

TECH NOTE :: catman Reference Curve

Version: 2016-01-19

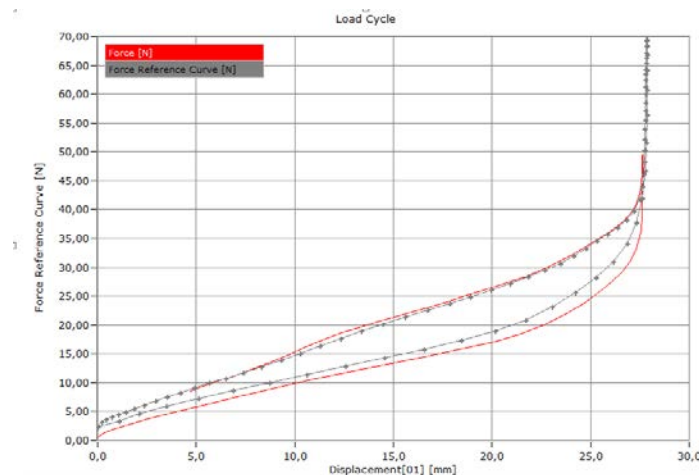
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Abstract

This Tech Note mainly deals with reference plots in XY visualization graphics.

Result: In your XY graph you permanently see a reference curve – shown as example in a grey dotted line.



Workflow

Configure your inputs:

| | | | | |
|--------------|-------------|--------------------------|----------------|------------|
| Displacement | -0,00981 mm | 200 Hz / BE 20 Hz (Auto) | Potentiometer | 0,01680 mm |
| Force | -0,2291 N | 200 Hz / BE 20 Hz (Auto) | SG full bridge | -354,23 N |

As an example we take a small test demo model with load cell and displacement sensor integrated.

Now create your reference curve by a triggered DAQ job based on displacement measurement and 1 second storage time.

Start of data recording

☐ Immediately at job start
☒ Trigger
☐ Time of day

[How are triggers working?](#) [What is the meaning of burst mode?](#)

Trigger mode: Above level

Trigger channel: Displacement

Pre-trigger (s): 0 ☐ Burst mode 0 Max. bursts

Threshold [mm]: 0,5

Min. dwell time (s): 0

Execute automatically on DAQ start

☒ Zero balance of hardware channels

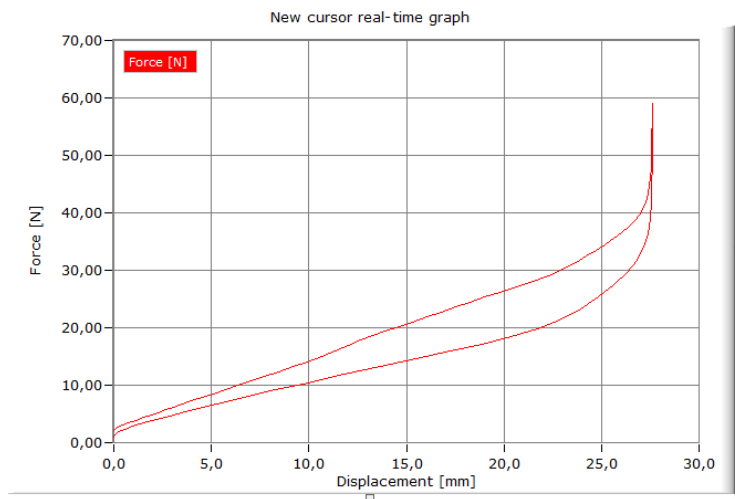
Stop of data recording and measurement

☐ Manual
☐ Trigger
☒ Duration 0 h 0 m 1 s
☐ Number of values

Execute automatically on DAQ stop

☐ EasyScript

Start your measurement job acquiring the IDEAL Force-Displacement curve:



Store your data:

Data saving

File

Placeholder: C:\Temp\Reference-curve_2016_01_19_15_46_09_001.bin

HBM catman standard format Format: 8-Byte Precision

Save all data Saving depth

Comment

[Help about file format](#)

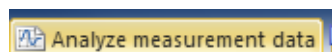
Test parameters

| | Name | Value |
|---|------------|-------|
| 1 | Operator | |
| 2 | Department | |
| 3 | Comment | |
| 4 | | |
| 5 | | |
| 6 | | |

