

A hand in a dark blue suit jacket holds a black magnifying glass. The lens of the magnifying glass is focused on the word "audit" in a white, sans-serif font. The background is a blurred dark blue.

audit

**47th World
Continuous
Auditing
& Reporting
Symposium**

**“Advances in Accounting
Technology”**

NJ, USA, November 8 & 9, 2019

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audit

**Continuous
Auditing &
Monitoring Of
Fuel Stocks
In Retail**

**Prof. Dr. Yunus KISHALI
Dr. Hüseyin EROĞLU**

JOURNEY OF FUEL

FROM REFINERY TO STATION



VOLUME CHANGES



REAL TIME ASSURANCE



FAST REPORTING AND INVOICING

International Transportation:

Wastage of all kinds of fuel 0,005 (five in thousand)

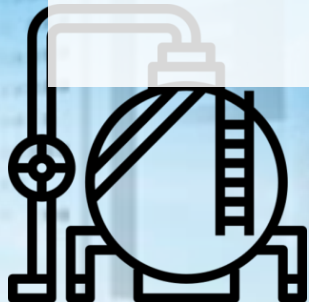
Domestic Transportation:

Wastage rate

- F-18 (100/130 AVGAS), Gasoline
- JP-4, F-44, F-34, JETA-1
- F-54, F-76, Diesel

- 0,0040
- 0,0035
- 0,0025

ALERTS ARE GIVEN BY SYSTEMS WHEN RISK START



AUDIT TYPES

**TRADITIONAL
AUDITING**



