

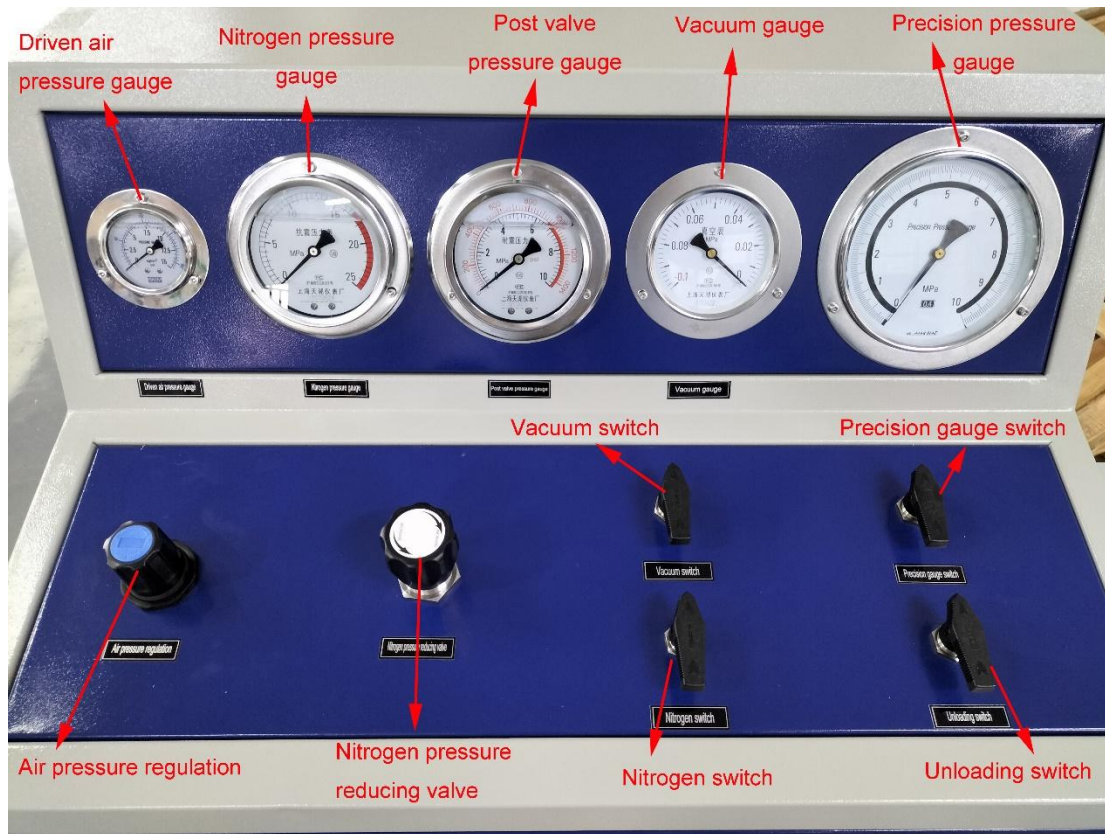


东莞赛森特流体控制设备有限公司
Dongguan Suncenter Fluid Control Equipment Co., Ltd

FM200 filling machine operating manual



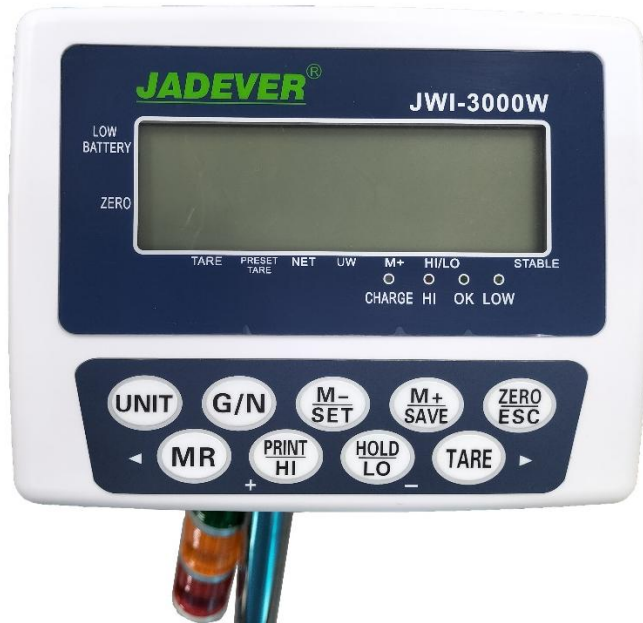
Operating panel



Power button panel



Electronic Scale:



Left side port



Right side port



F.R.L lubricating oil device



Vacuum pump oil device



Operating procedure:

1. Please fill F.R.L oil to lubricator, oil volume should be a half of lubricator bottle. Make sure there is always oil in FRL when machine is working.

