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机电设备安装工程专业承包壹级资质
The First-grade Certification of Electromechanical Equipment Installation
ISO9001质量管理体系认证
Certified by ISO9001 quality system
ISO14001环境管理体系认证
Certified by ISO14001 environment system
首批荣获国家质检总局颁发全国工业产品生产许可证
First got the refrigeration equipment
production permit issued by National Quality Testing Bureau

AIR PURIFYING SERIES
净化系列
F2

ZK-J Packaged Air Purifying And Handling Units

ZK-J净化组合式空调机组



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以前我们认识世界，现在世界认识我们
We knew the world before, the world knows us now.



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亚太的品牌理念

全力推动创新科技的应用
致力于人类生活品质的提升、让科技引领生活
创世界满意品牌

THE CONCEPT OF YATAI BRAND

Promotes,with full strength,the application of innovative technology.Strives for the extension of living quality for human being,let the science and technology lead the new life and creates world satisfactory brand.

全球信赖品质

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德州亚太集团是国内大型中央空调制冷系统集成供应商。

集多年潜心研究，博采众长自成体系，打造出一流的中央空调全套设备和众多精品工程。国内以中央电视台新址、酒泉卫星发射中心、国家质检总局、三峡工程及近二十个北京奥运场馆等为代表，国外以巴基斯坦乌奇电厂、柬埔寨金边市大都会广场、印度帕帕多拉工程为代表的重点项目，采用了亚太中央空调设备，长期稳定，节能环保，获得了广泛的赞誉。

ISO9001、14001、OHSAS18001、3C、UL、CE、CRAA 等一系列认证；主机列入节能产品政府采购清单、数十项国家专利、国家级高新技术企业、中国驰名商标，充分标明了亚太集团的管理水平和产品水平。

与荷兰阿波罗合资，以欧洲标准制造的洁净设备全部返销发达国家、中央空调设备相继进入十几个国家和地区，展示亚太集团已经步出国门，与国际接轨。

植根齐鲁大地，秉持“以人为本”的经营理念，崇尚“以德待人”的儒家文化，亚太集团愿与您共同开创明天的辉煌。

Dezhou Yatai Group is a supplier of large central air conditioning and refrigeration system in China.

Yatai has developed whole set of advanced central air conditioner and lots of wonderful projects based on long-term research and features of the others. Many famous projects adopted Yatai central air conditioners that run smoothly, save energy, protect environment and won good reputation widely like the New CCTV, the Jiuquan Satellite Launching Center, the General Bureau of National Quality Inspection, Three-gorge Engineering Project, over 20 Beijing Olympic Stadiums and others in China; the UCH Power Plant in Pakistan, the Phonom Penh Capital Squire in Cambodia, the Priyadarshini Jurala Project in India and others across the world.

Yatai has certified by ISO9001, 14001, OHSAS18001, 3C, UL, CE, CRAA and others; its chiller names have been put on the government purchasing list as energy saving products and obtained dozens of national patents, National High-technology Enterprise and Chinese Famous Trademark, which show the managements and product qualities of Yatai Group.

The filtering equipment made by the joint venture, co-invested with Dutch Afpro Company, according to the European Standards air exported fully to the developed countries; the central air conditioners have exported to over 10 countries or regions, which show that Yatai Group has stepped into oversea marketds and been in the line with the international.

Located at Shandong Province, insisting on business idea of "humanism" and advocating the Confucianism of "getting along with people by morality" Yatai Group wishes to create a brilliant future with you.



中国德州亚太集团
CHINA DEZHOU YATAI GROUP



以一流技术研制全方位产品

Developing the omni-directional products by the first-class technology

使用精品 造就精品

世界著名制造商生产的最现代化装备和领先同行的高科技含量是亚太始终保持竞争优势的强力保证

Using high-quality goods Making high-quality goods

The modernized equipment produced by world famous manufacturers And the high content leading in the same profession

Are Yatai's guarantee of maintaining his competitive advantage all the time

全球信赖品质

World Trusted Quality



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Honorable Qualification



AIR PURIFYING
SERIES
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ZK-J Packaged Air Purifying
And Handling Units

ZK-J净化组合式空调机组

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净化配套产品
Relative Products Of Air Cleaning



ZK-J净化组合式空调机组
ZK-J Packaged Air Purifying And Handling Units

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ZK-J净化组合式空调机组

AIR PURIFYING
SERIES
净化系列





手术室/精密电子/航空航天/精密仪表/生物实验/医药/食品/化妆品等行业构建特殊空间

Set up special room for many industries such as operating room, semiconductor, precision meter, aviation, biotechnology and laboratories, pharmaceuticals, food, cosmetics and so on





产品简介 BRIEF INTRODUCTION

ZK-J系列净化组合式空调机组是根据国标GB/T14294-2008、欧洲EN1886标准、《洁净手术室用空调机组》(GB/T19569-2004)和药品生产质量管理规范(简称GMP)等国家标准和规范要求研发生产的专用空调机组。具有不滋菌、不积尘,部件安装简便,便于清洁更换、风量大、风压高、防结露、漏风率低的特性。

亚太提供的ZK-J系列净化空调机组设计特别强调以综合性措施对细菌进行全面控制,消除滋生细菌的可能性,采用了封闭式双腔防冷桥设计型材,并成功应用双S联接面板专利技术,成功解决了机组高压高强度、防冷桥和密封性等技术难题。