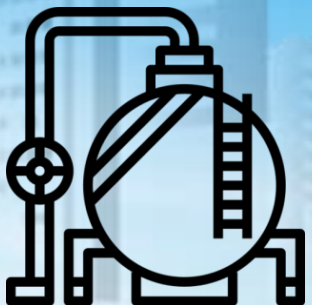
Manually

**CONTINUOUS
AUDITING**



Digitally

ALERTS ARE GIVEN BY SYSTEMS WHEN RISK START

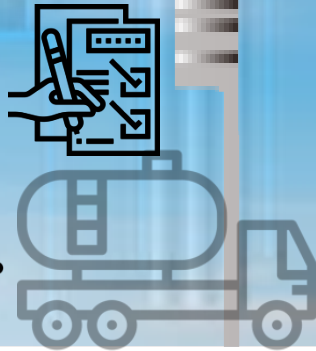




TRADITIONAL AUDITING

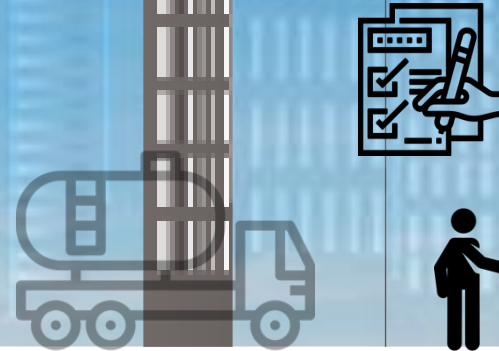
01.10.2019

15.000 lt



05.10.2019

14.920 lt



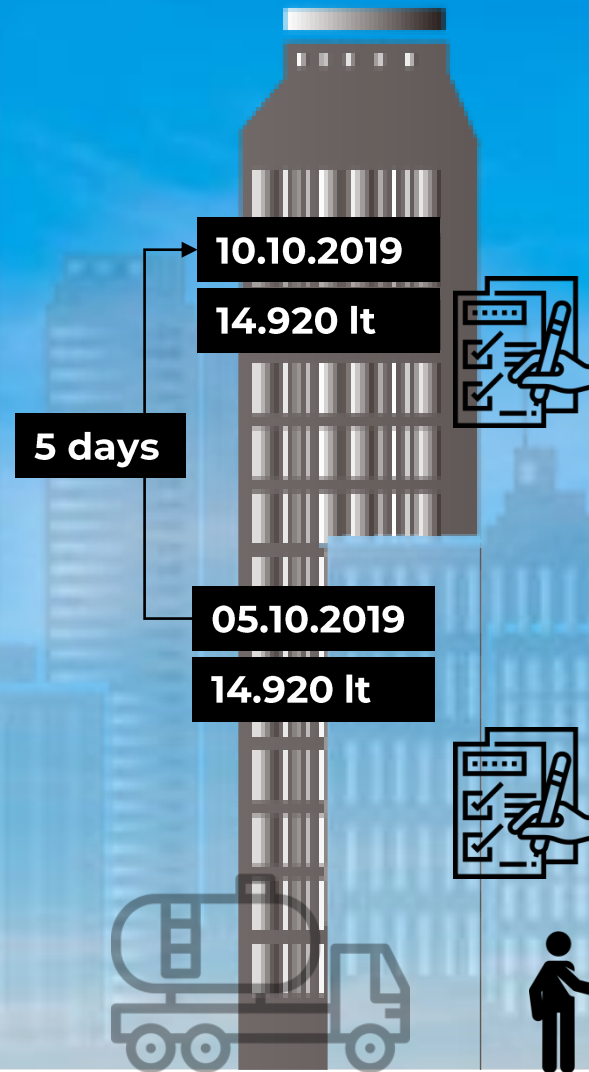
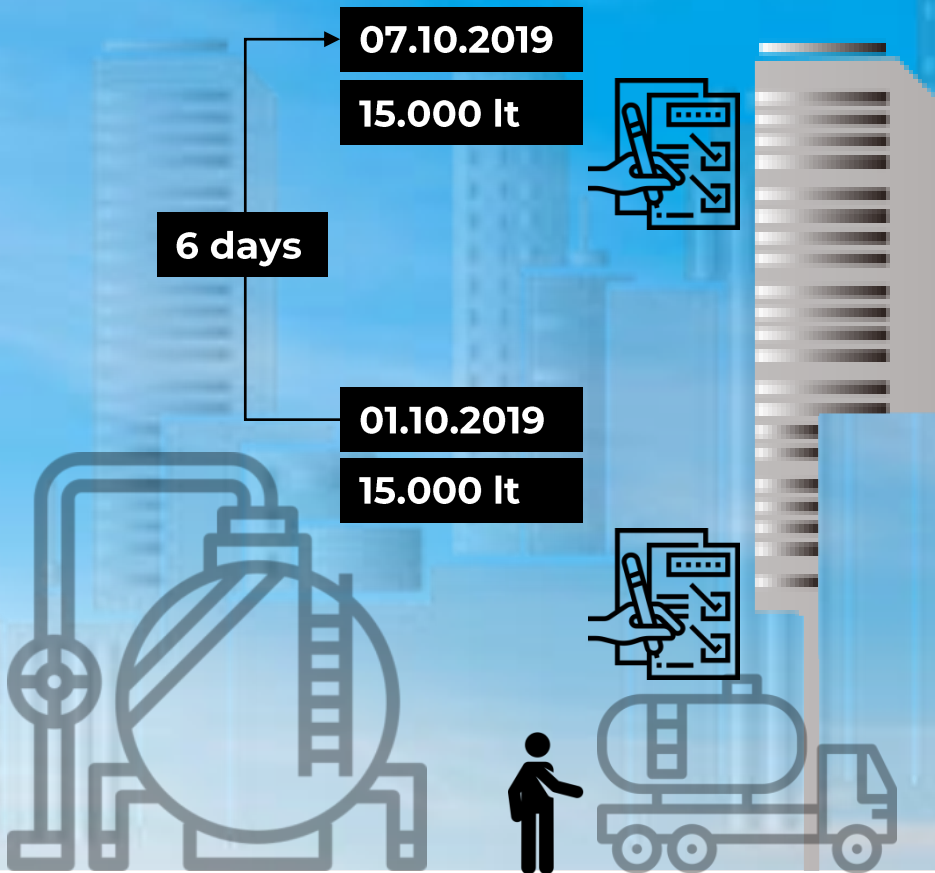
- At the fuel station, the amount of fuel in the underground tanks is measured **manually each morning at the start of the work.**

- At the fuel station, the accounting department enters the inventory records **according to the quantity and unit prices of the fuel purchase invoices.**
- These entries are done **weekly or monthly.**





TRADITIONAL AUDITING



- At the fuel station, the amount of fuel in the underground tanks is measured **manually each morning at the start of the work.**

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- These entries are done **weekly or monthly.**

