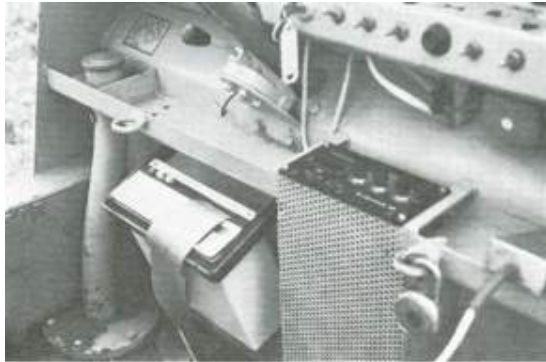


Dynapac Compaction Analyzer and Optimizer

Fredrik Åkesson
Dynapac Sweden

Yesterday



Compaction meter values

>60

>70

After 2 passes



After 4 passes

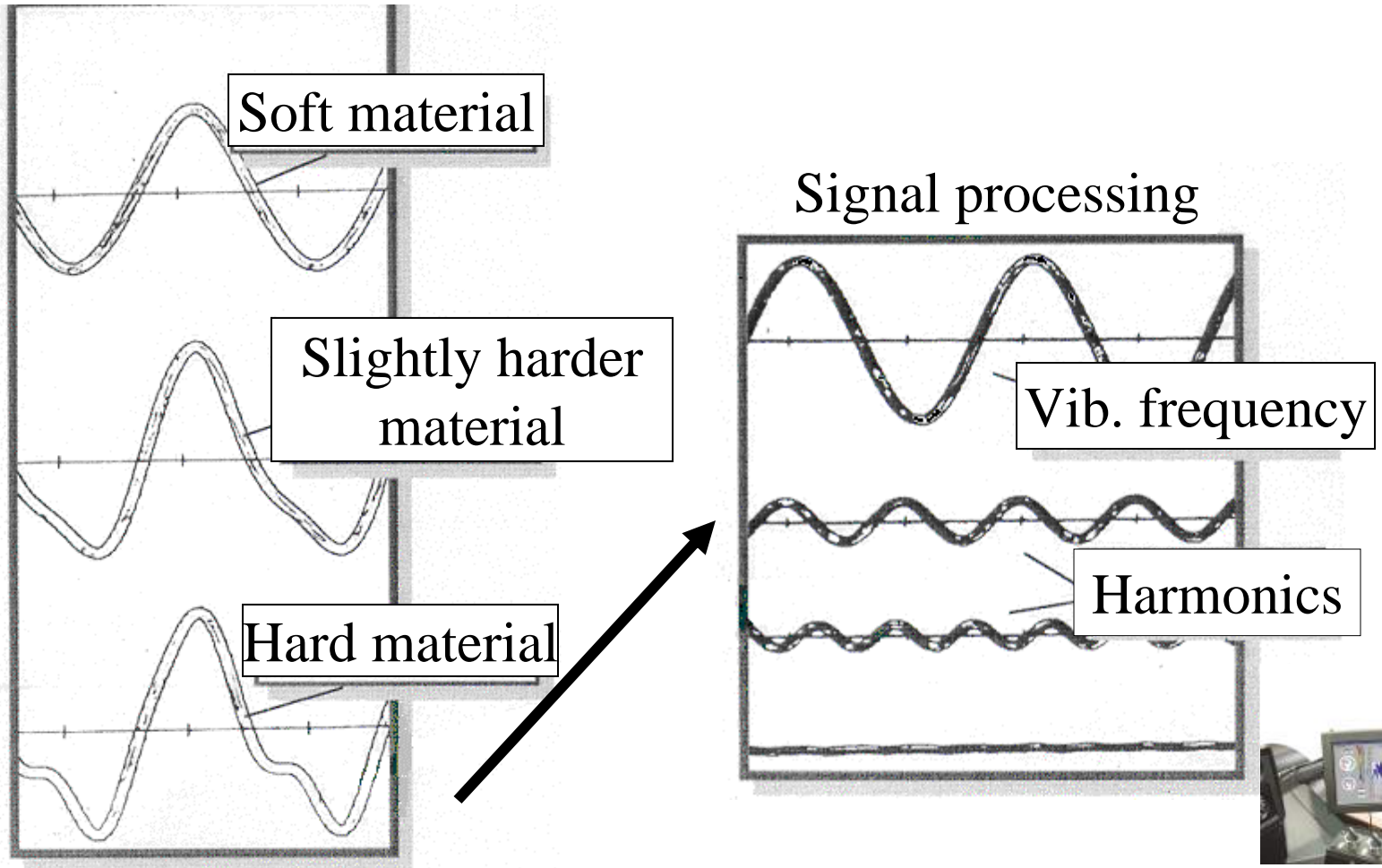


Today

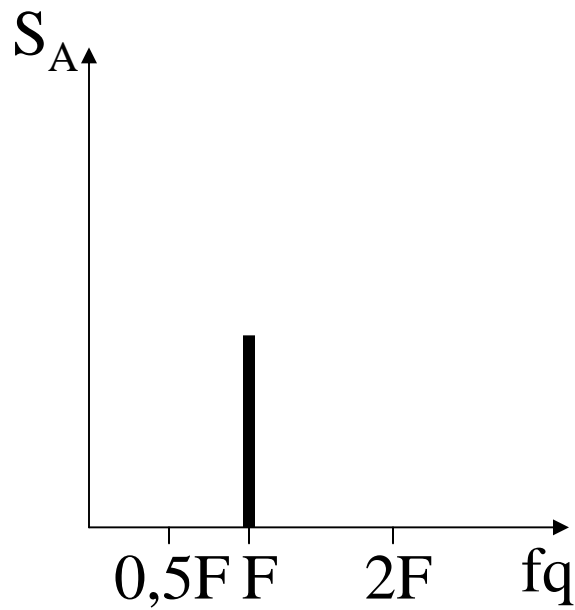
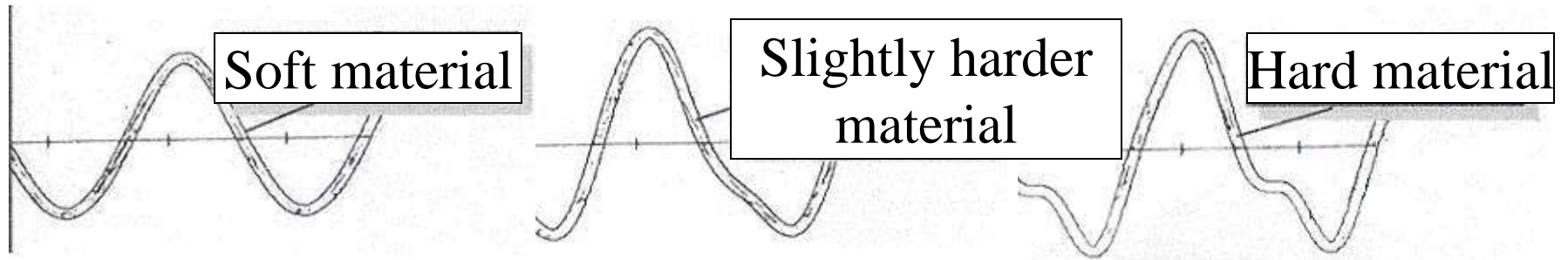


