

# 激光切割-氮气方案

—  
LASER CUTTING  
NITROGEN SOLUTION

**OPPAIR**  
君威诺

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SHANDONG OPPAIR MACHINERY MANUFACTURING CO.,LTD





手持激光焊  
专用小型高纯度制氮机

# HAND LASER WELDING

SPECIAL SMALL  
HIGH-PURITY NITROGEN GENERATOR



AIR COMPRESSOR  
空压机

4/5.5/7.5KW  
8bar

永磁变频螺杆空压机，节能高效  
Permanent magnet variable frequency  
screw air compressor,energy efficient

NITROGEN GENERATOR  
制氮机

1/3/5/10<sup>3</sup>

制氮机，99.99%纯度，焊接专用  
Nitrogen machine,99.99%purity,special for  
welding

AIR TANK  
储气罐

300L

配备300L储气罐，压力更稳定  
Equipped with 300L air tank,the pressure is  
more stable

配置方案CONFIGURATION SCHEME



APPLY应用

| Model 型号                | N2-1                                            | N2-3                                                                                   | N2-5                                                                                         | N2-10                                                                                             |
|-------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 氮气流量<br>Nitrogen flow   | 1 Nm3/h                                         | 3 Nm3/h                                                                                | 5 Nm3/h                                                                                      | 10 Nm3/h                                                                                          |
| 配套方案<br>Supporting plan | 1-2台手持焊<br>With 1-2 handheld<br>welding machine | 3-6台手持焊/3台自动焊<br>With 3-6 handheld welding machines or 3<br>automatic welding machines | 6-10台手持焊/4-6台自动焊<br>With 6-10 handheld welding machines or 4-6<br>automatic welding machines | 10-18台手持焊/8-10台自动焊<br>With 10-18 handheld welding machines or 8-<br>10 automatic welding machines |
| 焊机<br>Welder            |                                                 |                                                                                        |                                                                                              |                                                                                                   |

| 型号              |                | N2-1                                                       | N2-3         | N2-5         | N2-10                       |
|-----------------|----------------|------------------------------------------------------------|--------------|--------------|-----------------------------|
| 空压机             | 空压机型号          | OPR-5PV                                                    | OPR-5PV      | OPR-7.5PV    | OPR-10PV/OPA-10PV           |
|                 | 功率/马力 kw/hp    | 4 / 5                                                      | 4 / 5        | 5.5 / 7.5    | 7.5 / 10                    |
|                 | 电压 V/Hz        | 380V/400V/415V 50Hz 3P, 220V/440V 60Hz 3P, 220V 50/60Hz 1P |              |              |                             |
|                 | 类型             | 变频/工频                                                      |              |              |                             |
|                 | 介质             | 空气                                                         |              |              |                             |
|                 | 储气罐 L          | 270L                                                       | 270L         | 270L         | 270L/380L                   |
|                 | 冷却方式           | 风冷                                                         |              |              |                             |
|                 | 工作压力 bar       | 8                                                          |              |              |                             |
|                 | 供气量 m3/min     | 0.63                                                       | 0.63         | 0.95         | 1.1                         |
|                 | Size (mm)      | 1450*600*1340                                              |              |              | 1450*600*1340/1750*750*1650 |
|                 | Weight(kg)     | 250                                                        |              |              | 250/370                     |
| 空压机后是否需要额外增加过滤器 |                | √                                                          | √            | √            | √ / ×                       |
| 制氮机             | 纯度 %           | 99.99%                                                     |              |              |                             |
|                 | 产氮量 Nm3/h      | 1                                                          | 3            | 5            | 10                          |
|                 | 压力             | 0-6bar                                                     |              |              |                             |
|                 | 电压 V/Hz        | 220V 50/60Hz 1P                                            |              |              |                             |
|                 | 出气口尺寸*数量       | DN15 *1                                                    |              |              |                             |
|                 | 功率 KW          | 0.1                                                        |              |              |                             |
|                 | 耗气量 m3/min     | 0.083                                                      | 0.25         | 0.42         | 0.83                        |
|                 | 等于耗电 kw/h      | 0.9                                                        | 2.7          | 3.5          | 1                           |
|                 | 制造一瓶40L的氮气时间 h | 5                                                          | 1.7          | 1            | 0.2                         |
|                 | 控制方式           | PLC自动控制，具备纯度显示、自动启停、自动排气等功能                                |              |              |                             |
| 储气罐             | 尺寸 (mm)        | 1110*400*280                                               | 1104*480*340 | 1680*680*440 | 1780*790*540                |
|                 | 重量(kg)         | 45                                                         | 60           | 140          | 210                         |
|                 | 容量L            | 300                                                        |              |              |                             |
|                 | 最大工作压力 bar     | 8                                                          |              |              |                             |
|                 | 尺寸 (mm)        | 510*510*1770                                               |              |              |                             |
|                 | 重量(kg)         | 80                                                         |              |              |                             |

