Air Cooled Unitary Air Conditioner

Application Scope

EUROSTARS air cooled unitary air conditioners were developed by our company,with continuous development and improvement,at present,we not only have conventional series with R22 as refrigerant but also have environmental friendly series product with refrigerant R407C,R134A which are harmless to the ozonosphere.

This series product is packaged ones which consist of supply air,refrigeration,heating,humidity, air purification,electric control section as an integral body.The unit has the advantages of big cooling capacity,simplified refrigerating circuit,compact structure and etc.

EUROSTARS air cooled unitary air conditioners can be widely used not only in industrial fields of metallurgy,chemical, mechanism,electron, power, etc;also can be used in hospital,supermarket,hotel and office.

Nomenclature

ES	S	A	25	PU	T	C	H
1	2	3	4	5	6	7	8

1	ES	ESACIR
2	S	Compressor type: S: Scroll
3	A	Product series No.: A: Air cooled series
4	25	Cooling capacity: USRT/HP/KW
5	PU	Product type PU: Purified HT: Thermostatic and humidistat PT: Purified thermostatic and humidistat Omitted when not to mention any letter
6	T	Compressor quantity S: Single D: Double T: Triple Q: Quadruple Omitted when not to mention any letter
7	C	Frame type C: Cabinet type O: Open type
8	E	Function H: Heat pump E: Electrical heating
9	CD	Installation type CD: Ceiling ducted Omitted means floor mounted

Air Cooled Unitary Air Conditioner

Unit Features

High Reliability

-Adopt high efficiency hermetic scroll type compressor,smooth running with low noise
-Flexible compressed,high anti fluid-attack ability
-Directly driving,forward curved centrifugal-type fans,use refrigerant to cool
-Famous brand components,stable and reliable
-Multi circuits design,maintenance without machine stop

Energy Saving Operation

-Single,double or multi compressor design,partial load increase 15~30%
-Multi circuits design with higher partial load efficiency
-No cold bridge design to guarantee no cooling capacity lost

Manifold Protection Device

High/low pressure protection, compressor overload protection ,over current protection, Phase sequence protection,start delay protection, Oil heater, electric wire overheating protection, Fuse, etc.

Low noise,running quietly

-Compressor room is optional to make the compressor to be isolated and use sound-dampening material to reduce noise
-Adopt famous brand centrifugal fans,compact structure
-Adopt high quality centrifugal fans with with low noise;

Advanced,high quality,reliable performance control system

-Adopt famous brand components can be controlled easy and accurate
-Adopt SCM or PLC controller,user can check unit running condition easy
-High automatization,complete functions,with sound and light alarm for failures
-Intelligent control process for defrosting

Easy,labor saving,minimum floor space Installation

-Single unit configuration,the unit operation can commence immediately after connecting to the power supply,water pipe,drain pipe,ducting and control system
-Compactly design and has been succeeded in reducing more floor space
-Refrigeration been charged and tested well before delivery

Main Components

Scroll type compressor

-Flexible high-efficiency scroll compressor,which patent flexible design provides best ability of fluid-attack resistance and impurity tolerance.
-Continuous compression output ensure the pulse of air flow to be reduced,with low vibration noise

Air Cooled Unitary Air Conditioner

Throttling Device

Adopt superior quality famous exterior balanced thermal expansion valve, or capillary tube. Expansion valve is high reliability and adjustability, which can realize precise refrigerant and temperature control to ensure operating in precise and reliable status.

Air Side Heat Exchanger

Adopt high efficiency fin type heat exchanger with high quality internal thread copper tube and hydrophilic blue aluminum fin.

Condenser fan

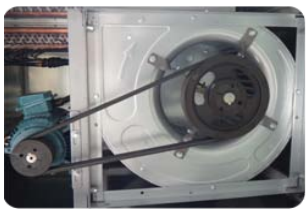
Adopt famous brand axial fan,compact structure,which is accord with aerodynamic principles;

falciform impeller which can assure it runs with high efficiency and low noise,also can keep a better aerodynamic performance even under a short air inlet condition.

