Smart Balancing

Smart Balancing

Product Summary

Equipment

- Measurement Case
- Measurement Case with two Sensor's

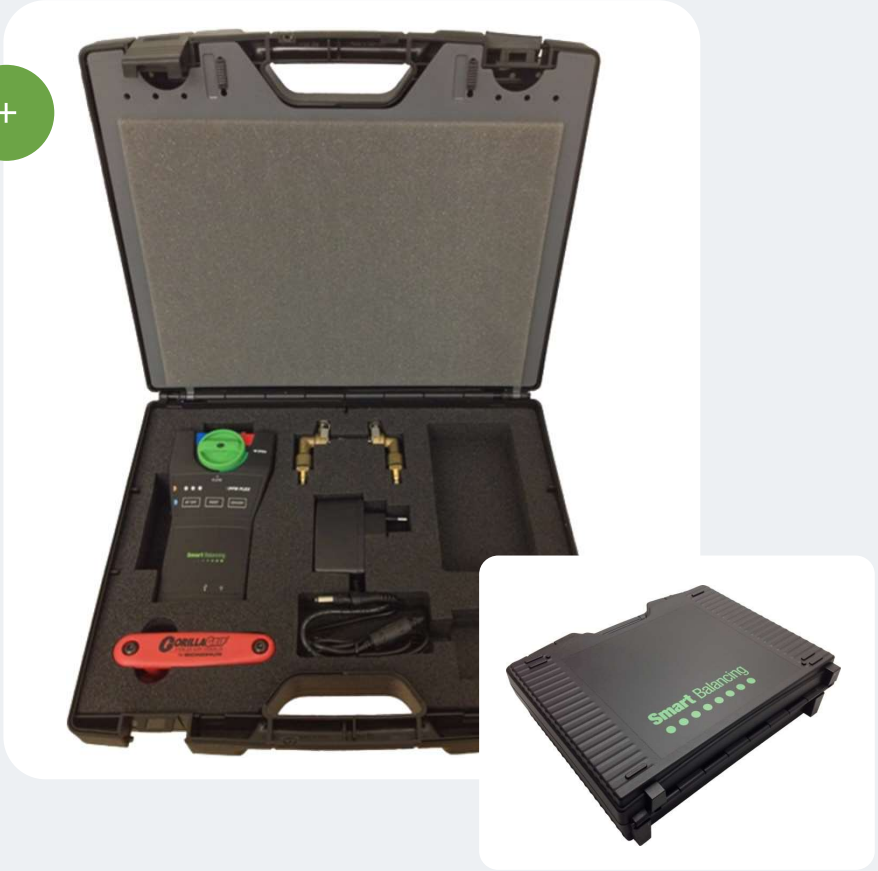
Accessories

- Industrial Smartphone with Android Operative
- DPT - combined DP & Temperature device
- Additional Flex measurement Sensor

Download

- Flex 2 – Basic Balancing Application program for Android Operative
- Flex 4 – Professional Balancing Application program for Android Operative
- Flex 4 – Professional Balancing program for Windows Operative
- PC Suite – Administration program for Windows Operative

Product Summary – Measurement case



A standard Smart Balance case, consists of:

- Carrying case
- Measuring Sensor
- Charger to Sensor
- 2 pcs Measuring hoses.
- 2 pcs Measuring needles

- Allen keys
- Operation Manual
- USB stick with Manual and Balancing programs
- Calibration certificate
- Operation manual

Product Summary – Technical data

Measurement Range

- Differential Pressure: **0-1 000 kPa**
- Static pressure: **<1 000 kPa**
- System Temp: **-30 - +120°C**

Ambient temperature for the instrument

- During operation and charging: **0 – 40°C**
- During storage: **-20°C – 60°C**

Measurement deviation

- Differential Pressure: **<0,1 % of Full Scale (of calibration pressure, 100 kPa)<1 000 kPa**
- Flow: **as for differential pressure + valve deviation**
- Temperature: **<0,2°C**

Battery capacity, operating and charge time Sensor

- Battery Capacity: **7 200mAh**
- Operating Time: **35 hours, continuous duty**
- Charging Time: **6 hours**

- Humidity: **Ambient humidity: max 90 % RH**
- Weight Sensor: **540 gr.** ***Complete Case: 2,8kg***
- Open Space Range: **>200 m.** ***>500 m with antenna (option)***
- IP-class Sensor: **IP65**

