

充气工具使用说明书  
OPERATION MANUAL OF  
NITROGEN PRE—CHARGING UNIT

OM-151001/Rev. 0

注意：使用前应认真阅读本说明书，如有不明。请与我司蓄能器部联系。

**Warning: Must read the operation manual before use the unit. If have any unclear and misunderstand for the use, please contact Department of Accumulator of our company.**

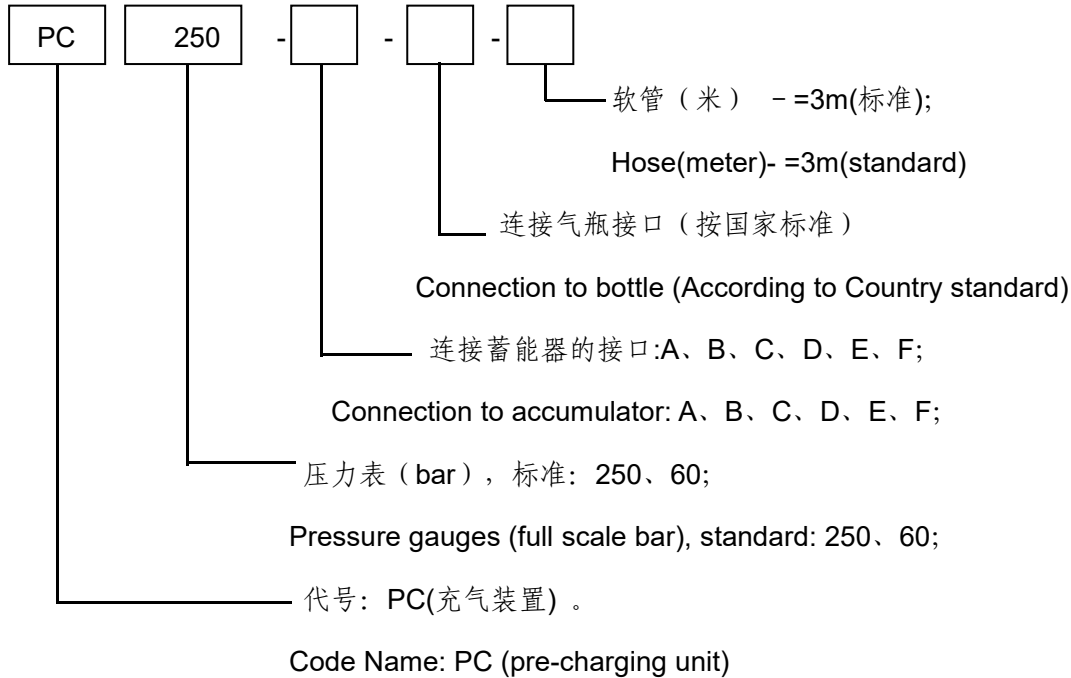
天津海莱姆科技有限公司

**TIANJIN HIGHLEM SMART EQUIP COM., LTD.**

# NITROGEN PRE-CHARGING UNIT

## 充气工具作用说明书 OPERATION MANUAL OF NITROGEN PRE-CHARGING UNIT

### 1. 型号说明 model code



### 2. 技术参数 Technical specifications

最大工作压力 Max. working pressure	蓄能器接口螺纹尺寸 (代号) Accumulator connection (Code)	压力表 Pressure gauges	应用蓄能器 Applications
600bar	M27×1.5 (A)	φ63 接头, 1/4" BSP。 φ63 connection, 1/4 " BSP, 250bar (standard).	隔膜蓄能器 Diaphragm accumulators
400bar	M28×1.5 (B)		隔膜蓄能器 Diaphragm accumulators
100bar			国标蓄能器 China standard accumulators
	M14×1.5 (C)		囊式、活塞蓄能器 Bladder/Piston accumulators
	8V1(7.7×0.794) (D)		囊式、活塞蓄能器 Bladder/Piston accumulators
	5/8" UNF (E)		囊式、活塞蓄能器 Bladder/Piston accumulators
	7/8" UNF (F)	囊式、活塞蓄能器 Bladder/Piston accumulators	

注：按您的要求可提供其它结构型式。

Remark: We should provide other types on your request.

