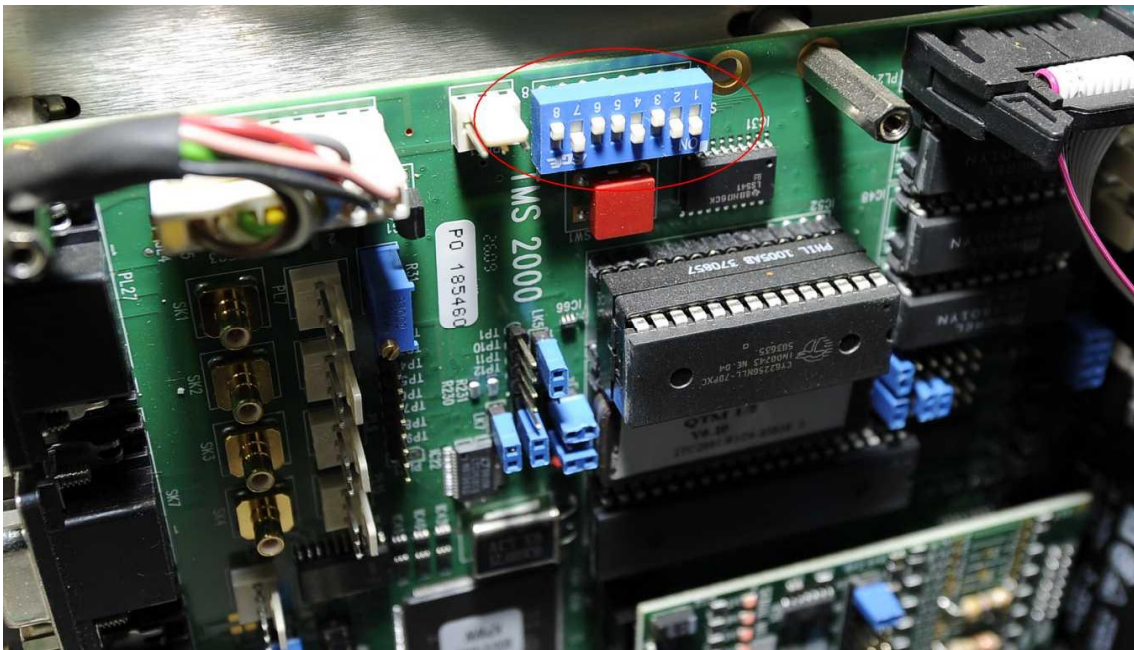
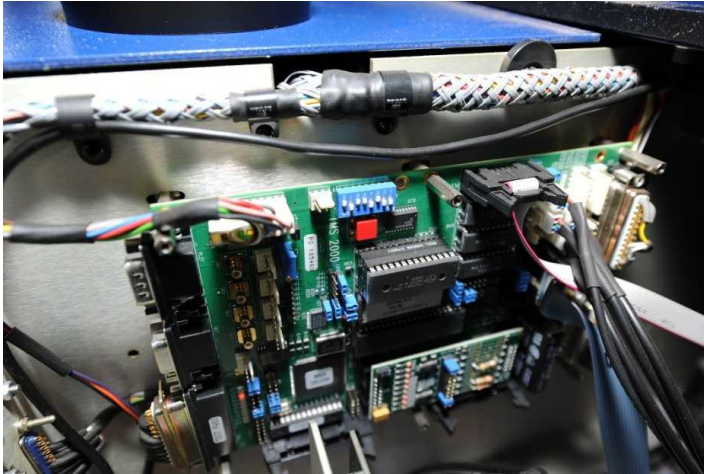


QTM Setup Procedure for dedicated QTM Data Extractor (see separate instructions of all other instrument OEM)

Measurement data from the QTM are transmitted to a host computer via the serial (RS-232) cable connected to the Host Port on the rear panel. The **format of the data** that is transmitted from the host port is defined by the settings in the Host and FAQs (a.k.a. Protocol) options in the operation menu.

