381Φm/m		533Φm/m			300Φm/m			440x580 mm			306x381 mm	
Outlet(Dia.of Opening)	300x250m/m			380x300m/m		520x450m/m			300Φm/m			440x490 mm			291x410 mm	
Blow Fan Maximum Volume of Air	42M³/Min			74M³/Min		146M³/Min			60-70M³/Min			35M³/Min			20M³/Min	
Blow Fan Highest Static Pressure	40MM/AQ			50MM/AQ		50MM/AQ			40-50MM/AQ							
Blow Fan Method of Adjusting Volume of Air	A Easy Adjustable Switch can be choosen								Easy Adjustable Temperature Switch							
Blow Fan RPM	1100			1100		800			3400							
Blow Fan Dryer/Motor	2#1HP			21/2#/5HP		31/2#5HP			550W			1/2 HP			45W	
Spec.LxWxH(mm)	1350x700x578			1680x848x735		2100x1092x995			650x300x330			420x500x825			360x300x650	
Weight(kgs)	92	97	103	129	132	202	206	225	24.6			33			18.6	
Remarks	Available to 380V/Single Phase														Available to 380V	

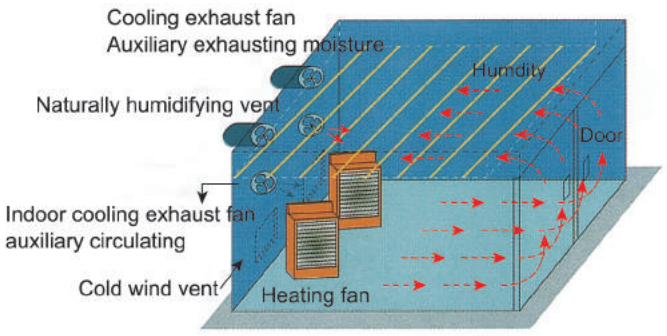
The above is only for your reference, which can be designed and started construction according to the locale.

Construction of Drying Equipment

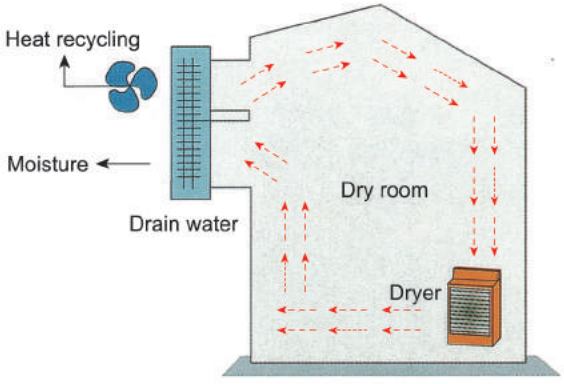
(A) Allocation figure for super conductive heat recycling collector



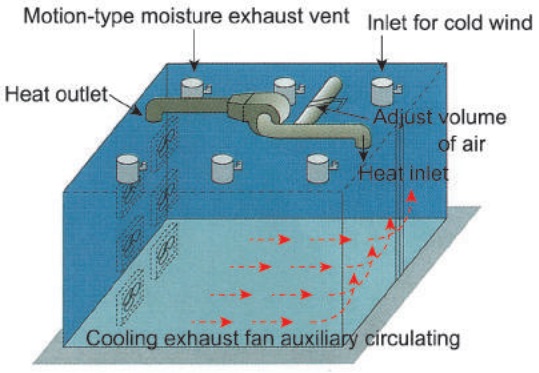
(A) Allocation figure for equipment of dry room



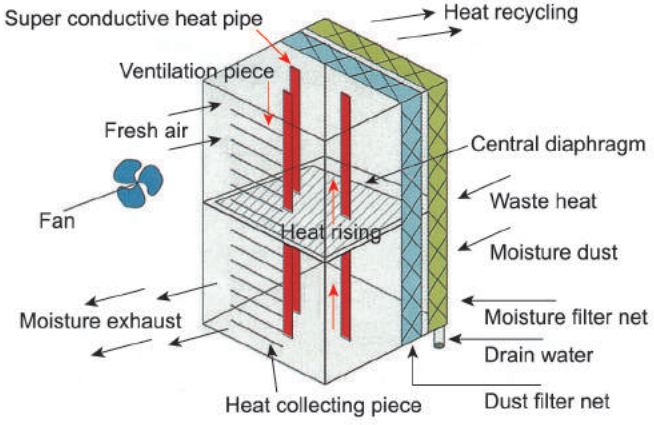
(B) Allocation for super conductive heat recycling collector



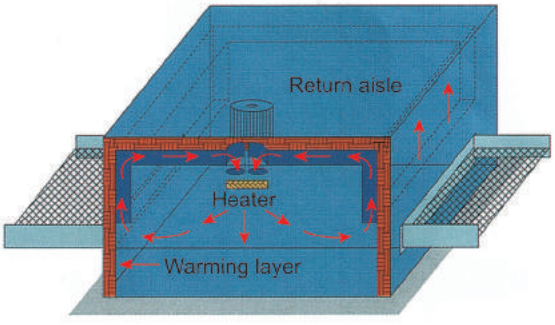
(B) Allocation figure for equipment of dry room



Allocation figure for super conductive heat recycling collector



Allocation figure for dry conveyor



Features:

(1) Recycle and reclaim the generally exhausted heat.
(2) Exhaust the generally unwanted gas, dust and humidity.
(3) Heat recycling rate: above 80% Energy saving: above 50%
(4) The recycling process will not consume energy again.
(5) The installation cost will be reclaimed within one year. The energy will be totally saved in the future.
(6) The recycled heat is absolutely fresh hot air.
(7) Small volume, easy to install and to clean the dusty filter net.

Application:

(1) Dry the machine and room.
(2) Comes in with the heat exhaust chimney.
(3) And various heat exhaust equipments.
(4) Suitable for the acidity and alkalinity resisting places. (specially designated)

THE COMPANY SINCE 1979

We are a professional manufacturer, develop and manufacture specifically heating elements and, as the first supplier producing heating pads in Taiwan, have many valuable years of experiences in product development.

We have successfully researched and developed a series of finished warming products continually since 1979 such as heating mattress, heating blanket, etc.

Produce heating elements:

For example, de-fogging products for automobile rear-view mirror mist-cleaning, bathroom mirror defogging, refrigerator de-frosting, electronic thermos-flask, etc.

Company Established : 1979

Capital : About USD 40Millions

Number of Employee : 250

Land Area : 20,000 m^2 (First to seventh Floors)

Output : 600,000 m^2 / year

Main Export to : Europe, USA, Japan, Korea, Singapore, Turkey and others.

LOOKING FOR HEATERS ?

Yung Tien Industrial Co., Ltd.
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