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IMI TA

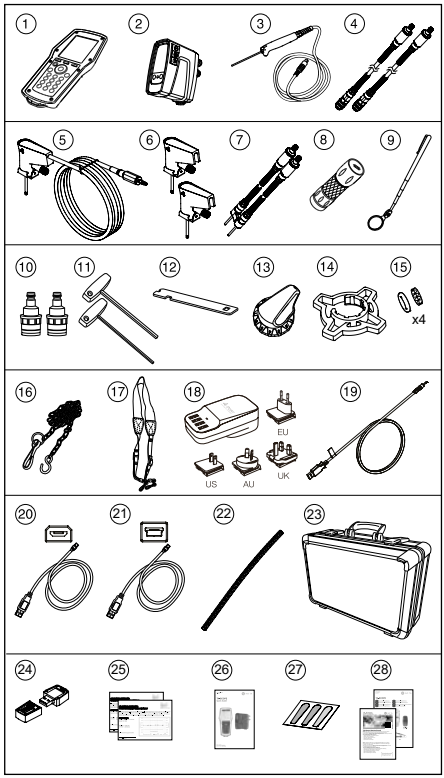
TA-SCOPE
Quick Guide

IMI Hydronic Engineering

Welcome to your new TA-SCOPE

Instrument and measuring equipment

1 Handheld unit (Hh)
2 Dp Sensor unit (DpS-Visio)
3 Digital Temperature Sensor (DTS)
4 Measuring hoses, 500 mm, red/blue
5 Safety pressure and temperature probe (SPTP)
6 Safety pressure probes (SPP)
7 Measuring hoses with twin needle, 150 mm
8 Flashlight
9 Mirror
10 Chucks for older valves, red/blue
11 Allen Keys 3 mm/5 mm
12 Spanner for measuring points on older valves
13 Presetting tool TBV-C,-CM, (-CMP)
14 Grip tool for setting wheel TA-COMPACT-P/-DP and TA-Modulator (DN 15-32)
15 Spare filters and O-rings for hoses (4 pcs)
16 Chain for mounting
17 Neckstrap
18 Multi-charger for Handheld and Dp Sensor(s) (EU, UK, US, AU/NZ)
19 USB cable for charging; Hh - Multi-charger
20 USB cable for connection/charging; Hh - DpS-Visio / PC - DpS-Visio / DpS-Visio - Multi-charger
21 USB cable for connection; Hh - PC
22 Cable wrapping
23 Case
24 USB stick with manual and HySelect software
25 Calibration certificates for DpS-Visio, DTS and SPTP
26 Quick Guide
27 SPTP/SPP stickers
28 TA-SCOPE Portal/ uarantee/Service/ Calibration form



CAUTION! Read the user manual before using the product.

Handheld

The display is divided into three areas, the Information bar, the Main display and the Function keys.

Information bar

Icons on the Information bar display details of battery status, connection type and intensity.

	Battery status bar
	Charging of battery
	Battery symbol
	Handheld
	Dp sensor DpS-Visio
	Dp sensor (older version)
	Wireless communication
	Intensity of wireless signal
	Wireless signal set to Off
	Connection by cable

Main display

Instructions on how to carry out hydronic functions are shown on the Main display.

Function keys

The three top keys on the keypad are used for selecting options shown in the lower part of the Main display. The options vary depending on which menu is currently shown.

—	Function key *Options depend on text in display*
	On/Off
	Flow adjustment (Computer method) *Short cut button*
	Return/Escape
	Enter
	Navigation up/down
	Navigation right/left
2 ABC	Alphanumeric *0-9, A-Z plus symbols*

Keypad

The keypad has alphanumeric keys. Select a letter by repeatedly pressing the key until the desired letter appears. Prolonged press enters a digit.

Press function key “**Language**” to select desired language.

DpS-Visio

The display is divided into three areas, the Information bar, the Main display and the Function keys.

> **!** **Note!** Never leave water in the Dp sensor unit when risk of freezing exists (i.e., in the car during winter).

LED for battery status

Information bar

Icons on the Information bar display details of battery status, connection type and intensity.

Main display

Shows status and measurement, see pages 5, 6 and 8.