Hardware Configuration

1. RS-232 cable from QTM (Module 0) to PC comm. Port
2. Board configuration (remove top cover) 6 2000 board dip switch (Pole 2 = ON)



Also see QTM manual ó Module 0 (page 41)

LED Panel – Settings

1. Operation

- a. Printer = ON/OFF (if OFF and QTM interface is down, then ticket will print)¹
- b. Results = ON
- c. Statistics=OFF
- d. Batch size=0
- e. Protocol=8 (this is also known as *FAQS*)
- f. Host = ON
- g. QTM id = 0

2. Host Port

- a. Baud = 9600
- b. Parity = OFF
- c. Even = OFF
- d. Stop2 = OFF
- e. CR = ON
- f. LF = ON

3. Measurements

Select the required measurements

(Examples: (i) PDc=Turns the PD with vents open measurements on/off; (ii) Weight=Turns the size measurement on/off, etc.)

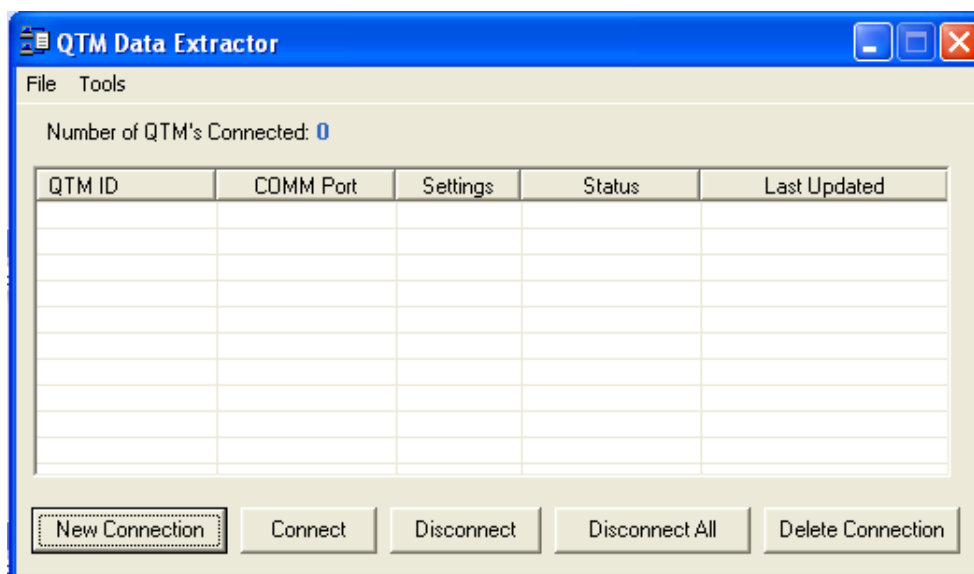
¹ The benefit of this option is that the user can process samples that are not destined for QMS (e.g. a trial); the closing of the QTM interface causes the printer to produce a ticket containing the measurement data, and no data are entered into QMS.

Data Host PC (Win 2000/XP/Vista/7)

1. Install QTM Data Extractor software package. This is different than the typical DataRelayQC installation in that it also installs additional folders and the QTM Data Extractor software. After the installation, the folder structure should look similar to the screenshot below:

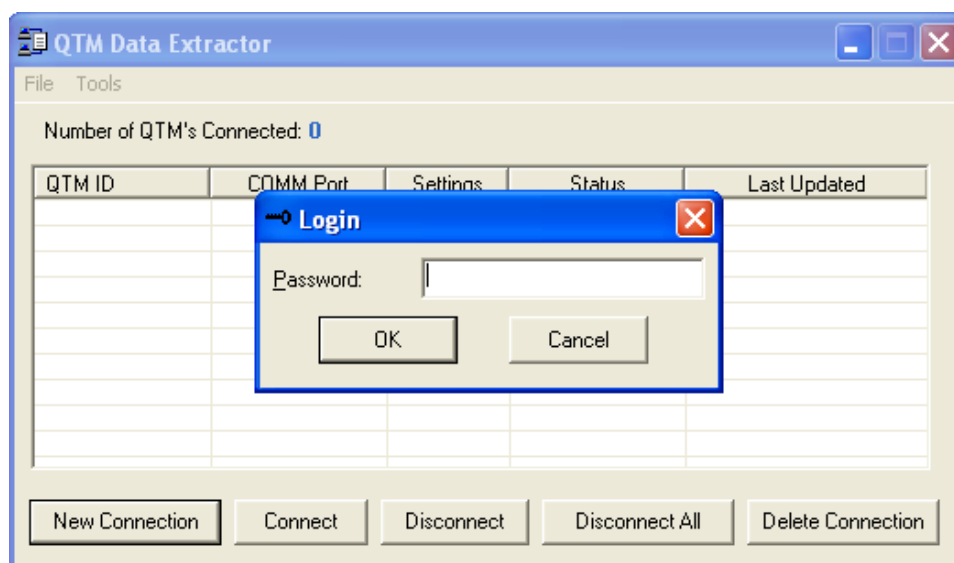
Name ▲	Size	Type
Cal Check		File Folder
Check Rods		File Folder
Data Files		File Folder
Data Files Archive		File Folder
Database		File Folder
Database Clean		File Folder
Error Log		File Folder
Fast Mode		File Folder
DataRelay QC.exe	676 KB	Application
DataRelayQC.ini	2 KB	Configuration Settings
MSCOMM32.OCX	102 KB	ActiveX Control
MSWIN5CK.OCX	107 KB	ActiveX Control
QTMExtractor.ini	1 KB	Configuration Settings
QTM Data Extractor.exe	236 KB	Application

