

# PRODUCT RETURN SYSTEM

TAMPER-PROOF AND CROSS OVER SAFE



## Proven cross-over prevention and enhanced loss control

### Safe product returns for multi-product hose reel delivery

#### UNIQUE PATENTED DESIGN

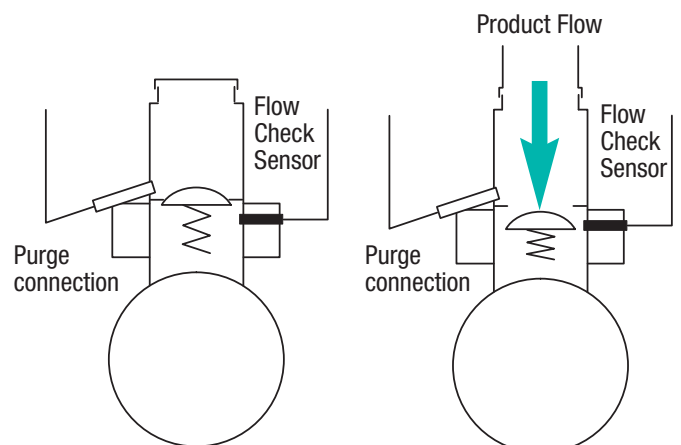
Components of the ALFONS HAAR Product Return System

- Spout for the hose connection
- Compressed air blowdown port
- Check valve
- Embedded flow-check and valve position sensor



#### FLOW CHECK

- **Compartment Cross-Over Prevention**  
Accidental cross-over is stopped by detection of product flow through an incorrect spout connection.
- **Tamper-proof product return**  
Check of complete returned product volume by monitoring of flow rate and timing. Tampering with compressed air is impossible.
- **Stock reconciliation**  
All product movements are measured and all flow directions are controlled, with the loaded quantities stored in each compartment.
- **Overfill prevention**  
Refuelling from another truck through product return valve possible, optional with overfill prevention.



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## EXCLUSIVE FUNCTIONALITY

In combination with the PreciCONTROL delivery system, product return operations through hose reels are completed automatically, thus preventing driver caused crossovers, overfills or unaccounted transactions.

- In the event that a driver connects a hose to a wrong spout, the system will recognise and actively STOP the operation. The driver will be directed in clear text on the PreciCONTROL display to correct the hose connection, additionally the driver is guided by LED's at the designated return spouts.
- To grant an outstanding product quality for operators, the system ensures 100% accurate product returns which incorporate also previously interrupted return procedures. Drivers don't need to remember, which and how much product is left in a hose.
- Product grade bias requirements are automatically ensured at each change.
- A blow down to drain the spout is automatically executed to ensure it is clean and HSE conform.

## ACCOUNTING

- Product Return Transactions are correctly accounted for, printed as specific tickets and logged for reconciliation.
- The inventory of the delivery system is accurately updated per compartment.
- The system remembers the product type and amounts in the pipe sections, meter and hoses.
- Back office systems are fed with true inventory data for an ideal tour and load planning.



## LOSS CONTROL

- Dependable delivery system inventories enable meter vs. inventory reconciliation preventing poor meter operation.
- In case that the tanker's own hose reel is not truly connected, the system will recognise and actively STOP the operation. The driver will be requested in clear text on the display and also with LED's at the return spout to correct his hose connection and a status log entry will be recorded by the system.
- The intelligent security eliminates the requirement for passive "mini guard bars" at the product return spouts.

## OVERFILL PREVENTION

- The system actively prevents overfill condition, otherwise caused by accidentally returning product into the wrong compartments.
- Refuelling from other tankers is possible through the product return spouts, now optional with overfill prevention.

## FLOW CHECK

1. Tank compartment
2. Foot valve
3. PreciNODE I/O
4. Collector valve
5. Collector
6. Product return valve with embedded Flow Check sensor and purge connection
7. Controller CountMASTER
8. API
9. Pump
10. Meter
11. Hose reel
12. Nozzle

