



HARK Equipment & Engineering Co., Ltd.



No matter what kind of special marine products you are looking for.

We can always help you to find more surprise.

We work closely with ABS, DNV-GL, CCS, BV, LR, RS, KR, and RINA.

HARK EQUIPMENT & ENGINEERING CO., LTD

PRODUCT LIST INDEX

产品列表索引

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消音器，过滤器，旋风滤器，空气加热器
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- 9. Cryogenics: Cryogenic pipe system, Cryogenic valve, Products for LNG**
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HAVC Solutions and MGO Cooling system

空调，冷藏，公共冷藏及低硫油冷却系统

Air conditioning, Refrigeration, Public Refrigeration

空调冷藏及公共冷藏

Brand 品牌:Hark/FMS

Country 产地: China/Europe

Air Conditioning Plant 空调系统

Provision Plant 冷藏系统

Public Refrigeration Plant 公共冷藏系统

Chiller Unit 冷水机组

Condensing Unit 冷凝机组

Air Handling Unit 空调箱/新风机组

Package Unit 柜式空调



We do the HVAC and ventilation systems including design, production, installation and commissioning for the Marine Market.

我们提供船舶空调及通风系统的设计，产品生产，安装及调试等服务。



HAVC Solutions and MGO Cooling system

空调，冷藏，公共冷藏及低硫油冷却系统

MGO Cooling System

低硫油冷却系统

Brand 品牌:Hark/FMS

Place 产地: China/Europe

Acc. to maker's instruction 按要求定制

No modification to booster 无需修改

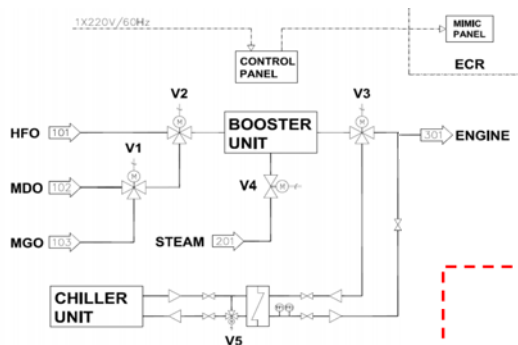
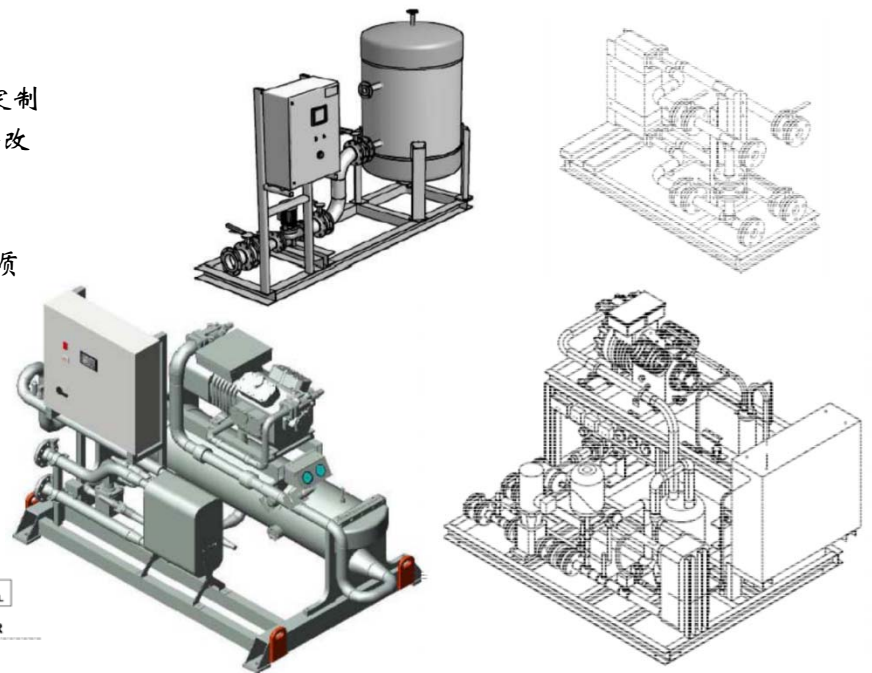
Short Delivery 发货快

Easy operation 易维护

Europe marine quality 欧洲船用品质

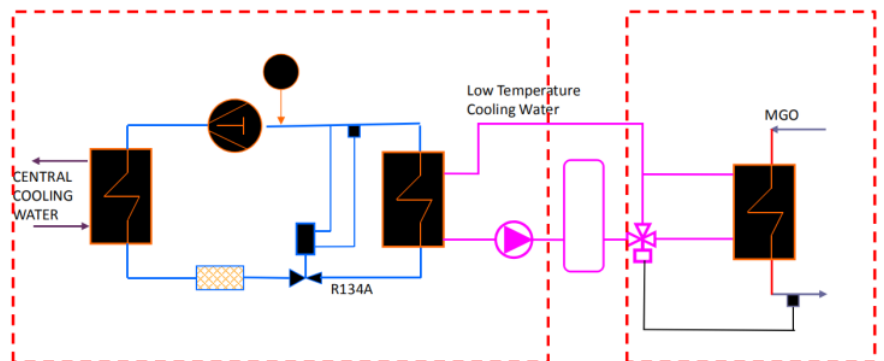
Low investment 投资少

Global Service 提供全球服务



Change-Over System

燃油切换单元



Compact chiller unit

Buffer unit

Cooler unit



Ventilation Fan

风机

High Temperature Fan

高温风机

For marine EGC system, we have designed the special fans to work in harsh environment ,such as high temperature, acid with SOx, with temperature sensor etc .

针对船用脱硫系统，我们设计了专用的高温风机，能够应用于脱硫系统的特殊环境，如耐高温，耐硫化物酸性腐蚀，配温度监测等。（无需水冷却）

The particular design for the fan

风机的独特设计

According to the real service environment, use the software to simulate the temperature ,to test the real products to ensure reliable

严格设计，软件模拟，产品实况测试，保证产品可靠运行

Specific hose connection, bearing, lubrication, motor and so on to ensure the whole fan can work in high temperature of 600°C
独特的驱动设计及耐高温设计，如轴承，润滑，软连接，减震等工作温度可达 600°C

Special imported stainless steel, anti-corrosion for a very long time

使用进口材料,如特种不锈钢等以确保风机长期的可靠性和安全性

Marine use fan motor with high load capacity

可靠的国际品牌船用高效马达



HARK Equipment & Engineering Co., Ltd.