2. Main Screen [QTM Data Extractor]



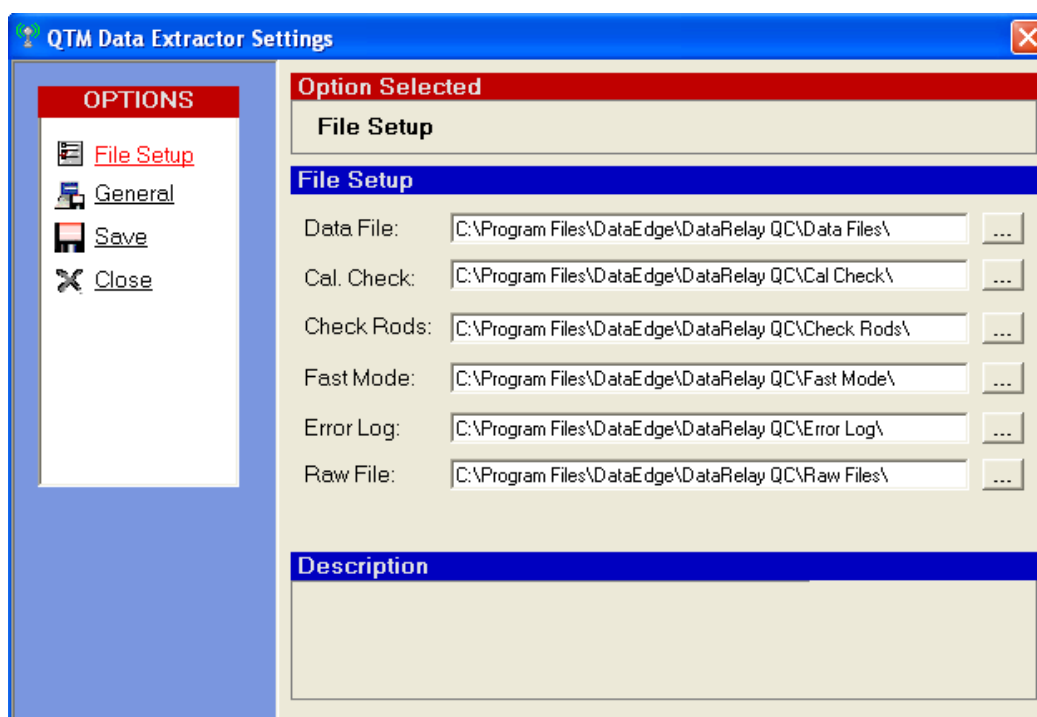
3. Configuring QTM Data Relay

- a. Select **Tools => Configure** Default Password [quality]



File Setup

The File locations should match the locations below.



General Settings

The screenshot shows the 'QTM Data Extractor Settings' dialog box with the 'General' tab selected. The 'Option Selected' dropdown is set to 'General'. The 'General Settings' section contains the following fields: 'Data Layout' (COLUMN), 'Default Startup' (SERIAL), 'Administrator Password' (masked with asterisks), 'Disconnect Password' (masked with asterisks), 'Archive Raw File' (YES), 'Archive Days' (30), 'Check Rod ID' (000), and 'Debug Mode' (NO). The 'Description' section is empty.

General Settings	
Data Layout:	COLUMN
Default Startup:	SERIAL
Administrator Password:	XXXXXXXXXX
Disconnect Password:	XXXXXXXXXX
Archive Raw File:	YES
Archive Days:	30
Check Rod ID:	000
Debug Mode:	NO

Data Layout = COLUMN [Default]
Default Setup = SERIAL [Default]
Administrator Password = quality [Default]
Disconnect Password = mebttec [Default]
Archive Raw File = NO [Default]
Archive Days = 30 [Default]
Debug Mode = NO [Default]
Check Rod ID = 000 [Default]

Data Layout – Formats the output files either in Column or Row format. Data Relay needs COLUMN.

Default Startup – Defines the Communication ports that the QTM is connected through.

Administrator Password – Needed to access the Settings screen and Close the application.

Archive Raw File – Collects and stores the RAW files from the QTM.

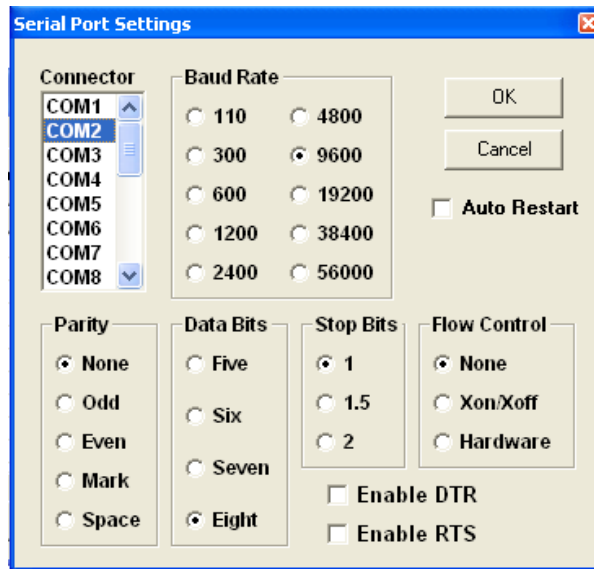
Debug Mode – Displays the RAW communication real time.

Check Rod ID – The ID assigned in the QTM for the CR [Check Rod] button. Not all QTM's have this button.