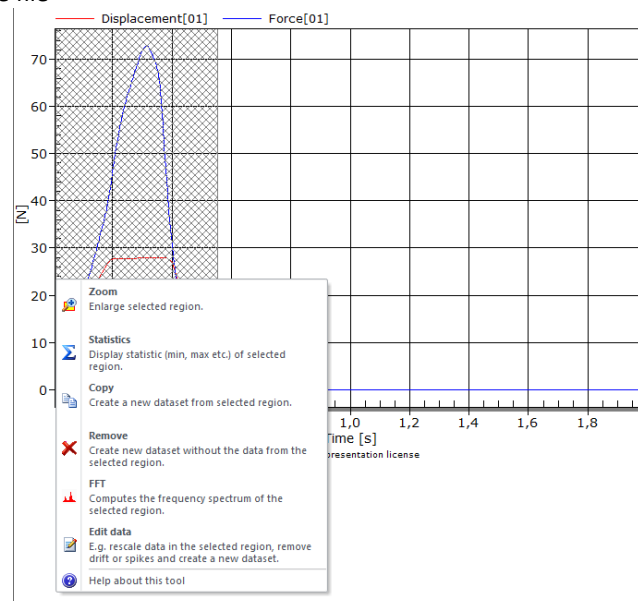
New parameter Delete parameter

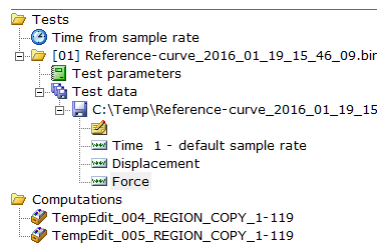
Save data now Discard data

Now go into catmans ANALYZE MODE:



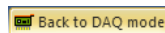
Now cut the data series to the perfect length (duration) using section design tool:
Copy the data to a separate file



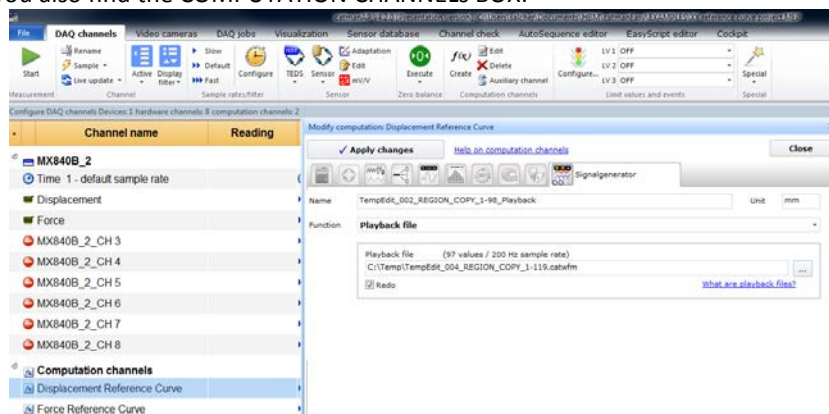


Now go to EXPORT tab and export this two created temporary files into “HBM playback” file.

Go back to DAQ MODE:

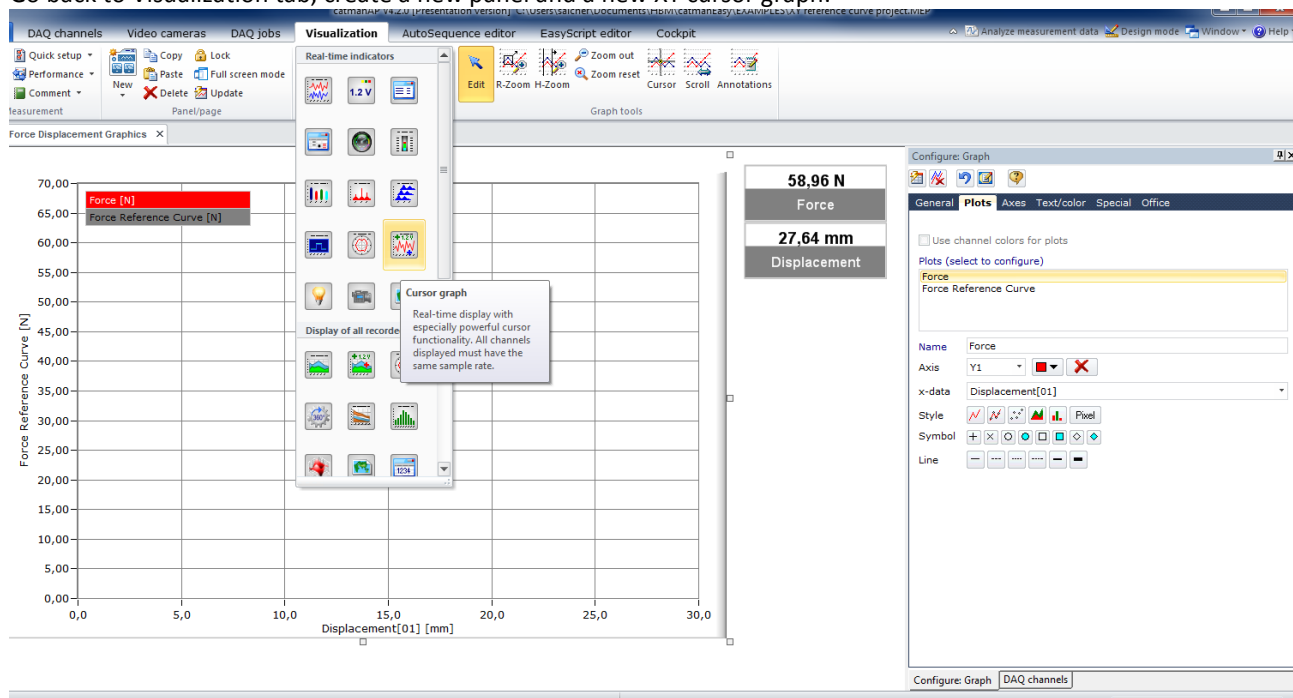


In the channel view you also find the COMPUTATION CHANNELS BOX:



Create a signal generator signal based on a playback file. Read in the correct CATWFM file including displacement and create a computation channel named Displacement Reference Curve. Do the same with the force signal.

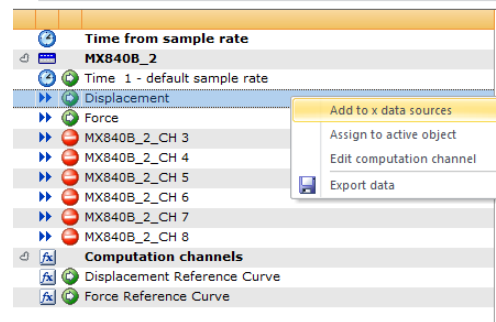
Go back to Visualization tab, create a new panel and a new XY cursor graph:



Now drag and drop the following signals in the given order to the graph:
Y axis:

- Force true input
- Force Reference Curve

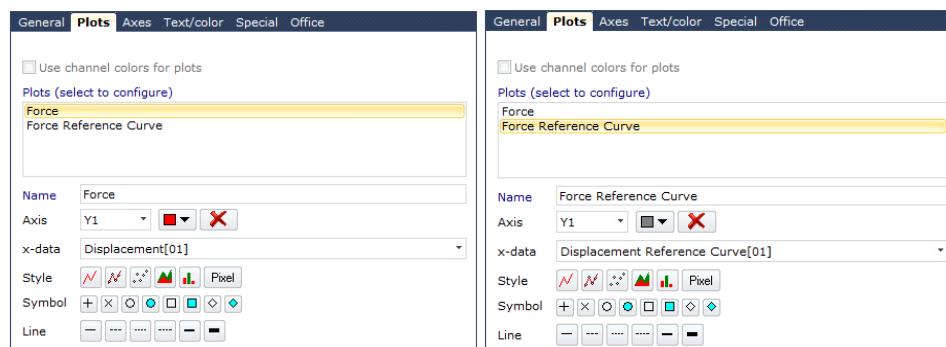
Go to the *DAQ channel Tab* and assign all Displacement signals as X source reference:



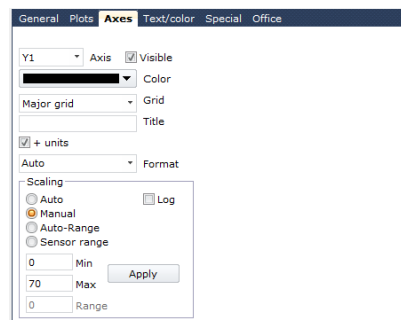
Now go to **Configure: Graph and Plots** tab and map the signals accordingly:

- Live values: *Force* to *Displacement*
- Reference curve: *Force Reference Curve* to *Displacement Reference Curve*