| Model                                        |                                        | N2-1                                                       | N2-3         | N2-5         | N2-10                       |
|----------------------------------------------|----------------------------------------|------------------------------------------------------------|--------------|--------------|-----------------------------|
| Screw Air Compressor                         | Screw Air Compressor Model             | OPR-5PV                                                    | OPR-5PV      | OPR-7.5PV    | OPR-10PV/OPA-10PV           |
|                                              | Power/Horsepower(kw/hp)                | 4 / 5                                                      | 4 / 5        | 5.5 / 7.5    | 7.5 / 10                    |
|                                              | Voltage(V/Hz)                          | 380V/400V/415V 50Hz 3P, 220V/440V 60Hz 3P, 220V 50/60Hz 1P |              |              |                             |
|                                              | Type                                   | PM VSD with inverter / Fixed speed                         |              |              |                             |
|                                              | Medium                                 | Air                                                        |              |              |                             |
|                                              | Air Tank(L)                            | 270L                                                       | 270L         | 270L         | 270L/380L                   |
|                                              | Cooling Method                         | Air cooling                                                |              |              |                             |
|                                              | Working pressure(Bar)                  | 8                                                          |              |              |                             |
|                                              | Air supply(m3/min)                     | 0.63                                                       | 0.63         | 0.95         | 1.1                         |
|                                              | Size (mm)                              | 1450*600*1340                                              |              |              | 1450*600*1340/1750*750*1650 |
|                                              | Weight(kg)                             | 250                                                        |              |              | 250/370                     |
| Is it necessary to add an additional filter? |                                        | √                                                          | √            | √            | √ / ×                       |
| Nitrogen Generator                           | Purity(%)                              | 99.99%                                                     |              |              |                             |
|                                              | Nitrogen yield(Nm3/h)                  | 1                                                          | 3            | 5            | 10                          |
|                                              | Working pressure(Bar)                  | 0-6bar                                                     |              |              |                             |
|                                              | Voltage(V/Hz)                          | 220V 50/60Hz 1P                                            |              |              |                             |
|                                              | Air outlet diameter*quantity           | DN15 *1                                                    |              |              |                             |
|                                              | Power(kw)                              | 0.1                                                        |              |              |                             |
|                                              | Air consumption(m3/min)                | 0.083                                                      | 0.25         | 0.42         | 0.83                        |
|                                              | Power consumption(Kw/h)                | 0.9                                                        | 2.7          | 3.5          | 1                           |
|                                              | Make a 40L bottle of nitrogen time (H) | 5                                                          | 1.7          | 1            | 0.2                         |
|                                              | Control method                         | PLC automatic control                                      |              |              |                             |
| Air Tank                                     | Size(mm)                               | 1110*400*280                                               | 1104*480*340 | 1680*680*440 | 1780*790*540                |
|                                              | Weight(kg)                             | 45                                                         | 60           | 140          | 210                         |
|                                              | Capacity (L)                           | 300                                                        |              |              |                             |
|                                              | Working pressure(Bar)                  | 8                                                          |              |              |                             |
|                                              | Size (mm)                              | 510*510*1770                                               |              |              |                             |
|                                              | Weight(kg)                             | 80                                                         |              |              |                             |

碳钢  
低纯度激光切割专用制氮机

CARBON  
STEEL

LOW-PURITY LASER  
CUTTING NITROGEN GENERATOR



FEATURES 特点

- 配备永磁变频螺杆空压机，节能高效
- 制氮机自备500L储氮罐，压力稳定
- 100-180Nm3/h,90-99%纯度，激光切割碳钢专用
- PLC智能控制，配备纯度显示仪，自动启停，自动排空
- 板换式冷干机+模组式吸干机+5级高效精密过滤器，保证氮气的洁净度
- Equipped with permanent magnet variable frequency screw air compressor, energy saving and high efficiency.
- The nitrogen machine is equipped with 500L nitrogen storage tank with stable pressure.
- 100-180Nm3/h,90-99% purity, specially designed for laser cutting of carbon steel.
- PLC intelligent control, equipped with purity display, automatic start and stop, automatic emptying.
- Plate change type dryer + module type dry machine +5 high efficiency precision filter to ensure the cleanliness of nitrogen.