- **There is no fast data flow.**

- Reports are also given to fuel station **managers and shareholders** on a monthly, quarterly or annual basis. Usually, **reports are issued annually.**



AUDIT TYPES

**TRADITIONAL
AUDITING**

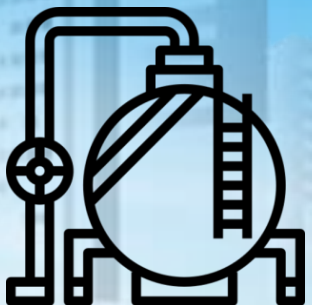


Manually

**CONTINUOUS
AUDITING**



Digitally





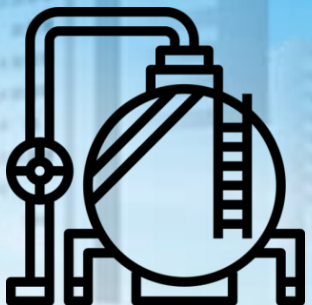
CONTINUOUS AUDITING



Fuel delivery by fuel main distribution companies to fuel stations Delivery is made according to the volume recalculated according to 15 degrees International Standard Delivery Temperature and invoice is issued accordingly.

Unfortunately, In the sales of diesel and gasoline, filling-delivery is made to final consumers and buyers without making any adjustments according to the volume of 15 degrees which is the international reference delivery degree.

For these reasons, unfortunately in many countries around the world, as in the United States, consumers pay close to 1 liter each time they buy 50 liters of gasoline.



1
Establish
priority
areas

2
Identify
audit rules

3
Determine
process
frequency

4
Configure
parameters
and
execute

5
Manage
results
and follow
up

6
Report
results

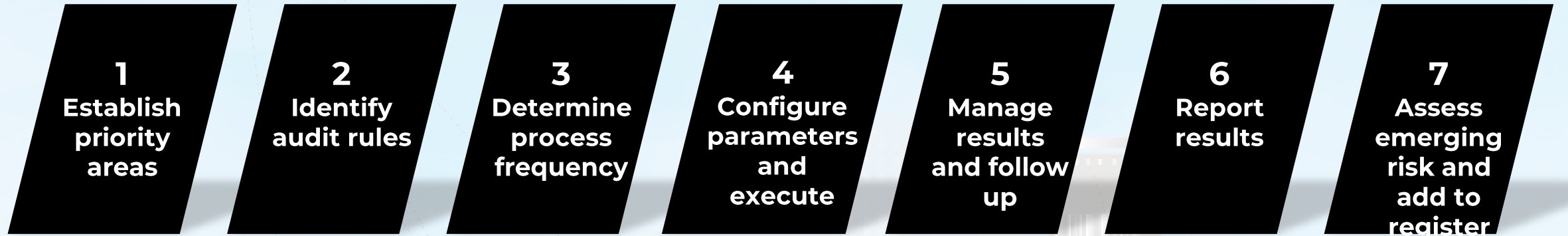
7
Assess
emerging
risk and
add to
register

7 Steps

**for continuous
auditing**

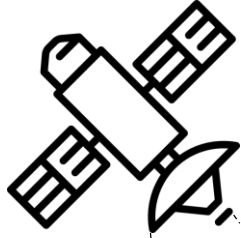


7 Steps for continuous auditing





CONTINUOUS AUDITING



Fuel stock measurements are made through digital and software.



Invoices are entered into accounting and inventory records as soon as the fuel station is filled into the underground tank.



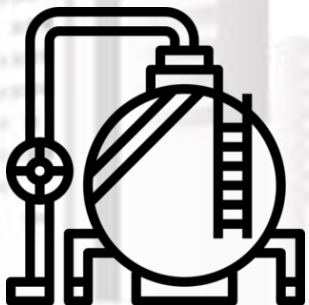
Inventory audit reports can be received instantly and at any time.



Inventory controls are carried out instantly and continuously.



Audit results are regularly sent to the station managers, company partners and those expecting the audit through software programs.