Ventilation Fan

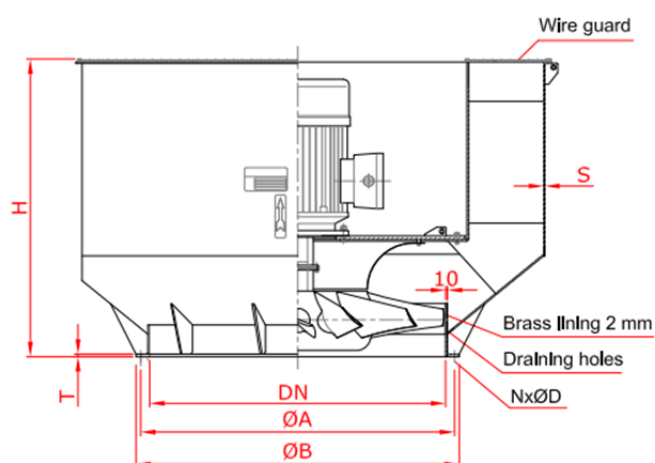
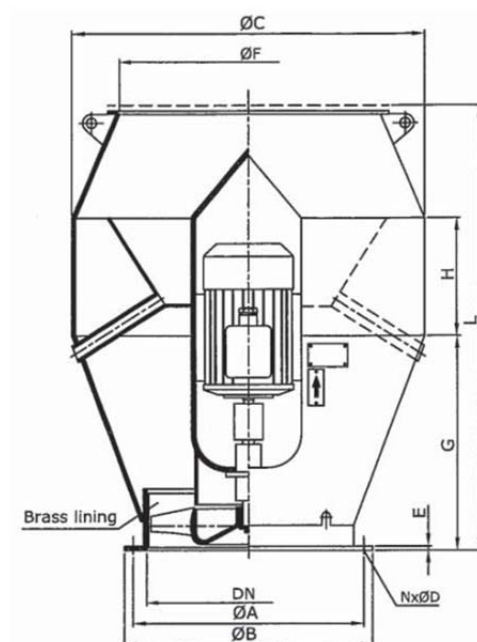
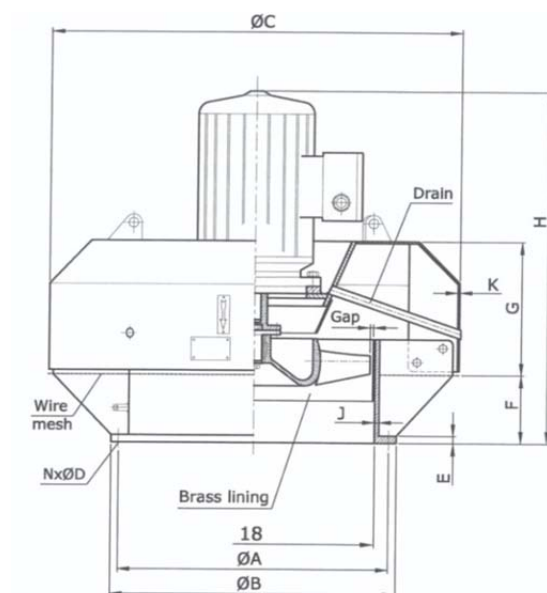
风机

Explosion-proof Axial Fan

防爆轴流风机

Marine explosion-proof axial fans are destined for extraction of air containing explosive vapors or dusts from hazardous spaces of Chemical tanker , Oil tanker , LNG ship or Krill ship.

防爆轴流风机用于化学品船，油船，LNG 船，磷虾船等船上的含有防爆气体，蒸汽或粉尘的送风或排风。



Ventilation Fan

风机

Gas freeing fan

驱气风机

Centrifugal fan, High pressure ,explosion-proof

离心风机，高压(可达 15000Pa)，防爆

With flexible connections and set of vibration dampers

提供软连接及减振器

Counter flange for inlet and outlet

进出口提供配对法兰

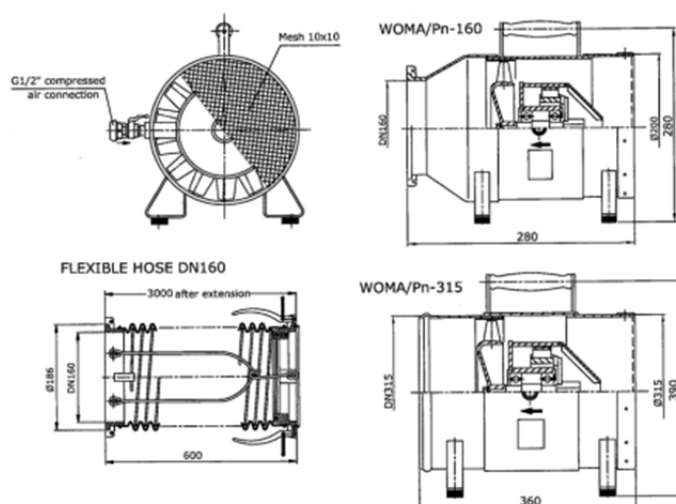
BV,ABS,DNV-GL,CCS approval or product certificate