Evaporator fan

-Direct-drive,forward curved,centrifugal-type fan,the shell and impeller were made from hot galvanized steel plate

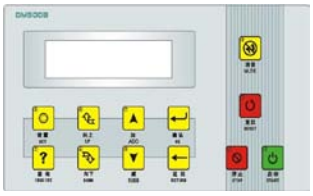
-Outer rotor motor was equipped for directly driving,which belt is needless,ensuring long term and reliable running of air conditioner



Control system

-SCM controller,digital operation display,high automatization

-PLC controller is optional, the startup sequence of load,estimation of temperature and running order of compressor can be automatically switched,LCD operation panel,digital controller ensure that the temperature,humidity and other required conditions were controlled in selected scope



Air Cooled Unitary Air Conditioner

Electrode Humidifier(optional)

-Electrode humidifier is high efficiency,energy saving,running reliable,long use time.

-Auto-cleaning process ensure little dirty in humidifier

Electric heater(optional)

-Stainless electric heating pipe,equal heating,high heating efficiency,long use time

-Low surface temperature,good safety performance

Air filter

-Primary efficiency filter:including bag type and plate type,equipped with chemical fibre filter material,filter efficiency:G3-G4,can be washed

-Medium efficiency filter:including bag type and plate type,equipped with chemical fibre filter material,filter efficiency:F5-F8

-High efficiency/sub-high efficiency filter,filter efficiency is from F9 to H13

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Product Photos

Ordinary Type(SA from Side)

Outdoor Unit

Ceiling Ducted Type

Purified Type

Constant Thermostatic and Humidistat Type

Purified-Constant Thermostatic and Humidistat Type

Air Cooled Unitary Air Conditioner(Purified Thermostatic and Humidistat Type)

