

The Problem:

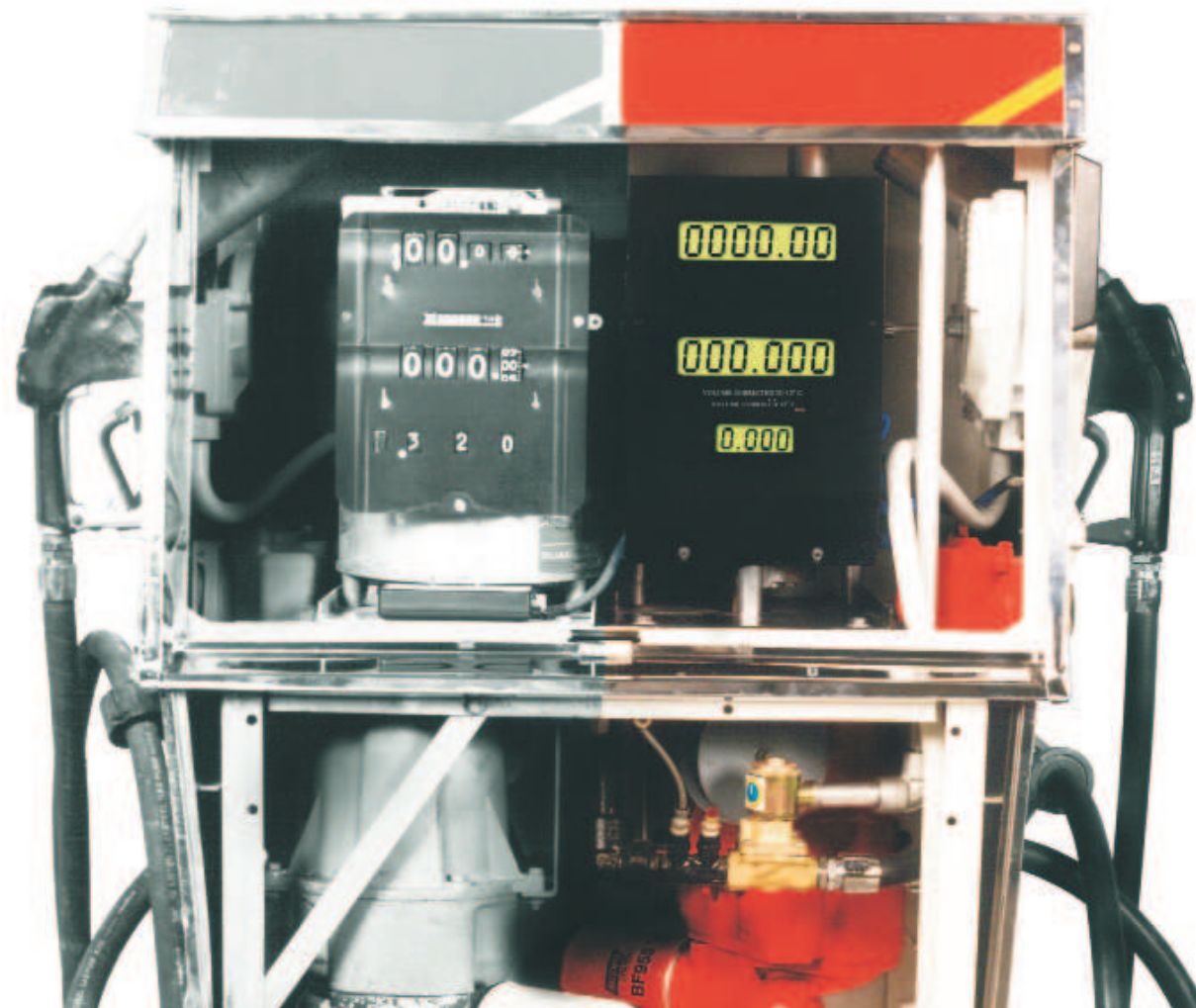
Motor fuel contracts and expands with temperature changes causing the fuel energy content per gallon delivered to vary.

The Solution:

Automatic Temperature Compensation (ATC) automatically corrects the volumes of liquid motor fuels for expansion and contraction due to temperature changes. ATC essentially converts the fuel delivery process from a volume sale to an energy content sale.

FEATURES:

- Available in simple-to-install retrofit kits for major dispenser lines
- Available for gasoline, diesel and propane products
- Product temperature range of -58°F to +122°F
- Displays product temperature, flow rate and uncompensated volume on demand
- Fast response time to changes in product temperature
- Temperature probe failure detection
- Pulser error detection



The Benefits:

IMPROVED INVENTORY MANAGEMENT

ATC technology allows you to sell exactly the number of petroleum gallons you purchased in any season. ATC also provides additional backup of EPA required data for underground tank integrity monitoring.