提供各船级社形式认可及产品证书

Used on Cargo-hold ventilation of Chemical Tanker , Oil Tanker

Multi-Purpose Vessel

用于化学品船，油船，多用途船的货舱干舱通风



Ventilation Fan

风机

Ventilation Fan for Double wall pipe 双壁管风机

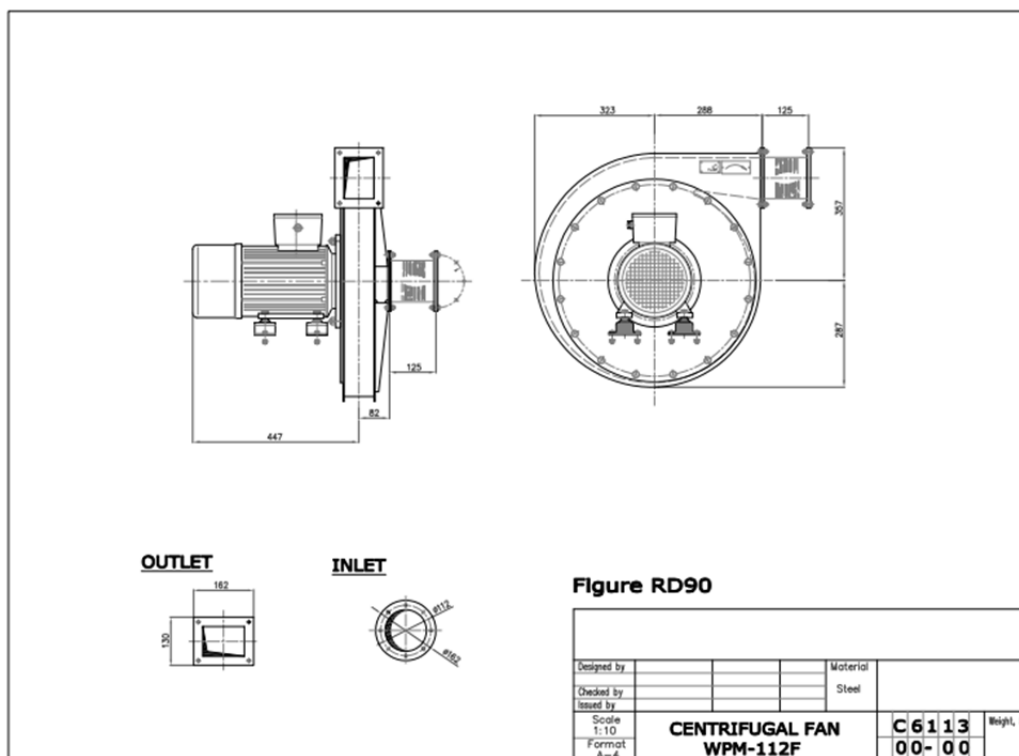
The fan features: the low air flow with high pressure of explosion-proof used on dual fuel vessel

风机特征：高压力低流量，需要防爆，用于双燃料船型的双壁管通风

Item

Marine centrifugal fan, explosion-proof, ALWO C6-00. Fan with gas tight casing.

Number	pcs	1
Nominal diameter	mm	112
Fan type	-	WPM-112F Ex
Air flow	m ³ /h	100 (0,0278 m ³ /s)
Total pressure	Pa	4005
Static pressure	Pa	4000
Power consumption	kW	0,86
External terminal box	-	-
- ex. class	-	-
- enclosure	-	-
Electric motor	-	90L-2 / HOYER
- motortype	-	90L-2 / HOYER
- rated power	kW	2,5
- revolutions	min ⁻¹	3485
- rated current	A	5
- insulation class	-	F
- supply	V/Hz	3x440/60
- enclosure	-	IP55
- execution acc.	-	Class Rules / - 20 - +45°C / Maker certificate
- ex. class	-	ExdeIIC T4 / ATEX
Fan sound level L _{pa} (1m)	dB(A)	88
Fan total weight	kg	48



Ventilation Damper

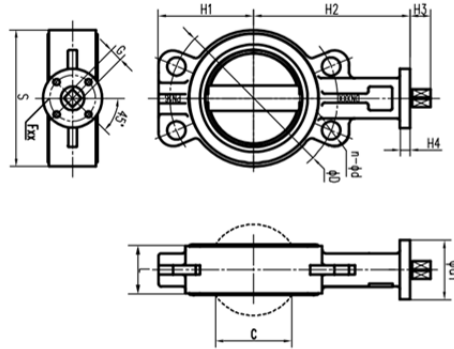
风闻

Watertight damper

水密风闸

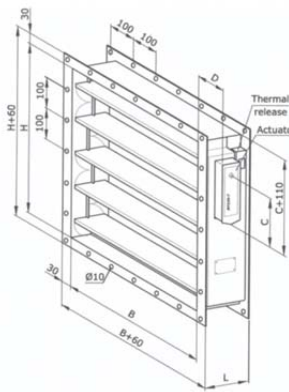
Used on Container Vessel,
semi-submerged ship

用于集装箱船，半潜船的水密
舱壁的通风



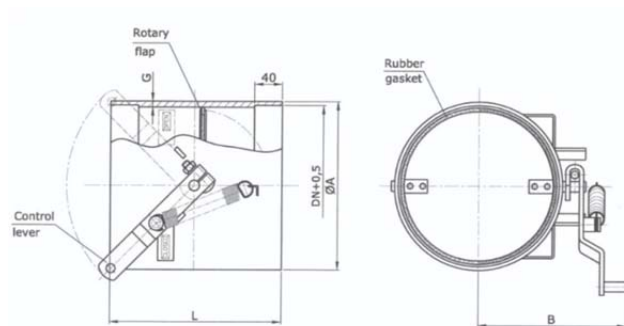
Fire Damper

防火风闸



Smoke Damper

烟气密风闸



Mist eliminator and Louver with heater

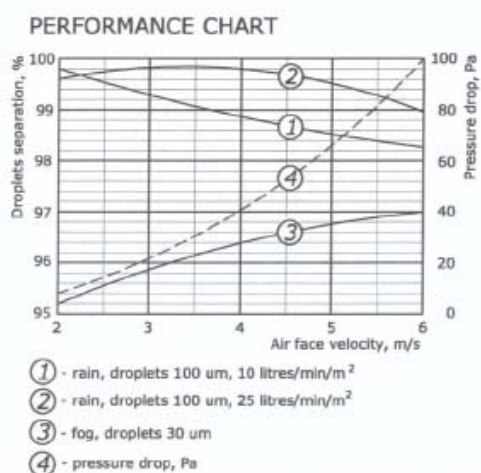
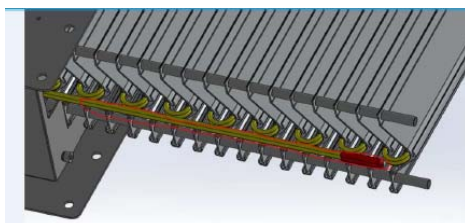
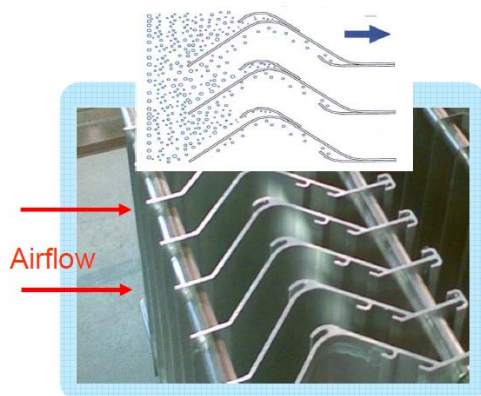
电加热除雾器及百叶窗

Mist eliminator

除雾器

The mist eliminator is used on marine and offshore to avoid the untreated sea air with salt mist coming into the mechanical area to cause the corrosion of the marine equipment. They are mainly installed on ventilation area of mechanical and HVAC inlet of Ro-pax, Cruise vessel, dredger, container vessel, chemical tanker, oil tanker, krill ship, VLOC.