(Oil type: turbine oil 1 -VG32 ISO flow rate: 3-5 oil drops per minute)

Please add oil to vacuum pump.

2. Please connect **nitrogen inlet port** to full nitrogen bottle, connect **driven air inlet port** to air source, connect **FM200 inlet port** to big FM200 bottle, and connect **high pressure gas outlet port** to extinguisher bottle with high pressure hoses. make sure there is no pressure in pipe system of machine, then open **vacuum switch** and press **vacuum pump switch** to vacuumize bottle until **vacuum gauge** to be about -0.08MPa. close **vacuum pump switch** and **close vacuum switch** in control panel of machine(this is very important)

3. Regulate **air pressure regulator** to make driving air pressure is **6 bar** (pull **air pressure regulator** and clockwise rotation to increase air pressure, and contrarotate to decrease air pressure)



4.Preset FM200 filling weight of electronic scale, for example to preset 35KG,close scale firstly, then press **set** button and **on** button at the same time, then LCD screen indicates CAL, press **set** button continuously until screen indicates FUN-HI, then press **ZERO** button to set filling weight, now screen indicates HI0.000KG,then press **TARE** button to increase to be number 3 ,then press **GROSS** button number 3 move left, then press **TARE** button to increase to be number 5,now preset weight is 35KG,then press **ZERO** button to finish preset.

5.Put extinguisher bottle on scale, then press **TARE** button to subtract weight of extinguisher bottle , press **start button** to start filling machine, machine will stop filling when bottle reach preset weight.

6.Open nitrogen gas bottle switch and **nitrogen switch** in control panel, then regulate inlet nitrogen gas pressure by **nitrogen pressure reducing valve** according to requirements, when **nitrogen pressure gauge** reaches needed gas pressure, close **nitrogen switch** and **FM200 inlet switch**(at inner side of machine), then close extinguisher valve, **open unloading valve** to release nitrogen gas in high pressure hoses, then change the other extinguisher bottle.

Gas consumption and required air compressor:

Gas consumption is mainly decided by the booster pump drive cylinder piston reciprocating number of times per minute. reciprocation numbers will affect outlet gas flow rate when air source does not change. machine will work slowly and stop working gradually when air tank gas pressure rise higher and higher. There is no gas consumption when machine stop working. We recommend 0.6-1m³/min flow rate air compressor.

Operation cautions:

This machine is designed according to international machines and outlet gas pressure is easily adjusted by regulating inlet gas pressure, but please NOTE that driving air should be no more than 0.8MPa, otherwise, it will make machine broken or people injured.



Common faults and analysis:

The system (booster pump) don't work

- A. check the drive gas source is opened, the driving pressure whether meet the requirements
- B. check the booster pump cylinder gas path is smooth
- C. check the booster pump valve gas path is smooth

2 pumping action suddenly accelerate, driving the piston head is reversing

- A. check the booster pump valve end of the firing pin hole or a Chang Tongkong
- B. check the booster pump valve high pressure chamber leaks
- C. check whether the gas leak booster pump control

3 booster pump moves slowly, much slower than usual system boost

Gas path is blocked to drive the A. inspection system

- B. check control gas path is blocked
- C. check the firing pin hole is blocked
- D. checks whether the drive piston seal leakage

4 the system reaches the set pressure or pressure maintaining after a period of time, not to stop the pump

- A. examination system control gas pathway for leaks, check the main booster pump firing pin, Sealing valve spool

Check sealing B. booster pump outlet check valve is damaged

- C. check the high-pressure liquid seal is damaged

The 5 system is not pressure

- A. booster pump inlet one-way valve seal leakage
- B. high pressure liquid seal is damaged, the situation will be ejected from the silencer in liquid

6 system pressure

Seal check outlet one-way valve is damaged

Schematic diagram

