

## **BCP 1.0A**

Standard

Implementation

GPA TP-25

Temperature Correction for the  
Volume of light Hydrocarbons  
Tables 23E and 24E

## Notes:

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# Contents

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- BCP 1.0A..... 1
  
- STANDARD IMPLEMENTATION GPA TP-25..... 1

  - Notes: ..... 2
  - Contents ..... 3
  - Introduction ..... 4
  - 1. Installation ..... 5
  - 2. Components of the Installation..... 6
  - 3. Formula and requirements ..... 7
    - 3.1. Implemented formula ..... 7
    - 3.2. Implementation to be used by the QCI and requirements..... 7
  - 4. Installation Test ..... 8

## Introduction

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This solution is an implementation of Standard GPA TP-25 (Technical Publication TP-25 Temperature Correction for Volume of light Hydrocarbons Tables 23E and 24E) on the product Bulk Calculations Petroleum Version 1.0A (BCP 10A).

The solution runs only in a SAP ABAP environment in which IS-Oil has been implemented.

This solution can be accessed by the SAP Quantity Conversion Interface (QCI) and is controlled by the provided Conversion Group.

## 1. Installation

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The technical implementation is provided as a part of a CSP package.

Please follow the standard SAP instructions for importing service packages into your system via transaction SPAM.

SAP Oil and Gas must be installed

QuantityWare's BCP 10A must be installed.

Customizing settings, which are needed in every client in which this standard will be used, are included in the delivery package.

On releases based upon SAP 4.72 and below, the related customizing transport must be imported into all necessary clients, or distributed to them from client 000.

On releases based upon SAP ERP 2005 (ECC 6.00) or newer, BC Set /QTYW/BCP\_10A must be activated in the relevant clients.

Please refer to the QuantityWare BCP 10A Installation Guide for more information.

**▲ WARNING:** *If you import the customizing template into a pre-existing client, any pre-existing entries listed within the template (transport or BC-Set) will be **OVERWRITTEN!***

## 2. Components of the Installation

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The main part of the installation is

Function: **/QTYW/GPA\_TP25**  
Determine Base Density and VCF of LPG

Which is a part of the

Function Group: **/QTYW/STANDARDS\_COM**  
Standard Procedures of Oil and Gas

The function can be called via the Export/Import interface or from the application via the QCI using the provided

Conversion Groups: **GP25** - GPA TP-25: LPG @ 60 FAHRENHEIT&REL.DENS.  
**G25D** - GPA TP-25: LPG @ 60 FAHRENHEIT& DENSITY

Reading Group: **G25D**

Test program: **/QTYW/GPATP25\_TEST**

## 3. Formula and requirements

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### 3.1. Implemented formula

This is an implementation of the formula of standard GPA TP-25.

The formula provides a correction factor for the:

- density in a range of 0,21 to 0,74 relative density which reflects a density of 210 to 740 kg/m<sup>3</sup>
- in a temperature range of –50 to 200 degree Fahrenheit
- base density at 60 degree Fahrenheit.

### 3.2. Implementation to be used by the QCI and requirements

The QCI also offers the possibility to calculate volumes at any defined temperature; to do so, it needs a volume correction factor. This can be derived from the relation of the densities.