Smart Balancing

Product Summary - Accessories

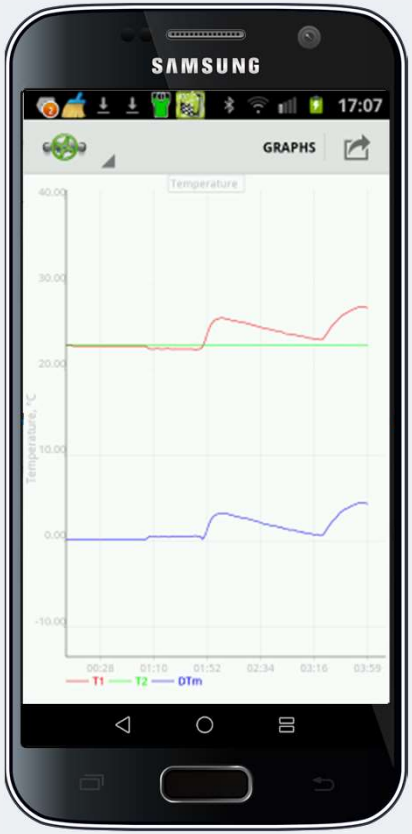
As an option, Smart Balancing supply an Industrial Smartphone, water, chock and dust proof.

A second sensor and a Proportional Balancing method makes commissioning of large systems easier and more straightforward.

Product Summary - accessories

A DPT, combined DP and Temperature measurement device enables two channel temperature measurement.

Presentation of differential temperature, Power capacity and Energy amount within a specific flow.



Product Summary – App's & software

Flex 2 – Basic Balancing Application program,

graphic and numerical presentation, user friendly and easy to understand. Free download at Google Play.

Flex 4 – Professional Balancing Application program,

Project Handling at large commissioning projects, On – Line LOG capability, Power and Energy presentation. Free download at Google Play.

Flex 4 – Professional Balancing Application program

for Windows Operative System.

PC Suite – Balancing administration program

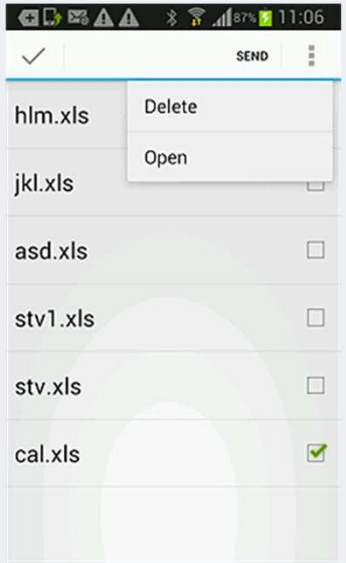
for Windows Operative System.

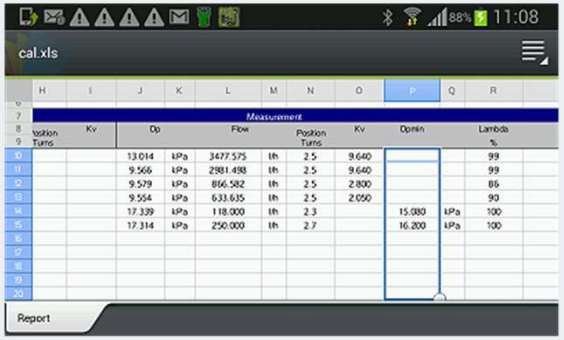
Product Summary – Flex 2

Flex 2 – Basic Balancing Application program for Android Operative

- The Valve library enclose Static and Dynamic valves.
- Measurements are presented numerical & graphical.
- Flow, differential pressure, static/system pressure, two temperature points and one ambient temperature available.
- Design Flow as input variable.
- Lambda – value presentation, measured flow / design flow in %
- Store measurements as Single measurement values, under a common object name or Directly into a Excel balancing Report within the Smartphone/tablet.
- The Direct Report can be edited at the mobile/tablet, shared, emailed or stored at a Cloud function.

The commissioning Direct Report is basically ready when the field operator leaves the site.