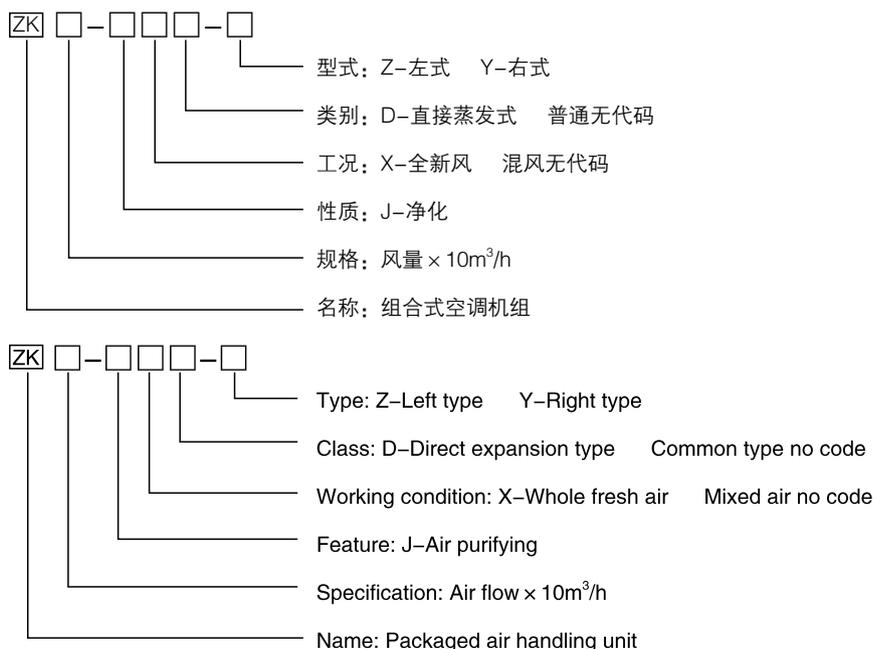
该系列机组风量范围从2000到120000m³/h,机组承压最高可达2500Pa。产品具有对空气进行降温、除湿、加热、加湿、过滤净化、杀菌消毒等功能。通过各功能段之间的灵活组合,可广泛应用于医药、生物、电子、医院、食品等具有洁净环境要求的场所。

ZK-J series of packaged air purifying and handling units are developed and produced based on national and European standards such as GB/T14294-2008, EN1886 《Air handling unit served in operating clean room》(GB/T19569-2004), good manufacturing practice(GMP) and so on. They have many features like no bacteria, no dust, easy for assembly, cleaning and replacing, large air flow and pressure, anti-condensation, air-tight and so on.

Our ZK-J packaged air purifying and handling units take comprehensive measures to eliminate bacteria breeding. Adopt patent sectional material, that is closed type dual-chamber anti-cold bridge profile and successfully adopt dual-S join panels to solve the technical problems like high air pressure, high strength, anti-cold-bridge, air-tight and so on.

As for the ZK-J series of AHU, its air flow range is from 2000 to 120000 m³/h, its maximal bearable air pressure is 2500Pa. It can handle air like cooling, dehumidifying, heating, humidifying, filtering, killing bacteria and so on. It can be widely used in places where room air must be clean such as pharmaceutical factory, biotechnology, electronics, hospital, food and so on.

型号说明 MODEL EXPRESSION





技术特点

TECH FEATURES

◎ 强度及保温性能先进性

Perfect strength and insulation

机组采用高强度双腔铝合金框架结构，面板为T50型组合双面板设计。外板为表面静电喷涂的优质冷轧钢板，里板为不锈钢板或其它耐腐蚀板材，内部聚氨酯一次性闭孔发泡材料紧密结合。

Our units' frame are made of strong dual-chamber aluminum profile, their panels made of T50 type combined dual-panel. Their outer wall is made of fine cold-rolled steel sheet whose surface is treated by electrostatic spraying. Their inwall is made of stainless steel or other corrosion-resistant sheet. The one-time closed-cell foamed polyurethane makes the outer wall and inwall stick together.

◎ 整体防冷桥先进性

Integral anti-cold bridges

净化机组所用型材为专利双腔防冷桥设计型材，表面平光阳极氧化处理，强度卓越，外形美观。机组铝边框、三通、T形面板三重防冷桥设计，（国家专利号：ZL201220503440.5）从而彻底解决了机组的防结露问题。

Our air purifying and handling units' sectional bar is made of patent dual-chamber anti-cold bridge profile (patent No.: ZL20113035). Their surface is treated by flating anodic oxidation, so it is strong and beautiful. The triple anti-cold-bridge sedign (National patent No.: ZL201220503440.5) on aluminum frame, tee joint and T-shaped panel has solved the problem of anti-condensation completely.

◎ 整体密封先进性

Perfect integral sealing

机组框架与面板、面板与面板间均采取双S专利密封设计，检修门采用嵌入式密封（国家专利号：ZL201220590265.8），增加风道转折以增大漏风阻力，从而有效甚至杜绝漏风现象。气密性可达欧洲EN1886标准A级要求（优于GB14294机组在1000Pa静压时漏风率<1%的要求）。

The patent dual-S sealing technology is adopted between frame and panel, panel and panel, access door adopts embedded seal (National patent No.: ZL201220590265.8), has increased air leakage resistance by increasing air current way, in this case reduced air leakage effectively. The air tightness can meet the requirements of class A specified in EN1886 (better than the air leakage rate of less than 1% when static pressure is 1000Pa of GB14294).

◎ 保温性能先进性

Perfect insulation

T形组合面板、双腔铝合金框架内部填充高密度硬质聚氨酯，发泡密度不小于45kg/m³，导热系数K=0.0213W/m.K。

High-density and rigid polyurethane is foamed inside the T-shaped panel and dual-chamber aluminum frame. Its foam density is more than 45kg/m³, its thermal conductivity K=0.0213W/m.K.

◎ 净化防霉先进性

Outstanding mildewproof

A、箱体内部无级位设计，不易积尘滋菌。

B、不锈钢干式水盒设计，倾斜式无积水。

A.The inwall is smooth, in this case dust is very difficult to get together, bacteria is very difficult to breed.

B.The dry type stainless steel tray is with tilt floor, in this case, water is very difficult to accumulate.

◎ 机组模数设计先进性

Advanced modulus design

A、各功能段可灵活组合，满足不同需求。

B、段间设连接耳，方便机组组装和维修。

A.The functional segments can be combined at your will to meet different requirements.

B.Connecting ears are available at the intersegments, in this case, easy for assembly and maintenance.