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Compaction Meter-Function

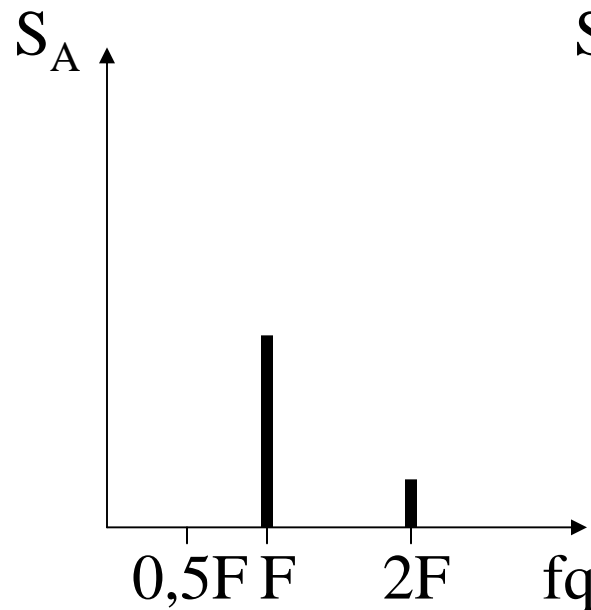


CMV vs. compaction

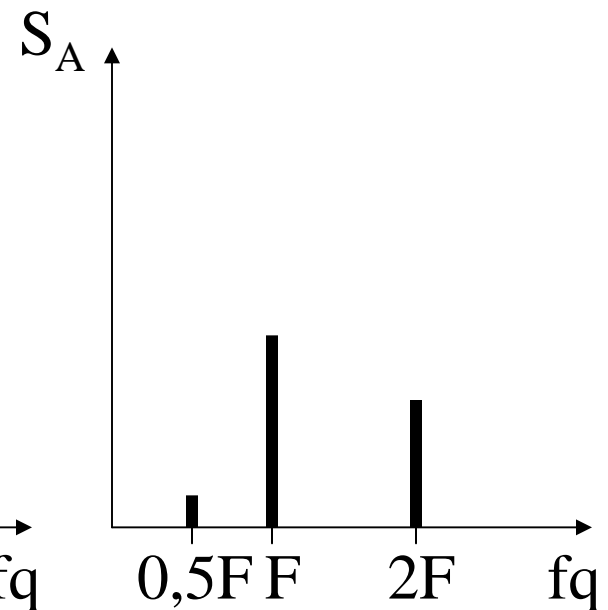


CMV

8



50



150



Expected Compaction Meter Values

Clay and silt	Sand	Gravel	Rock fill
10-30	25-50	30-60	60-100

- **Silt and clay at or just below the optimum water content**



Dynapac Compaction Analyzer-Soil, Features

- **Storage and analysis of compaction meter data**
- **Full-color 12,1” display for operator guidance**
- **Positioning**
 - Relative
 - Absolute (GNSS) (Sub-meter to cm accuracy available)
 - With reference line or without
- **Any local grid available (thanks to built-in transformation)**
- **Adjustable resolution**
- **Calibration module included**
- **Full analysis capability incl. TXT-file export**
- **PDF or paper print-outs**
- **Office and roller versions. Both include simulator mode**



Reference line

DYNAPAC

Info Table Plot Grid setup Import-Export RETURN

Table of reference line elements m mm kg km/h °C

No-	North	East	Section	Start radius	Direction°	Clothoid const	End radius	Length
0	84899,7890	19904,3730	1,2160	0,0000	153,131195	0,0000	0,0000	163,8819
1	84778,3498	20014,4176	165,0979	200,0000	153,131195	0,0000	200,0000	4,3332
2	84775,1076	20017,2922	169,4311	0,0000	154,510498	0,0000	0,0000	6,2555
3	84770,3823	20021,3913	175,6865	800,0000	154,510498	0,0000	800,0000	69,8472
4	84715,6907	20064,8005	245,5337	0,0000	160,068695	0,0000	0,0000	83,0791
5	84648,4256	20113,5606	328,6128	-550,0000	160,068695	0,0000	-550,0000	208,4395
6	84506,5785	20264,5867	537,0523	0,0000	135,942093	0,0000	0,0000	53,8848
7	84477,7470	20310,1093	590,9371	800,0000	135,942093	0,0000	800,0000	84,9011
8	84428,6028	20379,2923	675,8382	0,0000	142,698303	0,0000	0,0000	146,0051