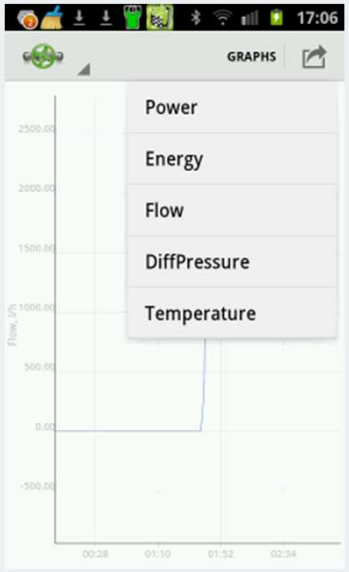


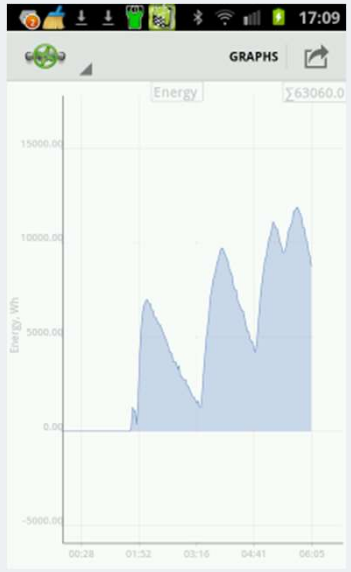


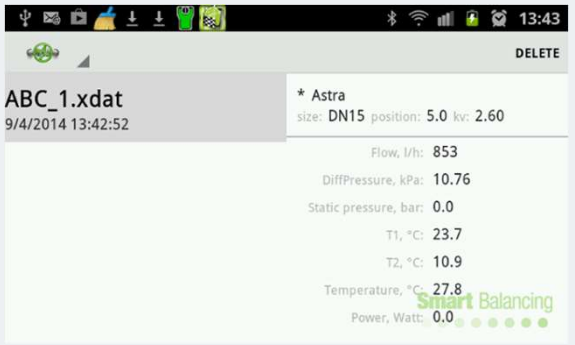
Product Summary – Flex 4

Flex 4 – Professional Balancing Application program for Android Operative.

- Project Handling function for large commissioning projects, On – Line LOG and Graphic display capability, Power and Energy presentation.
- Projects are created at The PC Suite Valve Browser program and then synchronized to the Flex 4 program.
- **Split Screen Multi Window** presentation of the Flex 4 & Flex 2 combination.







Product Summary – Flex 4

Flex 4 – Professional Balancing Application program for Microsoft Windows Operative.

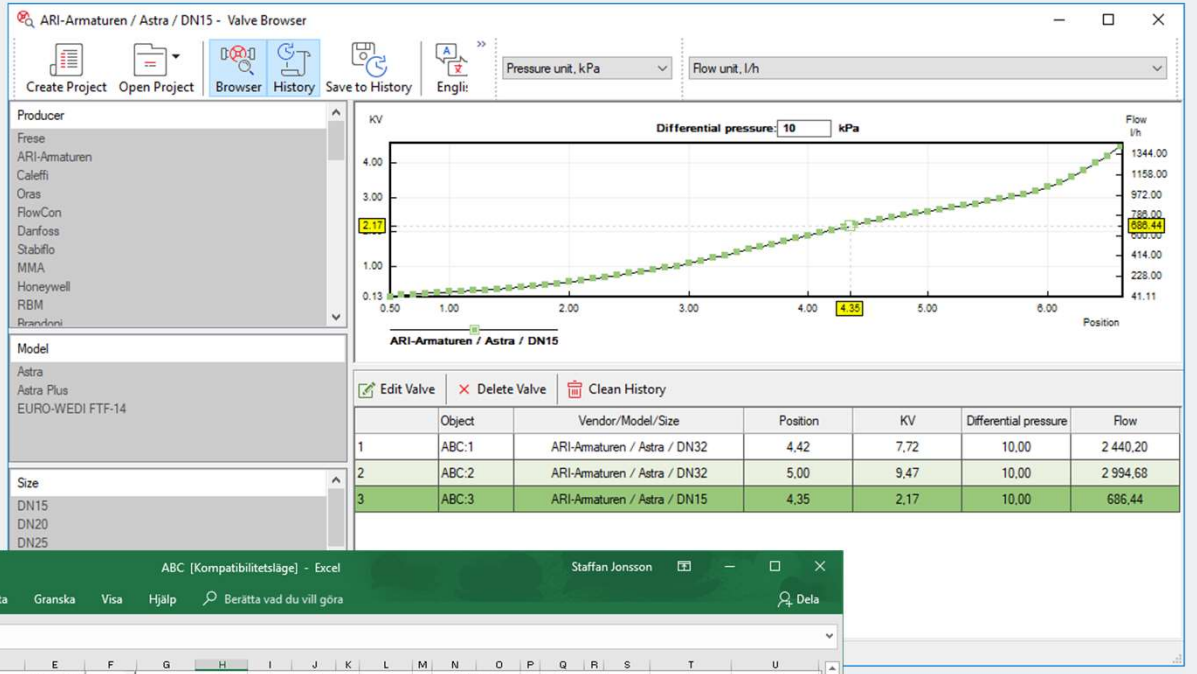
- Include all Flex 4 Android functions, Project Handling at large commissioning projects, On – Line LOG capability, Power and Energy presentation etc.
- **Multi Window** presentation of several sensors, with the sensors operated and displayed at one laptop.
- Projects are created at The PC Suite Valve Browser program and then synchronized to the Flex 4 program.