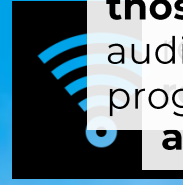


CONTINUOUS AUDITING



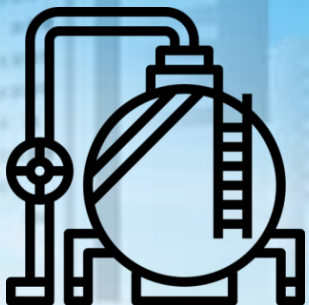
Inventory controls are carried out **instantly and continuously.**

Audit results are regularly sent to the **station managers, company partners and those expecting** the audit through software programs. **instantly and at any time.**



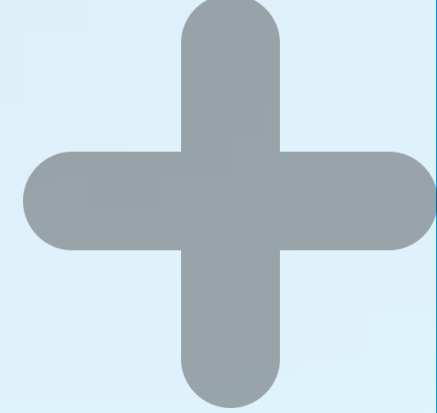
Invoices are entered into accounting and inventory **records as soon as the fuel station is filled into the underground tank.**

Fuel stock measurements are **made through digital and software.**





CONTINUOUS AUDITING



ADVANTAGES

Information for Efficiency and Profitability



- Financial,
- Financial Statements
- Operational Process
- Business Process

Cost Reduction



- Necessary interventions may be made on time and at lower cost.
- The cost-reducing feature of such continuous auditing will emerge.

Real time assurance and reliable data



- Fuel quantities in fuel tanks will decrease as sales are made.
- When the minimum inventory level is determined, it is necessary to re-order.
- Purchase and sale invoices is monitored instantaneously and continuously through software programs.

ALERTS ARE GIVEN BY SYSTEMS WHEN RISK START



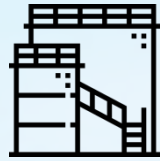


CONTINUOUS AUDITING

WHO CONDUCTS?



State



Main
Distribution
Companies



Fuel
Stations

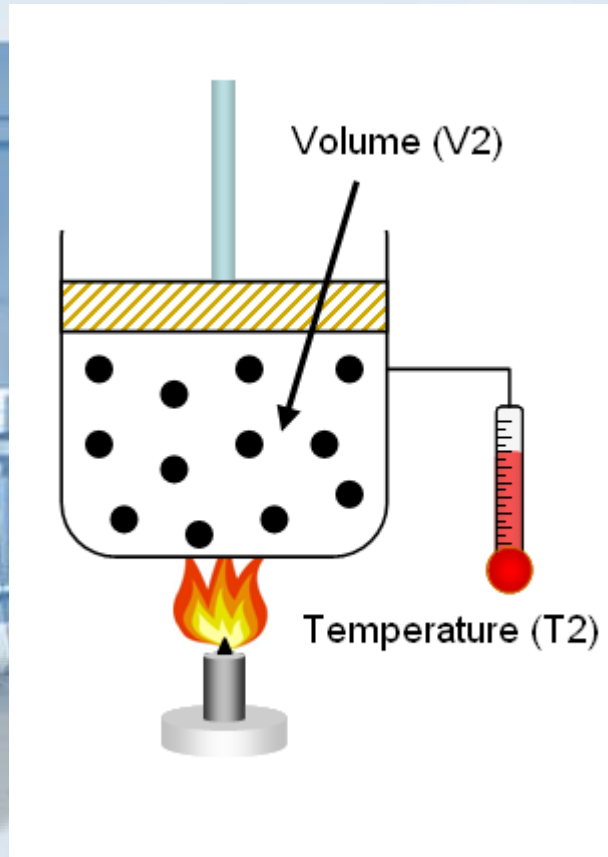
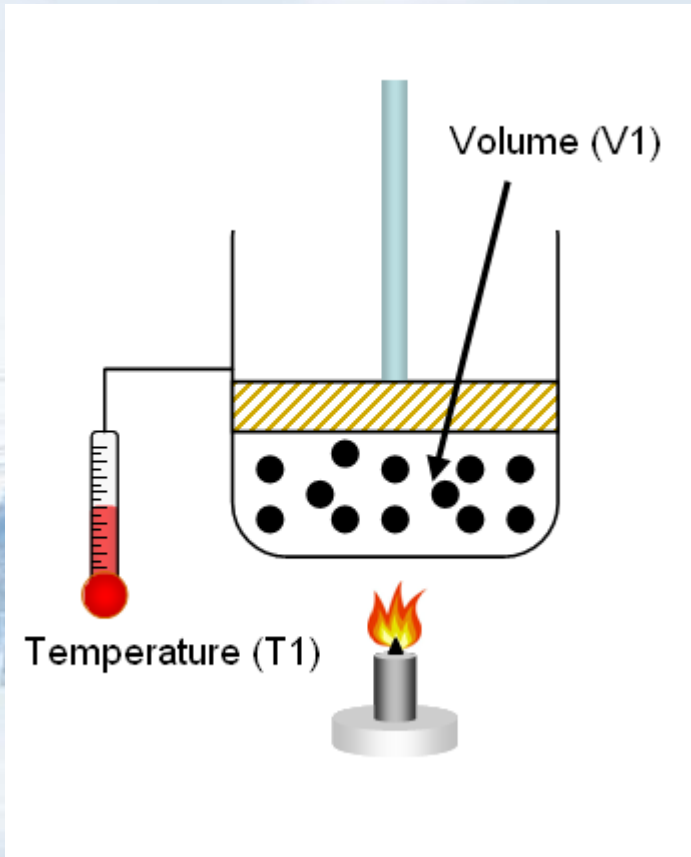