4. Connection

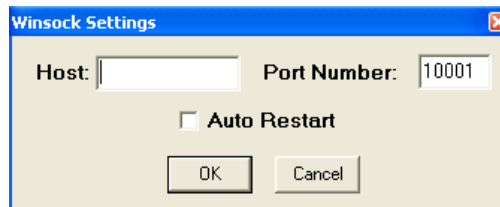
a. Serial

If connecting to a QTM via Serial {COMM} Port you will get the following screen once the New Connection is clicked. Insure the Software Settings match the Settings for the QTM. If you want the connection to be established on startup click the Auto Restart box and the connection will be established when the software is started.



b. Ethernet

If connecting to a QTM via Ethernet Port you will get the following screen once the New Connection is clicked. Insure the Software Settings match the Settings for the QTM/Ethernet [Lantronix] box. If you want the connection to be established on startup click the Auto Restart box and the connection will be established when the software is started.



5. Connection status:

- a) Once the connection is made to the QTM insure the status indicates "connected". If it does not connect then re-check all previous steps.
 - b) Additionally, the moment that the QTM Data Extractor connects to the QTM the QTM ID will change from N/A to the actual QTM ID. This status is automatically obtained when a sample is introduced in the QTM, or when the period button is pressed on the QTM key pad.
- 6. You should now be able to run a sample through the QTM and monitor the folder "Data Files" to see if the QTM Data Extractor.exe program generates a data file for the sample.
 - 7. To Disconnect from the QTM click Disconnect on the main screen and enter the required password.

8. Open the data file using Notepad and it should look something like this:

```
0000,001,8/23/2011 4:00:20 PM,10,3
IW,ST,PO
1.53,8.04,97
1.517,8.03,95
1.488,8.01,97
1.558,8.03,101
1.536,8.05,97
1.505,8,100
1.549,8.03,108
1.507,8.03,89
1.503,8.02,92
1.53,8.05,99
```

The format of this file is:

Line 1 Device ID, Machine Code, Date/Time, Batch Size, # Measurements

Line 2 Measurement identifier codes

Line 3-x Measurement Values

Note ó the Device ID should be 0. This is not the same as the Device Code used in QMS.

9. Run DataRelay QC and go to the õOptionsö window to configure settings (example below).

DataRelay QC Options

Data Connections

DataMart QC Database: 192.168.1.19 DataMartQC

Test Connection ☐ ADS ☒ SQL Server

Local Source Database: C:\Program Files\DataEdge\DataRelay\QC\Database\QTM_Samples

Test Connection Data File Loading Settings Monitor

Data Collection/Processing

☒ Use automated polling rate to scan for new samples. 10 seconds

☒ Use age restriction for processing new samples. 30 minutes

most recent records to scan. 5 (Duplicates will not be processed)

Reset Reserved Flags (Sodim DB only)

Data Tag Configuration/Measurement Mappings/Validation Parameters

Device Code: QTM-01 Machine: ☒ Use Source Field ☐ Use Selection Mode ☐ Lock

Source Type: QTM

Product: ☐ Use Source Field ☒ Use System Default

UDF1: ☐ Use Source Field ☒ Use System Default

UDF2: ☐ Use Source Field ☒ Use System Default

Measurement Mappings (Source to DataMart QC Database)					Validation Parameters (Batch Statistics)					
En	Source Field	Convert	ID	Description	Avg (H)	Avg (L)	Max (H)	Max (L)	Min (H)	Min (L)
<input checked="" type="checkbox"/>	IW	1000	1	Weight						
<input checked="" type="checkbox"/>	PC	1	2	Pressure Drop						
<input checked="" type="checkbox"/>	SL	1	3	Circumference						
<input checked="" type="checkbox"/>	VN	1	5	Tip Dilution						
<input type="checkbox"/>		1								
<input type="checkbox"/>		1								

☒ Lock editing Use (..) buttons to make assignments Validation Mode > ☒ OFF (Ignore) ☐ ON (Delete) ☐ ON (Exclude)

Miscellaneous Options

Delay data collection startup for 5 seconds ☒ Use client-side cursors for read-only recordsets ☐ Allow machine setup (sample settings)

☒ Auto-minimize application after delayed startup ☒ Keep local system date/time in sync with DataMart ☐ Allow over-rides (sample settings)