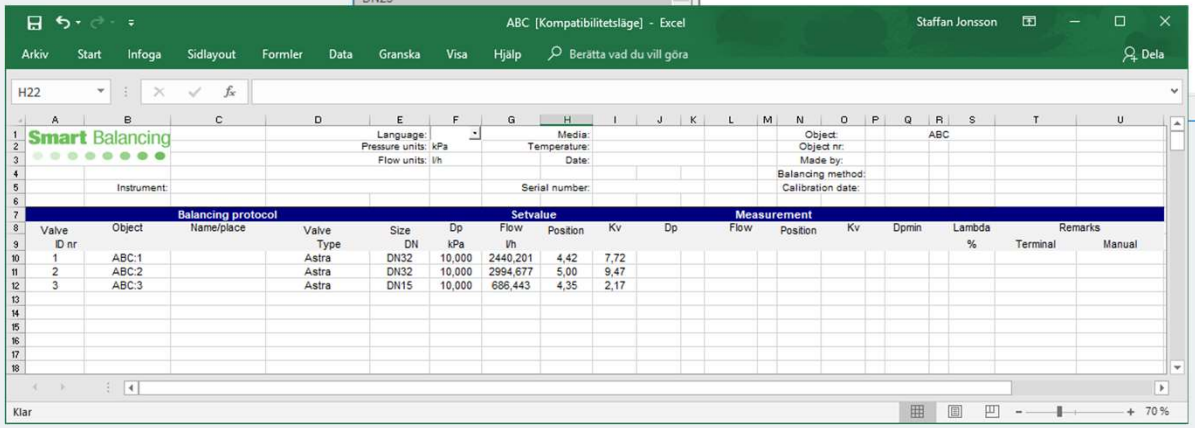
Product Summary – PC Suite Valve Browser

PC Suite – Balancing administration & Project creating program for Windows Operative System.

A Project is created by using the PC Suite Valve Browser program and input data from the project blueprint.

A Excel report template is automatically generated and the finalized Project with valve data and Set values is synchronized to the Flex 4 program at a smartphone/tablet or laptop.