Internal and
External Audit





VOLUME CHANGES BY TEMPERATURE

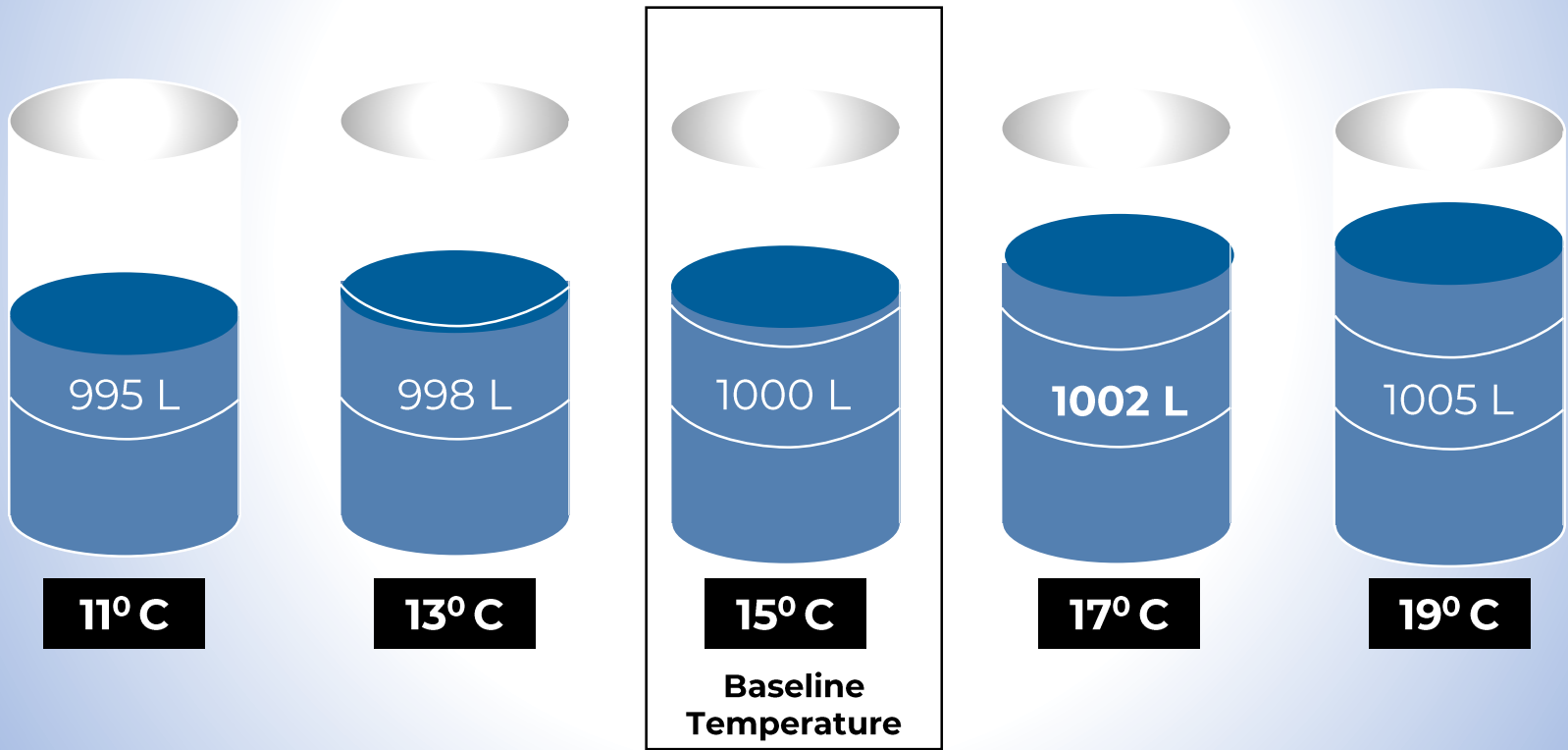


The changes volume in different temperature of fuel

- Diesel..... 12 degrees +/- %1
- Gasoline.. 8 degrees +/- %1
- LPG..... 4 degrees +/- %1



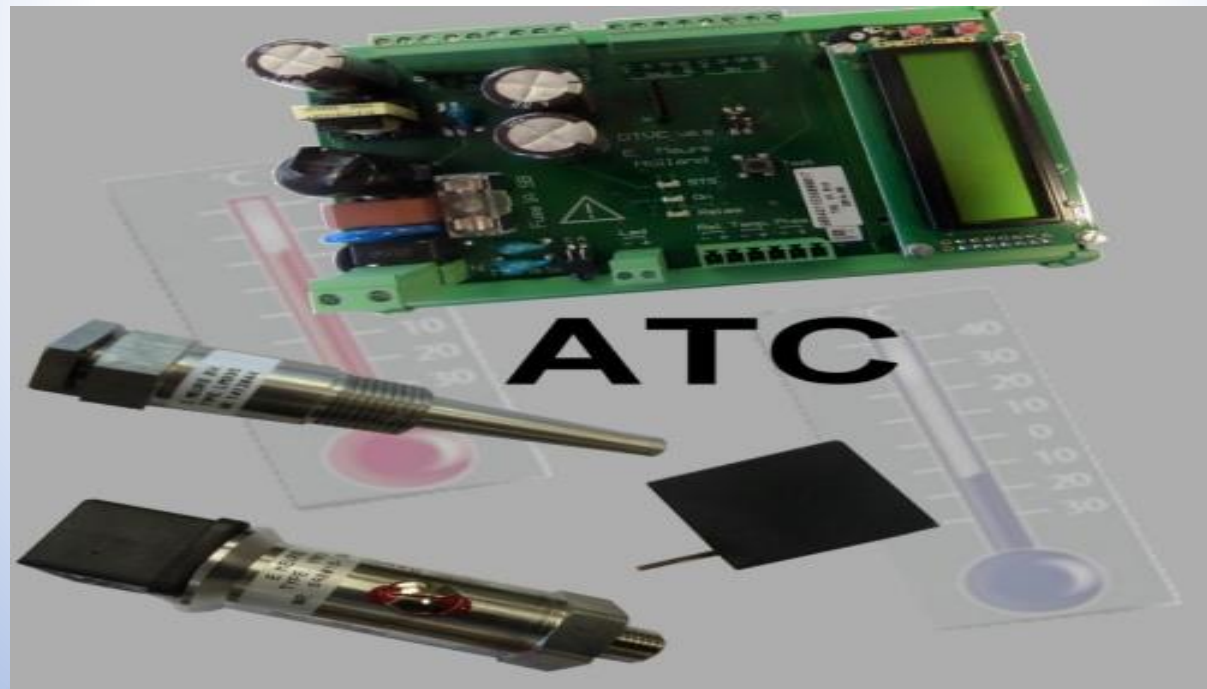
FUEL VOLUMES AT SPECIFIC TEMPERATURES





TO PREVENT EFFECTS OF TEMPERATURE CHANGES

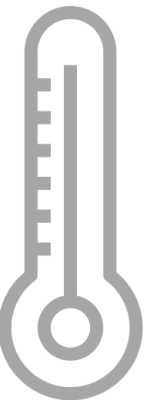
To prevent negative or positive effects of temperature of fuel, **Automatic Temperature Compensation device is used (ATC).**



WHEN SHOULD BUY CONSUMERS FUEL

CONSUMERS SHOULD FILL THEIR CAR
TANKS WHEN FUEL TEMPERATURE IS
BELOW 15 DEGREES.