Insert row Edit selection Check table

Delete row

Erase all

Refine start

Refine end

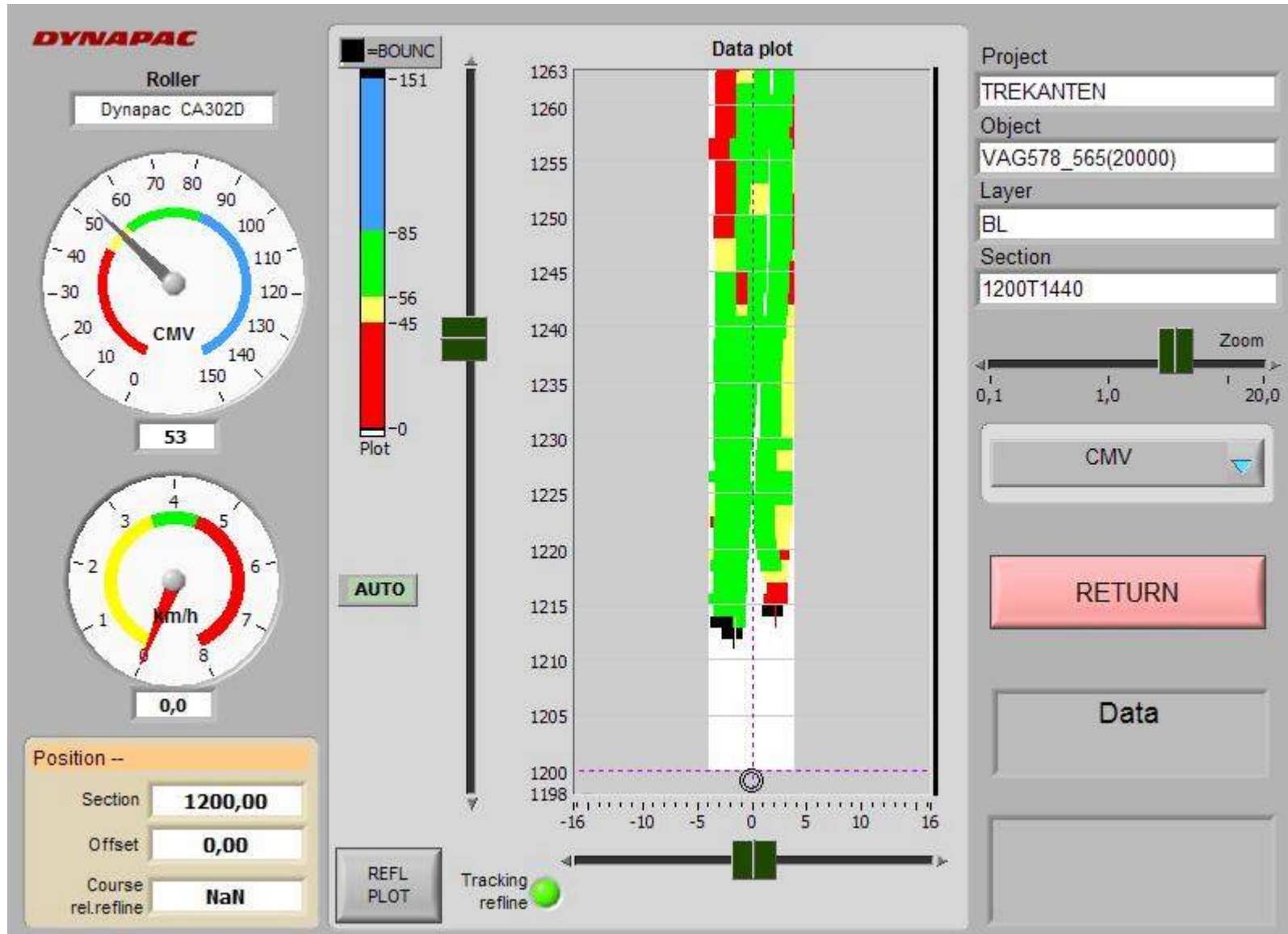
Refine length

Ref line

Section start

Section stop

Production, station and offset



Production, grid coordinates

DYNAPAC

Roller
Dynapac CA302D

CMV: 51

km/h: 0,7

Position cc --
North: 34,27
East: -4,57

Data plot

Plot: -151, -74, -49, -39, -0

Project: FRITEST
Object: E4
Layer: BÄRLAGER
Section: 0-1000

Zoom: 0,1, 1,0, 20,0

CMV

RETURN

Data

START RECORDING

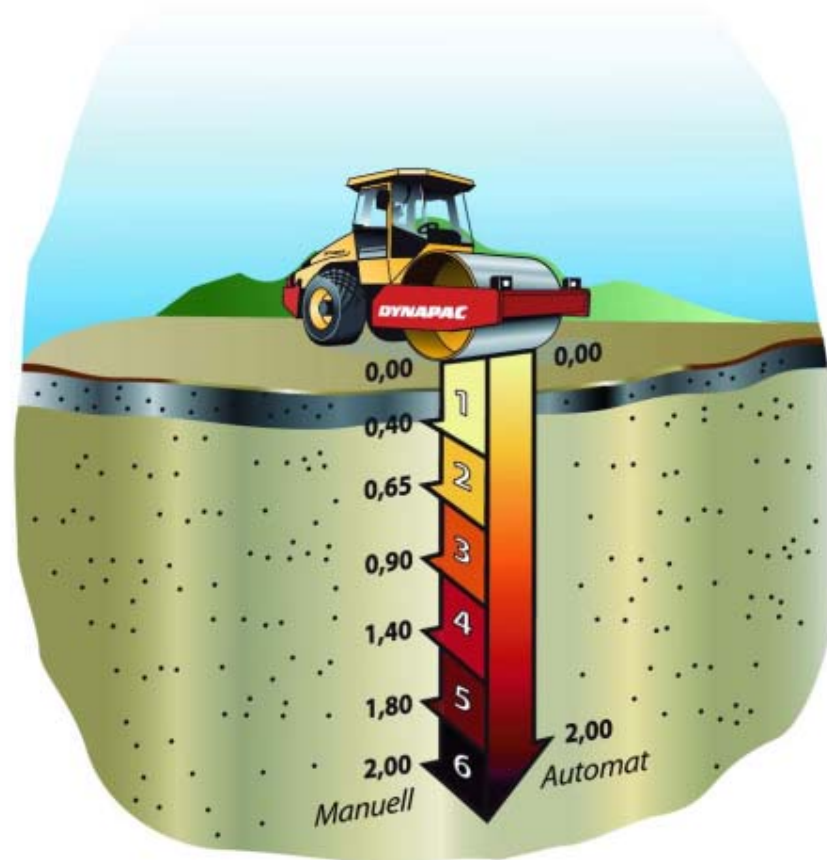
The interface features a central 'Data plot' window displaying a curved path of colored segments (green, yellow, red) representing recorded data. To the left, two circular gauges show 'CMV' (51) and 'km/h' (0,7). Below them, a 'Position cc' section displays 'North' as 34,27 and 'East' as -4,57. A vertical color scale legend is positioned between the gauges and the data plot, with values -151, -74, -49, -39, and -0. On the right, a project information panel lists 'Project: FRITEST', 'Object: E4', 'Layer: BÄRLAGER', and 'Section: 0-1000'. Below this is a 'Zoom' slider set to 20,0, and a 'CMV' dropdown menu. At the bottom right, there are three buttons: 'RETURN', 'Data', and 'START RECORDING'. The Dynapac logo and 'Part of the Atlas Copco Group' text are at the bottom right of the screen.