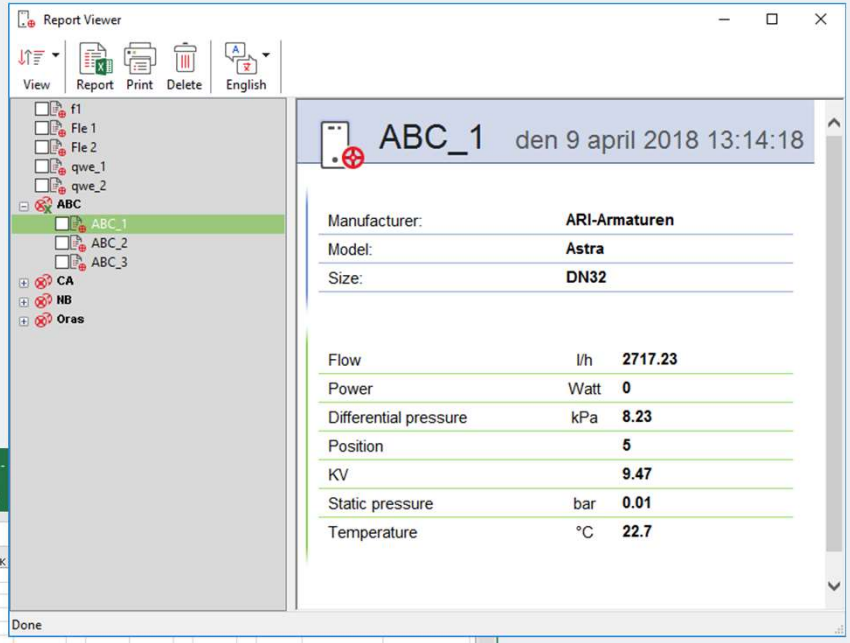


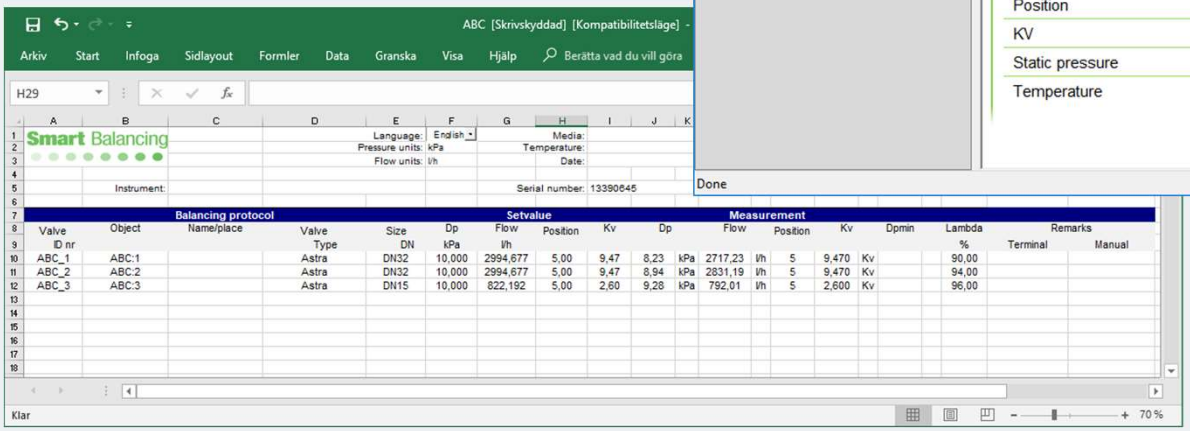
Product Summary – PC Suite Report Viewer

PC Suite – Balancing administration program for Windows Operative System.

Projects, other balancing valve measurements and reports are administrated and presented at the PC Suite Report Viewer program.

The measurement are synchronized back from the Flex 4 program to the PC Suite Report Viewer program and is opened as a complete Excel Commissioning Report.