N2-100-99%



N2-150-99%



N2-180-99%



APPLY 应用

| Model 型号                                  | N2-100-99%      | N2-150-99% | N2-180-99%                                            |
|-------------------------------------------|-----------------|------------|-------------------------------------------------------|
| 氮气流量<br>Nitrogen flow                     | 100 Nm3/h       | 150 Nm3/h  | 180 Nm3/h                                             |
| 配套激光切割机<br>Matching laser cutting machine | 12KW/20KW       | 30/40/50KW | ≥60kw或两台30kw共用<br>≥60kw or two 30kw units for sharing |
| 切割材质<br>Cutting material                  | 碳钢 Carbon steel |            |                                                       |

| 型号     |             | N2-100-99%                               | N2-150-99% | N2-180-99%                  |
|--------|-------------|------------------------------------------|------------|-----------------------------|
| 制氮机    | 纯度%         | 90-99%                                   |            |                             |
|        | 产氮量Nm3/h    | 100                                      | 150        | 180                         |
|        | 电压V/Hz      | 220V 50/60Hz 1P                          |            |                             |
|        | 功率KW        | 0.3                                      |            |                             |
|        | 控制方式        | PLC自动控制，具备纯度显示、自动启停、自动排气等功能              |            |                             |
| 空压机    | 功率/马力 kw/hp | 37/50                                    | 45/60      | 55/75                       |
|        | 类型          | 变频                                       | 变频         | 变频                          |
|        | 介质          | 空气                                       | 空气         | 空气                          |
|        | 冷却方式        | 风冷                                       | 风冷         | 风冷                          |
|        | 工作压力bar     | 16                                       | 16         | 16                          |
|        | 供气量m3/min   | 4.2                                      | 5.3        | 6.0                         |
| 储气罐    | 容量L         | 600*2                                    | 600*2      | 1000*2                      |
|        | 工作压力bar     | 16                                       | 16         | 16                          |
| 冷干机    | 类型          | 板换式                                      | 板换式        | 板换式                         |
|        | 处理量m3/min   | 6.5                                      | 6.5        | 8.5                         |
|        | 耐压bar       | 16                                       | 16         | 16                          |
|        |             |                                          |            |                             |
| 吸附式干燥机 | 类型          | /                                        | 模组式        | 模组式                         |
|        | 处理量m3/min   | /                                        | 5          | 7.5                         |
|        | 耐压bar       | /                                        | 16         | 16                          |
| 整机     | 电压V/Hz      | 380V/400V/415V 50Hz 3P 220V/440V 60Hz 3P |            |                             |
|        | 产氮压力bar     | 14.5                                     |            |                             |
|        | 氮气纯度%       | 90-99%                                   |            |                             |
|        | 出气口尺寸       | DN25                                     |            |                             |
|        | 整机尺寸m       | 空压机/制氮机                                  |            | 2.13*1.98*2.18/1.65*1.3*2.1 |
|        |             |                                          |            | 2.3*2.6*2.18/1.65*1.3*2.1   |
|        | 整机重量kg      | 2500                                     | 2600       | 3800                        |