IMPROVED MEASUREMENT ACCURACY

Throughout the four seasons, average monthly at-the-pump fuel temperatures can vary more than 65°F across the United States. This causes variations in energy-content per gallon. ATC is a proven technology that will correct for these changes.

IMPROVED CUSTOMER LOYALTY:

ATC provides unique opportunities to gain market share in an industry where customer loyalty is fickle. By adopting ATC and providing fair energy per dollar, petroleum station owners can take advantage of the increased consumer demand for temperature compensated products and differentiate themselves from their competitors who are slow to adopt.



Background & Historical Information

THE PHYSICS

The volume of a fuel will increase or decrease as its temperature increases or decreases. Assuming a typical gasoline fuel density, the volume will change approximately 1% for every 15°F change in temperature. The expansion/contraction ratio for diesel is approximately 1% for every 22°F change in

temperature. For this reason there is more available energy in a cool gallon of fuel than in a warm gallon of fuel and conversely, there is less available energy in a warm gallon of fuel than in a cool one.

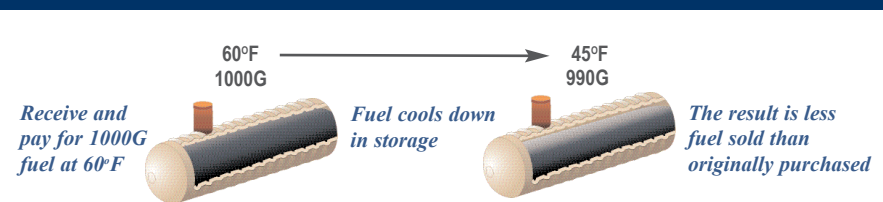
CONSUMER PERCEIVED LOSSES

The internationally accepted compensating temperature for motor fuel transfer is 60°F, and most bulk fuel transfers are currently compensated to this temperature. For station owners in cold climates the contraction of fuel while in storage can mean selling fewer gallons than purchased. For consumers in warm climates the

expansion of fuel can mean fewer miles per gallon for their vehicles. Following are some comparison examples of cool and warm fuel against 60°F fuel which illustrate how ATC can improve the entire refueling process.

EXAMPLE 1

A station owner purchases 1,000 gallons of gasoline compensated to 60°F and while in storage it cools to 45°F. At this new temperature, the owner will have paid for 1,000 gallons of fuel but will only be able to resell 990 gallons. ATC ensures the station owner will sell the same amount of fuel as originally purchased.



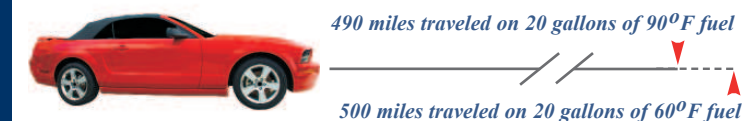
60°F - 45°F = 15°F (Difference in temperature to the industry standard)
 15°F change in temperature = 1% change in volume
 1000 gallons less 1% = 990 gallons



EXAMPLE 2

For Example: A consumer's vehicle gets 25 mpg on 60°F gasoline and their 20-gallon tank is recently filled with 90°F gasoline. This tank of gasoline only has the equivalent energy of 19.6 gallons of fuel at 60°F and will result in less distance traveled or mpg.

In Reality: Many at-pump retailers make market adjustments to compensate for expanded fuel. However, these adjustments are not always consistent between retailers or clear to the consumers. With ATC, this process is both clear and consistent for all parties.



90°F - 60°F = 30°F (Difference in temperature to the industry standard)
 30/15 = 2% (1% change in volume for every 15°F change in fuel temperature)
 20 gallons less 2% = 19.6 (Equivalent gallons of fuel at 60°F)
 19.6 x 25 mpg = 490 miles

PUMP MODELS CURRENTLY PRODUCED

Electronic Dispensers:

Kraus Global has developed temperature compensation retrofit kits supporting a wide range of electronic dispensers (see below).

Mechanical Dispensers:

Kraus Global produces the Micon 500 electronic register complete with temperature compensation, as well as a series of adapter kits, to directly replace most mechanical registers (see below).

ABOUT KRAUS GLOBAL INC.

Kraus has been in the Petroleum business since 1968, having played a major role in pioneering such products as self-service dispensing, electronic pump heads and ATC.

