QuantityWare

Compliance & Transparency - Petroleum
CTP 3.0

Supported Standards Manual

Lists the standards supported by CTP for list printing, compliance analysis and documentation

Notes

The latest version of this documentation can be found in the QuantityWare Knowledge Base. All documentation is kept current for the combinations of latest BCS release with the latest supported SAP Oil, Gas, & Energy release. For all currently supported combinations see Note #000086 "Support and Release (Lifecycle) details" page 2, "Release Lifecycle".

Your release level can be determined via:

"/o/QTYW/COCKPIT" -> "Cockpit" -> "Support Package Level

Version History

Version	Date	Description
00	2017-03-31	Initial Release
01	2017-11-11	S/4HANA 1709 validity added, support of ISO 91:2017, ISO 6578-2017, ASTM D1555(M)-16 added
02	2019-02-17	S/4HANA 1809 validity confirmed, support of ASTM D1550-2018 and ASTM D2962-10(2019) added
02.1	2019-11-20	S/4HANA 1909 validity confirmed
03	2020-07-17	Editorial update
04	2021-02-15	Support of MS-19 Fourth Edition – Basic Asphalt Manual – Emulsified Asphalt
05	2021-09-23	S/4HANA 2020 / 2020_EX validity confirmed - Modern QW document style applied - 30A CSP02 / 30B CSP01 changes.
V06	2023-11-01	30A CSP03 / 30B CSP02 changes

Contents

1. Compliance & Transparency - Petroleum – Supported Standards

Bulk product quantity conversions in your SAP Oil, Gas, & Energy system are defined by four different types of standards. All types of standards are equally relevant and need to be considered for your quantity conversion configuration:

- Standards defining the detailed calculation model – the calculation model is defined within the SAP QCI (modified DIN 51650 without intermediate rounding) and may be enhanced or replaced by customer specific BAdI implementations in your systems
- Standards defining Correction factors due to effects of Temperature and Pressure on Liquid product volumes – CTPL standards
- Standards defining conversion factors between mass and weight - this calculation is defined within the SAP QCI (air buoyancy model – DIN 51757) and may be enhanced or replaced by customer specific BAdI implementations in your systems
- Standards defining conversion factors between units of measure (UoM) of the same quantity (SAP dimension)

CTP provides implementation procedures that are based on the standards listed in the following chapters. Using these implementations, you can:

- Print detailed lists via the Petroleum Measurement Cockpit to analyze your existing SAP QCI configurations
- Perform a detailed compliance analysis for all four types of your standard implementations listed above
- Define online documentation of your existing implementations based on this analysis

1.1. Standards Defining the Calculation Model

1. DIN 51650-06
2. API MPMS Chapter 12

The DIN 51650 model is typically in use in SAP QCI installed base systems. A simplified S&W calculation based on API MPMS Chapter 12 is also available, which does not distinguish between gross and net UoM (volumes, masses, and weights). During CTP implementation, a detailed analysis of your SAP QCI implementations – with focus on existing SAP QCI BAdI implementations - should be performed, and the result should be documented in the CTP conversion group documentation.

1.2. Standards Defining Temperature and Pressure Corrections – CTPL Standards

The Petroleum Measurement Cockpit enables list printing (Online and PDF documents) or online test calculations for all standards noted above, **supporting a detailed comparison analysis with your existing legacy CTPL implementations.**

1. ISO 91:2017
2. API MPMS Chapter 9.1 – ASTM D1298-12b (2017)
3. API MPMS Chapter 9.1 – ASTM D1298-99
4. API MPMS Chapter 11.1 – 2019 – ASTM D1250-19 (including Addendum 2)
5. API MPMS Chapter 11.1 – 2004 – ASTM D1250-04 (including Addendum 1)
6. API MPMS Chapter 11.1 – 1980 – ASTM D1250-80 (including 1984 and 1988 revisions)
7. Petroleum Measurement Tables 1952 – Historical Edition – ASTM D1250-52: Table 6
8. API MPMS Chapter 11.2.1(M)
9. API MPMS Chapter 11.2.2(M)
10. API MPMS Chapter 11.2.4 – second edition - GPA 8217 – 2019
11. API MPMS Chapter 11.2.4 – first edition - GPA TP-27
12. API MPMS Chapter 11.2.5 – GPA 8117 – second edition
13. API MPMS Chapter 11.2.5 – GPA TP-15 – first edition
14. API MPMS Chapter 11.3.3 – 2015
15. API MPMS Chapter 11.3.3 – 2011
16. QuantityWare extension of GPA TP-27 for 20 °C (and other base temperatures)
17. GPA TP-25
18. QuantityWare extension of GPA TP-25 for 15 °C and 60 °F
19. ASTM D1555M-22
20. ASTM D1555-21
21. ASTM D1555-16
22. ASTM D1555M-16

