

BCG & BCP 1.0A

Standard

Implementation

GPA TP-27

Temperature Correction for the
Volume of NGL and LPG -
Tables 23E, 24E, 53E, 54E,
59E and 60E.

Version 02 (SP09)

Notes:

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Introduction

This solution is an implementation of Standard GPA TP-27 (Technical Publication TP-27 Temperature Correction for Volume of NGL and LPG Tables 23E, 24E, 53E, 54E, 59E and 60E) adjunct to API MPMS Chapter 11.2.4., on the product Bulk Calculations Petroleum Version 1.0A (BCP 10A & BCG 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) as well as the QuantityWare MQCI (Model based QCI) and is controlled by the provided conversion groups.

1. Installation

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 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

The main part of the installation is Function Group:

/QTYW/STANDARDS_COM -

Standard Procedures of Oil and Gas, which contains all required functions.

The functions can be called via the Export/Import interface or from the application via the QCI using the provided conversion groups – QuantityWare name range Q7** (see document “Conversion Groups by QuantityWare” for details). Within the Petroleum Measurement Cockpit, you can display all configuration data for this implementation.

Test programs: /QTYW/GPATP27_TEST and /QTYW/MQCI_GPATP27_TEST

3. Formula and Requirements

3.1. Implementation Solution

This is an implementation of the formula and procedures as defined in standard GPA TP-27.

The formula provides a correction factor for:

- Relative density at 60 °F in a range of 0.3500 to 0.6800 relative density which reflects a density at 15 °C of 351.7 to 687.8 kg/m³ and a density at 20°C of 331.7 to 683.6 kg/m³.
- A temperature range of –50.8 to 199.4 °F (-46 to 93 °C).
- A base density at 60 degree Fahrenheit, 20 degree Celsius or 15 degree Celsius.

3.2. Implementation Integration - SAP QCI & QuantityWare MQCI

The QCI offers the possibility to calculate volumes at any defined temperature.

This implementation of GPA TP-27 is fully integrated into the Quantity Conversion Interface (QCI) and allows the calculation of mass and volume at any desired target temperature in the range supported by the standard (see above).

To do so, a volume correction factor and the base density are required. This data can be derived using the formula provided in standard GPA TP-27.

The MQCI implementation of GPA TP-27 supports ASTM Table 1 conversion, Mass/Weight calculation in parallel (via ASTM Table 8 and 26), as well as different rounding procedures.

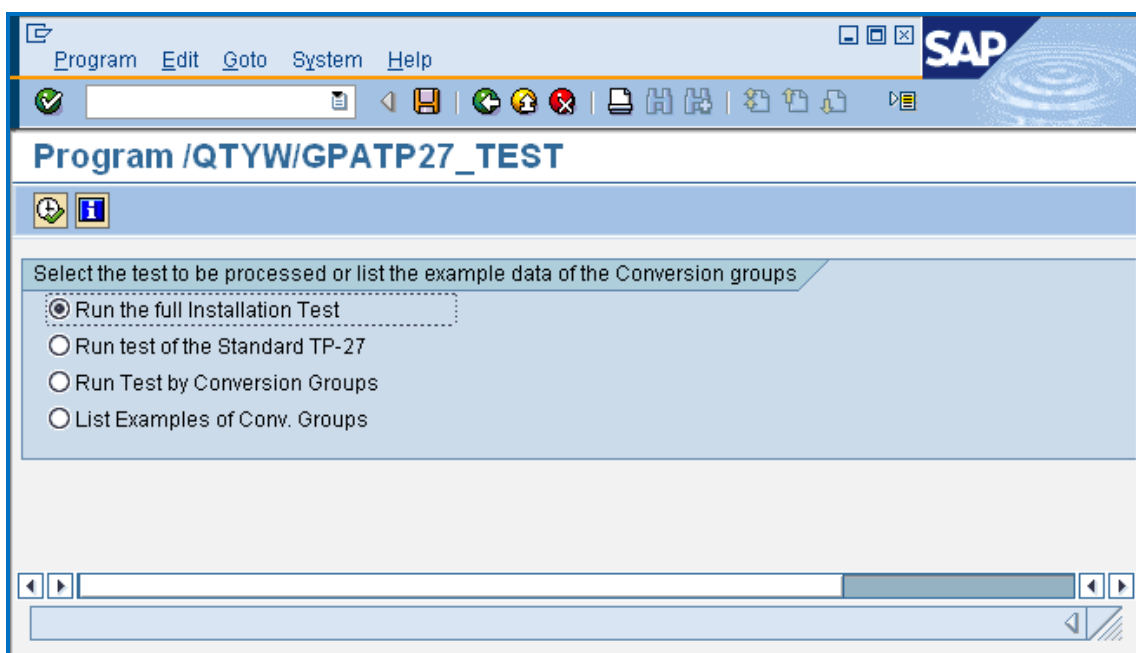
4. Installation Test

Along with the package QuantityWare provides two test programs that can be used to test the installation:

```
/QTYW/GPATP27_TEST
/QTYW/MQCI_GPATP27_TEST
```

4.1. Report /QTYW/ GPATP27_TEST selection options

Four standard selection options are available.



Option “Run Installation Test” executes all standard test examples and the conversion group based quantity conversion examples. Results are compared with hard coded expected results.

Option “Run Test of the Standard TP-27” executes all standard test examples.

Option “Run Test by Conversion group executes the conversion group based quantity conversion examples.

Option “List examples of Conv. Group” lists all examples with input and output data.

▲ *If any errors occur, the result list will indicate this with an error message (red background color).*

4.2. Report /QTYW/MQCI_ GPATP27_TEST selection options

This report offers two selection options.

Option “Run Test by Conversion group” executes the conversion group based quantity conversion examples.

Option “List examples of Conv. Group” lists all examples with input and output data.

▲ *If any errors occur, the result list will indicate this with an error message (red background color).*

5. Integration into SAP - QCI desktop calculator

This implementation is fully integrated into the SAP QCI and thus into all logistics processes such as the SAP Trader's & Schedulers Workbench (TSW). The desktop calculator (transaction O3QCITEST) can be used to calculate product quantity values for volumes, masses and weights.