#### Density Measurement:

Test Density

Test Temperature

#### Volume Measurement:

Transaction Quantity

Material Temperature

## 4. Installation Test

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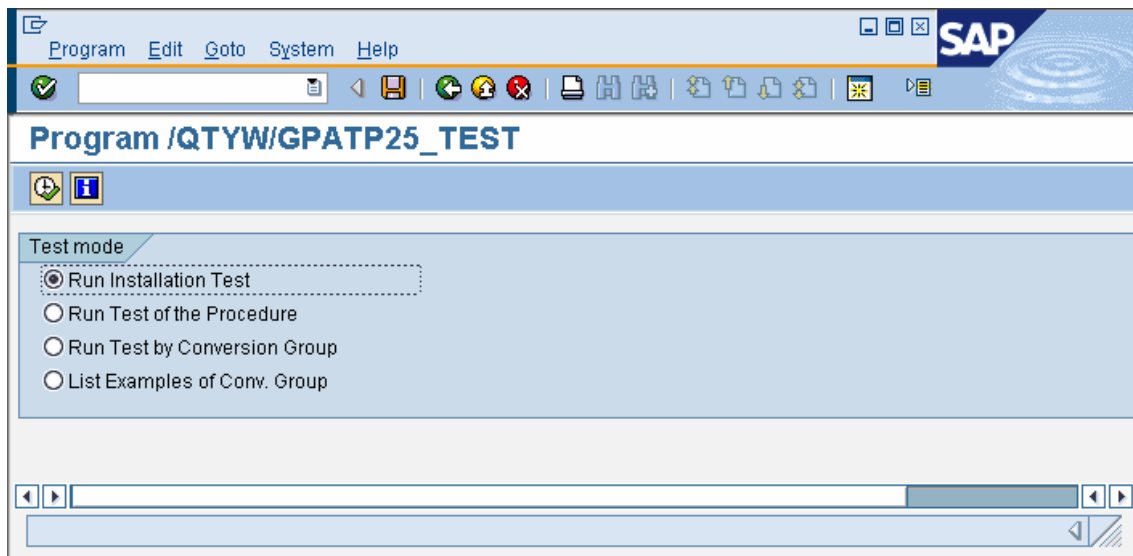
Along with the package QuantityWare provides a test program that can be used to test the installation and also to check out the standard:

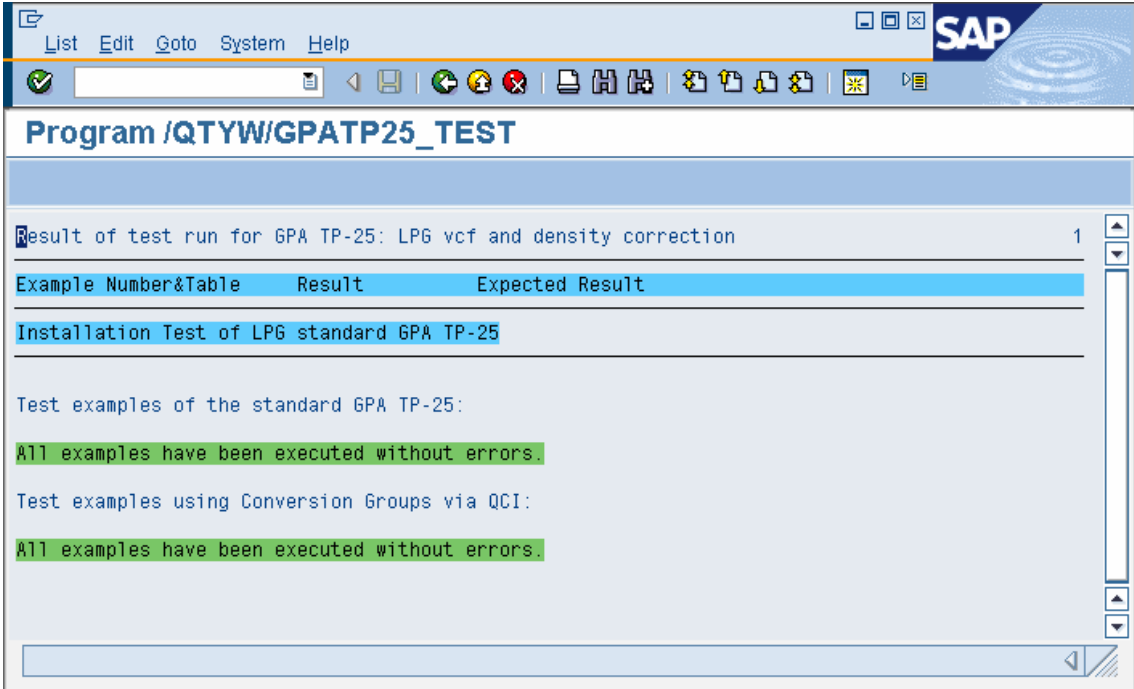
### /QTYW/GPATP25\_TEST

There two ways to call and use the function:

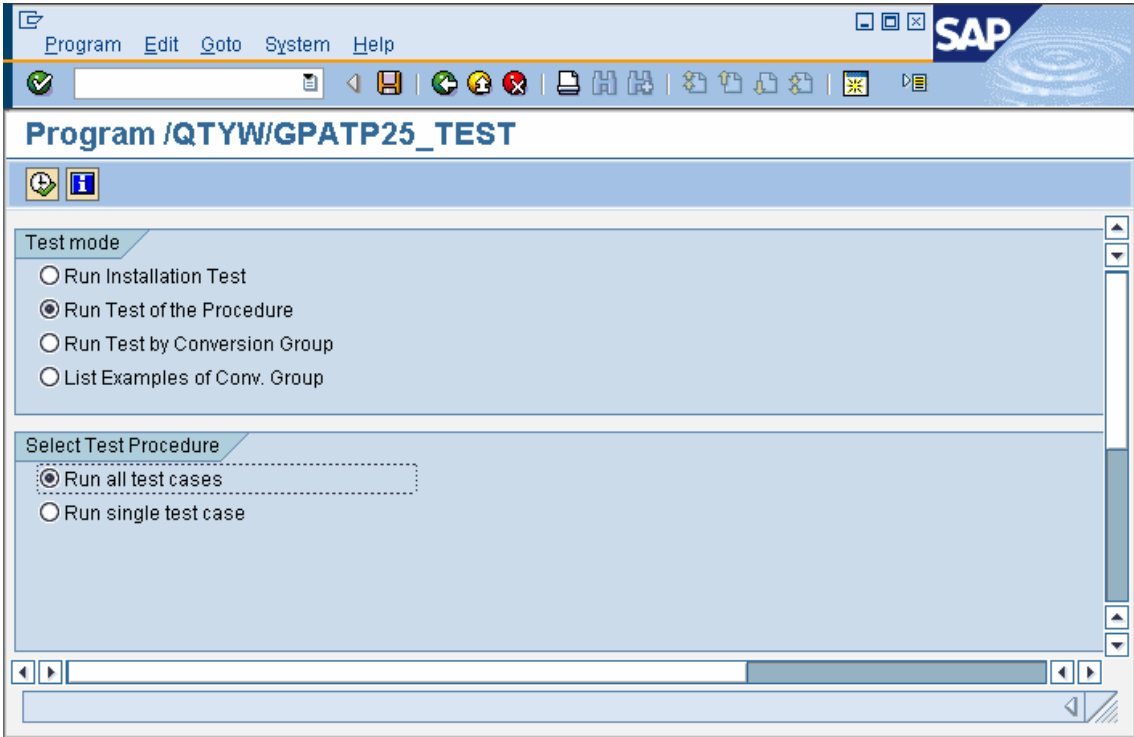
- Direct call of the function via the export/import interface
- Call the function via the QCI controlled by the conversion group.

The option "Installation Test" is the default and runs all implemented examples.