### 3. 概述 Brief

用于蓄能器充气及进行压力测试。充气时，氮气瓶的压力要高于蓄能器所要求的气体压力。充气装置应与工业氮气瓶或与氮气加气装置结合使用。

The pre-charge unit is use to charge or pressure measure for accumulator. While charging nitrogen bottles pressure must be capable of delivering a pressure higher than the desired accumulator gas pressure. The kit can also be used in conjunction with the gas bottle or mobile nitrogen pre-charging cart.

### 4. 结构 Structure

标准型包括充气阀体与蓄能器气阀连接的环形锁母、压力表、放气阀、与胶管及充气阀体连接的单向阀、3米长的胶管、配有与氮气瓶连接的接头、一套备用的密封件、压力表和箱子。

The standard type unit includes: Valve body complete with ring nut connection to accumulator gas valve, pressure gauge, bleed valve, checking valve connecting valve body to hose connection, 3m length charging hose complete with connections, a set of spare gaskets, pressure gauges and its package case.

### 5. 使用说明（3000PSI 轻型气阀）Operation Manual（for 3000PSI Charging Valve）

#### A) 检查蓄能器充气压力 How to Check Nitrogen Pressure

- i. 当蓄能器装在系统上，并确认液口无压力。将充气工具的控制手轮逆时针旋转到足够的长度，保证在充气工具安装在蓄能器阀上时，充气工具的顶针顶不上蓄能器的阀芯。

If the accumulator is connected to the systems please check that there is no pressure on the fluid side. Turn the unit control handwheel counter-clockwise until it is fully disengaged, that is the opening pin unscrew so enough that it cannot push the accumulator valve core during install it on the accumulator.

- ii. 将充气工具安装在蓄能器阀上。

Install the unit on the accumulator.

- iii. 关闭放气阀，顺时针慢慢地旋转手轮，到压力表有压力显示。继续慢慢地旋转到当压力不再长高时，停止旋转，这时读取的压力值即为蓄能器的充气压力。

Close the nitrogen discharge valve and turn the unit handwheel clockwise slowly until the pressure gauge signals. When the pressure reading is not go up, then stop turn the wheel and the pressure reading is the charging pressure of the accumulator.

- iv. 当检测到压力值需要降低时，慢慢地打开放气阀，当达到需要的压力值时，旋出充气工具的手轮到头（逆时针）。当低于要求值时按 B）充氮的要求进行。

Once nitrogen pressure is checked, gently unscrew the discharge valve until pressure start decreasing. Once the desired nitrogen pressure is reached, fully unscrew the control handwheel (counter-clockwise). When the pressure is lower than the desired pressure,



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refill the nitrogen as following procedures described in B) Filling of Nitrogen.

- v. 打开放气阀，将充气工具的余气放掉后，将充气工具从蓄能器上卸下。

Open the nitrogen discharge valve to eliminate any residual pressure and then disassemble the unit from the accumulator.

- vi. 将蓄能器的气阀保护帽安上并拧紧。

Re-stall the protective cap of the nitrogen valve on the accumulator. Be sure that the protective cap is tightened securely.

### **B) 给蓄能器充气 Filling of Nitrogen**

- i. 当蓄能器装在系统上，并确认液口无压力。将充气工具的控制手轮逆时针旋转到足够的长度，保证在充气工具安装在蓄能器阀上时，充气工具的顶针顶不上蓄能器的阀芯。

If the accumulator is connected to the systems please check that there is no pressure on the fluid side. Turn the unit control handwheel counter-clockwise until it is fully disengaged, that is the opening pin go up so enough that it cannot push the accumulator valve core during install it on the accumulator.

- ii. 将充气工具安装在蓄能器阀上。

Install the unit on the accumulator.

