- DISPENSER CALIBRATION & ANNUAL INSPECTIONS
- TEMPERATURE COMPENSATION MODIFICATIONS FOR PETROL DIESEL AND LPG
- UK DISTRIBUTOR FOR E.MEURS & COMAPRO PRODUCTS
- BREAKDOWN MAINTENANCE PROVIDER
- QUALITY ABOVE & BELOW GROUND LPG INSTALLATIONS
- BESPOKE FORECOURT INSTALLATIONS
- PIPEWORK DESIGN & INSTALLATION
- VESSEL TESTING
- CRANED TANK SITING & DELIVERY

**LP GAS UK**
**LIMITED**

**New Quay Road**
**Felnex Trading Estate**
**Newport**
**NP19 4PL**
Tel.No.    **+44 (0)1633 274433**
Fax. No.   **+44 (0)1633 277233**
Email      **info@lpgasuk.com**

# TEMPERATURE COMPENSATION

## TVC & DTVC , RETROFIT KITS FOR LPG, PETROL AND DIESEL PUMPS & DISPENSERS



### What is TVC & DTVC?

**TVC** stands for **T**emperature **V**olume **C**ompensation. It is a retrofit kit that has been developed by E Meurs B.V in Lochem, Holland as a result of their **DTVC** **D**ensity & **T**emperature **V**olume **C**ompensation system developed for LPG dispensers. It can be retrofitted to any electronic petrol or diesel dispenser

TVC is a system designed to compensate (adjust) the displayed volume and hence the cash price of any fuel delivery to a volume as if it was at a standard temperature (15˚C)



Meurs recently won the APEA 2008 Innovation Award for the development of the TVC & DTVC system

LP Gas UK Limited are the UK distributor for Meurs and their products including TVC and DTVC

DTVC has been successfully supplied and installed into LPG dispensers since 2005 making considerable savings for the retailers concerned.

We are now wanting to follow this success and roll out the TVC system for Petrol and Diesel dispensers throughout the UK.



### Why do we need Temperature Compensation?

Liquids sold by volume are affected by variations in temperature and density.

For petrol and diesel fuels, the density is a fixed factor . However when they are sold at a temperature that is different to the temperature that they were purchased at, there will either a loss or gain to the retailer. If the selling temperature is lower than the purchase temperature, there will be a loss to the retailer, and conversely if the selling temperature is higher than the purchase temperature , there will be a gain to the retailer

TVC allows the retailer to iron out these losses / gains, at least back to 15˚C, by recalculating the dispensing volume back to the accepted standard temperature for volume measurement of liquids of 15˚C commonly known as V15. If the retailer were to purchase their fuel at V15 ( temperature compensated), then all temperature losses would be eliminated.

And its not just us who realise that Automatic Temperature Compensation(ATC) is a good thing. Many countries are now adopting policies making temperature mandatory to promote fairness to the retailer and consumer. It has recently become law in Belgium and all new dispensers have to be fitted with ATC, with existing sites being retrofitted , many with our TVC system.

The Petrol Retailers Association are also in favour of ATC being fitted in order to help retailers eliminate their losses caused by temperature variations .Our TVC system is the only one that can be retrofitted to existing as well as new pumps

UK Distributors for

## How do we do it?

We measure the delivery temperature of the fuel and adjust the no of pulses sent to the electronic counter in order to recalculate the volume displayed to V15

If the delivery temperature is lower than 15°C we add pulses to increase the volume displayed, if the delivery temperature is higher than 15°C we remove pulses to decrease the volume displayed

For LPG the density and compressibility can change throughout the year because of the way the gas supply companies mix the component gases Propane and Butane, so we take measurements and compensate for this as well with DTVC

## How will the customer know what to pay?

The customer never sees the compensation, and the sale on the pump head will always calculate correctly.

The cash sale figure is calculated after we make the changes to the volume pulses. The only thing we have to do is to let the cusTtomer know he is buying fuel at V15 i.e. compensated, this is usually in the form of a sticker on the pump display

## Will it affect my stock readings?

If you are currently suffering losses due to temperature variations (which unless you are buying and selling your fuel temperature compensated you are!) , then the answer will be yes.

Installing TVC will eliminate the losses and gains that are due to temperature , at least back to 15°C. Any remaining losses will be down to other variables such as

calibration of the pumps,

leakage from tanks or suction lines

Theft

Or temperature losses due to deliveries being above 15°C
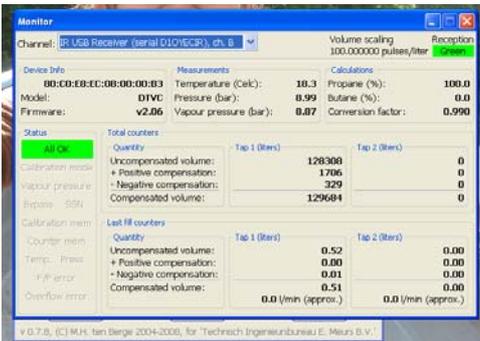
## Doesn't the losses and gains balance out over the year?

No , although there is a positive and negative compensation which does balance out, there is never a  total balance, although our data shows that overall there is a positive gain to he retailer over the year

## What about Trading Standards?

We have UK NWML (National Weights & Measures Laboratory) approval  for the DTVC and TVC system

The unit has a W&M seal to prevent tampering as  once installed it is part of the measurement device.

Once installed, it must remain active, and can only be switched off by breaking the W&M seal

If you decide to have TVC installed, we will notify the local authority for you and let them know the install date as they will need to seal the unit

## What pumps can be converted?

TVC system for Petrol and Diesel  and DTVC system for LPG are both sold as  kits that can be retrofitted to almost all electronic  petrol diesel or LPG dispensers currently used on the forecourt.

## How Can I get TVC installed on my pumps or DTVC on my LPG dispenser?

LP Gas UK Limited  are the UK distributor for TVC and DTVC,

Please give us a call with your dispenser type and we will tell you if we can fit it.

Either we or one of our network of Authorised Installers will fit it for you.

We can arrange for lease payments should you prefer which means you Pay As You Save!

( lease option subject to approval)

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