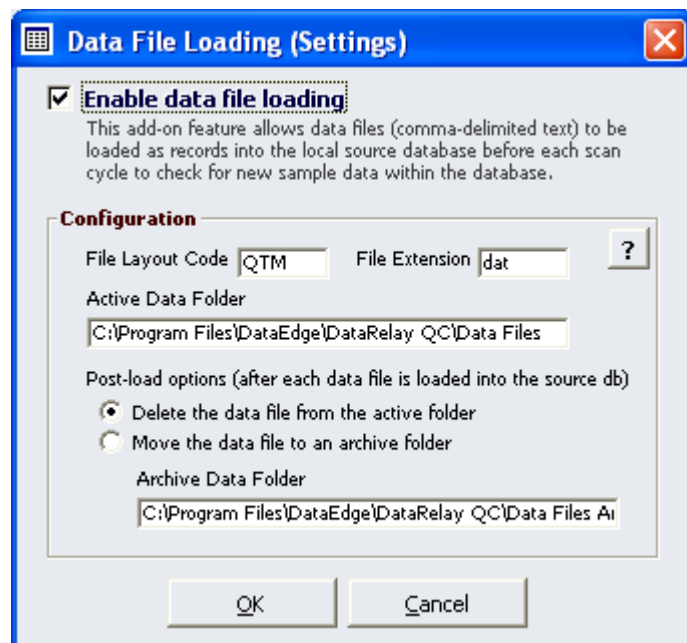
☒ Require passcode to start/stop/close *** ☐ Enable performance monitoring and debugging ☐ Allow multiple instances of DataRelay

Apply Cancel

All typical rules for DataRelay QC configuration apply (connection settings, device code, etc.).

The measurement mappings must be setup to match those from the data file in step #4. The `Source Field` must match the measurement identifier code in the local database and mapped to the proper measurement ID in QMS (see end of this document for a list of all possible QTM measurement IDs).

Data file loading should be enabled (check using the `Settings` button).



10. Save the DataRelay settings and close the DataRelay application.
11. Open the DataRelayQC.ini file using Notepad and make edits in the section [0000] to map any possible machine codes stored in the QTM data files and local database to actual machine codes stored in QMS (DataMart). Example below:

[0000]

001=CM057

002=CM060

003=CM061

004=CM066

005=MKR-05

006=MKR-06

007=MKR-07

008=MKR-08

Note

This example shows 10 entries for QTM button code to machine code mappings but there is no limit to the number of entries. Any QTM data files that contain a code that is not mapped here will NOT be processed by DataRelay. Any entries that are mapped to an invalid machine code (not in QMS) will also NOT be processed by DataRelay.

009=MKR-09

010=MKR-10

In the above example if the QTM data file had 001 because it was either assigned to a button on the QTM or dynamically entered before the sample, then this code would be mapped to an actual machine code in QMS named CM057.