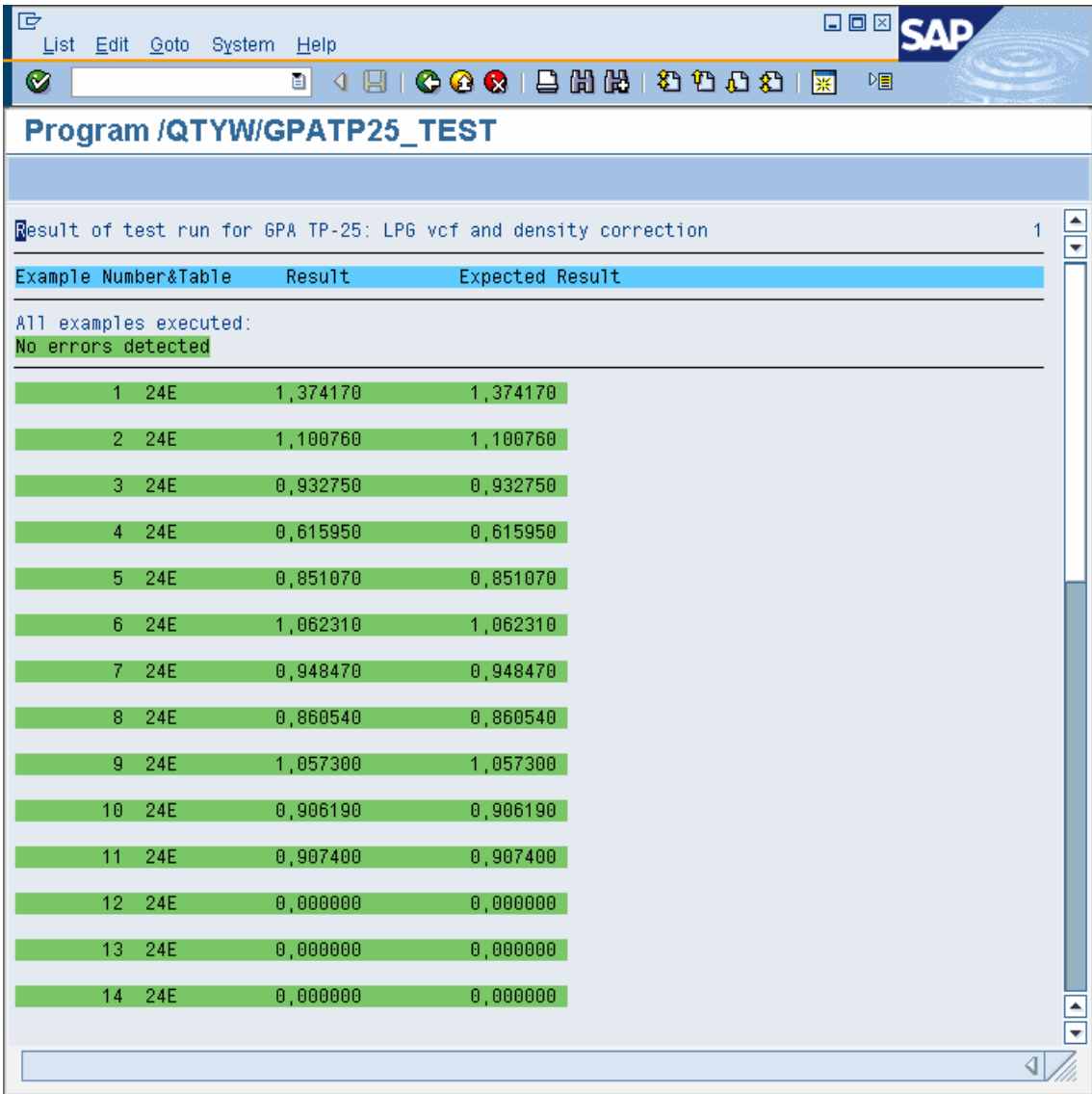




You can run all implemented examples of the standard by a direct call, or one specifically chosen case as shown below:



Result:

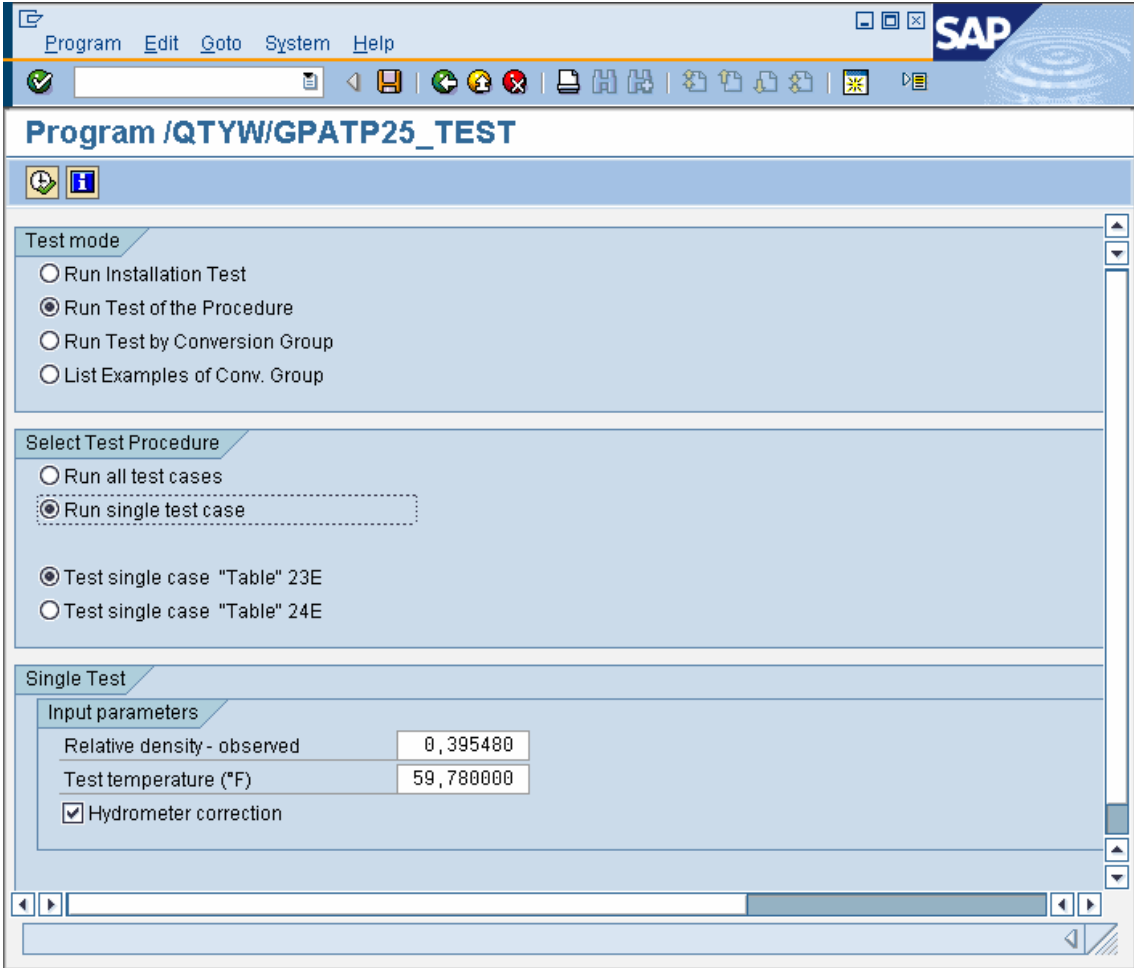


Program /QTYW/GPATP25\_TEST

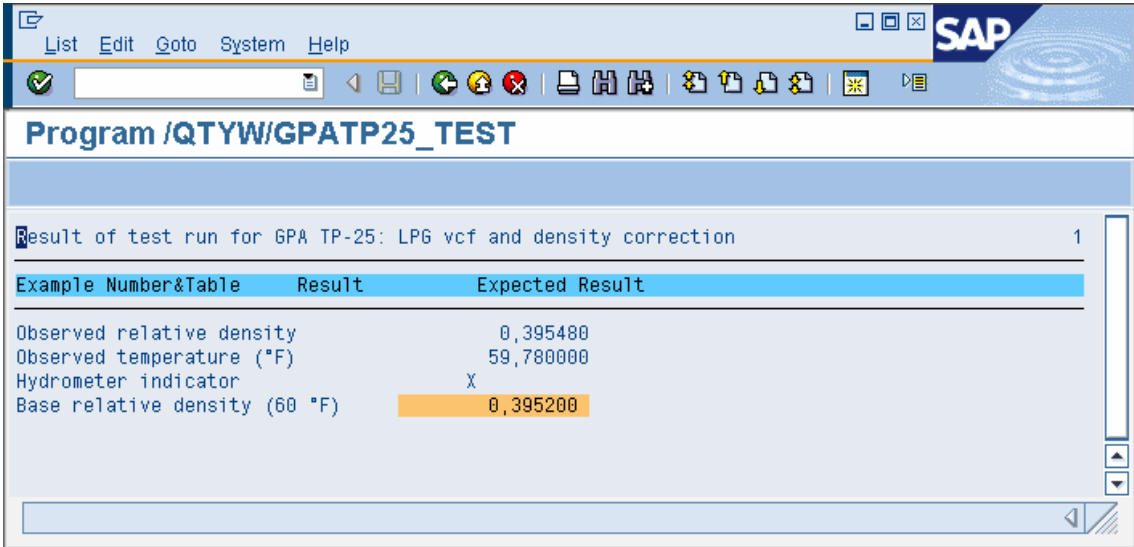
Result of test run for GPA TP-25: LPG vcf and density correction 1