For over 25 years Kraus has been the leading supplier of temperature compensation devices in Canada. Our easy to install products have been well developed and field-tested offering high quality, long lasting, problem-free use. This translates into great value for you and your customers. **Our extensive experience with ATC makes KRAUS the right choice for your equipment.**

ATC MODELS AVAILABLE FOR GILBARCO (Electronic Pumps)

- GTC200-1 Pre-Modular Highline, 1 Product
- GTC200-2 Pre-Modular Highline, Salesmaker, 2 Product
- GTC200-3 Pre-Modular MPD Six Hose (Dispenser), 3 Product
- GTC200-3S Pre-Modular MPD Six Hose (Suction), 3 Product
- GTC200-1M Modular Highline, 1 Product
- GTC200-2M Modular Highline, Salesmaker, 2 Product
- GTC200-3M Modular MPD Six Hose Dispenser, 3 Product
- GTC200-2B Salesmaker Pro Blender
- GTC200-1L/H Highline/Legacy, 1 Product/Ultra-H
- GTC200-2L/H Highline/Legacy, 2 Product/Ultra-H
- GTC200-1H Pre-Modular Highline Ultra-Hi, 1 Product
- GTC200-2H Pre-Modular Highline Ultra-Hi, 2 Product
- GTC200-1MH Modular Highline Ultra-Hi, 1 Product
- GTC200-2MH Modular Highline Ultra-Hi, 2 Product

ATC MODELS AVAILABLE FOR GASBOY (Electronic Pumps)

- TTC200-1G 9800 Q Series, 1 Product
- TTC200-2G 9800 Q Series, 2 Product
- TTC200-1GK 9800 Atlas Series, 1 Product
- TTC200-2GK 9800 Atlas Series, 2 Product

ATC MODELS AVAILABLE FOR BENNETT (Electronic Pumps)

- BTC100-1 6000 Series, 1 Product
- BTC100-2 6000 Series, 2 Product
- Models for 7000, 8000, & 9000 may also be available

ADAPTER KITS AVAILABLE FOR THE MICON 500LN

(Mechanical Pumps)

- DS1 Tokheim Single Center Mount, Electric Reset
- DS2 Tokheim Single Offset Mount, Electric Reset
- DS3 Tokheim Single Center Mount, Mechanical Reset
- DS4 Tokheim Single Offset Mount, Mechanical Reset
- DS5 Tokheim Dual, 2250, Electric Reset
- DS6 Tokheim Dual, Mechanical Reset
- DS7 Gilbarco Single
- DS8 Gilbarco Dual
- DS9 Wayne Single Center Mount
- DS10 Wayne Dual E-723 & 33
- DS11 Wayne Single Offset Mount
- DS12 Astro Universal Dual

ATC MODELS AVAILABLE FOR SOUTHWEST (Electronic Pumps)

- TTC200-1S Southwest 640, 640-MT, 1 Product
- TTC200-2S Southwest 640T, 2 Product

ATC MODELS AVAILABLE FOR TOKHEIM (Electronic Pumps)

- TTC200-1D 162, 1 Product
- TTC200-2D 162, 2 Product
- TTC200-1 262, 1 Product
- TTC200-2 262, 2 Product
- TTC200-2M MMD Multi-Hose SMART, 2 Product
- TTC200-3M MMD Multi-Hose SMART, 3 Product
- TTC200-2MD MMD Multi-Hose DUMB, 2 Product
- TTC200-3MD MMD Multi-Hose DUMB, 3 Product
- TCS200-1A 262A, 1 Product
- TCS200-2A 262A, 2 Product
- TCS200-2T TCS Multi-Hose, 2 Product
- TCS200-3 TCS Multi-Hose, 3 Product
- TCS200-4 TCS Multi-Hose, 4 Product
- TBL100-2 TCSA Electronic Blender, Two Hose "A" Series
- TPR200-2 Premier Series, 2 Product, (Including Blender)
- TPR200-3 Premier Series, 3 Product
- TPR200-4 Premier Series, 4 Product

ATC MODELS AVAILABLE FOR MECHANICAL DISPENSERS

- Micon 500LN Electronic Register

- DS13 Astro Universal Single
- DS14 Bennett Dual
- DS15 Bennett Single Offset Mount
- DS16 LTS Single Schwelm Meter LPG
- DS17 Bennett Single - Center Mount
- DS18 Gasboy 150 and 153
- DS19 Gasboy 53
- DS20 RDR/Tokheim HS1/Gasboy 9100 series, Single Center Mount
- DS21 RDR/Tokheim HS1 D1, Single Offset Mount
- DS22 RDR/Tokheim Dual
- DS23 Gilbarco 625/Legacy Commercial
- DS24 RDR/Tokheim Dual/Gasboy 8750, 9150
- DS25 Tokheim Dual, Electric Reset, Narrow Frame, 1250



Global Accuracy

ATC Retrofit Solutions & Upgrades
(Automatic Temperature Compensation)