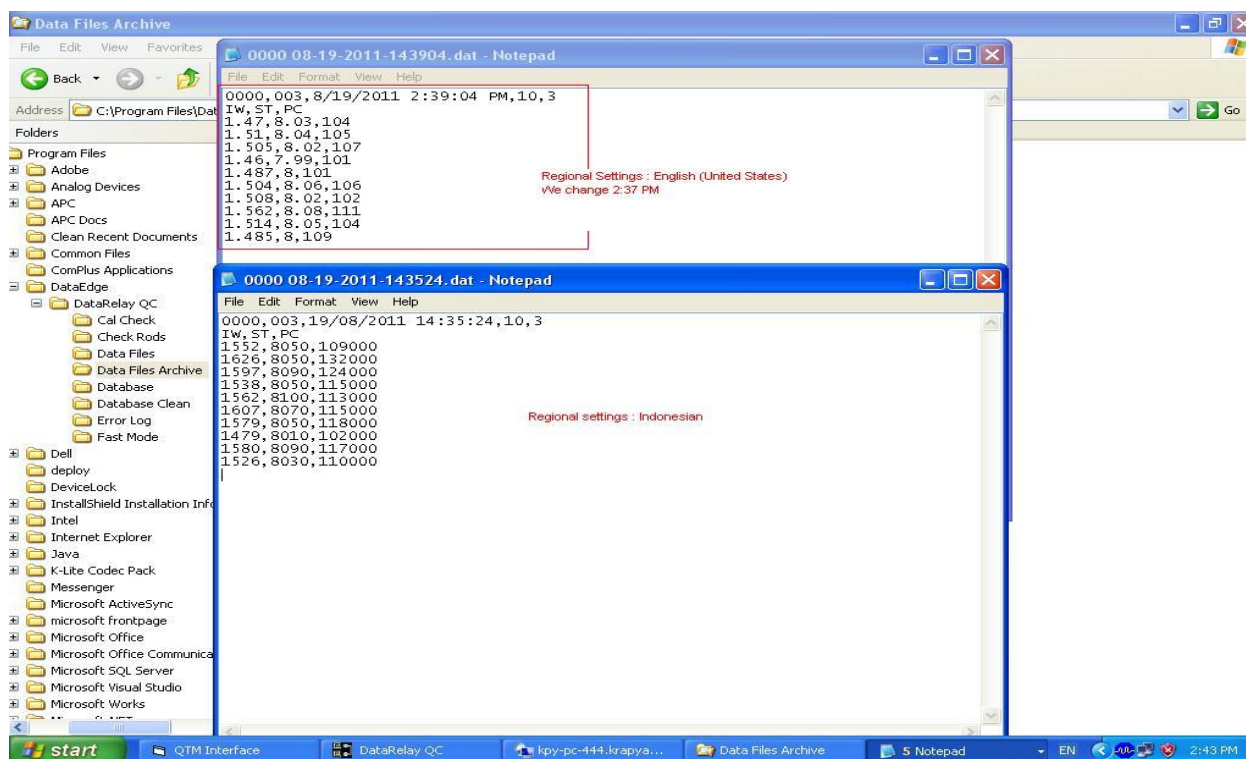
12. The DataRelay can now be started up and it will process the data file into QMS if all of the settings are correct. Both applications (SerialQTM.exe and DataRelayQC.exe) must be running at all times for automated processing to continue in real-time.

Possible measurement codes from QTM

Meas ID	Description	Unit
GW	Group Weight	mg
SL	Size-Laser	mm
SY	Ovality	mm
RP	Roundness	%
ST	Size-Tape	mm
VN	Ventilation	%
PO	Vents Open PD	mmWg
IO	Vents Open PD	inWg
PC	Vents Shut PD	mmWg
IC	Vents Shut PD	inWg
PD	Pressure Drop	mmWg
ID	Pressure Drop	inWg
IW	Individual Weight	mg
CT	Tape Circumference	mm
DT	Tape Diameter	mm
CL	Laser Circumference	mm
DL	Laser Diameter	mm
VT	Vent Tip	%
VE	Vent Envelope	%
VA	Vent Total	%
VP	Vent Tip + Envelope	%
HP	Hardness	%
DD	Depressed Diameter	mm
DC	Point Contact Diameter	mm
MP	Moisture	%
DY	Density	g.cm-3
MM	Microwave Mass	g
DP	Density Profile	%

Note about regional settings:

Examples of data files produced with both English (United States) and Indonesian regional settings for the same cigarette machine.



Windows regional settings can produce data files with measurement data that are expressed in multiples. In the above example, the English (United States) setting requires the IW measurement to be multiplied with 1000 in the DataRelay QC Measurement Mappings, by inserting the multiplier 1000 in the Convert Field in the row IW, in order to obtain the cigarette/filter measurement in milligrams. In the case of the Indonesian settings, both the ST and PC measurements would require multiplication with 0.001. Thus QMS allows both settings to be used.