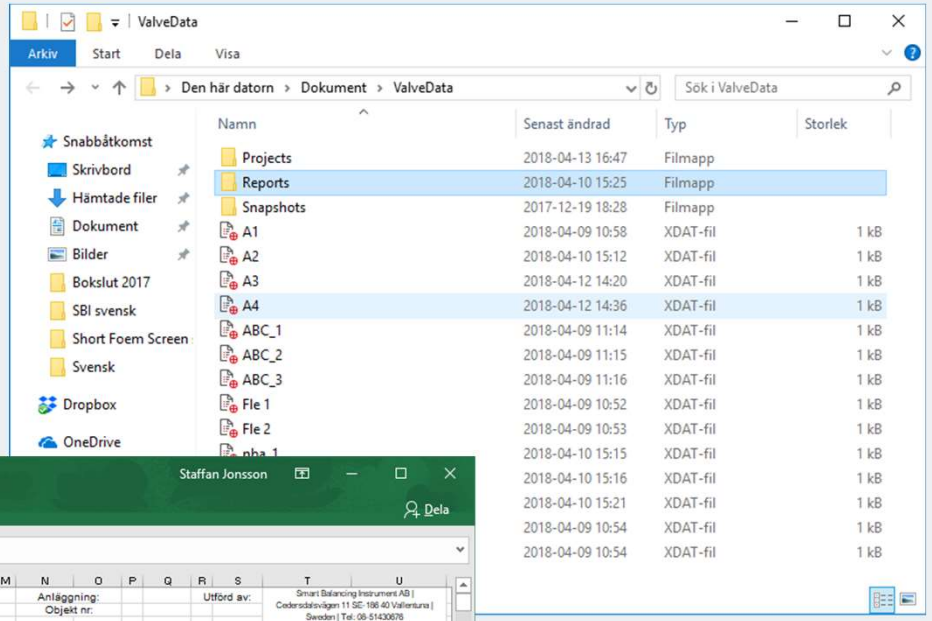


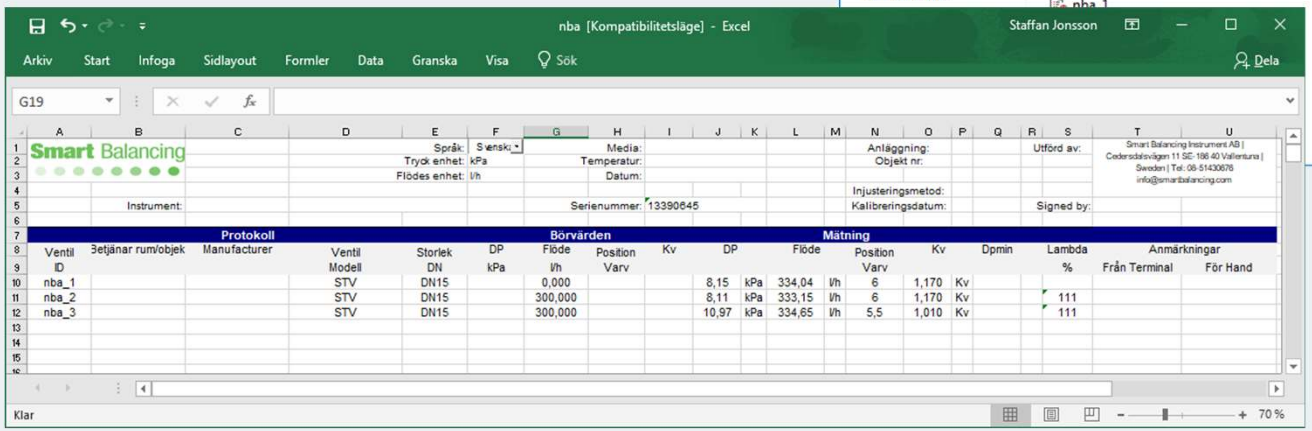


Product Summary – PC Suite Report Viewer

PC Suite – Balancing administration program for Windows Operative System.

Projects, Reports, Snapshots and Measurement storage.

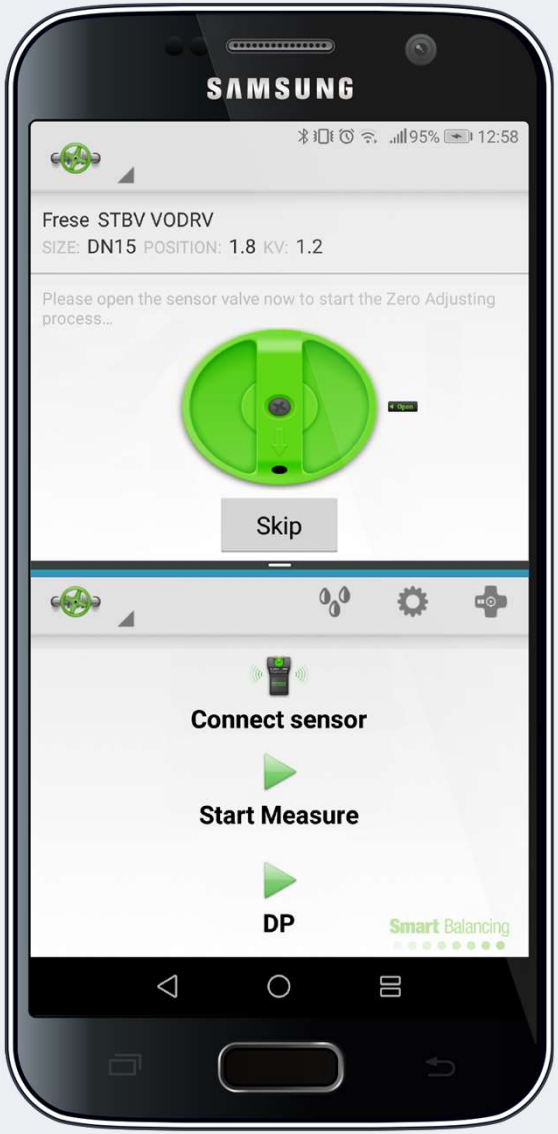




Product Summary – Split Screen & Multi Window

Long Distance & Multi Sensor use

As long as the Sensors are within the Bluetooth range two sensor can be displayed by Split Screen Multi Window at a Smartphone/tablet.