“It’s better to fill your car with gas in the morning, when the temperature is cold, rather than the afternoon, when it is warm. You get more gas that way.”



LOSSES AND GAINS ACCORDING TO THE UNDERGROUND TANK TEMPERATURES 2015-2017 IN TURKEY

Average 200 million USD per year for fuel consumers losses

		CONSUMPTION		DIESEL		DIESEL		GASOLINE		GASOLINE		DIESEL + GASOLINE			DIESEL	GASOLINE
YEAR	MONTH	GASOLINE QUANTITY-liter (million)	DIESEL QUANTITY-liter (million)	Consumer extra payment (million) (litre)	Stations Losses (million)(litre)	Consumer extra payment ((million)TL)	Stations Losses ((million) TL)	Consumer extra payment ((million) litre)	Stations Losses ((million) litre)	Consumer extra payment ((million) TL)	Stations Losses ((million) TL)	Consumer extra payment ((million) TL)	Stations Losses ((million) TL)	Consumer net losses (million)(TL)	Unit price TL	Unit price TL
2017	1	131	1.123		1,6	-2,2	9,7		0,1	-0,7	1,2	-2,9	10,9	-7,9	4,59	5,20
2017	2	134	1.068		2,1	-1,9	11,6		0,6	-0,06	3,5	-1,9	15,2	-13,2	4,66	5,38
2017	3	155	1.270		0,5	-5,5	7,8		0,4	-0,3	2,3	-5,8	10,1	-4,3	4,55	5,15
2017	4	151	1.237	-0,8		-7,8	4,1		0,1	-0,7	1,5	-8,5	5,4	-3,1	4,62	5,37
2017	5	166	1.361	-2,9		-14,1	0,9	-0,4		-2,3	0,2	-16,4	1,1	-15,2	4,40	5,10
2017	6	171	1.289	-6,7		-29,2	0,1	-1,0		-5,2		-34,4	0,1	-34,2	4,33	5,00
2017	7	183	1.496	-12,2		-54,3		-1,8		-9,1		-63,5		-63,5	4,44	5,08
2017	8	184	1.451	-13,5		-61,5		-2,2		-11,4		-72,9		-72,9	4,53	5,19
2017	9	162	1.320	-11,9		-55,3		-1,9		-9,9		-65,3		-65,3	4,63	5,28
2017	10	164	1.444	-10,8		-51,6		-1,4		-7,3		-58,9		-58,9	4,75	5,28
2017	11	150	1.341	-5,4		-27,6	0,4	-0,6		-3,7	0,4	-31,3	0,8	-30,5	5,03	5,60
2017	12	159	1.295	-2,1		-11,6	0,5	-0,2		-2,1	1,0	-13,7	1,6	-12,1	5,04	5,60
2017 Total		1.914	15.700	-66,8	4,2	-323,1	35,3	-9,5	1,2	-52,9	10,3	-376,1	45,6	-330,5		
2016 Total		1.869	15.032	-61,6	3,8	-254,7	25,0	-9,2	1,5	-44,6	9,0	-299,3	34,1	-265,2		
2015 Total		1.760	12.566	-51,9	19,3	-201,3	74,6	-8,6	4,1	-40,5	19,7	-241,8	94,3	-147,5		

In the calculation of losses and gains arising from underground tank temperatures; Turkey in gasoline and diesel fuel products from more than 50% of the sale in the 11 (eleven), together with diesel and gasoline sales (consumption) is based on quantities. Average 200 million USD per year for fuel consumers

A close-up photograph of a hand holding a black magnifying glass. The lens of the magnifying glass is focused on the text 'THANK YOU'. The background is a blurred blue suit.

**THANK
YOU**