| Model                |                                    | N2-100-99%                                                                                                       | N2-150-99%          | N2-180-99%                  |
|----------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------|
| Nitrogen Generator   | Purity (%)                         | 90-99%                                                                                                           |                     |                             |
|                      | Nitrogen yield(Nm3/h)              | 100                                                                                                              | 150                 | 180                         |
|                      | Voltage (V/Hz)                     | 220V 50/60Hz 1P                                                                                                  |                     |                             |
|                      | Power (KW)                         | 0.3                                                                                                              |                     |                             |
|                      | Control method                     | PLC automatic control , with functions such as purity display, automatic start and stop, automatic exhaust, etc. |                     |                             |
| Screw air compressor | Power/Horsepower (Kw/Hp)           | 37/50                                                                                                            | 45/60               | 55/75                       |
|                      | Type                               | PM VSD                                                                                                           | PM VSD              | PM VSD                      |
|                      | Medium                             | Air                                                                                                              | Air                 | Air                         |
|                      | Cooling Method                     | Air Cooling                                                                                                      | Air Cooling         | Air Cooling                 |
|                      | Working pressure(Bar)              | 16                                                                                                               | 16                  | 16                          |
| Air tank             | Air supply (m3/min)                | 4.2                                                                                                              | 5.3                 | 6.0                         |
|                      | Volume (L)                         | 600*2                                                                                                            | 600*2               | 1000*2                      |
|                      | Working pressure(Bar)              | 16                                                                                                               | 16                  | 16                          |
|                      | Type                               | Plate exchange type                                                                                              | Plate exchange type | Plate exchange type         |
| Air dryer            | Processing capacity (m3/min)       | 6.5                                                                                                              | 6.5                 | 8.5                         |
|                      | Pressure resistant (Bar)           | 16                                                                                                               | 16                  | 16                          |
| Adsorption dryer     | Type                               | /                                                                                                                | Modular             | Modular                     |
|                      | Processing capacity (m3/min)       | /                                                                                                                | 5                   | 7.5                         |
|                      | Pressure resistant (Bar)           | /                                                                                                                | 16                  | 16                          |
| Complete Machine     | Voltage: (V/Hz)                    | 380V/400V/415V 50Hz 3P 220V/440V 60Hz 3P                                                                         |                     |                             |
|                      | Nitrogen production pressure (Bar) | 14.5                                                                                                             |                     |                             |
|                      | Nitrogen purity (%)                | 90-99%                                                                                                           |                     |                             |
|                      | Air outlet size                    | DN25                                                                                                             |                     |                             |
|                      | Device size (m)                    | Screw air compressor<br>Nitrogen Generator                                                                       |                     | 2.13*1.98*2.18/1.65*1.3*2.1 |
|                      | Device weight (Kg)                 | 2500                                                                                                             | 2600                | 3800                        |



不锈钢  
高纯度激光切割专用制氮机

# STAINLESS STEEL

HIGH PURITY LASER  
CUTTING SPECIAL NITROGEN GENERATOR



## FEATURES 特点

- 100-200Nm3/h, 99.99%高纯度，激光切割不锈钢专用
- PLC智能控制，配备纯度显示仪，自动启停，自动排空
- 板换式冷干机+模组式吸干机+5级高效精密过滤器，保证氮气的洁净度
- 6公斤/16公斤两款可选
- 100-200Nm3/h, 99.99% high purity, specially designed for laser cutting of stainless steel.
- PLC intelligent control, equipped with purity display, automatic start and stop, automatic emptying.
- Plate change type dryer + Modular adsorption dryer +5 high efficiency precision filter to ensure the cleanliness of nitrogen.
- 6bar/16bar two options.



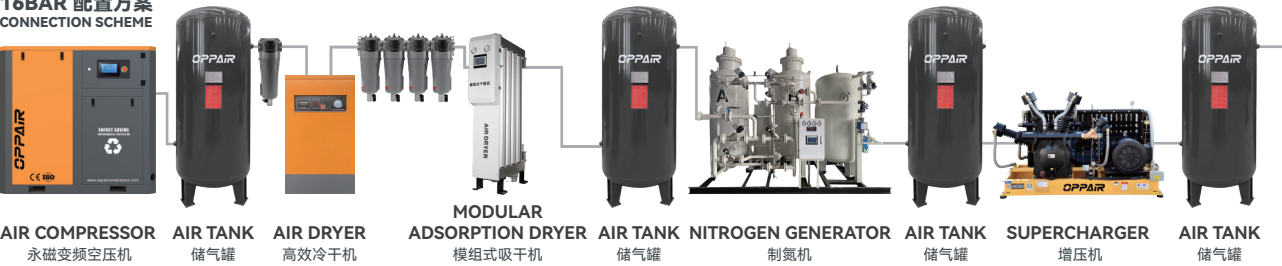
## APPLY 应用

| Model 型号                                  | N2-100-99.99%       | N2-150-99.99% | N2-200-99.99%                                     |
|-------------------------------------------|---------------------|---------------|---------------------------------------------------|
| 氮气流量<br>Nitrogen flow                     | 100 Nm3/h           | 150 Nm3/h     | 200 Nm3/h                                         |
| 配套激光切割机<br>Matching laser cutting machine | ≤2KW                | 3KW           | ≥4kw或两台2kw共用<br>≥4kw or two 2kw units for sharing |
| 切割材质<br>Cutting material                  | 不锈钢 Stainless steel |               |                                                   |

