

# Специальные винтовые воздушные компрессоры АНВ-15/20А



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# SPECIALLY FOR LASER MACHINE 15 Bar SCREW AIR COMPRESSOR

## AIR REQUIREMENT OF LASER CUTTING

<b>激光切割行业 对压缩空气的 切割品质要求</b>  <b>Quality of compressed air in Laser cutting machine</b>	气压要求 Air Pressure	≥Mpa	1.0
	切割厚度 Cutting Thickness	≤4mm	碳钢, 镀锌板, 不锈钢 Carbon Steel, Galvanized Sheet, Stainless Steel
	固体颗粒 Solid Particles	≤0.1μm	1级 / Class 1
	压力露点 Pressure Dew Point	≤7°C	5级 / Class 5
	油和油气 Oil and Gas	≤0.01mg/m <sup>3</sup>	1级 / Class 1

## ISO 8573-1 CLASS 0 压缩空气标准

### COMPRESSED AIR STANDARD ISO 8573-1 CLASS 0

质量等级 Quality Class	固体颗粒 Solid Particles	水 Water		油和油气 Oil and Gas
	μm	压力露点 Pressure Dew Point (°C)	压力露点 Pressure Dew Point (°F)	mg/m <sup>3</sup>
0	由用户和供应商规定, 并且比等级1更严格。 Prescribed by users and suppliers, and more strict than level 1.			
1	0.1	-70°C	-94°F	0.01
2	1	-40°C	-40°F	0.1
3	5	-20°C	-4°F	1
4	15	3°C	37°F	5
5	40	7°C	45°F	25
6	-	10°C	50°F	-

## TECHNICAL REQUIREMENT FOR LASER CUTTING

### 压缩空气不达标，将会造成以下伤害

If the compressed air does not meet the standard, it will cause the following damage



#### 固体颗粒 | SOLID PARTICLES

易造成镜片附着力不良，有水迹、油污等，需要经常清洁。

Easy to cause poor lens adhesion, water marks, oil stains, etc., need to be cleaned frequently.



#### 水 | WATER

影响切割效果，清洁次数多了就需要更换保护镜片。

It affects the cutting effect. If cleaning frequently, the protective lens needs to be replaced.



#### 油和油气 | OIL AND GAS

污染保护镜片，影响切割效果，需要经常清洁跟保护镜片，导致易耗品(保护镜片)损耗严重。

Polluting protection lens, affecting the cutting, need to clean and protect the lens frequently, resulting in serious loss of consumables (protective lens).

#### 空压机的过滤等级要求 COMPRESSOR FILTER RATING REQUIREMENTS

最少要有3级过滤  
Minimum 3 levels of filtration

#### 空压机的理想过滤等级 THE IDEAL FILTER RATING FOR AIR COMPRESSORS

最少6小时内不用清洁保护镜片  
No need to clean the protective lens  
at least 6 hours

#### 切割厚度 CUTTING THICKNESS

碳钢，镀锌板1.5mm以下，不锈钢根据激光器的功率切割相对的厚度(如:1000W最厚能切割4mm不锈钢，但是切割效果没有用氮气切割的好，建议选用氮气切割)。  
Carbon steel, galvanized sheet below 1.5mm, Stainless steel cutting thickness is according to the power of the laser (Such as 1000W laser machine cut 4mm stainless steel, but the cutting quality is not as good as nitrogen cutting, it is recommended to use nitrogen).

# 3

影响切割质量三大因素

Three factors affecting cutting quality

## 空气 | AIR

洁净的压缩空气，需要配用优质的空压机和后处理设备。  
High quality compressed air need high quality air compressors and high quality air treatment equipment.

## 材料 | MATERIAL

选用高质量的切割材料  
High quality cutting materials required

## 工艺 | PROCESS

选用先进的激光设备  
Advanced laser equipment

## 激光切割质量的配套方案

THE MATCHING SOLUTION OF LASER CUTTING



### 一站式采购 · 一整套服务

ONE-STOP SHOPPING, A COMPLETE SET OF SERVICE



为客户设计配置合理，经济的空压机站，提供洁净的压缩空气，提供售前咨询，整机销售，现场维护，配件供应四位一体的优质，及时服务。

Reasonable and economical air compressor station special designed for customers. We supply high quality compressed air, Pre-sales advice, full set selling, maintenance, spare parts supply.

## 总结 | SUMMARY

空压机一套的成本不足激光切割设备的1%，如此高端的生产设备更需要配置高性价比的艾玛整套产品才能实现客户最大化的产值，更有保障

The cost of a full set air compressors is less than 1% of the cost of laser cutting equipment. Such high-end products equipment needs to be equipped with a cost-effective AirKing air compressor, this will help you to achieve maximum output.