Function keys

Arrow button
- Press button to start measurement or change settings

On/Off button
- Long press for switching unit on or off
- Short press for display on or off

Navigate button
- Jump between menus

Connections for cables

Handheld connections
1 Charger
2 USB to PC
3 Temperature probe (SPTP or DTS)
4 USB to Dp Sensor

DpS-Visio connections
1 Temperature probe 1 (SPTP or DTS)
2 Temperature probe 2 (SPTP or DTS)
3 Charger and USB to Handheld

DpS-Visio – Main screen sequences

Navigate button
Short press: Browse between menus described here
Long press: Entering setting menu (see page 6)

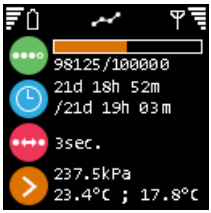
Home

DpS-Visio type (5 or 10 bar)

Software version number

Battery level

Logging progress (Replaced by when a logging is waiting to start)



Logging

Logging progress (Replaced by when a logging is waiting to start)

Progress in time / Total logging time

Time-step

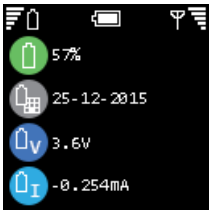
Last logged values

Info

Software version number

Wireless software version number

Serial number



Battery

Battery level

Battery installation date

Battery voltage

Battery current (+ when charging)

Calibration

Dp range

Date of last factory calibration

Date of next recommended factory calibration

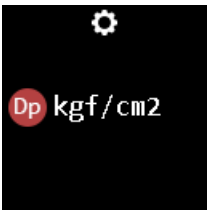
DpS-Visio – Settings menu

In the settings menu, customised adjustments of the DpS-Visio and information representation are managed.

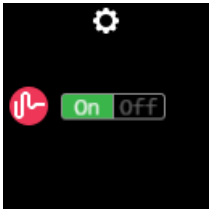
Long press to open settings menu
Long press to close settings menu
Short press - jump to next screen

Arrow button to change settings

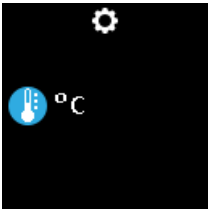
Settings are open



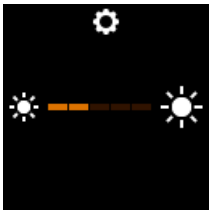
Change Dp measuring unit



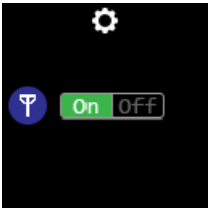
Toggle Dp filtering on/off



Change temperature unit



Change display brightness level



Toggle radio on/off

Change time to display auto off

Long press to close settings menu

Quick measure – Handheld + DpS-Visio

Measure flow

Warning! Beware of hot fluid in the valve. Always follow the sequence described in the manual when connecting and disconnecting the measuring equipment.

Warning! The surface on the Dp sensor unit can be hot while measuring on hot media. Always use suitable safety equipment.

Water temperature over 52°C (125°F) can cause severe burns instantly or death from scalds. Always consider the risks of injury from hot water before starting any measurement on a heating system and follow relevant local legislation, regulations, standards and good industry practice for working with pressurised hot water systems. Always use appropriate personal safety equipment when working on a heating system. Examples of appropriate safety equipment include (but are not limited to) a face shield, heat resistant rubber gloves and boots and a long sleeved apron (long enough to cover the tops of the boots). Always wear your boots inside your trouser legs to prevent/minimise any hot water flowing into your boots. IMI Hydronic Engineering will not take any responsibility for injury howsoever caused by hot water during measurement.

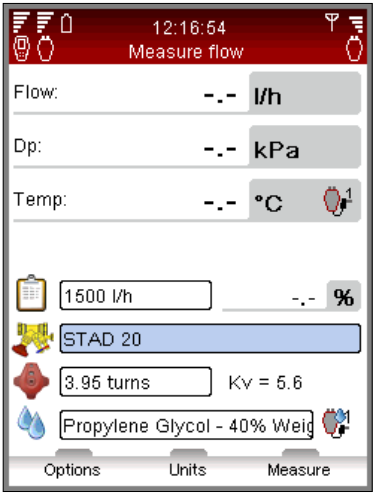
1. Turn the handheld (Hh) and the Dp sensor (DpS-Visio) on.

2. Connect measuring equipment.

3. Hh: Navigate to **Quick Measure** in the main menu and press enter.

4. Hh: Navigate to **Measure Flow** and press enter.

5.



5:1 Input the given Design Flow for the terminal.
5:2 Define valve.
5:3 Input Valve Opening.
5:4 Define fluid.

6. Hh: Press function key **Measure** to start measuring.
(The DpS-Visio will automatically calibrate and then go to measuring mode.)

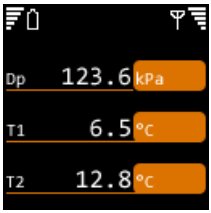
Quick measure – DpS-Visio

Measure differential pressure and temperature

Short press or long* press

Double press

By-pass valve opening

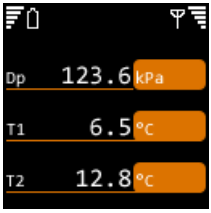


Measurement without flushing and calibration

Flushing and calibration

By-pass valve closing

Brings back to main screen sequence



Measurement

*) Keeping  pressed from the start keeps the calibration sequence in flushing phase. Flushing phase is ended by releasing 

PC communication

Transfer of data

HySelect software is available on the USB stick. Connect TA-SCOPE to your PC to transfer data, e.g., hydronic networks and collected system information to and from the HySelect software.