防止未经处理的海上附带盐雾的空气进入到机械区域，造成各种设备的严重的设备点蚀和腐蚀。主要安装在客滚船，邮轮，挖泥船，集装箱船，化学品船，油船，磷虾船，大型矿砂船的空调新风及机械通风。



Mist eliminator and Louver with heater

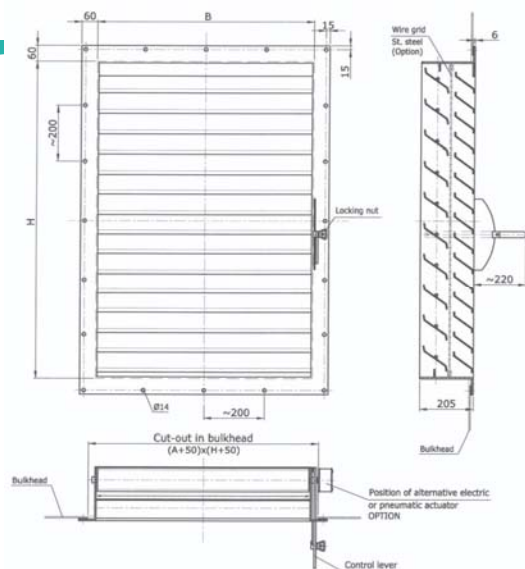
电加热除雾器及百叶窗

Special application

特殊应用

Mist eliminator and louver with heater used on polar condensate oil tanker , polar adventure cruise vessel , krill ship , Ro-PAX and container vessel , chemical tanker for polar route.

电加热除雾器及百叶窗用于极地凝析油船，极地探险邮轮，磷虾船，客滚船，极地航线的集装箱船，化学品船等。

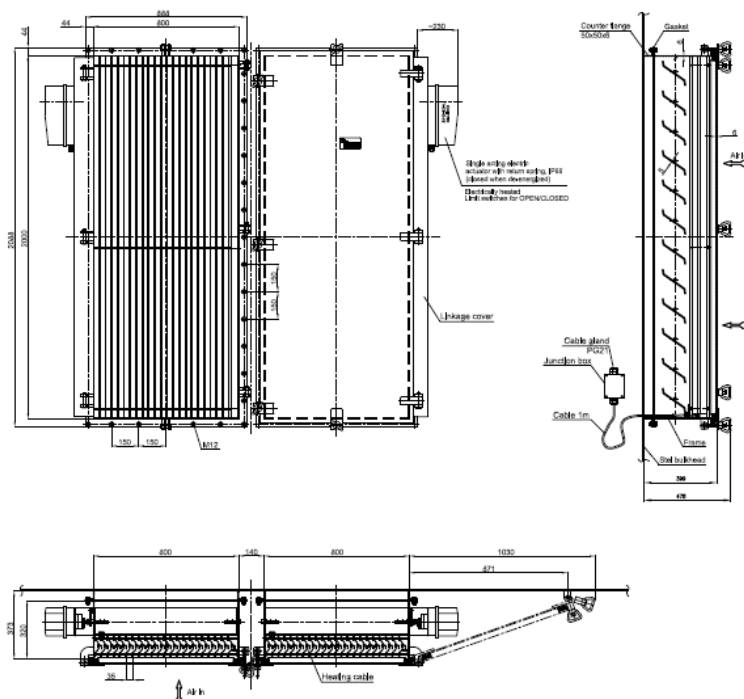


Weathertight Louver

风雨密百叶窗

Solution for -50°C

零下 50°C 解决方案



Mist eliminator and Louver with heater

电加热除雾器及百叶窗

Special application

特殊应用

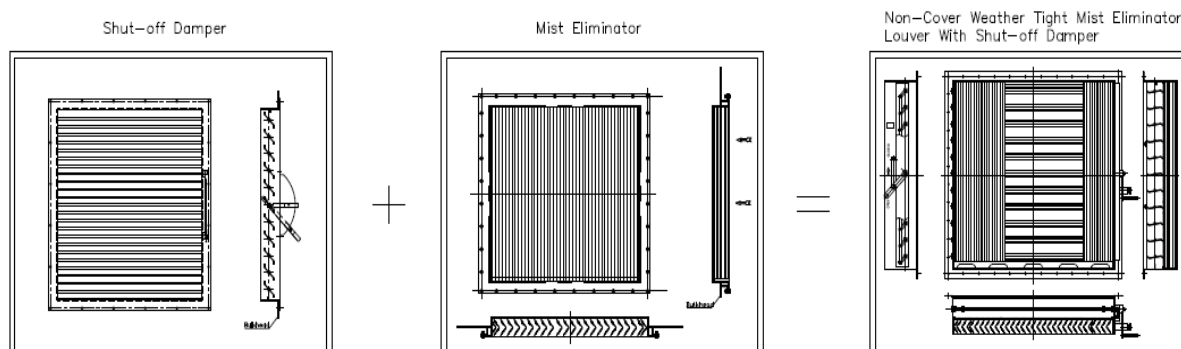
Non-cover weather tight mist eliminator louver with shut-off damper

船舶用无盖关断阀式风雨密除雾器

This type consist of shut-off damper and mist eliminator, meet the requirement of weathertight and DNV-GL certificate ; used as fire closures of main external ventilation openings ;and the greatest strength is to reduce operating spaces and open or close conveniently.该产品由关断阀+除雾器组成，满足风雨密要求，可以提供 DNV-GL 认可证书;可以起到外部通风口的防火盖功能；优势在于节省安装以及操作空间，有效的利用有限的空间来实现安装风雨密通风口。

The Mist Eliminator electric heater defrosting system as optional for harsh environmental conditions in winter.