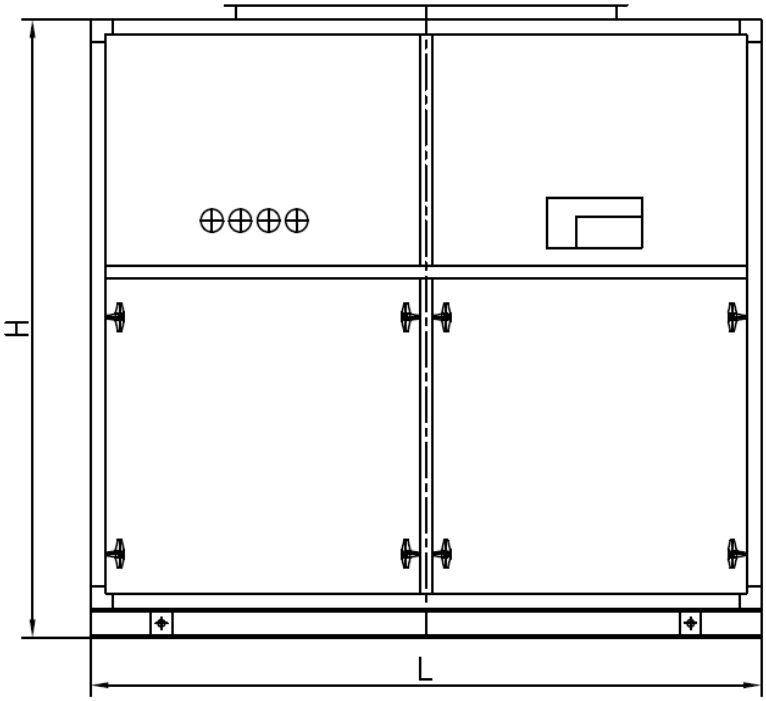
Model ESSA-			05PTSC 05PTSCE	08PTSC 08PTSCE	10PTDC 10PTDCE	15PTTC 15PTTCE	20PTDC 20PTDCE	25PTDC 25PTDCE	30PTTC 30PTTCE	40PTQC 40PTQCE	50PTQC 50PTQCE
Technical Parameters	Cooling Capacity	HP	5	8	10	15	20	25	30	40	50
		KW	13.9	22.5	27.7	41.6	56.2	64.4	84.4	112.5	128.8
		USRT	3.95	6.39	7.88	11.83	15.98	18.31	24	31.98	36.62
	Electrical Heating capacity	KW	8	9	12	18	24	30	36	54	72
	Humidifying Capacity	kg/h	8	8	8	15	15	23	23	32	32
	Rated Air Flow	CMH	2800	4500	5600	8600	11700	14000	17000	23000	28000
	External Static Pressure	Pa	100/700	200/800	200/800	250/850	250/850	300/900	300/900	350/950	350/950
	Power Supply		380/400/415V-3PH-50Hz								
	Cooling Max. Input Power	KW	15.2/16.3	21.1/22.6	27.8/29.6	41.4/43.9	54.5/58	65.2/70.7	81.3/86.8	112.5/120	142.3/146.3
	Cooling Max. Current	A	28.0/29.8	36.8/39.8	51.3/54.7	76.5/80.8	95.7/102.3	112.9/123.9	141.9/152.9	195.0/206.0	244.4/252.1
	Noise	dB(A)	≤60/≤74	≤70/≤77	≤71/≤77	≤73/≤79	≤74/≤79	≤75/≤80	≤75/≤80	≤77/≤82	≤79/≤83
	Temperature & Humidity Range		18-28℃±1℃、50-70%±10%								
	Connecting Pipe	Liquid	Ø12.7	Ø16	Ø12.7	Ø12.7	Ø16	Ø16	Ø16	Ø16	Ø16
		Air	Ø19	Ø22	Ø19	Ø19	Ø25	Ø28	Ø25	Ø25	Ø28
Indoor Unit	Evaporator		Ripple Aluminum Fins around Copper Pipe								
	Throttle Device		Exterior Equalizer Thermostatic Expansion Valve								
	Centrifugal Fan	Type	The Belt Transmission Centrifugal								