# 1

## 开机

## TURN ON MACHINE

- 1 提前5-10分钟启动冷干机;
  - 2 打开关联球阀;
  - 3 开启空压机;
  - 4 当储气罐打满气后, 开始排储气罐内的水(每4小时操作1次), 罐内的水排完即可关闭排水阀;
  - 5 对冷干机前后的三级过滤器分别进行排水, 时间2-3分钟;
  - 6 若使用氮气切割时, 关闭吸附式干燥机前端的阀门, 启动吸附式干燥机, 再缓慢打开阀门, 向后级供气。注意此时不要让前级的储气罐压力下降过快(尽量保持压力1.0Mpa以上), 当前后级储气罐压强接近时, 可完全打开阀门, 此过程需要1-2分钟。
- 1 Start the dryer 5-10 minutes in advance.
  - 2 Open the associated ball valve.
  - 3 Turn on the air compressor.
  - 4 Drain the water in the air tank when the air tank is full (1 time every 4 hours), and the drain valve can be closed when water drained.
  - 5 Drain water of pipe air filter for 2-3 minutes.
  - 6 If cutting by nitrogen, close the valve at the front side of the adsorption dryer, start the adsorption dryer, and then slowly open the valve. Pay attention do not pressure drop fast, (maintain the pressure above 1.0Mpa). When the pressure similar, you can open all the valves. This process takes 1-2 minutes.

# 2

## 关机

## TURN OFF MACHINE

按操作规程进行

ACCORDING TO THE OPERATING PROCEDURES

制氮机

Nitrogen Generator

吸附式干燥机

Adsorption Dryer

空压机

Air Compressor

冷干机

Refrigerated Dryer

# 3

## 操作注意事项

## OPERATIONAL NOTES

- 1 仔细阅读使用说明书;
  - 2 检查油位: 必要时添加至油位计的上下限中间;
  - 3 电动机测绝缘合格, 电源线、地线牢固接好, 防护罩完好;
  - 4 确认设备接线正确无误, 合闸电控柜的相对应的空气开关;
  - 5 检查显示面板各显示参数(电压为380v);
  - 6 点动电机, 检查主电机和风扇电机的转向;
  - 7 检查管路是否泄漏;
  - 8 缓慢关闭输气球阀, 检查卸载压力与轨道值是否一致;
  - 9 查看运行温度, 如果超过规定值应检查冷却系统和安装环境;
  - 10 调整机组处于额定工作状态;
  - 11 如果整机在低温工况下, 完成以上操作后, 需要多点动几下, 让润滑油充分流通后方可切换为自动加载。
- 1 Read the instruction manual carefully.
  - 2 Check the oil level: if necessary, add oil to the middle of the upper and lower limits of the oil level gauge.
  - 3 The motor is tested and insulated, the power cable and ground wire are firmly connected, and the protective cover is intact.
  - 4 Confirm that the equipment wiring is correct, open the corresponding air switch.
  - 5 Check the display parameters (Voltage is 380V).
  - 6 Check the direction of the main motor and fan motor.
  - 7 Check the pipeline any leaks.
  - 8 Slowly close the balloon valve and check that the unloading pressure is consistent with the orbital value.
  - 9 Check the operating temperature. If the temperature is exceeded, check the cooling system or installation environment.
  - 10 Adjust the unit to be in rated working condition.
  - 11 If the whole machine is in low temperature condition, after completing the above operation, Job several times, Change to automatic loading when lubricating oil to fully circulate.

# SCREW AIR COMPRESSOR SPECIALLY FOR LASER MACHINE TECHNICAL PARAMETERS TABLE

艾玛螺杆式空压机 / AIRKING SCREW AIR COMPRESSOR (15bar压力)		
型号 / MODEL	AHB-15A	AHB-20A
排气量 / 排气压力 Air Flow/Discharge Pressure (m³/min/Mpa)	0.92 / 1.5	1.23 / 1.5
排气量 / 排气压力 Air Flow/Discharge Pressure (CFM/PSI)	33 / 218	43 / 218
压缩等级 Compression Stage	单级 / Single Stage	
环境温度 Ambient Temperature	-5 ~ +45°C	
冷却方式 Cooling Mode	风冷 / Air Cooling	
排气温度 Discharge Temperature	环境温度+15°C / Ambient Temperature +15°C	
润滑油量 Lubricant Oil (L)	10	
噪音等级 Noise Level (Db)	64±2	
传动方式 Drive Method	皮带传动 / Belt Drive	
电源 Power Supply (V/ph/Hz)	380 / 3 / 50	
电机功率 Motor Power (KW/HP)	11 / 15	15 / 20
启动方式 Starting Method	星三角启动 / Y-△ Starter (Star Delta Starting)	
排气口径 Outlet Diameter (inch)	G3 / 4	
尺寸 Size (mm)	940*800*1075	
净重 Net Weight (kg)	315	325
配套储气罐规格 Matched Air Tank	0.3m³ / 1.6Mpa	
配套冷干机型号 / 规格 Matched Air Dryer	AH-7.5SG / 1.0m³/min	AH-10SG / 1.5m³/min
配套过滤器规格(A, B, C级) Matched Line Filter (Grade A, B, C)	1.0m³/min	1.5m³/min

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