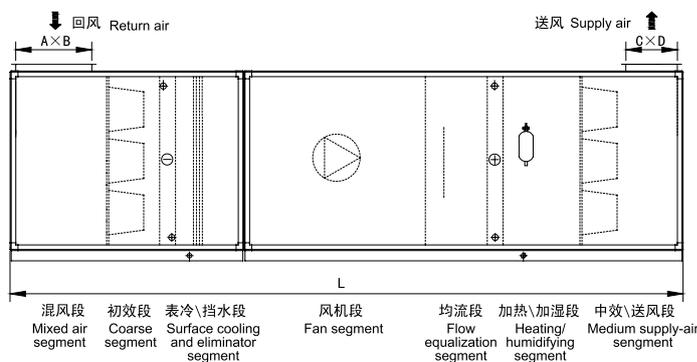




外形尺寸 PHYSICAL DIMENSION

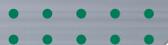
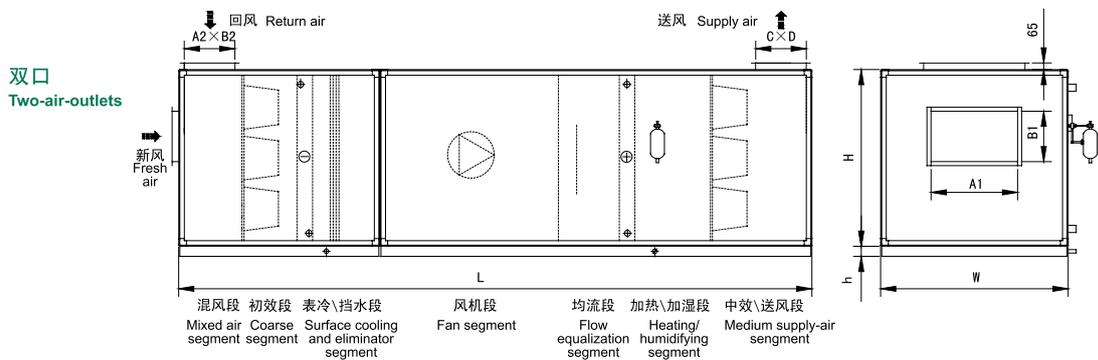
机组型号 Model	额定风量(m ³ /h) Rated air flow	机组外形尺寸 (mm) Physical dimension			表冷器管径 Surface cooler caliber	加热器管径 Heater caliber	冷凝水管径 Condenser caliber
		宽度 W Width	高度 H Height	底座 h Base			
ZK2-J (X)	2000	750	720	80	DN40	φ 43	φ 43/DN25
ZK3-J (X)	3000	850	820	80	DN40	φ 43	φ 43/DN25
ZK4-J (X)	4000	1050	820	80	DN40	φ 43	φ 43/DN25
ZK5-J (X)	5000	1150	870	80	DN40	φ 43	φ 43/DN25
ZK6-J (X)	6000	1150	1070	80	DN40	φ 43	φ 43/DN25
ZK7-J (X)	7000	1250	1070	80	DN40	φ 43	φ 43/DN25
ZK8-J (X)	8000	1350	1070	80	DN50	φ 48	φ 42/DN32
ZK10-J (X)	10000	1350	1270	80	DN50	φ 48	φ 42/DN32
ZK12-J (X)	12000	1350	1470	80	DN50	φ 48	φ 42/DN32
ZK15-J (X)	15000	1550	1470	80	DN50	φ 48	φ 42/DN32
ZK18-J (X)	18000	1850	1520	80	DN50	φ 48	φ 42/DN32
ZK20-J (X)	20000	1950	1570	80	DN50	φ 48	φ 42/DN32
ZK25-J (X)	25000	2000	1900	100	2 × DN50	2 × φ 60	φ 42/DN32
ZK30-J (X)	30000	2000	2150	100	2 × DN50	2 × φ 60	φ 42/DN32
ZK35-J (X)	35000	2250	2250	100	2 × DN50	2 × φ 60	φ 42/DN32
ZK40-J (X)	40000	2450	2250	100	2 × DN50	2 × φ 60	φ 42/DN32
ZK45-J (X)	45000	2650	2250	100	2 × DN50	2 × φ 60	φ 42/DN32
ZK50-J (X)	50000	2850	2250	100	2 × DN65	2 × φ 60	φ 42/DN32
ZK55-J (X)	55000	3150	2250	100	2 × DN65	2 × φ 60	φ 48/DN40
ZK60-J (X)	60000	3150	2650	100	2 × DN80	2 × φ 60	φ 48/DN40
ZK70-J (X)	70000	3450	2650	100	2 × DN80	2 × φ 60	φ 48/DN40
ZK80-J (X)	80000	3850	2650	100	2 × DN80	2 × φ 60	φ 48/DN40
ZK90-J (X)	90000	4400	2650	100	2 × DN80	2 × φ 60	φ 48/DN40
ZK100-J (X)	100000	5000	2650	100	4 × DN80	4 × φ 60	φ 48/DN40
ZK120-J (X)	120000	5000	3050	100	4 × DN80	4 × φ 60	φ 48/DN40

单口
One-air-outlet





单口-混合风口尺寸 One air opening-Mixed air outlet size	双口-新风口尺寸 Two air openings-Fresh air outlet size	双口-回风口尺寸 Two air openings-Return air outlet size	送风口尺寸 Supply air outlet size	机组型号 Model
A × B (mm)	A1 × B1 (mm)	A2 × B2 (mm)	C × D (mm)	
640 × 400	300 × 200	400 × 240	400 × 240	ZK2-J (X)
740 × 400	300 × 200	500 × 300	500 × 300	ZK3-J (X)
940 × 400	300 × 200	500 × 400	500 × 400	ZK4-J (X)
940 × 500	300 × 200	600 × 400	600 × 400	ZK5-J (X)
1040 × 500	400 × 200	700 × 400	700 × 400	ZK6-J (X)
1140 × 500	400 × 300	800 × 400	800 × 400	ZK7-J (X)
1240 × 500	400 × 300	800 × 500	800 × 500	ZK8-J (X)
1240 × 600	400 × 300	1000 × 500	1000 × 500	ZK10-J (X)
1240 × 600	400 × 300	1000 × 500	1000 × 500	ZK12-J (X)
1440 × 600	500 × 300	1200 × 500	1200 × 500	ZK15-J (X)
1740 × 600	500 × 400	1500 × 500	1500 × 500	ZK18-J (X)
1840 × 600	500 × 400	1500 × 500	1500 × 500	ZK20-J (X)
1890 × 800	600 × 400	1500 × 600	1500 × 600	ZK25-J (X)
1890 × 800	700 × 400	1500 × 700	1500 × 700	ZK30-J (X)
2140 × 900	700 × 500	1600 × 800	1600 × 800	ZK35-J (X)
2140 × 900	800 × 500	1800 × 800	1800 × 800	ZK40-J (X)
2340 × 900	800 × 600	2000 × 800	2000 × 800	ZK45-J (X)
2540 × 900	900 × 600	2200 × 800	2200 × 800	ZK50-J (X)
1300 × 1000 × 2	1000 × 600	1250 × 800 × 2	1200 × 800 × 2	ZK55-J (X)
1400 × 1000 × 2	1000 × 600	1350 × 800 × 2	1350 × 800 × 2	ZK60-J (X)
1500 × 1000 × 2	1000 × 700	1550 × 800 × 2	1550 × 800 × 2	ZK70-J (X)
1700 × 1100 × 2	1000 × 800	1750 × 800 × 2	1750 × 800 × 2	ZK80-J (X)
2000 × 1100 × 2	1200 × 800	2000 × 800 × 2	2000 × 800 × 2	ZK90-J (X)
2200 × 1100 × 2	1200 × 800	2200 × 800 × 2	2200 × 800 × 2	ZK100-J (X)
2300 × 1200 × 2	1300 × 900	2350 × 900 × 2	2350 × 900 × 2	ZK120-J (X)