在恶劣的冬季海况条件下，除雾器可以配置电伴热来实现除雾器除霜以及融冰的需求。





Air pipe head, Ventilation Hood with heater

铸铝空气管头，电加热通风帽

Cast Aluminum Air pipe head

铸铝空气管头

The air pipe head is used for all kinds of marine pipe systems for ventilation. 空气管头主要适用于船舶和海上钻井平台油水舱管路系统透气使用。

Advantages for the Aluminum

更多优势

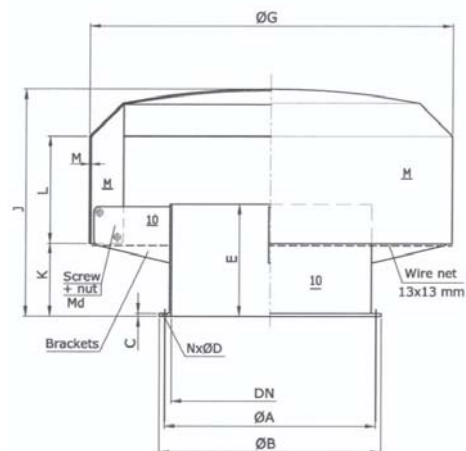
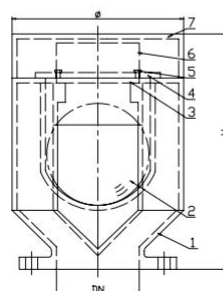
Smallest design available 设计小巧精致

Non corroding 抗腐蚀性

Maintenance free 无需维护

Cost saving 节约成本

Lightweight 重量轻



Ventilation hood with heater

电加热通风帽



HARK Equipment & Engineering Co., Ltd.

Silencer, Air filter, Cyclone-type filter, Electric air heater

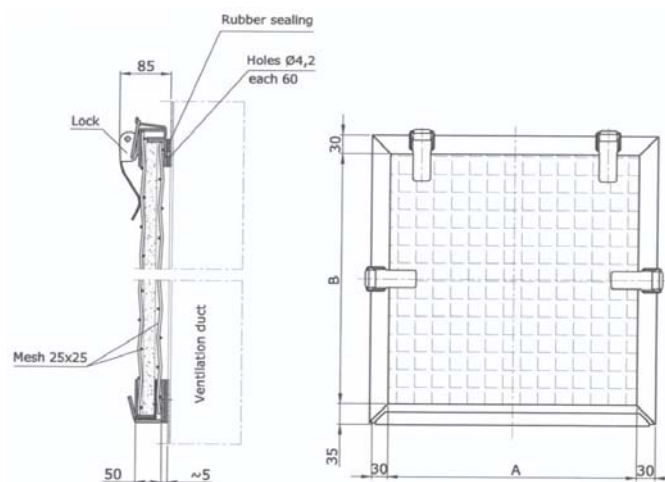
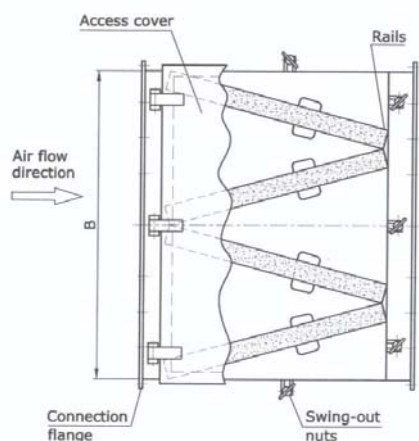
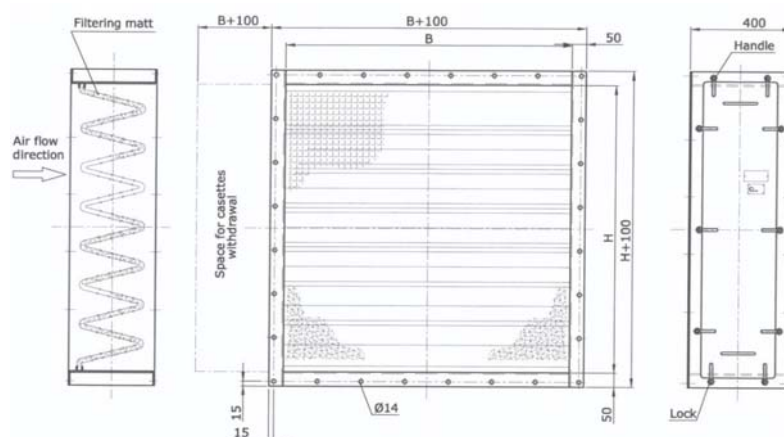
消音器，过滤器，旋风滤器，空气加热器

Air filter

过滤器

The filters are used to separate the dust and sand from air in ventilation systems or as the prefilter of combustion air for engine, turbines and compressors on seagoing ships and offshore.

过滤器用于船舶及海工平台的通风系统的沙尘的过滤或者机舱主机，压缩机等进气口预过滤。



Silencer, Air filter, Cyclone-type filter, Electric air heater

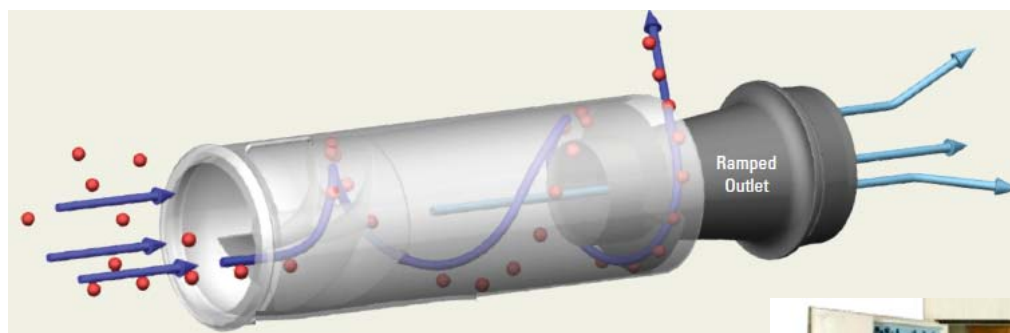
消音器，过滤器，旋风过滤器，空气加热器

Cyclone-type filter

旋风过滤器

The cyclone-type filters are used to separate the dust and sand in a wide variety of hostile environments such as Windmill or Subsea Rock installation vessel working in conditions of sandstorm etc.