Analysis



Print-out

Dynapac Compaction Optimizer-Function



- Monitors the ground stiffness and adjusts the amplitude accordingly

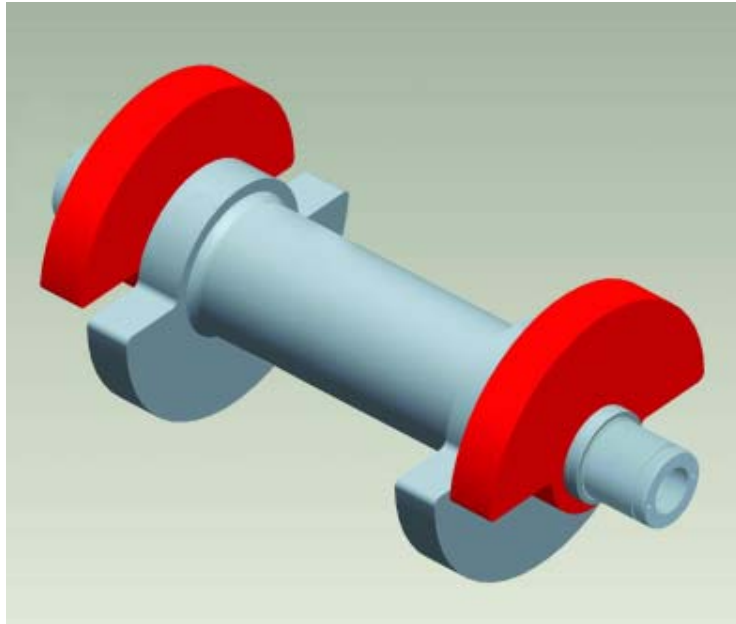
Dynapac Compaction Optimizer-Features

- **0-2 mm (0,079") amplitude**
- **Six manual steps or automatic, stepless adjustment**
- **Fully compatible with DCA**