性能参数

PERFORMANCE PARAMETERS

机组型号 Model	额定风量 (m ³ /h) Rated air flow	供冷量 (kW)-4排 Cooling capacity-4 rows		供冷量 (kW)-6排 Cooling capacity-6 rows		供冷量 (kW)-8排 Cooling capacity-8 rows	
		回风工况 Return air working condition	新风工况 Fresh air working condition	回风工况 Return air working condition	新风工况 Fresh air working condition	回风工况 Return air working condition	新风工况 Fresh air working condition
ZK2-J (X)	2000	11.2	28.3	15.3	38.7	17.2	43.5
ZK3-J (X)	3000	16.9	42.8	23.0	58.2	26.5	67.0
ZK4-J (X)	4000	22.6	57.2	30.8	77.9	34.8	88.0
ZK5-J (X)	5000	28.3	71.6	38.5	97.4	43.5	110.1
ZK6-J (X)	6000	33.8	85.5	46.2	116.9	53.7	135.9
ZK7-J (X)	7000	38.4	97.1	51.9	131.4	58.9	148.9
ZK8-J (X)	8000	45.0	113.9	61.5	155.6	69.6	176.1
ZK10-J (X)	10000	56.4	142.7	77.0	194.8	87.3	220.9
ZK12-J (X)	12000	67.7	171.3	92.3	233.5	105.2	266.2
ZK15-J (X)	15000	85.3	215.8	115.4	292.0	130.8	330.9
ZK18-J (X)	18000	101.9	257.8	121.1	306.4	157.7	398.9
ZK20-J (X)	20000	112.4	284.4	153.5	388.4	174.2	440.7
ZK25-J (X)	25000	140.7	351.8	191.9	479.8	217.1	542.8
ZK30-J (X)	30000	169.8	424.5	200.3	500.8	260.7	651.8
ZK35-J (X)	35000	198.1	495.3	235.5	588.8	306.6	766.5
ZK40-J (X)	40000	224.9	562.3	267.5	668.8	348.3	870.8
ZK45-J (X)	45000	252.9	632.3	306.9	752.3	392.0	979.9
ZK50-J (X)	50000	282.6	706.5	345.4	843.4	438.5	1096.3
ZK55-J (X)	55000	310.9	777.2	370.6	926.5	482.4	1205.9
ZK60-J (X)	60000	338.4	846.0	401.6	1004.0	522.8	1307.0
ZK70-J (X)	70000	393.6	984.0	467.8	1169.5	609.0	1522.5
ZK80-J (X)	80000	448.8	1122.0	534.0	1335.0	695.2	1738.0
ZK90-J (X)	90000	512.5	1281.3	601.0	1502.5	782.4	1956.0
ZK100-J (X)	100000	576.2	1429.0	668.0	1656.6	869.6	2156.0
ZK120-J (X)	120000	694.3	1721.9	806.5	2000.1	1050.0	2604.0

1、制冷回风工况：干球温度27℃，湿球温度19.5℃；新风工况：进风干球温度35℃，湿球温度28℃。

2、制冷进水温度：额定工况下冷冻水进、出水温度为7/12℃。

1. Air return working condition when cooling: The dry bulb temperature is 27℃, the wet 19.5℃; Fresh air working condition: The air entering dry bulb temperature is 35℃, the wet bulb 28℃.

2. Water entering temperature when cooling: The chilled water entering/leaving temperature is 7/12℃ under rated working condition.

◎ 制冷工况：不同进风温度及水温下冷量修正系数

Cooling working condition: Cooling capacity correction factors at different air entering and water temperatures

湿球 °C Wet bulb	回风工况 Air return working condition						湿球 °C Wet bulb	新风工况 Fresh air working condition					
	5/10°C	6/11°C	7/12°C	8/13°C	9/14°C	10/15°C		5/10°C	6/11°C	7/12°C	8/13°C	9/14°C	10/15°C
17	0.96	0.87	0.78	0.69	0.60	0.51	25	0.91	0.86	0.81	0.76	0.71	0.66
18	1.05	0.96	0.87	0.78	0.69	0.60	26	0.98	0.93	0.88	0.83	0.78	0.73
19.5	1.19	1.10	1.00	0.92	0.82	0.74	27	1.04	0.99	0.94	0.89	0.84	0.79
21	1.32	1.23	1.14	1.05	0.96	0.80	28	1.10	1.05	1.00	0.95	0.90	0.85
22	1.41	1.32	1.23	1.14	1.05	0.96	29	1.16	1.11	1.06	1.01	0.96	0.91
23	1.50	1.41	1.32	1.23	1.14	1.05	30	1.22	1.17	1.12	1.07	1.02	0.97