		Power	0.45/1.5	1.5/3.0	2.2/4.0	3.0/5.5	4.0/7.5	5.5/11	5.5/11	7.5/15	11.0/15.0
	Air Filter		Primary Filter+Medium Filter, High Filter								
	Electrode Humidifier	Power (KW)	6.1	6.1	6.1	11.4	11.4	17.5	17.5	24.3	24.3
		Water In(in)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
	N.W.	kg	450	650	700	950	1050	1650	1850	2300	2450
Outdoor Unit	Model		ES-5U	ES-8U	ES-5U*2	ES-5U*3	ES-10U*2	ES-12.5U*2	ES-10U*3	KA-10U*4	ES-12.5U*4
	Compressor	Type	Hermetic Scroll Type								
		Qty	1	1	2	3	2	2	3	4	4
		Power (KW)	4.3	6.5	8.6	12.9	16.2	18.3	24.2	32.3	36.5
	Air Volume(CMH)		6200	10400	6200*2	6200*3	15000*2	15000*2	15000*3	15000*4	15000*4
	N.W.	kg	120	180	120*2	120*3	210*2	230*2	210*3	210*4	230*4
Safety Protection			High/low pressure switch protection, Compressor overload Protection over current protection, Phase sequence protection,Start delay protection, Oil heater, Electric wire overheating protection, Air Differential Pressure Protection, Humidification Over Current Protection,Exterior Interlock Protection, The fusible plugs, Fuse, etc.								

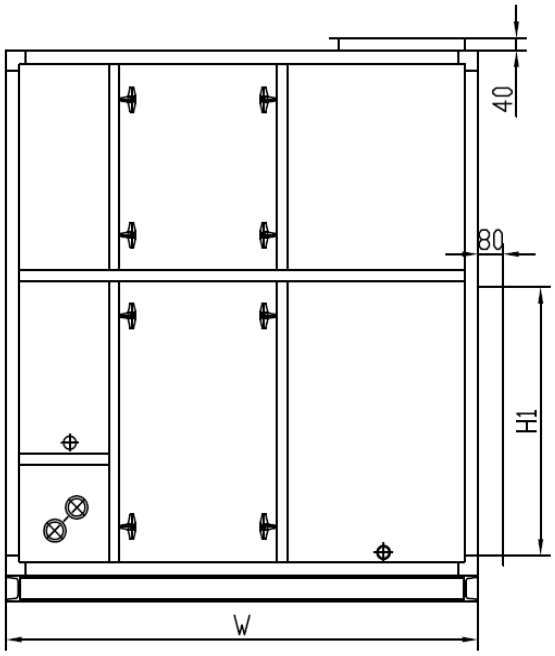
Note:

1. Rated Cooling Capacity based on:Entering Air Temperature 23℃/17℃, Ambient Temperature 35℃;
2. Utilizing Heat Recovery is more energy saving than Ordinary Type When Requiring 45-65% Ambient Humidity.
3. Similar performance while using efficient refrigerant R407 and Ordinary R22 in standard working condition.