旋风过滤器用于非常恶劣环境下的进风口的沙尘过滤，如在沙尘暴环境下工作的风电安装船或抛石船的进风口过滤。

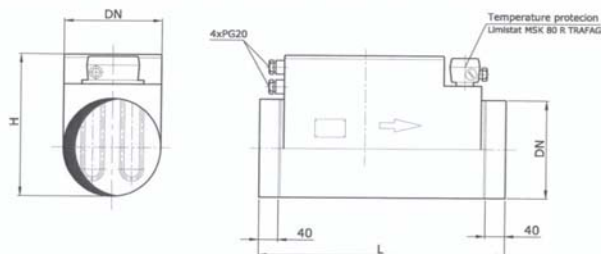


Silencer, Air filter, Cyclone-type filter, Electric air heater

消音器，过滤器，旋风滤器，空气加热器

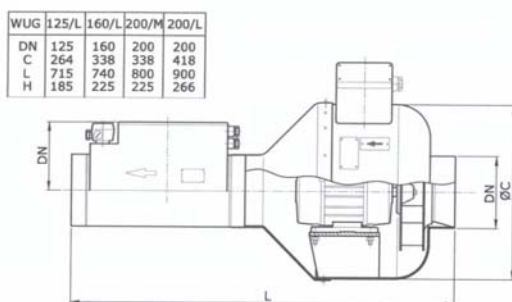
Electric air heater

空气加热器



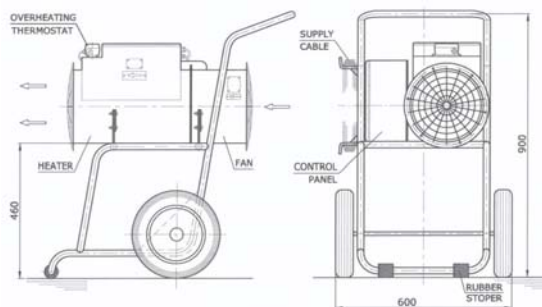
Ventilation-heating device

加热通风系统



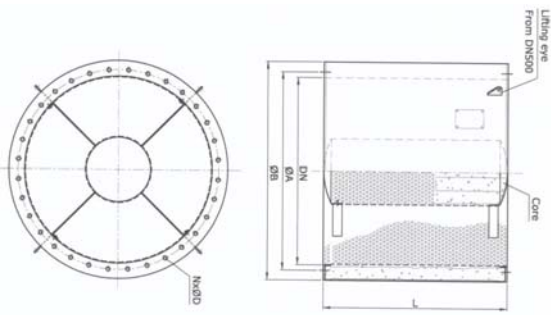
Movable Fan heater

移动式暖风机



Noise silencers

消音器



Dehumidifier system

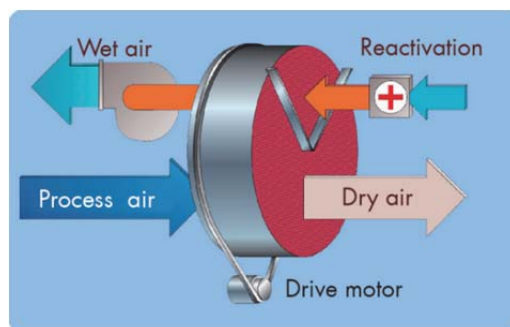
除湿机系统

A lot of cargo, such as chemical tanker, tankers, cargo-hold need to wash after unloading the goods, in order to ensure the cleanliness of the cargo air, using fan to get rid of the residual gas after washing is essential steps.

The main functions of gas freeing fan are swabbing, condensation, ventilation, deodorization, drying and dust removal for chemical tanker, oil tanker, multi-purpose vessel, RO-RO.

很多船的货舱，如化学品船，油船的货舱在卸完货后需要清洗，清洗完后需要用除湿机系统来保证货舱的干燥度及货舱空气的清洁度。

除湿机系统主要用在化学品船，油船，多用途船，汽车滚装船的货舱清洁，除尘，干燥及通风。





Galley Hood

厨房集气罩

Supply the Galley hoods for the big kitchen of ROPAX, Cruise and platform Accommodation and so on. The galley hood can be with the function of Fresh/AC air compensation, UV-filter, Water washing. As well as the wet chemical fire suppression system can be combined into the galley hoods.

为客滚船、邮轮、石油平台等的大型厨房提供集气罩。所供集气罩能包含空气补风、紫外线消毒、水洗等功能。并能集成化学湿粉消防系统。

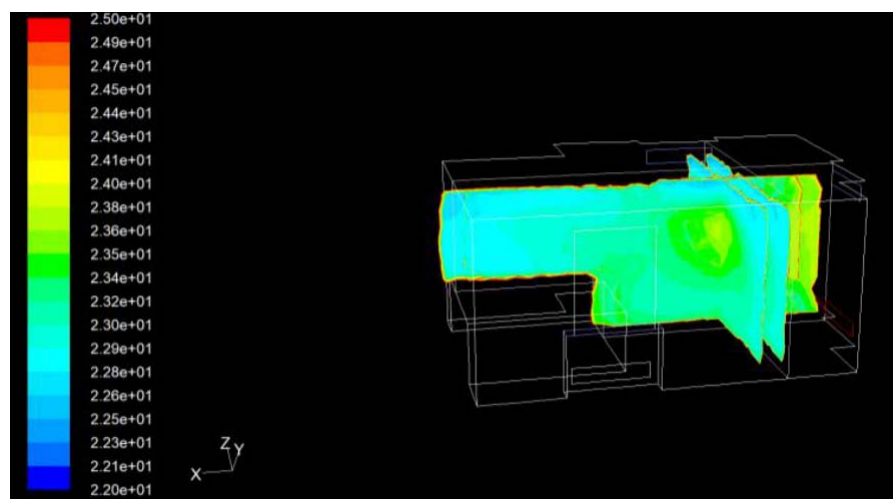
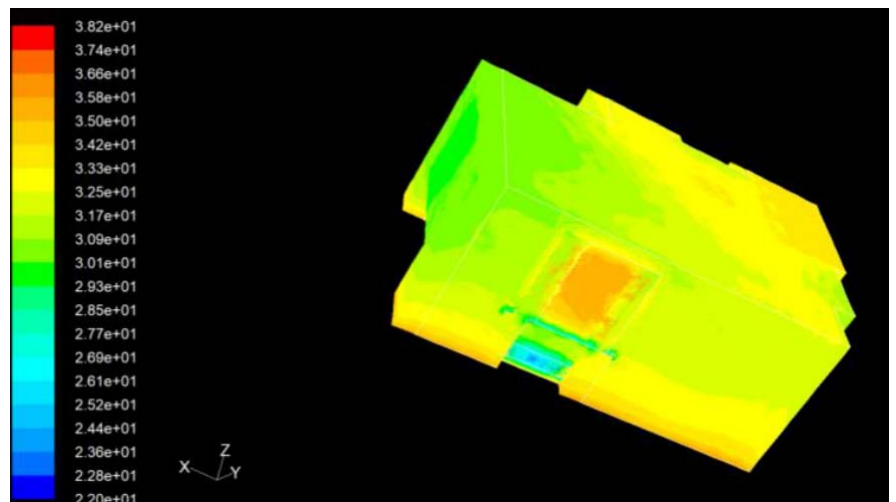