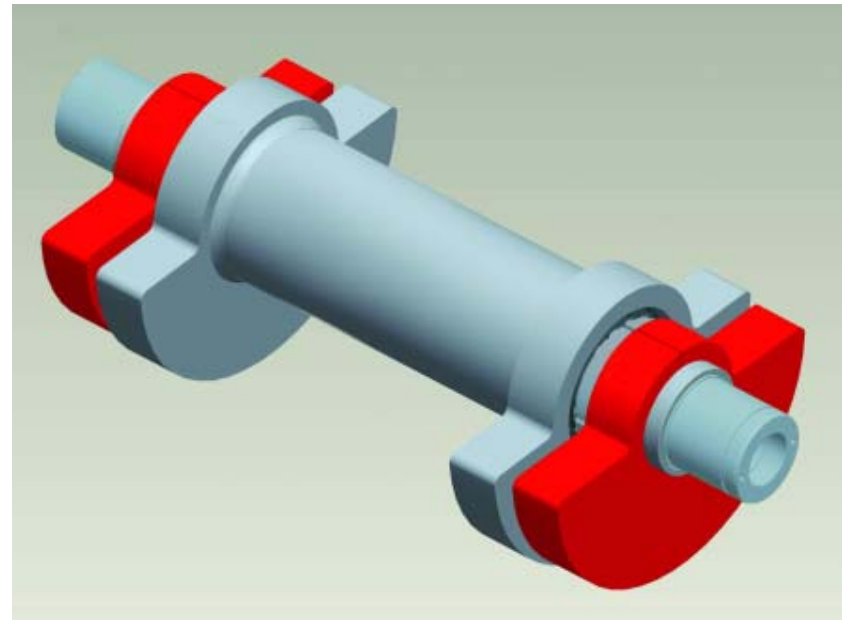
DYNAPAC
Part of the Atlas Copco Group

Eccentrics



- **Zero Amplitude**

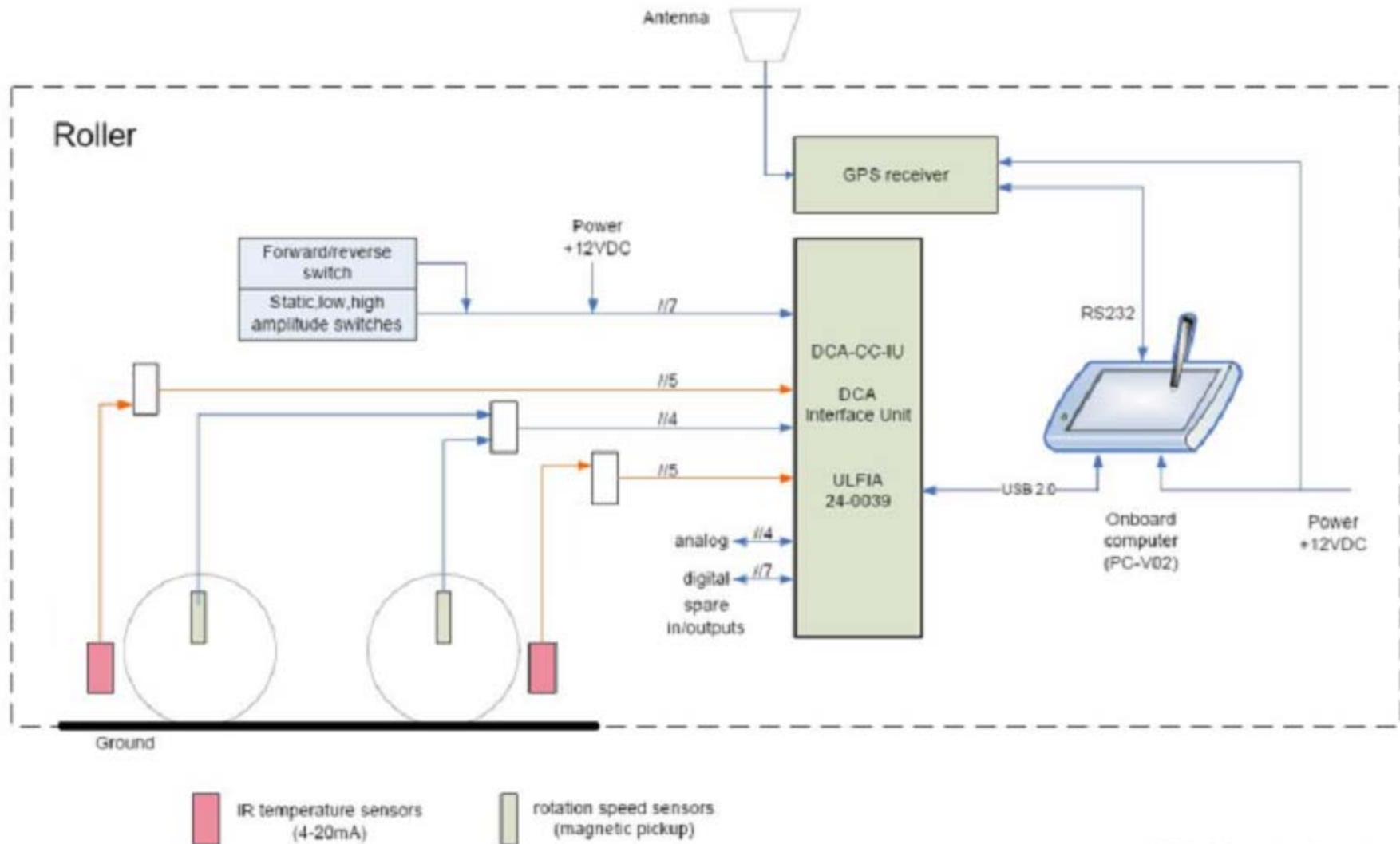
- **Full amplitude**



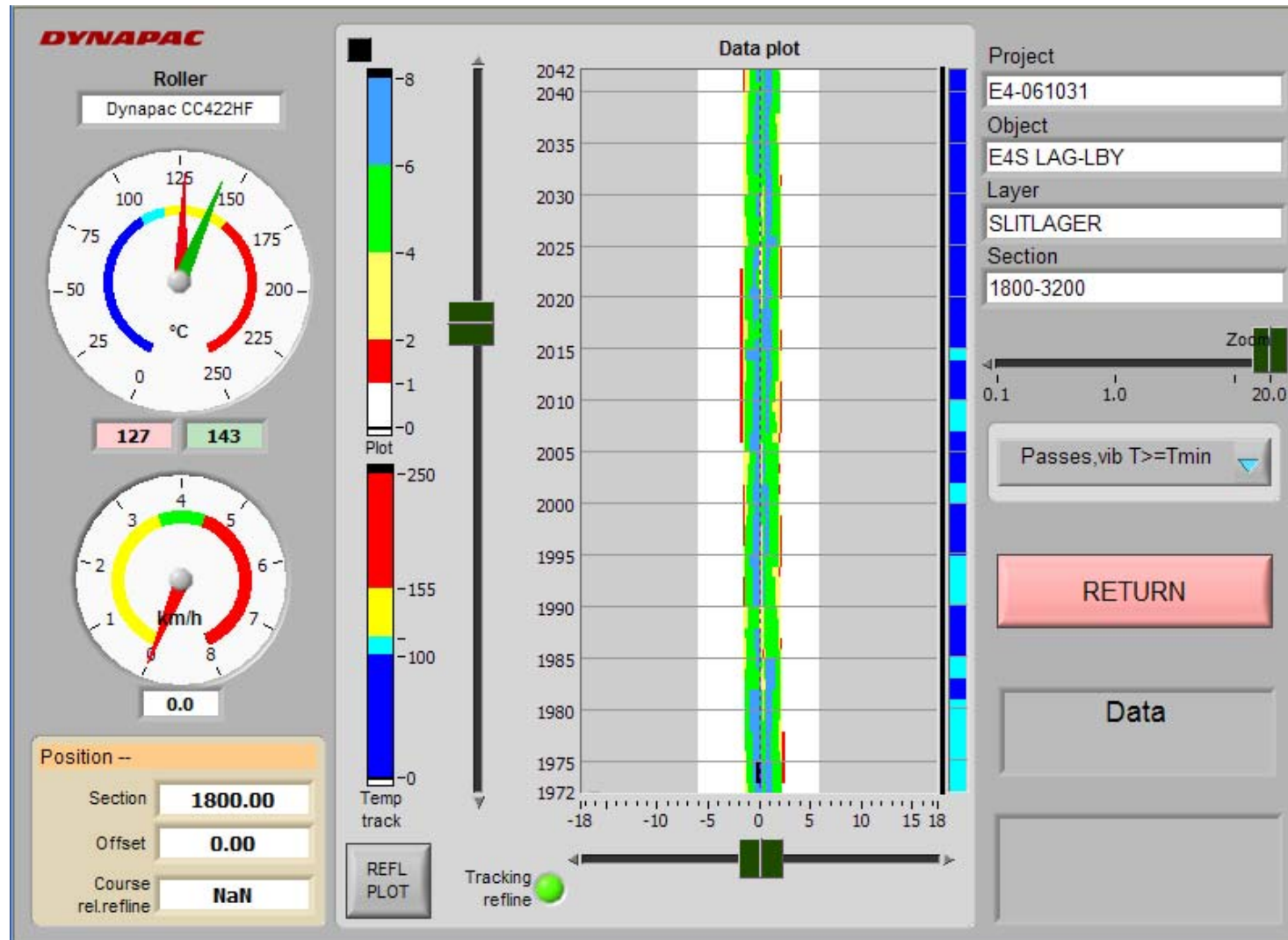
Dynapac Compaction Analyzer-Asphalt, Features

- Register the number of passes (static/vibratory)
- Measure and register the surface temperature (calculate core temperature.)
- Graphic display of the temperature and the number of passes (real time in the roller)
- Documentation of the compaction process
- Background material for the quality analysis
- Support for continuous improvements of the paving process, rolling patterns and overall compaction results