23. ASTM D1555M-08
24. ASTM D1555-09
25. ASTM D1555-04a
26. ASTM D1555M-04a
27. ASTM D1550-18
28. ASTM D1550-94(15)
29. ASTM D4311(M)-21
30. QuantityWare extension for 20 °C base temperature of ASTM D4311-21
31. ASTM D4311-15
32. QuantityWare extension for 20 °C base temperature of ASTM D4311-15
33. ASTM D4311-09
34. QuantityWare extension for 20 °C base temperature of ASTM D4311-09
35. ASTM D4311-04
36. ASTM D633-11(16) - withdrawn by ASTM in July 2023
37. ASTM D633-97(05) - withdrawn by ASTM in July 2023
38. ASTM D2962-10(19)
39. ASTM D2962-97(07)
40. ABNT NBR 5992-16
41. ABNT NBR 5992-08
42. ABNT NBR 5992-80
43. Bol. téc. PETROBRAS, Rio de Janeiro, 43 (1): 11-18, jan./mar. 2000
44. BS EN 14214:2012
45. Linear density correction factor (DCF) calculation
46. Linear volume correction factor (VCF) calculation
47. DIN 51757-11
48. DIN 51757-94
49. ISO 6578:2017 – LPG

50. ISO 6578:1991 – LPG
51. Brazilian Standard RESOLUÇÃO C.N.P. No. 6 – 70, Tabela II[1]
52. Brazilian Standard RESOLUÇÃO ANP No 894 -2022, Tabela I & II[2]
53. ISO 91-1:1992[3]
54. ISO 91-2:1991
55. ISO 3675:1998 (confirmed 2021)
56. MS-19 Emulsified Asphalt – fourth edition, Basic Asphalt Manual
57. Anhydrous Ammonia – Measurement Canada Standard

[1] This implementation is **not based on the printed tables**, but on a mathematical formula provided by South American customer industry experts - see ABAP function /QTYW/CNP_6_70_TII and note 000113 for details.
[2] This implementation is identical with the RESOLUÇÃO C.N.P. No. 6 – 70 implementation and provides a table-value based implementation – see note 000114 for details
[3] Support of historical 1953 metric edition - Tables 53 and 54 for LPG - not included

1.3. Standards Defining Conversions between Mass and Weight

- API MPMS Chapter 11.5 - ASTM D1250-08(13)e1
- Petroleum Measurement Tables Volume XI/XII - ASTM D1250-80: Tables 8, 26, 56
- Petroleum Measurement Tables 1952 - Historical Edition – ASTM D1250-52: Table 11
- DIN 51757-11
- DIN 51757-94

The Petroleum Measurement Cockpit enables list printing (Online and PDF documents) or online test calculations for all standards noted above, **supporting a detailed comparison analysis with your existing legacy implementations.**

1.4. Standards Defining UoM Conversion Factors

1. ISO 91:2017
2. API MPMS Chapter 15 – Guidelines for the Use of the International System of Units (SI) in the Petroleum and Allied Industries
3. API MPMS Chapter 11.5 – Annex D - ASTM D1250-08(13)e1
4. Petroleum Measurement Tables Volume XI/XII - ASTM D1250-80: Table 1
5. IEEE/ASTM SI 10TM – American National Standard for the Use of the International System of Units (SI): The Modern Metric System (2002)
6. NIST – Guide for the Use of the International System of Units (SI) - Special Publication 811 – 2008
7. BIPM – Le Système international d'unités (SI) – 2006