CFD simulation for Special ventilation system

特殊通风的 CFD 模拟设计, 安装, 调试等服务

We design all the special ventilation systems and HVAC systems. We can also supply the computational fluid dynamics (CFD) simulation to show the efficiency of the special ventilation systems to provide a better and more safe solution for the customer. We have much experience for Double wall pipe ventilation, HVAC for Accommodation, Cargo-hold ventilation, Engine room ventilation for the ships of Cruise Vessel, Chemical Tanker, Multi-purpose Vessel, Ro-Pax, Ro-Ro, PCTC, LNG, LPG.

为了提高船舶通风的效率及船舶的安全性, 我们可以提供空调通风及特殊通风的设计及 CFD 模拟。我们在豪华邮轮, 化学品船, 多用途船, 客滚船, 滚装船, 汽车运输船, LNG, LPG 船的双壁管通风, 空调通风, 货舱通风及机舱通风有丰富的经验。



Detection and Control

测控技术

Laser Ambient oil mist detector

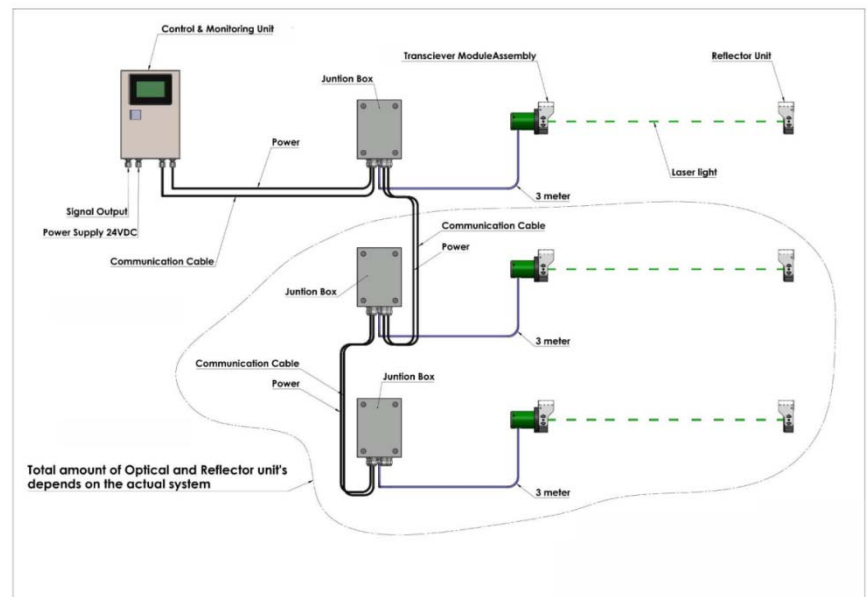
激光油雾探测系统

To detect the oil mist in hydraulic pump rooms, hydraulic power unit rooms, engine rooms and other rooms with hydraulic installations or fuel lines of LNG, LPG, VLCC, FPSO, FSRU, Chemical tanker, Oil tanker, drill rig etc.

用于 LNG,LPG,VLCC,FPSO,FSRU,化学品船,油船,钻井平台的液压泵间,液压动力单元间,机舱及有液压油及燃油管路安装空间的油雾探测。

Scope of supply

- Control and monitoring unit
- Transceiver
- Assessories
 - Refector module
 - Alignment brackets
- Optional
 - Audit filter
 - Remote digital display
 - Audio alarm buzzer
 - Visualization
 - Recorder and data logging



Detection and Control

测控技术

Laser gas detection system

激光气体探测系统

The suitable gas type to use the laser detector

可用激光探测的气体类型

-Toxic gas (有毒气体): H_2S , NH_3 , HF , HCL , CO_2

-Flammable gas (可燃气体): CH_4 , C_2H_4 , MHC

-Combined (混合气体): $\text{H}_2\text{S}+\text{CH}_4$, $\text{H}_2\text{S}+\text{MHC}$

The best place to use the laser detector is to

-detect the $\text{H}_2\text{S}+\text{CH}_4$ on FPSO.

-Detect the gas correctly even in the heavy fog.

-No false or fail alarm, and no maintenance.

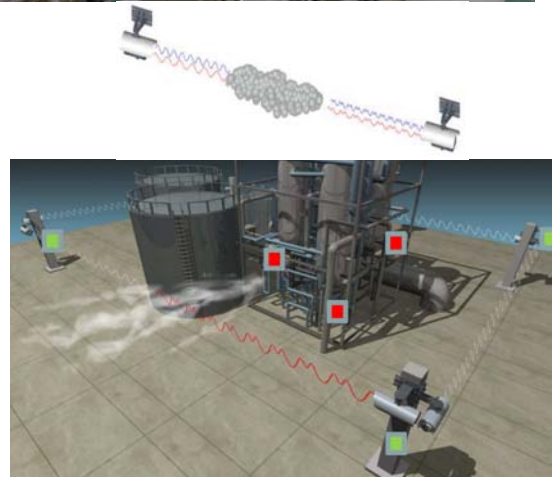
-Reduce operate cost exceed 80%, and technology pays off.