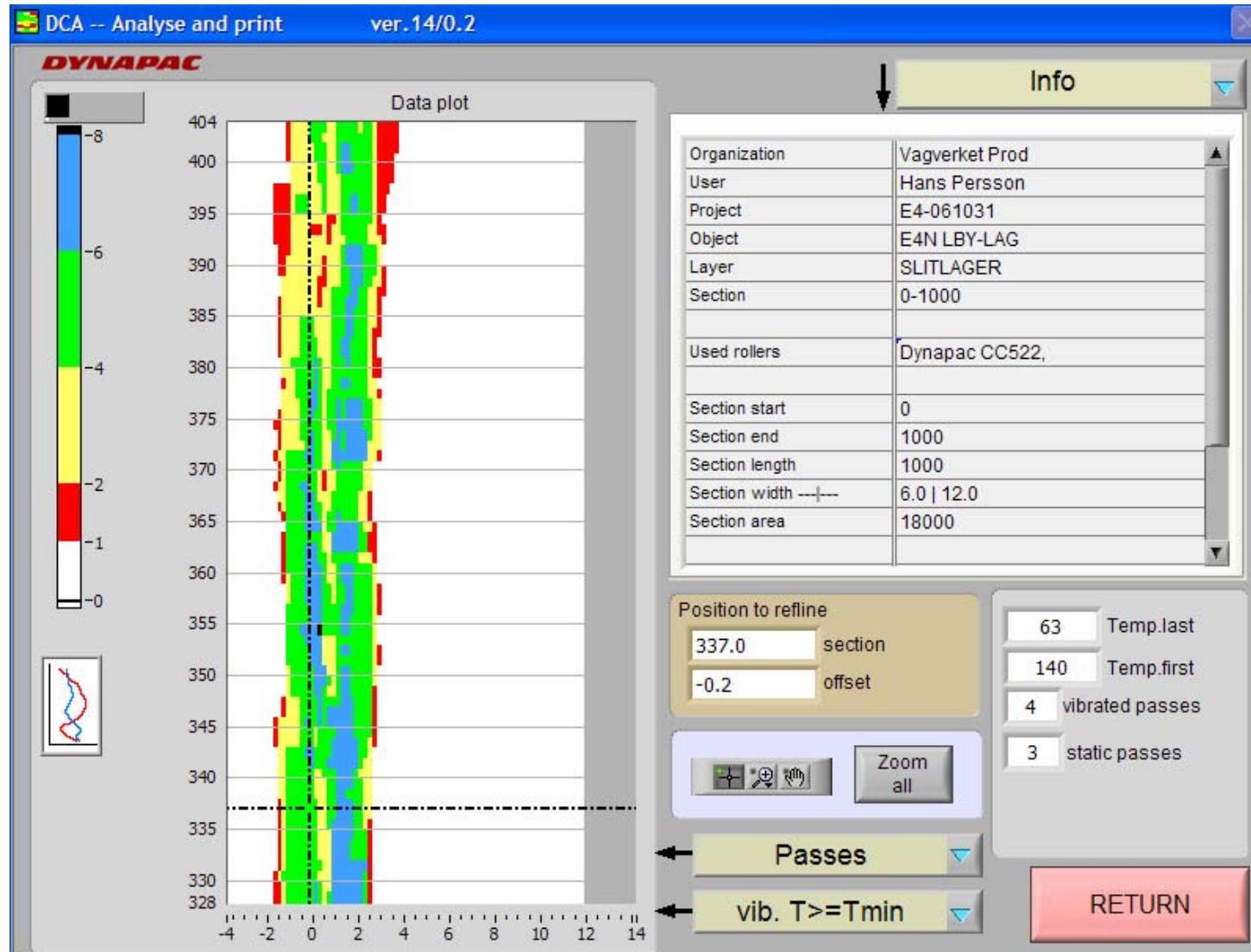
System components



Production mode-Roller screen



Passes in the correct temp range



Summary

- **DCA**

- Provides full operator support in monitoring the compaction process
- Supplies compaction control data with full area coverage for documentation and analysis.
- Full flexibility regarding accuracy and positioning options

- **DCO**

- True amplitude adjustment from 0-0,078”
- Measures and monitors the ground stiffness-Amplitude is adjusted accordingly
- Automatic or manual function available

Summary

- **DCA-A**
 - Provides operator support regarding mat temperature and number of passes made
 - Warning/indication of low temperature
 - Documentation of rolling pattern, process temperature and passes made, excellent tool for process improvement and quality assurance