供热量 (kW)-4排 Heating capacity-4 rows		供热量 (kW)-6排 Heating capacity-6 rows		供热量 (kW)-8排 Heating capacity-8 rows		蒸汽加热量 (kW)-1排 Steam heating capacity-1 rows		蒸汽加热量 (kW)-2排 Steam heating capacity-2 rows	
回风工况 Air return working condition	新风工况 Fresh air working condition	回风工况 Air return working condition	新风工况 Fresh air working condition	回风工况 Air return working condition	新风工况 Fresh air working condition	回风工况 Air return working condition	新风工况 Fresh air working condition	回风工况 Air return working condition	新风工况 Fresh air working condition
16.2	23.0	21.6	30.7	26.2	37.2	10.0	11.5	18.0	19.5
25.5	36.2	34.8	49.4	39.9	56.7	15.3	17.6	27.5	29.9
34.1	48.4	46.5	66.0	52.6	74.7	20.2	23.2	36.3	39.4
42.7	60.6	58.1	82.5	65.7	93.3	25.2	29.0	45.4	49.3
51.0	72.4	69.7	99.0	81.0	115.0	31.1	35.7	55.9	60.7
58.0	82.4	78.4	111.3	93.1	132.1	35.3	40.6	63.6	69.1
68.0	96.6	92.9	131.9	105.1	149.2	40.4	46.4	72.6	78.9
85.2	121.0	116.2	165.0	131.9	187.3	50.6	58.2	91.1	99.0
102.2	145.1	139.3	197.8	158.9	225.6	61.0	70.1	109.8	119.2
128.9	183.0	174.2	247.4	197.4	280.3	75.8	87.1	136.4	148.1
153.8	218.4	182.9	259.7	230.2	326.9	90.4	103.9	162.7	176.7
169.8	241.1	231.8	329.2	263.0	373.5	100.9	116.0	181.6	197.2
212.5	297.5	289.7	405.6	327.7	458.8	125.8	144.6	226.4	245.9
256.4	359.0	302.4	423.4	393.7	551.2	151.1	173.7	271.9	295.3
299.1	418.7	355.6	497.8	463.0	648.2	177.6	204.2	319.7	347.2
339.6	475.4	404.0	565.6	525.9	736.3	201.8	232.0	363.2	394.4
382.1	534.9	521.6	730.2	594.1	831.7	226.3	260.2	407.3	442.4
426.7	597.4	508.7	712.2	662.2	927.1	254.1	292.2	457.4	496.8
488.1	683.3	557.6	780.6	725.9	1016.2	277.7	319.3	499.8	542.8
510.9	715.3	606.4	849.0	789.5	1105.3	302.9	348.4	545.3	592.2
602.2	843.1	706.4	989.0	919.7	1287.5	353.0	406.0	635.4	690.2
677.7	948.8	806.4	1129.0	1049.8	1469.7	402.8	463.2	725.0	787.4
804.6	1126.5	907.5	1270.5	1181.5	1654.0	453.6	521.6	816.5	886.8
870.1	1200.7	1008.6	1391.9	1313.1	1812.1	503.8	579.3	906.8	984.9
1048.4	1446.8	1217.8	1680.6	1585.4	2187.9	608.3	699.6	1095.0	1189.3

1、制热回风工况：干球温度15℃；新风工况：干球温度7℃。

2、制热进水温度：额定工况下进水温度60℃，进出水温差10℃。

1. Air return working condition when heating: The dry bulb temperature is 15℃; Fresh air working condition: The dry bulb temperature is 7℃.

2. Water entering temperature when heating: The water entering temperature under rated working condition is 60℃, the temperature difference between entering and leaving is 10℃.

制热工况 Heating working condition

热水加热：进风温度15℃，进水温度60℃，其它工况时可参考下式进行修正。

$$\text{热量} = \text{表中热量} \times [\text{进口水温} (\text{℃}) - \text{进口空气温度} (\text{℃})] / 45$$

蒸汽加热：进风温度15℃，蒸汽压力0.2MPa，其它工况可参考下式进行修正。

$$\text{热量} = \text{表中热量} \times [\text{蒸汽温度} (\text{℃}) - \text{进口空气温度} (\text{℃})] / 105$$

Hot water heating: The air entering temperature is 15℃, water entering temperature is 60℃, you can correct them according to the following formula at other working conditions.

$$\text{Amount of heat} = \text{the amount of heat shown in the table} \times [\text{water inlet temperature} (\text{℃}) - \text{air inlet temperature} (\text{℃})] / 45$$

Steam heating: The air entering temperature is 15℃, steam pressure is 0.2MPa, you can correct them according to the following formula at other working conditions.

$$\text{Amount of heat} = \text{the amount of heat shown in the table} \times [\text{steam temperature} (\text{℃}) - \text{air inlet temperature} (\text{℃})] / 105$$





