

MD-200 and MD-300 Automatic Nozzle Installation and Maintenance Manual



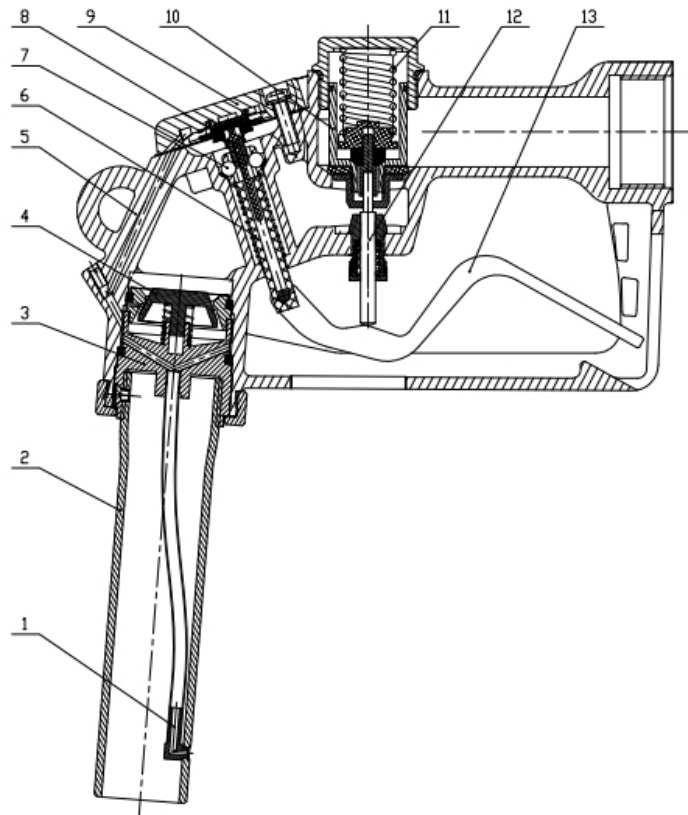
ZHEJIANG MAIDE MACHINE CO.,LTD.

MD-200&MD-300 automatic nozzle is a kind of nozzle that shut off automatically when spout touched surface of liquid, avoiding liquid overflow, keeping space clean.

1 CONSTRUCTION AND PRINCIPLE

1.1 CONSTRUCTION

- 1、 Air-hole
- 2、 Spout
- 3、 Sub-valve
- 4、 Valve Seat
- 5、 Body
- 6、 Pitman
- 7、 Ball
- 8、 Membrane
- 9、 Cover
- 10、 Main-valve
- 11、 Spring
- 12、 Spindle
- 13、 Trigger and Blocking