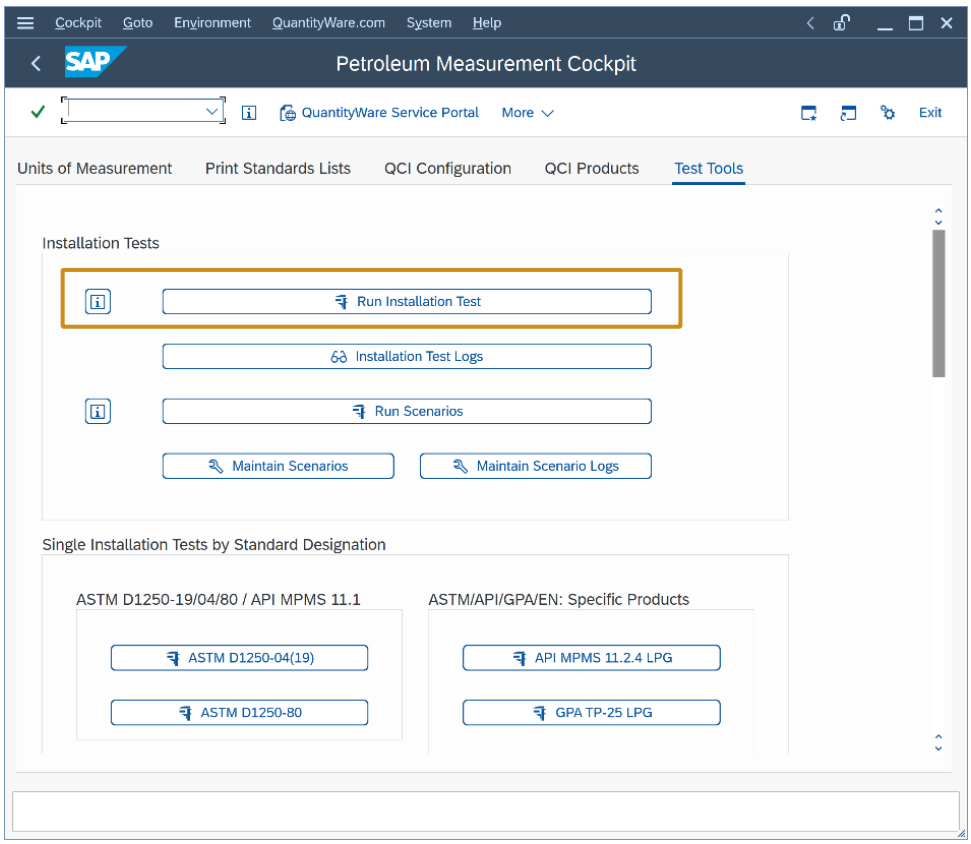
The Petroleum Measurement Cockpit enables list printing (Online and PDF documents) for all standards noted above and provides an automated compliance analysis tool to define an automated UoM compliance test for your existing UoM configuration.