### 6BAR 配置方案 CONNECTION SCHEME



### 16BAR 配置方案 CONNECTION SCHEME



| 型号     |             | N2-100-99.99%                               | N2-150-99.99% | N2-200-99.99% |
|--------|-------------|---------------------------------------------|---------------|---------------|
| 制氮机    | 纯度%         | 99.99%                                      |               |               |
|        | 产氮量Nm3/h    | 100                                         | 150           | 200           |
|        | 电压V/Hz      | 220V 50/60Hz 1P                             |               |               |
|        | 功率KW        | 0.3                                         |               |               |
|        | 控制方式        | PLC自动控制，具备纯度显示、自动启停、自动排气等功能                 |               |               |
| 空压机    | 功率/马力 kw/hp | 75/100                                      | 90/125        | 110/150       |
|        | 类型          | 变频                                          | 变频            | 变频            |
|        | 介质          | 空气                                          | 空气            | 空气            |
|        | 冷却方式        | 风冷                                          | 风冷            | 风冷            |
|        | 工作压力bar     | 8                                           | 8             | 8             |
|        | 供气量m3/min   | 12.6                                        | 15            | 19.5          |
| 储气罐    | 容量L         | 2000*3                                      | 2000*3        | 3000*3        |
|        | 工作压力bar     | 8                                           | 8             | 8             |
| 冷干机    | 处理量m3/min   | 13.5                                        | 15            | 20            |
|        | 耐压bar       | 10                                          | 10            | 10            |
| 吸附式干燥机 | 类型          | 模组式                                         | 模组式           | 模组式           |
|        | 处理量m3/min   | 15                                          | 15            | 20            |
|        | 耐压bar       | 10                                          | 10            | 10            |
| 整机     | 电压V/Hz      | 380V/400V/415V 50Hz 3P    220V/440V 60Hz 3P |               |               |
|        | 产氮压力bar     | 6bar (1-6bar可调)                             |               |               |
|        | 氮气纯度%       | 99.99%                                      |               |               |
|        | 出气口尺寸       | DN32                                        | DN40          | DN50          |
|        | 整套安装尺寸m     | 10-12*1.5*2.9                               | 12-14*2*3.1   | 13-15*2*3.2   |
|        | 整机重量kg      | 4800                                        | 6400          | 8300          |

| Model                |                                    | N2-100-99.99%                                                                                                     | N2-150-99.99% | N2-200-99.99% |
|----------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------|---------------|
| Nitrogen Generator   | Purity (%)                         | 99.99%                                                                                                            |               |               |
|                      | Nitrogen production (Nm3/h)        | 100                                                                                                               | 150           | 200           |
|                      | Voltage (V/Hz)                     | 220V 50/60Hz 1P                                                                                                   |               |               |
|                      | Power (KW)                         | 0.3                                                                                                               |               |               |
|                      | Control method                     | PLC automatic control<br>with functions such as purity display, automatic start and stop, automatic exhaust, etc. |               |               |
| Screw air compressor | Power/Horsepower (Kw/Hp)           | 75/100                                                                                                            | 90/125        | 110/150       |
|                      | Type                               | PM VSD                                                                                                            | PM VSD        | PM VSD        |
|                      | Medium                             | Air                                                                                                               | Air           | Air           |
|                      | Cooling method                     | Air Cooling                                                                                                       | Air Cooling   | Air Cooling   |
|                      | Working pressure (Bar)             | 8                                                                                                                 | 8             | 8             |
|                      | Air supply (m3/min)                | 12.6                                                                                                              | 15            | 19.5          |
| Air tank             | Capacity (L)                       | 2000*3                                                                                                            | 2000*3        | 3000*3        |
|                      | Working pressure (Bar)             | 8                                                                                                                 | 8             | 8             |
| Air dryer            | Processing capacit (m3/min)        | 13.5                                                                                                              | 15            | 20            |
|                      | Pressure resistance (Bar)          | 10                                                                                                                | 10            | 10            |
| Adsorption dryer     | Type                               | Modular                                                                                                           | Modular       | Modular       |
|                      | Processing capacit (m3/min)        | 15                                                                                                                | 15            | 20            |
|                      | Pressure resistance (Bar)          | 10                                                                                                                | 10            | 10            |
| Complete Set         | Voltage: (V/Hz)                    | 380V/400V/415V 50Hz 3P    220V/440V 60Hz 3P                                                                       |               |               |
|                      | Nitrogen production pressure (Bar) | 6bar (1-6bar adjustable)                                                                                          |               |               |
|                      | Nitrogen purity (%)                | 99.99%                                                                                                            |               |               |
|                      | Air outlet size                    | DN32                                                                                                              | DN40          | DN50          |
|                      | Complete installation size (m)     | 10-12*1.5*2.9                                                                                                     | 12-14*2*3.1   | 13-15*2*3.2   |
|                      | Complete set weight (Kg)           | 4800                                                                                                              | 6400          | 8300          |