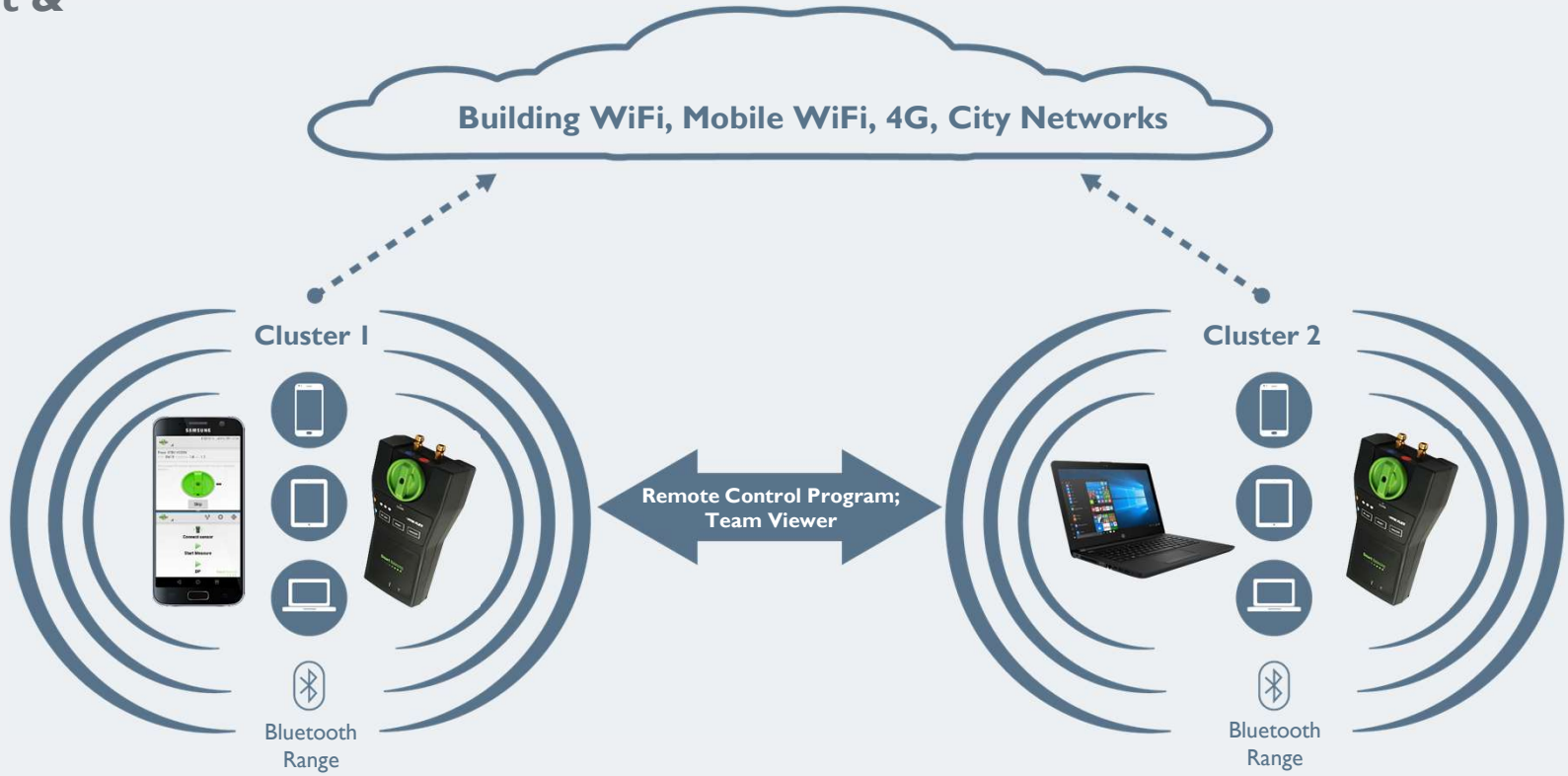
Product Summary – Two Sensor use

Two Sensor measurement & Long Distance Log.

With two terminal devices, smartphone & laptop it's possible to display both balancing valve measurements at the smartphone screen.

Over night Log at a laptop is possible to display at a smartphone over long distance.

The combined DP & Temperature device (DPT) enables Power and Energy survey's, temperature and DT Log's.



Product Summary – Two Sensor Proportional Balancing

Proportional Balancing Method

A two sensor setup and communication over several building levels makes commissioning faster and easier to perform.