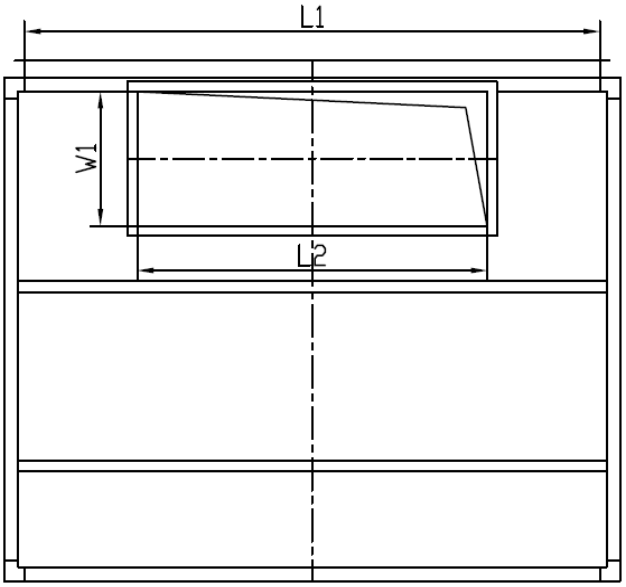
Air Cooled Unitary Air Conditioner(Purified Thermostatic and Humidistat Type)

Indoor Unit Dimensions





Model	Size mm						
ESSA	L	W	H	L1	L2	W1	H1
05PTSC(E)	900	1350	1500	776	600	400	628
08PTSC(E)	1350	1350	1500	1226	800	400	628
10PTDC(E)	1350	1350	1500	1226	800	400	628
15PTTC(E)	1900	1500	1700	1776	1000	400	828
20PTDC(E)	1900	1500	1700	1776	1080	400	828



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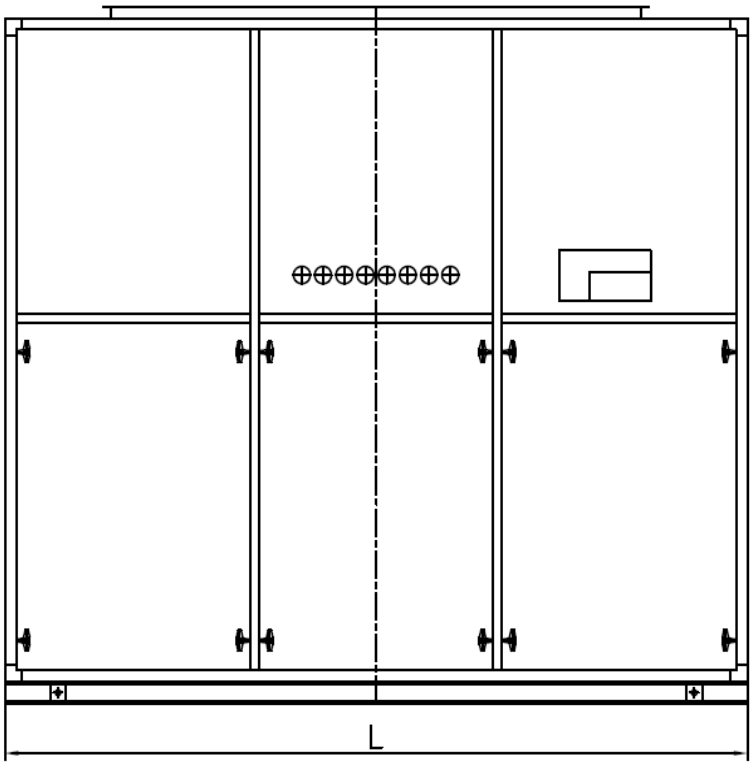
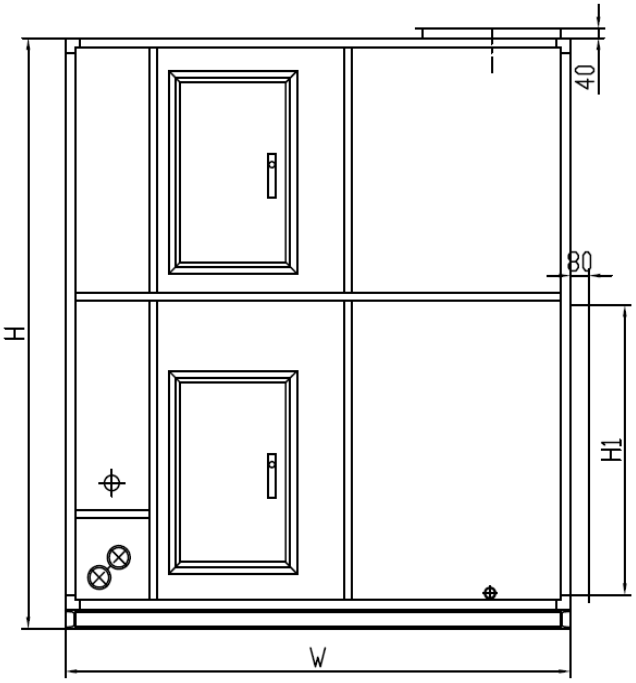
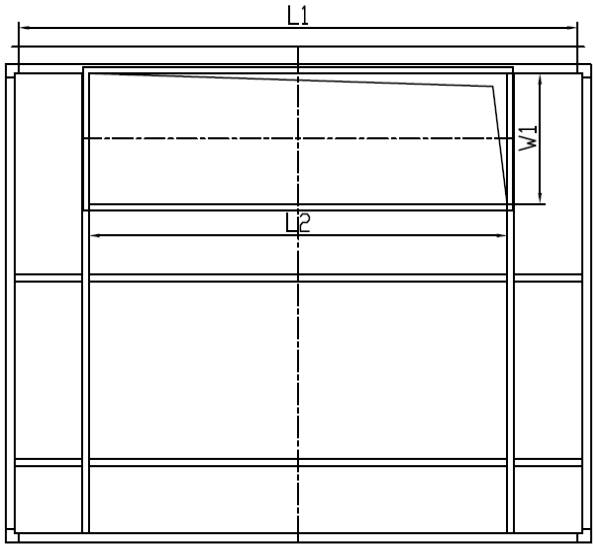
Indoor Unit Dimensions