- iii. 将充气工具连接到气瓶出口上。

Connect the unit to outlet of nitrogen cylinder.

- iv. 关闭充气工具放气阀，慢慢地打开氮气瓶气瓶阀后，顺时针慢慢地旋转充气工具手轮，直到充气工具压力表有压力显示，慢慢地充气直到所需的预充气压力。我们建议在气瓶上安装一下减压装置，以避免充气升压过快，尤其是要求预充气压力较低时。

Close the nitrogen pre-charge unit release valve. Then open the valve of the gas cylinder slowly. Turn the unit handwheel clockwise until the pressure gauge signals or no signal for the beginning use of accumulator. Start filling nitrogen very gently till reach the rated precharge pressure. We recommend use a nitrogen pressure reducing valve installed on the cylinder in order to avoid over-pressurization of the accumulator body during filling operation, especially when the pre-charge is low in pressure.

- v. 充到所需要的压力值时，全部旋出充气工具手轮（逆时针），然后关闭气瓶阀。

Once the desired nitrogen pressure is reached, fully unscrew the control handwheel (counter-clockwise). Then close the valve of the nitrogen cylinder.

- vi. 打开放气阀，将充气工具和充气管中的余气放掉后，将充气工具从蓄能器上卸下。

Open the nitrogen discharge valve to eliminate any residual pressure in the unit and the hose, then disassemble the unit from the accumulator.

- vii. 将蓄能器的气阀保护帽安上并拧紧。

Re-stall the protective cap of the nitrogen valve on the accumulator. Be sure that the protective cap is tightened securely.

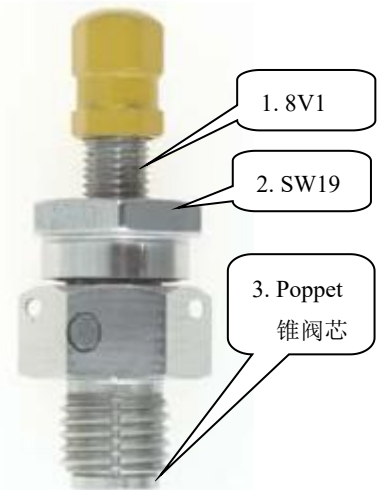
6. 使用说明（5000PSI 轻型气阀）Operation Manual（for 5000PSI Charging Valve）

A) 检查蓄能器充气压力 How to Check Nitrogen Pressure

- i. 当蓄能器装在系统上，并确认液口无压力。将充气工具的控制手轮逆时针旋转到足够的长度。

If the accumulator is connected to the systems please check that there is no pressure on the fluid side. Turn the unit control handwheel counter-clockwise until it is fully disengaged.

- ii. 松开气阀护帽，将充气工具安装在蓄能器阀“1.8V1”上。  
Takeoff protection cap, Install the charging unit on the Valve position “1. 8V1” by hand power.
- iii. 充气工具固定好后，锁紧充气工具放气阀，逆时针慢慢地逆时针旋转六方“2.SW19”，到压力表有压力显示。继续慢慢地旋转到当压力不再长高时，停止旋转，这时读取的压力值即为蓄能器的充气压力。



After fixing of charging unit, close the discharge valve of charging unit, turn the screw nut “2.SW19”by anticlockwise direction by spanner slowly until the pressure gauge signals. When the pressure reading is not go up, then stop turn the wheel and the pressure reading is the charging pressure of the accumulator.

- iv. 当检测到压力值需要降低时，慢慢地打开充气工具的放气阀，当达到需要的压力值时，顺时针关闭六方“2.SW19”。当低于要求值时按 B) 充氮的要求进行。

Once nitrogen pressure is checked, gently unscrew the discharge valve of charging unit until pressure start decreasing. Once the desired nitrogen pressure is reached, turn down the screw nut “2.SW19”by clockwise direction by spanner. When the pressure is lower than the desired pressure, refill the nitrogen as following procedures described in below B) to filling in Nitrogen.

