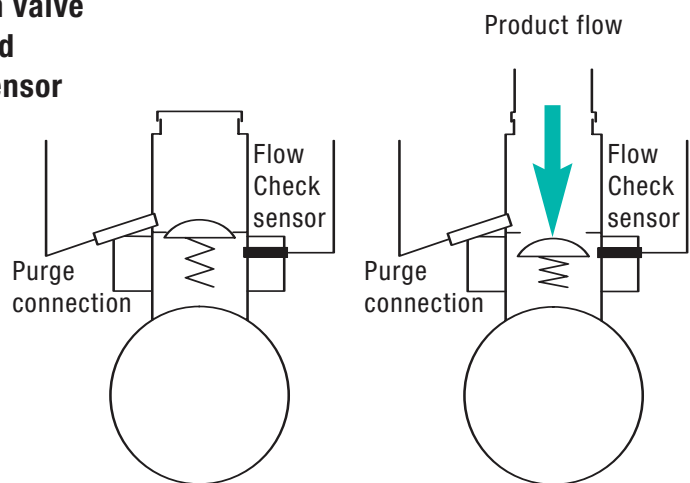


Tamper-proof and Cross Over Safe Product Return System



Product return valve with embedded **Flow Check** sensor

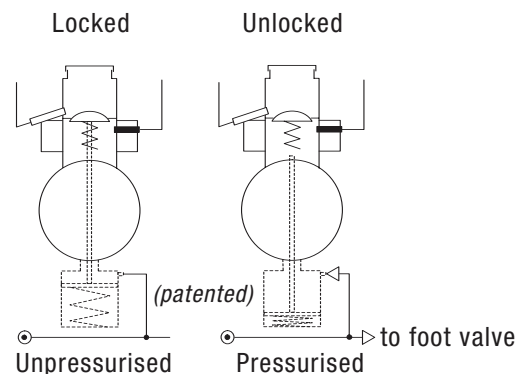


Product Return allows delivery of various products without contamination with one metering system and one hose reel only!

Flow Check:

- COMPARTMENT COP**
 Accidental cross over is prevented by detection of product flow through false adapter.
- TAMPER-PROOF PRODUCT RETURN**
 Check of complete returned product volume by monitoring of flow rate and timing. Tampering with compressed air impossible.
- STOCK RECONCILIATION**
 All product movements are measured and all flow directions are controlled, with the loaded quantities stored in each compartment. This means that the CountMASTER can reconcile all residual quantities in each compartment - including all product return operations!

- OVERFILL PREVENTION**
 Refuelling from another truck through product return valve possible, optional with overfill prevention.

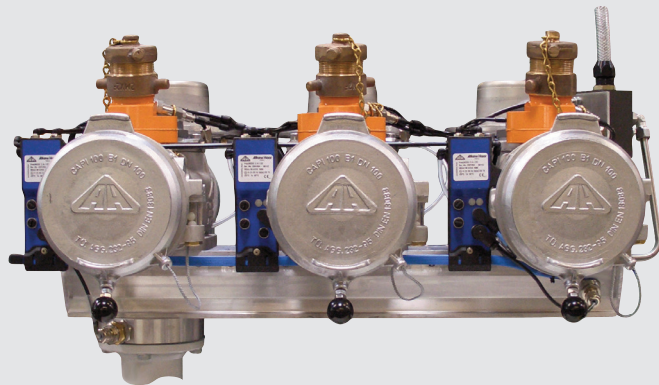


PRODUCT RETURN SYSTEM



SYSTEM DESCRIPTION

The **Alfons Haar** Product Return System with the patented and embedded **Flow Check** sensor in the return valve together with the **PreciCONTROL** compartment control, running on the onboard central controller **CountMASTER**, is a return system for oil distribution trucks and allows a simple, contamination-free and **full automatically** operated change from e.g. heating oil to diesel and vice versa with one metering system and one hose reel only.



By pre-programming the next delivered product the system will stop delivery and change product **fully automatic** by taking the residual volume of metering system and hose into account. This means that the **CountMASTER** can control this entire operation **automatically**, without the need for the operator to return to the truck during delivery.

It is also possible to change the product without prior selection of product by return the product in one of the compartments. This process is **fully automatic controlled** and prevents accidental cross over at any time of tampering and additionally allows reconciliation. In this way the complete measuring system is rinsed and prepared for the next delivery, **complete automatically** operated from the **CountMASTER**.

Because of the embedded **Flow Check** sensors, a so called “mini guard bar” for the product return valves is no longer required. Optionally the flow can be blocked pneumatically to stop the flow in case of loading through adapter.

BLOCK DIAGRAM

1. Tank compartment
2. Foot valve
3. Pneum. electr. control device PreciNODE C ...
4. Collector valve
5. Collector
6. Wetleg sensor
7. Product return valve with embedded Flow Check sensor and purge connection
8. Controller CountMASTER
9. API
10. Pump
11. Meter
12. Hose reel
13. Nozzle