Model	Size mm						
ESSA	L	W	H	L1	L2	W1	H1
25PTDC(E)	2300	1700	2300	2176	1080	600	1028
30PTTC(E)	2300	1850	2300	2176	1250	600	1028
40PTQC(E)	2800	2000	2500	2676	1500	600	1166
50PTQC(E)	2800	2200	2500	2676	2000	600	1228

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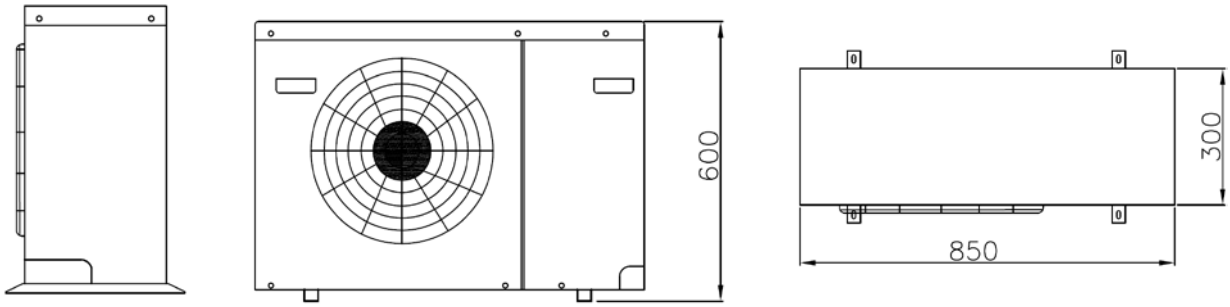
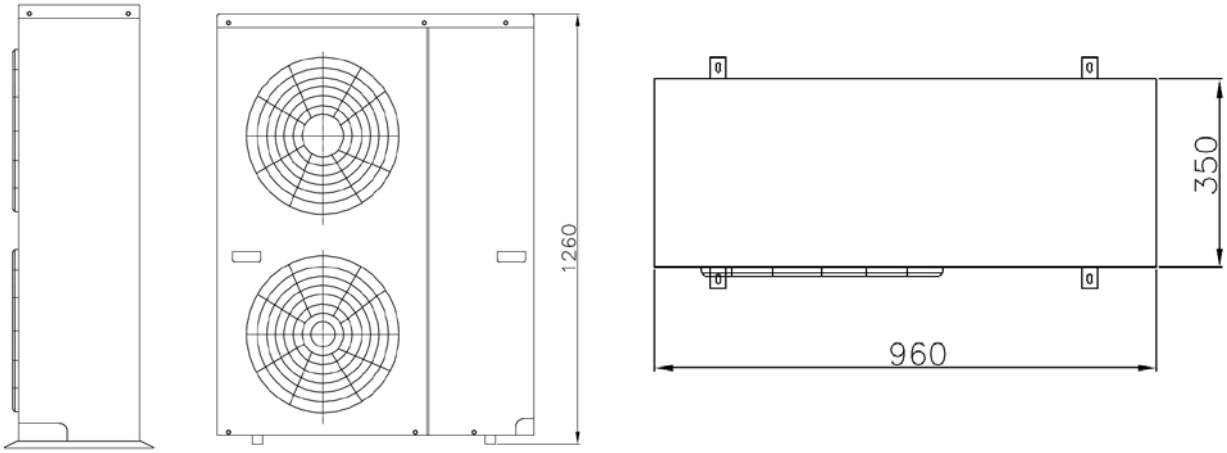
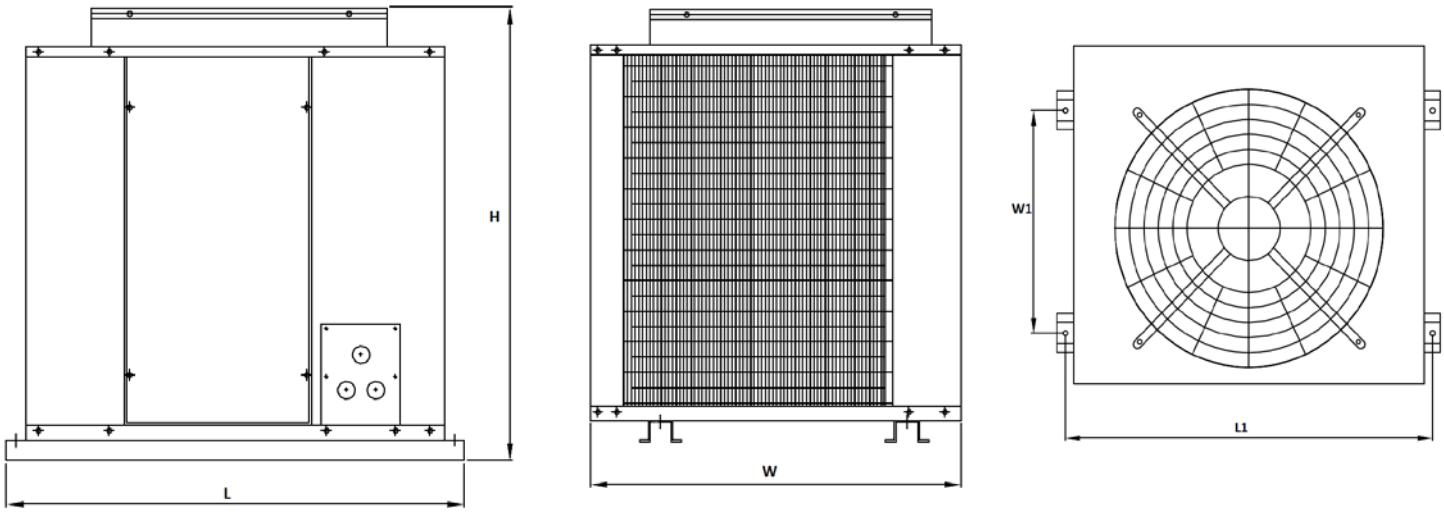
Outdoor Unit Dimensions



ES-3U



ES-5U



ES-8U,10U,12.5U

Model	Size mm				
ES	L	W	H	L1	W1
8U	930	790	930	890	520
10U	1000	885	980	970	580
12.5U	1000	885	1138	970	580