- v. 打开放气阀，将充气工具的余气放掉后，将充气工具从蓄能器上卸下。  
Open the discharge valve to eliminate any residual pressure and then disassemble the unit from the accumulator.
- vi. 将蓄能器的气阀保护帽安上并拧紧。

Re-stall the protective cap of the nitrogen valve on the accumulator. Be sure that the protective cap is tightened securely.

B) 给蓄能器充气 Filling of Nitrogen

- i. 当蓄能器装在系统上，并确认液口无压力。将充气工具的控制手轮逆时针旋转到足够的长度。

If the accumulator is connected to the systems please check that there is no pressure on the fluid side. Turn the unit control handwheel counter-clockwise until it is fully disengaged.

- ii. 松开气阀护帽，将充气工具安装在蓄能器阀“1.8V1”上。  
Takeoff protection cap, Install the charging unit on the Valve position “1. 8V1” by hand power.

- iii. 充气工具固定好后，锁紧充气工具放气阀，逆时针慢慢地逆时针旋转六方“2.SW19”，到压力表有压力显示。继续慢慢地旋转到当压力不再长高时，停止旋转，这时读取的压力值即为蓄能器的充气压力。

After fixing of charging unit, close the discharge valve of charging unit, turn the screw nut

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“2.SW19” by anticlockwise direction by spanner slowly until the pressure gauge signals. When the pressure reading is not go up, then stop turn the wheel and the pressure reading is the charging pressure of the accumulator.

- iv. 关闭充气工具放气阀，慢慢地打开氮气瓶气瓶阀后，慢慢地充气直到所需的预充气压力。我们建议在气瓶上安装一下减压装置，以避免充气升压过快，尤其是要求预充气压力较低时。

close the discharge valve of charging unit, Then open the valve of the nitrogen source gas bottle slowly. Start filling nitrogen very gently till reach the rated precharge pressure. We recommend use a nitrogen pressure reducing valve installed on the cylinder in order to avoid over — pressurization of the accumulator body during filling operation, especially when the precharge is low in pressure.

- v. 当达到需要的压力值时，顺时针关闭六方“2.SW19”。

Once the desired nitrogen pressure is reached, turn down the screw nut “2.SW19”by clockwise direction by spanner.

- vi. 打开放气阀，将充气工具的余气放掉后，将充气工具从蓄能器上卸下。

Open the discharge valve to eliminate any residual pressure and then disassemble the unit from the accumulator.

- vii. 将蓄能器的气阀保护帽安上并拧紧。

Re-stall the protective cap of the nitrogen valve on the accumulator. Be sure that the protective cap is tightened securely.

### 7. 标准配置 Components of Standard Type Unit

- A) 充气工具（安装一个压力表）；

A set of pre-charging unit includes a gauge.

- B) 一根充气胶管；

A hose connects unit to nitrogen cylinder or mobile nitrogen charging cart.

- C) 三个密封垫。

Three seal gaskets.

- D) 装箱单、合格证和使用说明书。

Package list, Certificate and operation manual.

### 8. 其它配置 Additional Components

其它配置组件需在订货中指出，不含在标准配置的价格中，需另付费。

Additional components should be chosen in the contract. The extra price should be paid according your chosen..

- A) 一块较低压力的压力表；

A lower pressure grade pressure gauge.

- B) 胶囊拉杆；

Pull rods for bladder assembly.

- C) 胶囊拉绳；

A pulling string for bladder assembly.

- D) 美标气阀芯改锥；

A screwdriver for US valve assembly or disassembly.

- E) 组装蓄能器专用勾头扳手。

A special pin-wrench for assembly/disassembly of fluid port.

天津海莱姆科技有限公司

TIANJIN HIGHLEM TECH. CO., LTD.

地址：天津市津南区津南经济开发区（双桥河）中平路 2 号

ADD: No. 2, Zhongpingdao Road, Jinnan Economic Development Area, Jinnan District,  
Tianjin, China.