最佳应用场所: FPSO 上甲烷和硫化氢的探测。

-准确无误的检测气体, 不受大雾影响。

-零误报, 零漏报, 零维护。

-运营成本降低超过 80%, 技术带来投资回报。



Detection and Control

测控技术

Ultrasonic gas leak detection

超声波气体泄漏探测



- LNG Project and downstream processing LNG 项目及下游处理
- Offshore platforms for oil and gas 石油与天然气的海上平台
- Gas storage,compression and metering 气体的存储，压缩和计量
- Waste water treatment 污水处理
- Particularly suitable for applications with high safety level requirements and easy failure of traditional detection methods due to its active detection, rapid response and non-climatic characteristics

特别是由于其主动探测，迅速反应以及不受气候影响的特点，非常适合安全等级要求高，传统探测手段容易失效的应用

Detection and Control

测控技术

Ultrasonic marine tightness checker

超声波船舶密封检测系统

Used to check the tightness of the hatch cover, doors and windows on ships. Approved by ABS, DNV-GL, LR, HRS, RMRS. Focused on pinpointing leaks, and so easy to use, low entry cost, versatility, and quality make it the most affordable solution for testing everything that leaks on ships.

用于船舶舱口盖，门窗等密封性检测。拥有 ABS, DNV-GL, LR, HRS, RMRS 的船级社认可。专注于密封性检测，使用简单，低成本，多功能，高品质，使它成为性价比极高的船舶密封解决方案。



Detection and Control

测控技术

Ultrasonic checking for valve and hydraulic piping system inner leak

超声波阀门及液压
管路系统内漏检测



Ultrasonic flow meter
for High Temperature
高温用超声波流量计

Ship Performance Monitoring
船舶性能监测系统



Ultrasonic power checking
超声波局部放电检测

Detection and Control

测控技术

flammable gas detection system

可燃气体探测系统

- Flammable gas detector
- Gas tight damper(Optional)
- Control panel
- System engineering

可燃气体探头

气密风闸 (可选)

控制箱

系统集成



refrigerant detection system

制冷剂探测系统

- Refrigerant detector
- Recovery unit
- Refrigerant bottle
- Control panel
- System engineering

制冷剂探头

回收机

制冷剂钢瓶

控制箱

系统集成





Cryogenic Products

低温产品系列



Vacuum insulated pipe (Hose)
真空绝缘管 (软管)



干式快速接头TC系列

Cryogenic Couplings for LNG
LNG 超低温加液枪



Double-Wall Pipe and fittings
双壁管及附件



Cryogenic Valve
低温阀门系列



Break-away Couplings
低温拉断阀



Dry Cryogenic Couplings
LNG 低温干式快速接头





Cryogenic Products

低温产品系列



Double Vacuum hose
双层真空软管



Non-combustible gasket
LNG 防火绝缘垫片



Cryogenic Pump
LNG 低温泵



Cryogenic Sensors
LNG 低温传感器



Mass Flow Meter
LNG 质量流量计



Fire suppression system

消防灭火系统

Clean fire fighting 清洁灭火系统



FM200 ADS



NOVEC1230 ADS



Wet Chemical

PRODUCTS DESCRIPTION		VESSEL TYPE	APPLICATION	ORIGINAL
Gaseous fire suppression systems				
	FM200 Systems (ECS & ADS)	Offshore	For enclosed space such as Engine room, Pump room, Cargo hold etc.	USA
	NOVEC1230 Systems	Offshore	For enclosed space such as Engine room, Pump room, Cargo hold etc.	USA
	Argonite Systems	Offshore	For enclosed space such as Engine room, Pump room, Cargo hold etc.	USA
Foam fire suppression systems				
	Fixed Deck Foam System	Oil tanker, Chem. vessel and FPSO	Oil tanker/Chemical vessel cargo tank deck, Helideck	UK and CHINA
	Fixed Hot Foam System	All Vessel type	For enclosed space such as Engine room, Pump room, Oil tank etc.	UK and CHINA
Powder fire suppression systems				
	Wet Chemical System (Deep Fryer/Duct)	All Vessel type	Galley Deep Fryer, Hood and Duct	USA
	Dry Chem. Powder System for LPG LNG	LNG/LPG Vessel	LNG/LPG Cargo tank deck	CHINA



Automatic fire suppression system

自动灭火系统

The BlazeCut system is designed for protection of small enclosures with greater risk of fire. BlazeCut operates automatically without any power supply by detecting higher temperatures. When the temperature in the protected enclosure rises to a critical threshold, the heat sensitive BlazeCut Tube melts down at the point where the affecting temperature is the highest. Melting the BlazeCut Tube creates a hole releasing the entire extinguishing agent stored in the BlazeCut Tube directly onto the source of the fire.

用于电控箱制动灭火，无需供电，自动释放。

Features 特性:

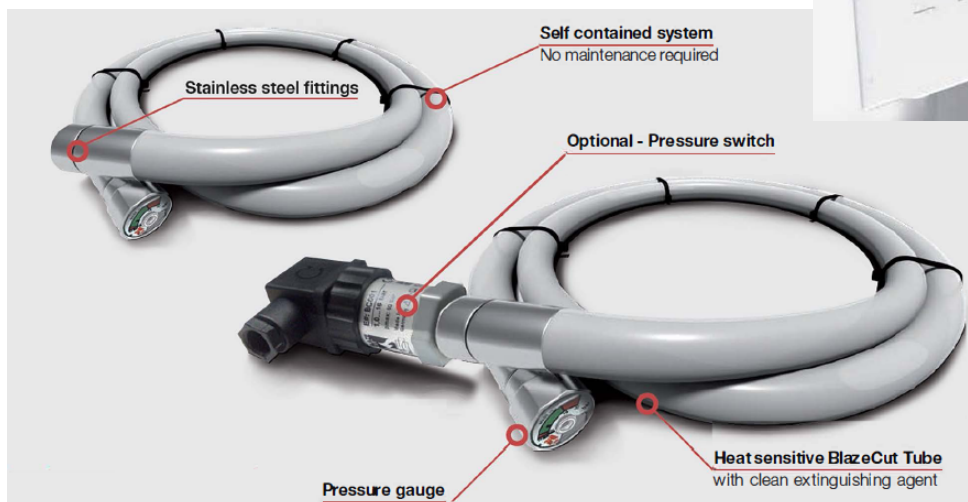
Universal use 应用广泛

High cost-effectivity 低成本

No cylinder for storage 无需气瓶存储

Clean and effective extinguishing agent 清洁高效药剂 HFC (HFC-227ea and HFC-236fa)

Zero maintenance costs 无维护成本



HARK Equipment & Engineering Co., Ltd.

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