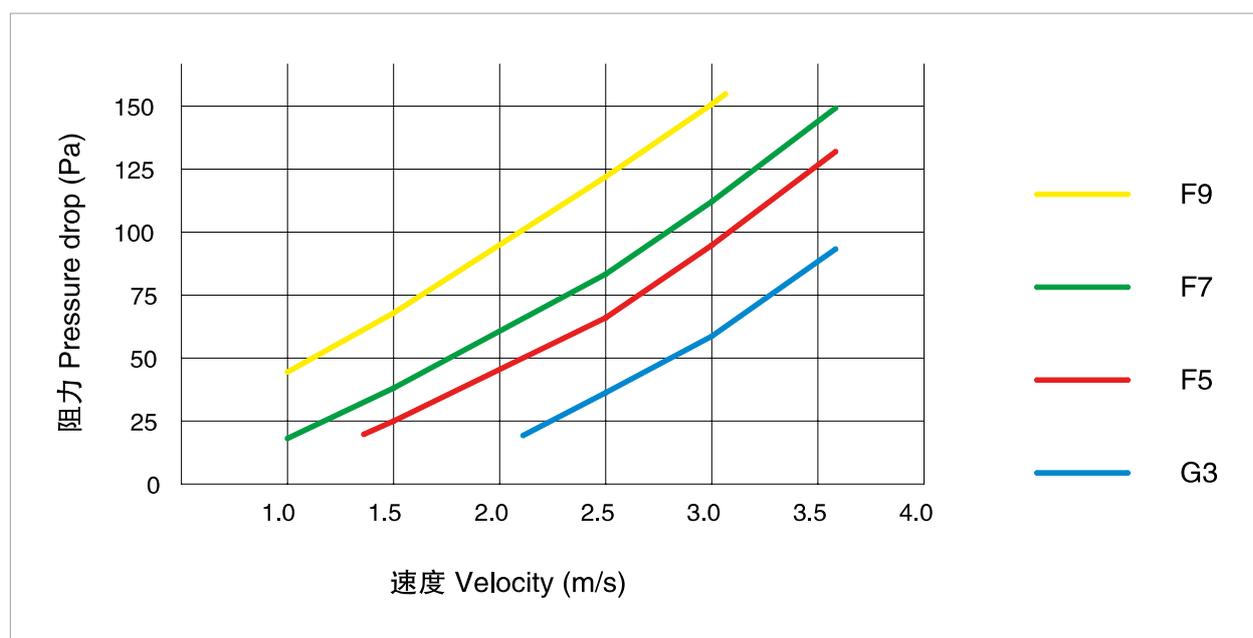
机组过滤

FILTERING

◎ 中国、欧洲、美国效率规格对照表 Classification of efficiency in China, Europe and America

中国 GB/T14295 China GB/T14295		初效 $\geq 5\mu\text{m}$ 80% > 效率 $\geq 20\%$ Coarse $\geq 5\mu\text{m}$ 80% > Efficiency $\geq 20\%$			中效 $\geq 1\mu\text{m}$ 70% > 效率 $\geq 20\%$ Medium $\geq 1\mu\text{m}$ 70% > Efficiency $\geq 20\%$				高中效 $\geq 1\mu\text{m}$ 99% > 效率 $\geq 70\%$ High-medium $\geq 1\mu\text{m}$ 99% > Efficiency $\geq 70\%$				亚高效 $\geq 0.5\mu\text{m}$ 99.9% > 效率 $\geq 95\%$ Sub-HEPA $\geq 0.5\mu\text{m}$ 99.9% > Efficiency $\geq 95\%$			高效 $\geq 5\mu\text{m}$ 效率 > 99.99% HEPA $\geq 5\mu\text{m}$ Efficiency > 99.99%		
美国 US proposal		L5	L6	L7	L8	M9	M10	M11	M12	M13	M14	H12~H15		H16		H17~H20		
欧洲 CEN EN	新标准 EN779 New Eurovent EN779	G3 80%~90%		G4 >90%		F5 40%		F6 60%		F7 80%	F8 90%	F9 85%	H10 95%	H11 99%	H12 99.9%	H13 99.95%	H14 99.98%	H15 99.99%
	旧规格 Old Eurovent	EU3		EU4		EU5		EU6		EU7	EU8	EU9	EU10	EU11	EU12	EU13	EU14	

◎ V-P过滤器空气阻力图 V-P air resistance graph of filters





段间阻力

INTERSEGMENTAL RESISTANCES

功能段 Functional segment	分类 Classification	阻力 (Pa) Resistance	功能段 Functional segment	分类 Classification	阻力 (Pa) Resistance
初效板式过滤 Filter panels	G3	50	蒸汽加热段 Steam heating segment	1排 1 row	100
初效袋式过滤 Coarse bag filters	G4	70		2排 2 row	150
中效袋式过滤 Medium bag filters	F6	120	能量回收段 Heat recovery segment	转轮式 Wheel type	170
亚高效过滤段 Sub-HEPA filtering segment	F9	200	均流段 Flow equalization segment		30
表冷段 Surface cooler segment	4排 4 rows	120	消声段 Muffler segment	微穿孔 Micropunch	30
	6排 6 rows	180	中间段 Access segment		10
	8排 8 rows	220	混合段 Mixed air segment		20
挡水段 Eliminator segment		50	送风段 Air-supply segment		10

注：表中参数为迎面风速2.5m/s时阻力测值。

Note: The resistance values specified on the table are measured as the approach air velocity is 2.5m/s.

系统控制

SYSTEM CONTROL

◎ 根据不同需要，亚太可为客户提供以下四种类型控制方式：

Yatai can offer the following 4 kinds of control according to different requirements

- ◆ 标准配置：机组带电气接线盒（15kW以下），不含电控系统。
- ◆ 启停型：配置机组启动柜，控制风机的开关，具有过载、过热、缺相保护。
- ◆ 可编程控制：DDC数字控制器与PLC控制器现场集中控制实现机电一体化，可对机组各功能段的运行参数和状态进行检测，通过特定逻辑运算，实现对每个执行机构实施开关量和模拟量控制。
- ◆ 集中远程监控：通过标准的RS485\RS422\RS232接口，将现场控制器、各类仪表组成系统的控制中心，由通讯线路与中央控制室相连从而构成工业控制网。根据现场状态、参数、系统命令及中央控制室的远控，调节系统高效、安全、节能运行。
- ◆ Standard type ---The AHU is equipped with electrical terminal box (less than 15kW), not including electronic control system.
- ◆ Start-stop type ---The AHU is equipped with startup cabinet, fan switch and protections such as overload, overheating and phaselocking.
- ◆ PLC ---The DDC digital controller and the PLC will do centralized-control on site to realize electromechanics. They can monitor running parameters and modes of every functional segment and control switching value and analog of every actuator by specific logic program.
- ◆ Centralized remote monitoring ---Connect the site controller and control center which is made of every kinds of meters with the central control room by communication line through standard RS485/RS422/RS232 interface. Which can operate the AHU to do works of efficiency, safety and energy-saving according to site condition, parameters, system commands and remote control from the central control room.