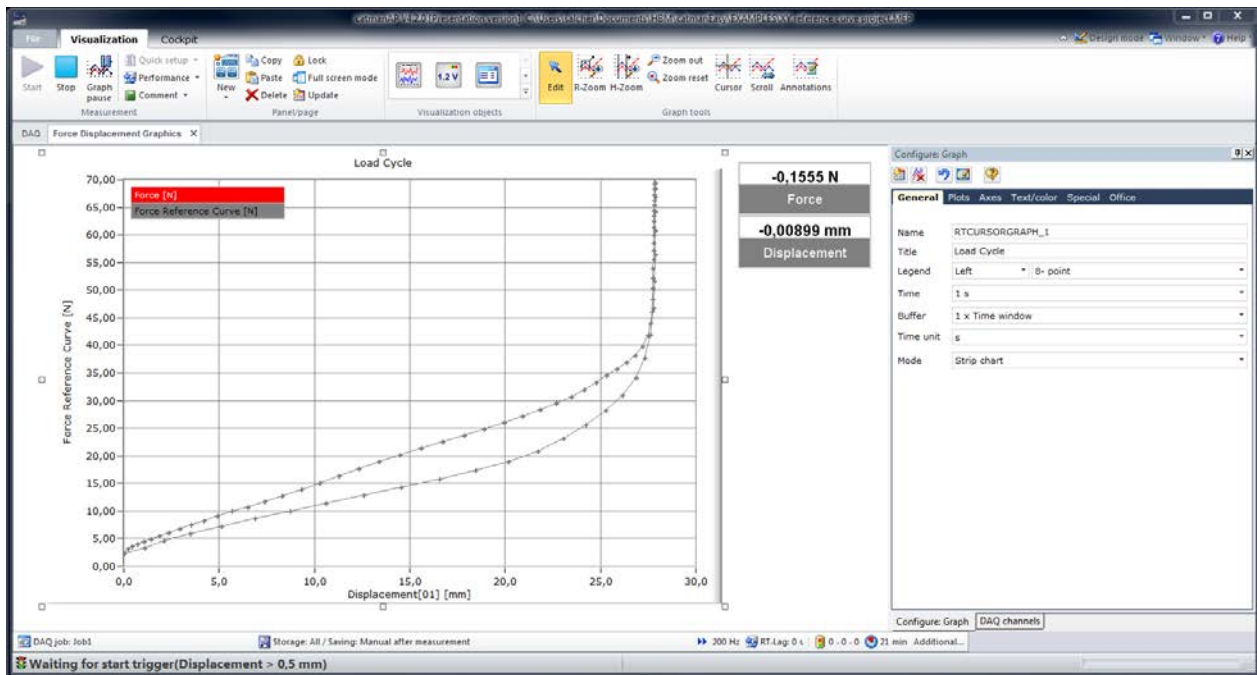
Also select the most fitting style of your reference curve in colour, line style and symbol.



Go to Axes tab and scale x and y axis:

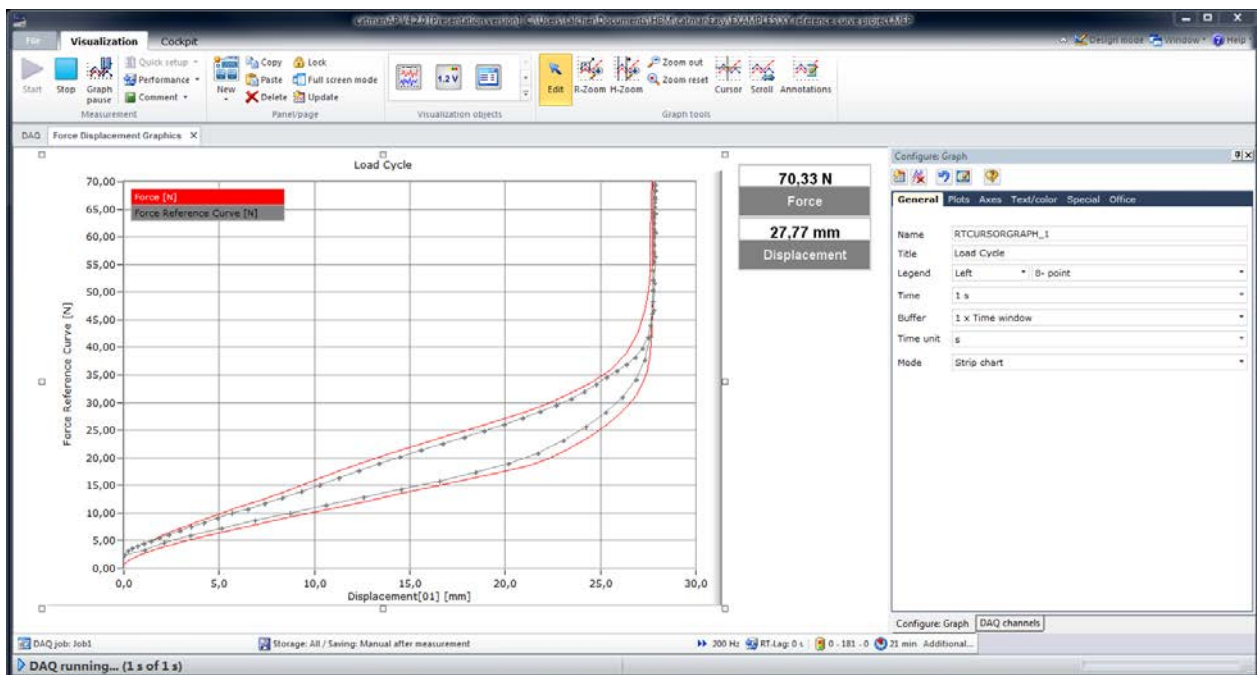


Now start your measurement job and you will see the reference curve in the XY graphics:



You can play around with the time in the **General** tab.

Result: all new cycles are visualized in the graph and on top of the reference curve.



--end

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