2. Supported Standards – Installation

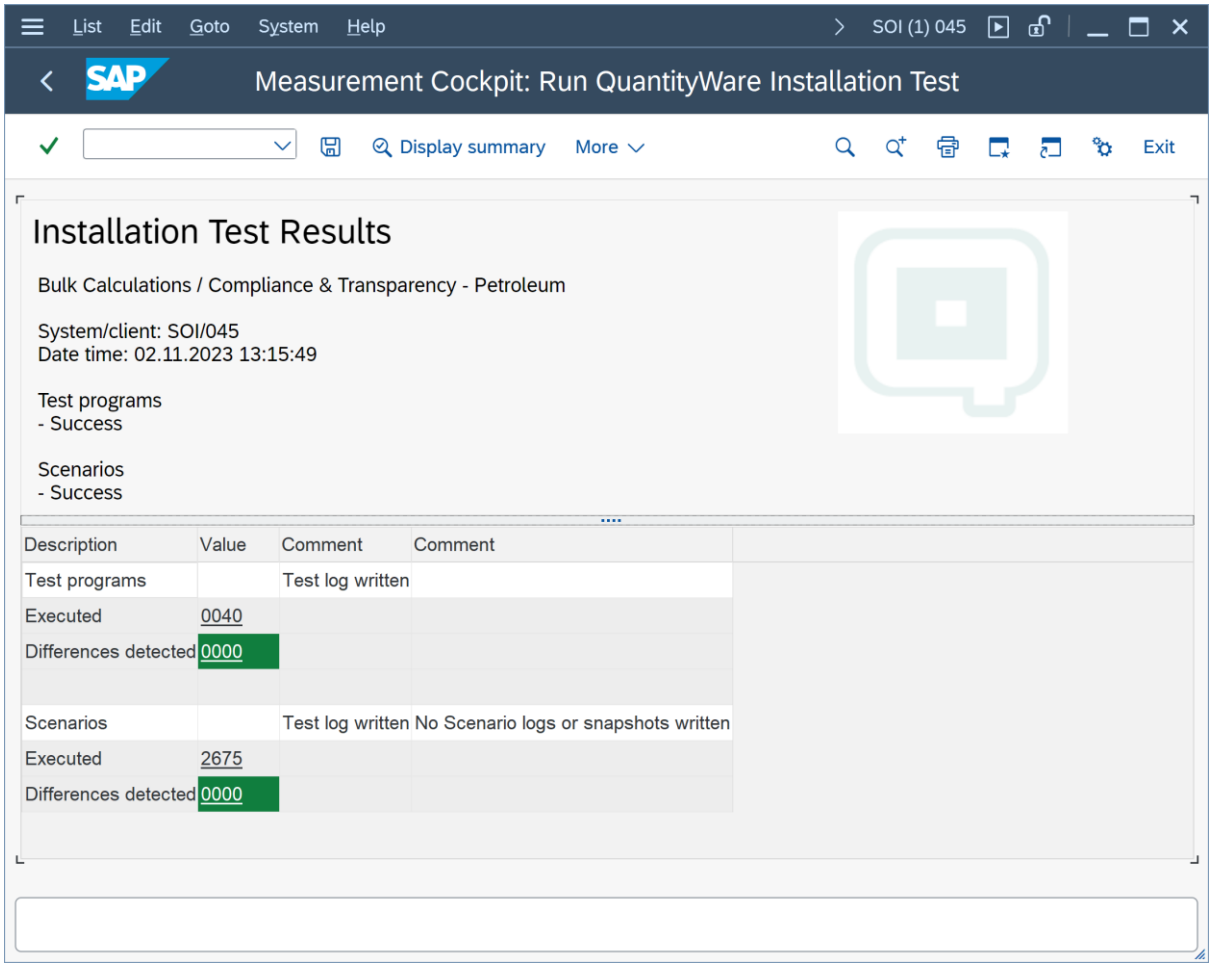
The Petroleum Measurement Cockpit (PMC) allows easy identification of QuantityWare BCP 3.0 template conversion groups per assigned measurement standards. For all standard implementations, QuantityWare delivers an individual installation test. Each test is implemented as a SAP test report, which typically executes two test cases. The CTP installation test is identical with the BCP installation test and is the sum of:

- All individual installation tests
- Additional integration test reports
- 2 725 test scenarios

The CTP 3.0 installation test is executed with **one click** from the PMC and is to be performed **only** in the QuantityWare template client 045, in **one** dedicated system in your system landscape. Execution of the installation test is started while logged on to the CTP template client (045), where you simply click on "Run Installation Test" in tab strip "Test Tools" of the PMC:

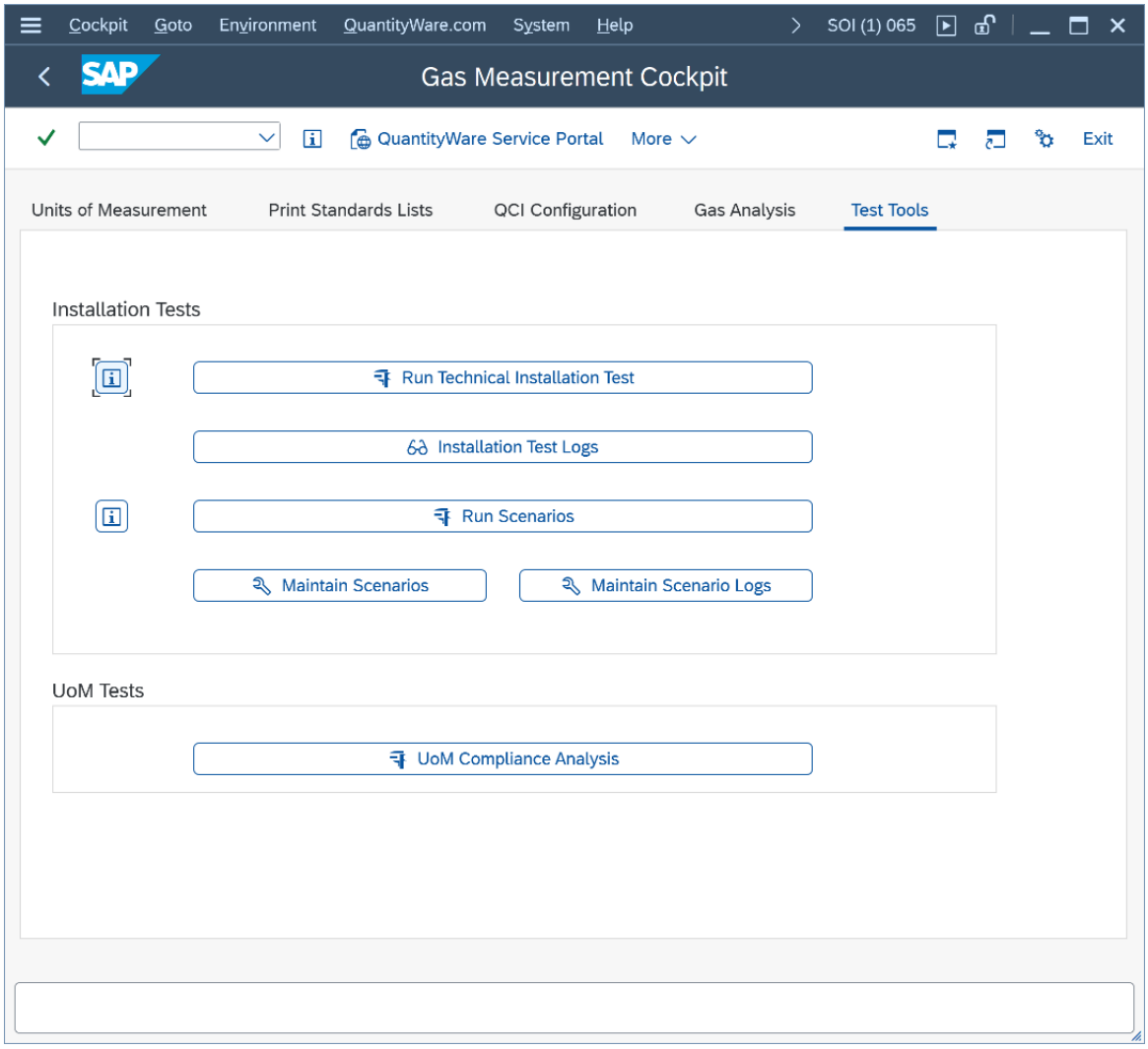


If the test is executed successfully, you see the following list:



If you want to execute a single test for a specific standard, you can access all tests from this list. All tests are designed in the same way to ensure seamless control of the tests by measurement experts.

If you log on to a client where the QuantityWare BC set has not been activated, you will not have access to the installation test via the Petroleum Measurement Cockpit – without the configuration template delivered with the BC set, the installation test will run with errors due to missing configuration. Instead, you may execute the technical installation test, which does not require template data.



More details can be found in the CTP Documentation Reference Manual.

After the CTP installation test usage key has expired (or if you log on to a client where the QuantityWare BC set has not been activated), you will also no longer have access to the installation tests via the Petroleum Measurement Cockpit in template client 045.

As a CTP customer, you obtain a temporary usage key to execute these automated tests in your client 045 immediately after CTP installation. Once the usage key has expired, you can still access the complete CTP template configurations, but test calculations using BCP 3.0 conversion groups are no longer possible. As a CTP customer, you have chosen to rely on your proven legacy SAP QCI conversion groups, utilizing the CTP capabilities “on top” of these legacy conversion groups.

In your implementation project, you then enhance the existing SAP QCI legacy conversion groups (online documentation, range checks, quantity value synchronization and definition of automated test scenarios). Details can be found in the CTP PAIG Document.

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