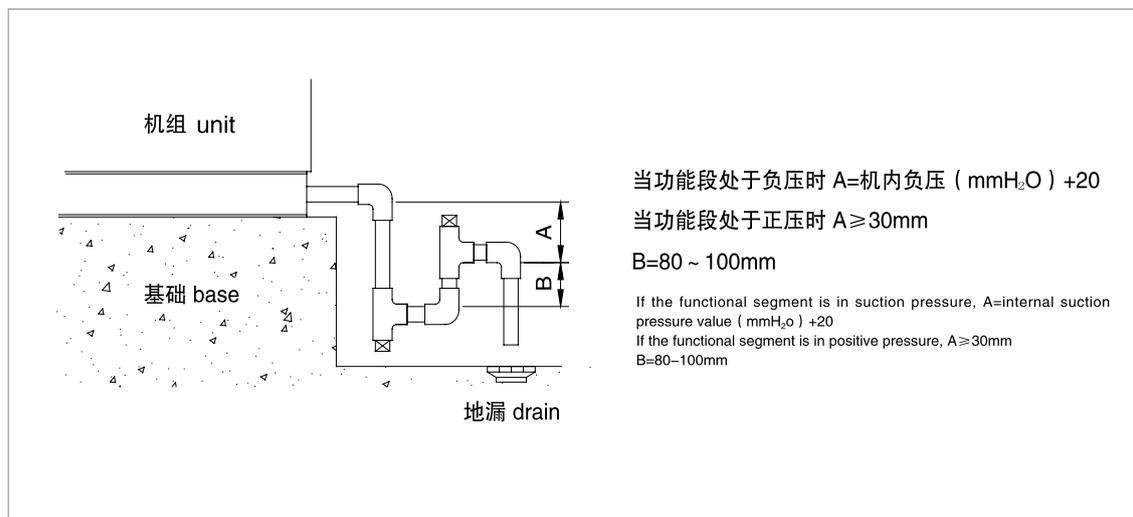
机组安装 INSTALLATION

◎ 机组基础 Foundation

- ◆ 机组基础须保持牢固平整，所有结构形式的空调机组都应安装在一个水平基础之上。
- ◆ 机组四周应留有足够操作空间，以便机组检修和定期维护。
- ◆ 机组底座与基础之间需垫5mm厚工业橡胶板。
- ◆ The AHU foundation shall be solid and flat, all types of AHU shall be fixed on one level foundation.
- ◆ Enough space shall be available around the AHU for repairing and regular maintenance.
- ◆ 5mm in thickness of industrial rubber sheet shall be available between the AHU base and foundation.

◎ 管路配置 Pipeline layout

- ◆ 外接进、出风管应采取柔性连接，以免振动传递及风管重量由机组支承。
- ◆ 外接进、出水管时建议采用软接头，且配接管时须平衡用力，不要用力过猛，以免损坏盘管。
- ◆ 进出水管、冷凝水管及阀门均须严格的防露施工。同时要对保温材料进行认真的端部处理，以免冷凝水渗透到保温材料的内部。
- ◆ 机组冷凝水管须安装水封（U型存水弯），具体做法如下图。
- ◆ Flexible connection is necessary between AHU and air inlet and outlet duct lines in case of vibration transmission and air duct weight born by AHU.
- ◆ Flexible connection is necessary between AHU and water inlet and outlet pipe lines. When plumbing fitting, pay attention on your force, too much is forbidden, in case the fan coil unit would damage.
- ◆ Anti-dew measurement shall be taken on out-and-in folw pipes, condensing water pipe and valves. At same time shall do a perfect treatment on insulation ends in case condensed water would penetrade into it.
- ◆ Water seal (U-trap) shall be available in the condensing water pipe, the detailed, please see the following diagram.





◎ 电气接线 Electrical installation

- ◆ 机组电控装置应有良好的接地及可靠保护，如过载、过热、缺项保护等。当电机功率 > 15kW时，应采用Y-Δ启动装置或其它降压启动装置。
- ◆ 机组电机应采取一对一保护，两台或多台电机不允许并接同一保护开关。
- ◆ 接通电源后，先启动一下电机，检查风机转向是否正确，否则需调整相序。
- ◆ The AHU' s electronic controller shall be perfect earth and with reliable protections like overload, overheating, phaselacking and so on. If fan power $\geq 15kW$, Y-Δ starting device or other reduced voltage starters shall be available.
- ◆ The AHU' s motors shall take one-to-one protection, two or more motors are forbidden to share the same protection switch.
- ◆ After power is turned on, start the motor for a short minute to check the fan running is right or not, if not, should change the phase order.

使用维护 OPERATION AND MAINTENANCE

◎ 供水要求 Supply water quality

- ◆ 冷热供水应为清洁的软化水。正式供水前，需清洗系统水路并使用放气阀将管内空气完全排出。
- ◆ 机组冬季运行期间，若需停机，则必须保持盘管内供水连续流动并注入防冻液，同时关闭新风阀，以免冻坏盘管。若冬季长时间停运，应将管内的水放空。
- ◆ The supplied cold and hot water shall be clean and demineralized one. Before formal water supplying, shall clean the water pipeline and discharge all air from it by air escape valve.
- ◆ If running in winter and death for short time, shall keep the water inside the fan coil unit flowing, inject antifreeze agent and turn off fresh air dampers in case the fan coil unit damage. If death for long term in winter, shall drain off all the water from pipeline.

◎ 注意事项 Matters need attention

- ◆ 空调机组启动前，应检查水、电系统是否正常，检查紧固件是否拧紧，各阀门是否关闭自如。
- ◆ 风机启动前，检查风机蜗壳内是否有异物。
然后用手转动风机叶轮，查看风机叶轮与蜗壳是否有碰撞、刮擦现象，轴承是否损坏有异响。
如无异常，可启动风机正常运行。
- ◆ 机组不得在全开风阀的状况下启动，并且机组不接负载运行时，应将风口堵住3/4，以免电流过大而烧毁电机。
- ◆ 开机时应先开风机，后开表冷器、加热器、加湿器；
关机时，先关冷水、热水和蒸汽管路，后停风机。
严禁在风机正常运行时，突然关闭送、回风阀造成段内超压，破坏箱体结构。
- ◆ 如机组运行中突然停电，应立即关闭热媒管路，以免箱体内部温度过高导致部件发生变形。
- ◆ Before running the AHU, shall check water and electricity system is normal or not, fasteners are firm or not, every valve opens or closes easily or not.
- ◆ Before starting fan, shall check there are foreign matters inside its house or not. Then turn its impeller by hand and check whether its blades scratch or collide its house or not, its bearing damages or not, there are odd sounds or not. If not, can start the fan for running.
- ◆ The AHU shall not be started when all the dampers open fully, If no load, 3/4 of tuyeres should be blocked in case motor would damage by large electric current.
- ◆ When starting the AHU, please turn on the fan first, then the surface cooler, the heater; When stopping, first cut off cold, hot water and steam pipelines, then fan. When fan is running normally, suddenly turning off the air supply and air return dampers is forbidden, in case the AHU house would damage caused by overpressure inside the segment.
- ◆ If power suddenly cuts off when the AHU running, should cut off steam pipeline immediately, in case the parts deform caused by high temperature inside the segment.