Example Number	Table	Result	Expected Result
All examples executed: No errors detected			
1	24E	1,374170	1,374170
2	24E	1,100760	1,100760
3	24E	0,932750	0,932750
4	24E	0,615950	0,615950
5	24E	0,851070	0,851070
6	24E	1,062310	1,062310
7	24E	0,948470	0,948470
8	24E	0,860540	0,860540
9	24E	1,057300	1,057300
10	24E	0,906190	0,906190
11	24E	0,907400	0,907400
12	24E	0,000000	0,000000
13	24E	0,000000	0,000000
14	24E	0,000000	0,000000

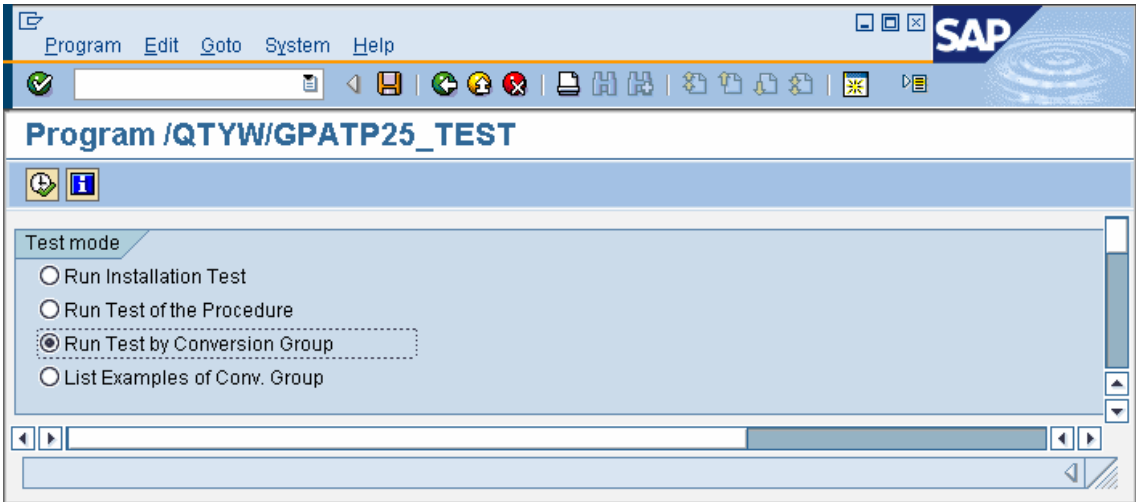
Or select one single case to test the procedure with:



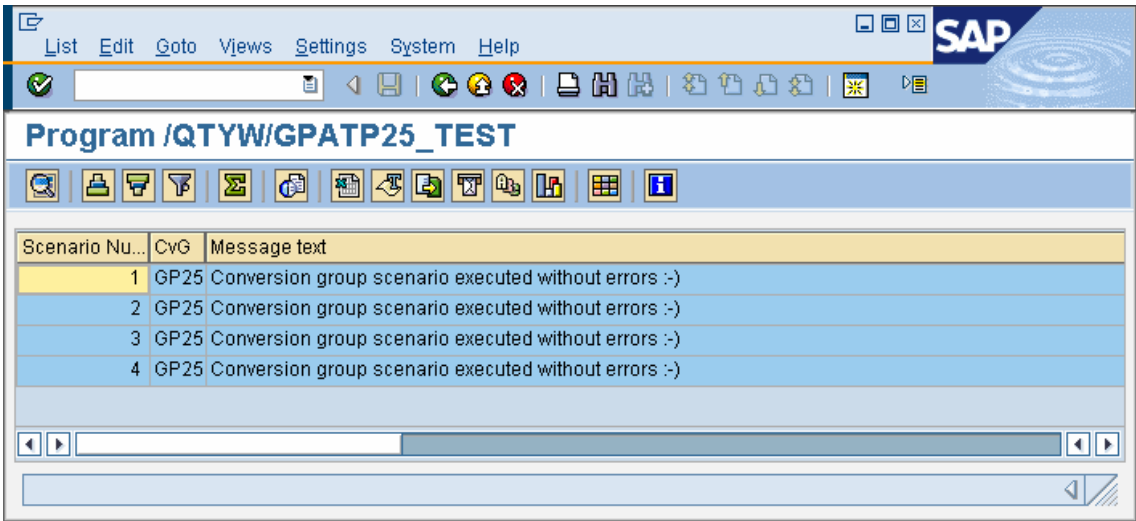
The program will run the calculation and show the result:



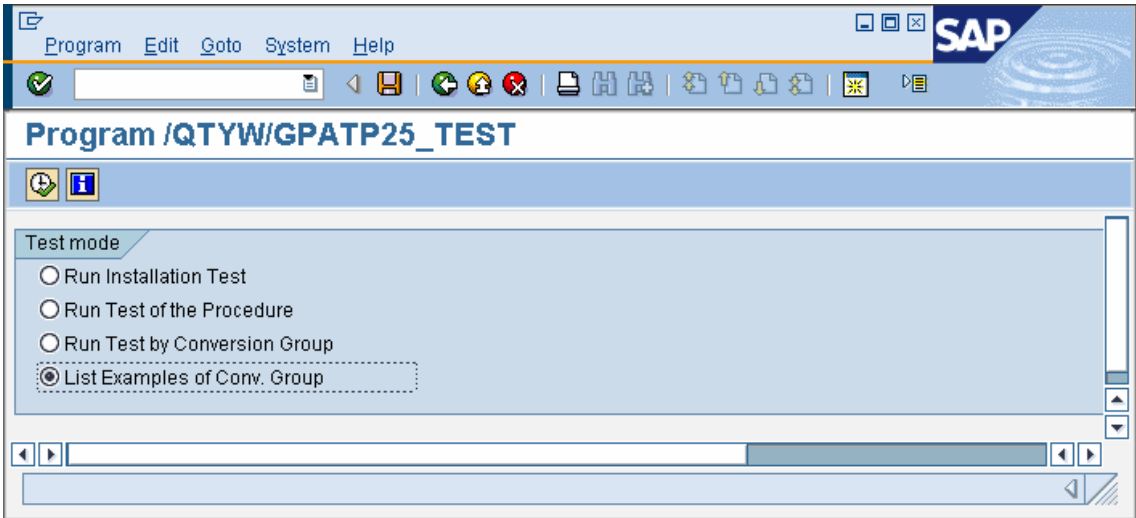
By running via Conversion Groups:




The Program shows the list of the successfully executed Conversion Groups (as below), or errors which occurred:



A list of Conversion Group examples can be shown:




 List Edit Goto System Help

**Program /QTYW/GPATP25\_TEST**

Result of test run for GPA TP-25: LPG vcf and density correction 1

Example Number&Table	Result	Expected Result
List of the examples to run the test via conversion Groups		
<b>Scenario: 1</b>		
Conversion Group: GP25 GPA TP-25: LPG @ 60 FAHRENHEIT&REL.DENS.		
Input		
Test Density (obs.)	: 0,67432	
Test Temperatur (obs):	23,33- FAH	
Measured Temperatur	: 24,95 FAH	
Measured Quantity	: 100,000 UGL	
Result		
Quantity	: 102,940 U66	
Quantity	: 245,680 KG	
<b>Scenario: 2</b>		
Conversion Group: GP25 GPA TP-25: LPG @ 60 FAHRENHEIT&REL.DENS.		
Input		
Test Density (obs.)	: 0,24573	
Test Temperatur (obs):	189,98 FAH	
Measured Temperatur	: 87,42 FAH	
Measured Quantity	: 100,000 UGL	
Result		
Quantity	: 94,804 U66	
Quantity	: 175,280 KG	
<b>Scenario: 3</b>		
Conversion Group: GP25 GPA TP-25: LPG @ 60 FAHRENHEIT&REL.DENS.		
Input		
Test Density (obs.)	: 0,21028	