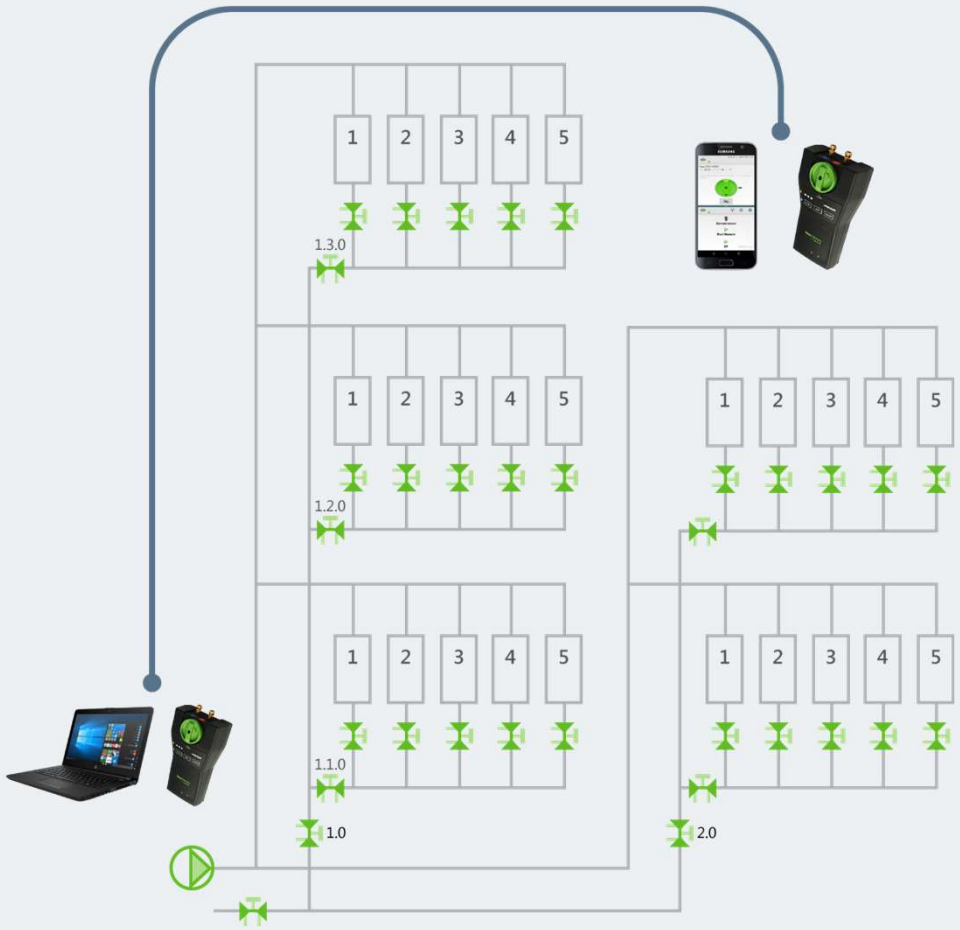
Pre-setting method

The installer sets the flow of the valves based on calculated pre-setting from the engineers. A few test measurements and adjustments are made. The hydraulic behavior of the system always deviates from designed values. Accordingly, this method will not give an optimal result.

Proportional method

All correctly working methods to balancing a system are based on the Proportional Method. All terminal units, branches and risers are balanced to the same proportion, or ratio, of designed flow. When the total flow is adjusted at the pump, all units will have the correct flow.

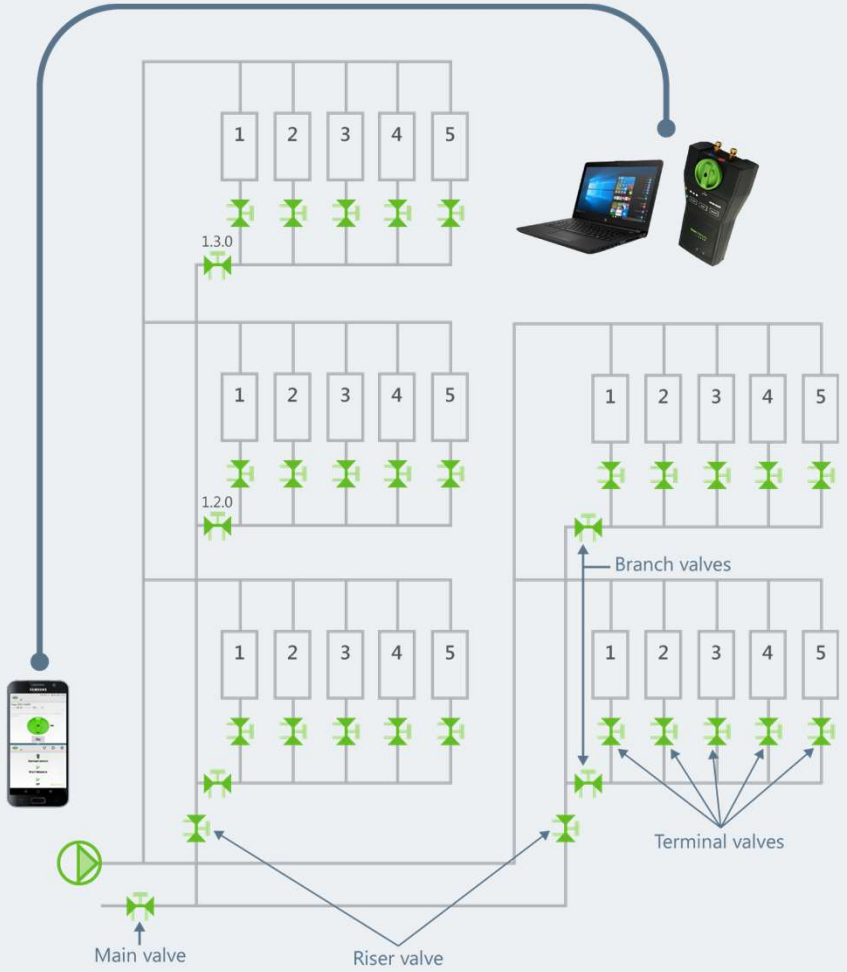
Flow system principal drawing



Product Summary – Long Distance Log

Over night Log at a laptop is possible to display at a smartphone over long distance.

The combined DP & Temperature device (DPT) enables Power and Energy survey's, temperature and DT Log's.



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