◎ 使用维护 Maintenance

- ◆ 应定期检查风机、电机等运动件的联接、运行和传动情况，如有松动须及时调整。
- ◆ 当初、中效过滤段的阻力达到初阻力的2倍时，应予以清洗或更换。
对于滤料为无纺布的过滤器，可先行拍打或用压缩空气反吹，再用肥皂水或清洗剂清洗干净。清洗时注意不要拉伸纤维组织，尽量保持原孔隙度不变。通常滤料的重复使用率最多不超过3次。
- ◆ 空调机组运行2~3年后应进行全面保养。
用化学方法清除换热器水管内的水垢，用压缩空气或水冲洗翅片，以保证换热器的换热效率。
- ◆ Shall check connection, running and driving condition of moving parts like fans and motors regularly, if loose, adjust them timely.
- ◆ If air resistances of coarse and medium filters are up to as much as 2 times of its initial resistance, they shall be replaced or cleaned. If its filtering material is non-woven, can hit or blowback it by compressed air, then wash it by soap or cleaning agents. When washing, stretching its fibrous tissue is forbidden, do your best to keep the original porosity unchanged. Usually, filters can re-use for 3 times.
- ◆ Comprehensive maintenance shall be done after the AHU running for 2-3 years. Should remove the scale from the water pipes of heat exchanger by chemical methods, wash fins by compressed air or water to ensure the heat exchanger efficiency is good.

其它事项 UNCLASSIFIED MATTERS

◎ 订货须知 Ordering instructions

- ◆ 订货时需说明机组的型号、冷热量、机外余压或风机全压、功能段组合、送回风方向、冷热源状况、面板厚度和机组的左右式。
- ◆ 机组带加湿的，须注明加湿量及加湿方式。
- ◆ When placing your order, please let us know the following information: model, cooling/heating capacity, external residual pressure or fan total pressure, functional segment combination, air supply/return way, cooling/heating source, panel thickness, right/left type and so on.
- ◆ If humidifier is needed, please let us know humidifying capacity and humidifying type.

◎ 其它事项 Unclassified matters

- ◆ 空调机组均不配风量调节阀，如有需要请在订货时说明。并注明是手动控制还是电动控制。
- ◆ 机组框架面板均经特别隔热处理，如遇机房内高温高湿、冷冻水温过低、停风不停水等极端情况时可采取机房内除湿、减少新风进入、提高水温或降低水量等措施避免凝露现象的发生。
- ◆ All the AHUs are not equipped with air regulation dampers. If needed, please let us know when ordering, and tell us controlled by hand or electric.
- ◆ Our AHU panels are specially insulated. If phenomenon happens like high temperature and humidity inside the engine room, too low chilled water temperature, air flow stoping but water flow continuing, some measurements shall be taken such as dehumidifying inside the engine room, reducing fresh air supplying, enhancing water temperature or reducing water flow rate, in case condensation phenomenon occur.

未尽事宜请咨询亚太集团有限公司净化部。
Any other questions, please contact with the purifying department of Yatai Group



工程案例 SOME ACHIEVEMENTS

中国人民解放军总医院	富士康科技集团	山东罗欣药业股份有限公司
天津大通红日药业	威海人生药业	天津天宝电子有限公司
东阿阿胶	吉林东宝制药	解放军88医院
解放军202医院	河北中药厂	滨州医学院制剂厂
安哥拉北宽扎省中心医院	黑龙江红星集团食品	山东省陵县人民医院
安国贵灵百顺药业	华北制药股份	山东省平原制药厂
安国市伊康药业	桦甸市人民医院	山东信立泰药业
安徽滁州养元饮品	鸡西市妇幼保健院	山东永聚医药科技
安徽哈博药业	鸡西肿瘤医院	山东泽生生物科技
安徽省新安干细胞工程	济南利蒙制药	山西皇城相府药业
白云山汤阴云东泰药业责任有限公司	济南市半导体元件实验所	山西振东开元制药
宝清县中医院	江苏省庆缘康生物科技	陕西步长制药
北京嘉林药业股份	靖西县人民医院	陕西师范大学
北京市燕京药业	克东县人民医院	石家庄龙泽制药
北京李桥儿童医院	临沂新程金锣肉制品	石家庄市第一医院
北京双鹭药业股份	鲁南制药集团股份	寿光富康制药
北京同仁堂（唐山）	内蒙古金海伊利乳业责任	寿光光明眼科医院
滨州市药品检验所	内蒙古阿拉善盟蒙医医院	太原市太航医院
长治市三宝生化药业	蓬莱深奥生物科技研究所	泰安生力源生物工程
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东阿良子生物食品	山东宝利来生物工程股份	文水县人民医院
格尔林人民医院	山东贝诺医药生物科技	翁牛特旗医院
谷神生物科技集团	山东步长神州制药	小洋人生物乳业集团
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广饶县人民医院	山东东阿百年堂阿胶生物制品	星宇食品（烟台）
广元市第一人民医院	山东方明药业股份	烟台正海生物技术
哈尔滨伊达药业	山东福禾菌业科技	右江民族医学院附属医院
邯郸制药	山东富海实业股份	枣庄市王开传染病医院
和田墨玉县维吾尔医医院	山东华鲁制药	中国电子科技集团
河北爱普制药	山东京卫制药	中国科学技术大学
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BUILD REPUTATION ON PROJECTS

只要努力满足客户的需求

继续引入更多的优质产品

我们一定能够培育出一个稳定的顾客群体

实现销售网络持续、稳定的增长

If we strive to meet the demands of the clients
continue to produce more products with high quality
We will nourish and set up a steadfast client group
to realise the stable and steadfast expansion of the sales net

优良的品质和周到的服务，亚太集团取得了骄人的业绩。亚太洁净技术工程接连获得了北京小汤山医院、武汉火神山医院、武汉雷神山医院等近百家医院的青睐，以其洁净技术的杰出性能和净化实力，获得市场信任，树立用户口碑。

With excellent quality and considerate service, Yatai Group has made remarkable achievements. Its purification technology projects are successively favored by Xiaotangshan hospital in Beijing, Huoshenshan hospital and Leishenshan hospital in Wuhan. The outstanding performance of clean technology and purification strength have gained market trust for Yatai Group and established its reputation among users.





21Century

YaTai
Group

二十一世纪亚太集团

追求每一个细节尽善尽美

几十年来已溶入我们的血液

光荣与梦想、信念与使命

将激励我们做的更好

seek after the perfection

of every minute details it is melted with

our blood

in the past ten years glory and

dream,faith and mission,will impel us to

do better and more

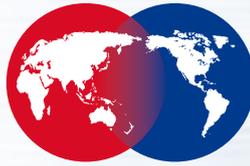
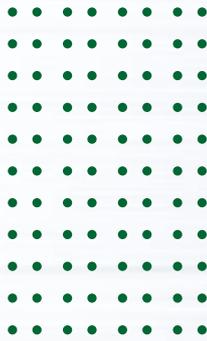
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