1.2 WORKING PRINCIPLE

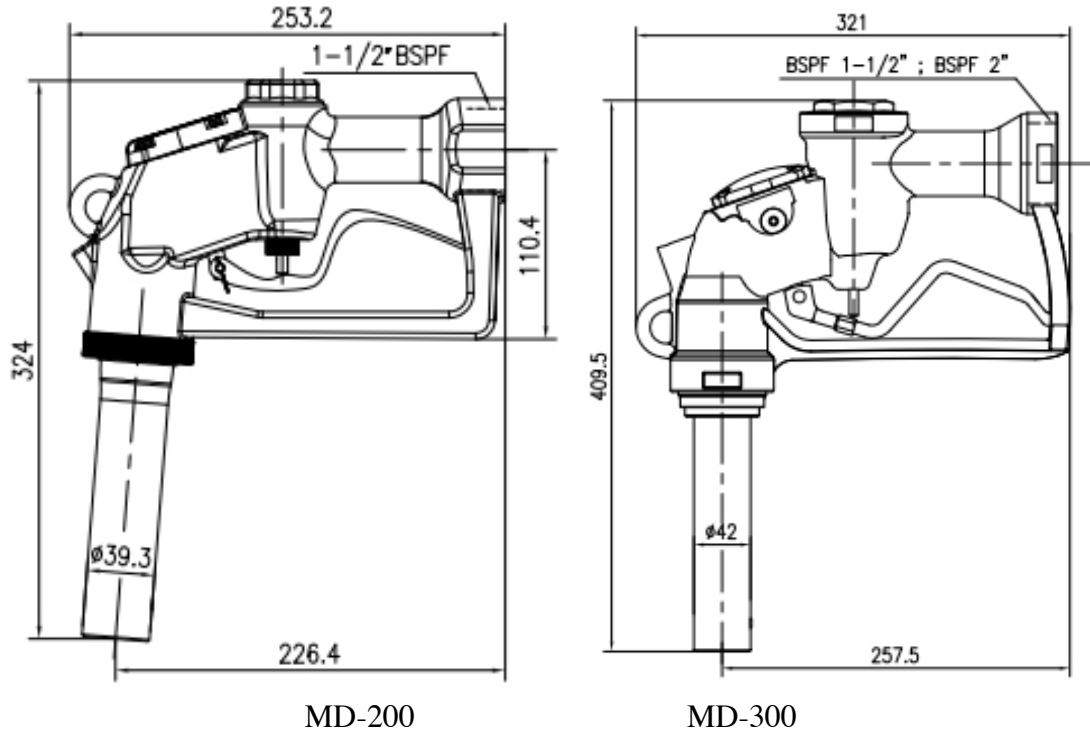
Starting the fueling dispenser, opening automatic nozzle, the level will drive the shaft move ahead. The shaft drive two rollers and sleeve move ahead, and petrol under pressure open main valve and flow out from spout. When petrol flow through main valve, flow section is decreasing rapidly, flow rate increases instantly, pressure go down at once. Meibor comes into being, and ventilate to chamber above diaphragm and hole on spout. When the surface of liquid level and foam is not reaching the hole, meibor ventilates. When the surface of liquid level and foam touch the hole, meibor can not ventilate. The chamber above diaphragm becomes negative pressure. The diaphragm and roller go up, the brass sleeve move back on the stress of spring, and then the main valve is closed. At same time shaft also move back on the stress of spring, the automatic nozzle shut off.

3 MODEL & PARAMETER DATA

Model	Inlet	O.D.(mm)	Max. Flow Rate	Petrol Product	Position
MD200	$\frac{1}{2}$ " 1- $\frac{1}{2}$ "	38	260L/min	Diesel, gasoline	2
MD300	$\frac{1}{2}$ " 2", 1- $\frac{1}{2}$ "	42	350L/min	Diesel, gasoline	2

4 INSTALLATION

- Install and work directly, Lubrication not necessary,
 - When connecting automatic nozzle and hose, use wrench to tighten the hose coupling.
- Installation and remove automatic nozzle with level is prohibited
- If the thread of swivel is NPT, before installation, daub little sealant, not too tight, no Teflon tape to avoiding damaged to swivel.



5 OPERATION

- Two positions for fueling on three flow rates available on the automatic nozzle,
- During fueling, when the hole on bottom of spout is under the liquid surface, the automatic nozzle will be shut off automatically. If foam causes the shutting off of automatic nozzle, open the nozzle again until the foam disappeared.

6 MAINTENANCE

- Keep the hole on the bottom of spout unblocked. Once the hole is blocked, the automatic nozzle can not work well.
- After service, put the automatic nozzle back to nozzle boot, avoiding damage.
- Lubrication not necessary, long time service

Appendix

TROUBLESHOOTING

PROBLEM	PROBLEM CASUE	SOLUTION
No shutting off	Diaphragm not pressured tightly enough, airproof not well. Diaphragm is damaged, no airproof. O-ring aged, airproof not well.	Tighten the screw on the cover Replacing diaphragm Replacing O-ring
Backstop on guard not working	Backstop worn out on brim, underprop can not uphold well. Underprop worn out fails to uphold.	Replacing underprop. Replacing backstop on guard
Level not working	Hole blocked, when opening nozzle, negative pressure in chamber of diaphragm, main valve can not be opened. Diaphragm not reposition, when opening nozzle, shaft moving back, main valve can not be opened.	Cleaning or replacing spout. Replacing diaphragm spring or maintenance
Leakage from spout	Leakage from check valve, after shutting off, the petrol in nozzle will leak out. Leakage from main valve, after shutting off, leakage under pressure.	Cleaning or replacing. Cleaning or replacing.