Use the USB-cable to connect the Handheld to a PC and the HySelect software will automatically connect to TA-SCOPE. Simply follow the instructions on the PC.

Software upgrade

When a new version of the TA-SCOPE software is available, HySelect will automatically suggest an upgrade. Simply connect your TA-SCOPE and follow the instructions on the PC.

Care and storage recommendations

- TA-SCOPE can be cleansed with a damped cloth and a lenient cleaning-agent.
- Change filter in the hoses regulary.
- Never leave water in the Dp Sensor when risk of freezing exists (i.e., in a car during winter)!
- Do not expose to extreme temperatures, the battery may explode if disposed of in fire.
- Storage above 60° C is not allowed.
- Other usage than specified in this manual may cause damage to the unit or user.

Warning! Do not open the instrument. This can damage the instrument and void your guarantee! See user manual for further information.

Calibration/Service

The instrument (Dp sensors, temperature sensors) has been calibrated before delivery. IMI Hydronic Engineering recommend a yearly calibration and service. (See Guarantee/Calibration/Service form).

Contact your local sales office for more information.

Batteries

Capacity and charging

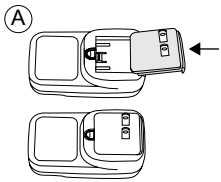
Upon delivery the TA-SCOPE is partly charged and prepared to start balancing immediately. The Information bar on the Handheld displays the battery status for both Handheld and DpS-Visio whenever communication is established.

The Handheld and Dp sensor(s) can be charged at the same time through the multi-charger. The TA-SCOPE is delivered with one multi-charger and 2 charging cables.

Handheld is charged with a special charging cable. DpS-Visio with the same cable as used for communication with handheld (Hh) and PC.

Charging – Operation instruction

(Choose the correct plug (fig A).)



1. Connect the multi-charger to the wall socket. Wait for the indicator to show green colour.

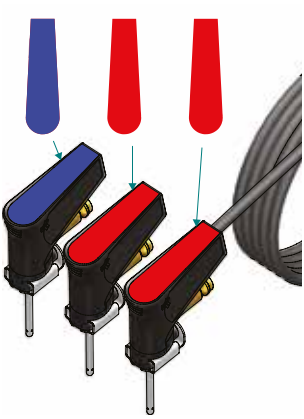
2. Plug the device(s) into the USB port(s).

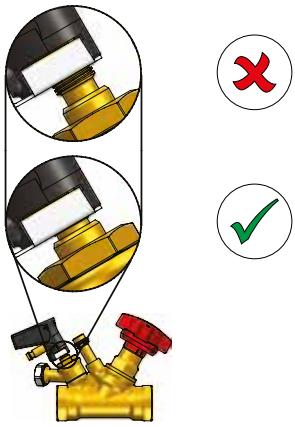
Warning! The supplied multi-charger from IMI Hydronic Engineering must be used!

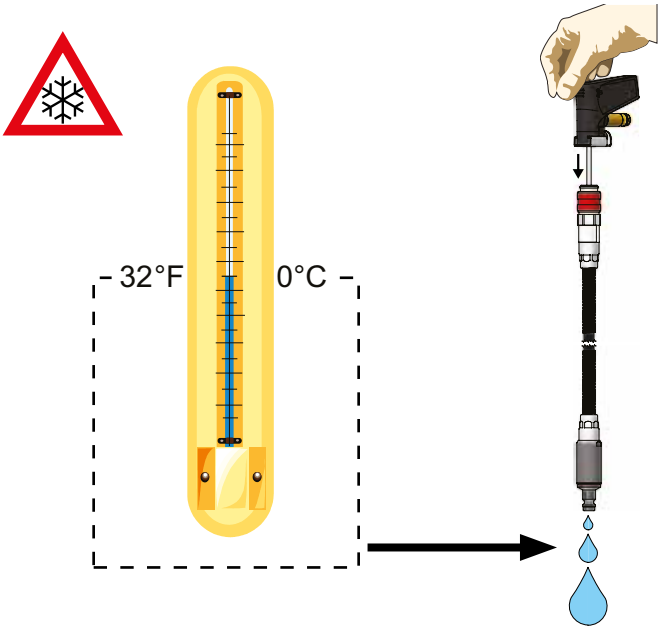
CAUTION! (Multi-charger)

1. Do not bend the blade or pins of the plug.
2. If there are any strange sound, smoke or odor, pull of the cable(s) immediately.
3. Do not disassemble. (it may cause fire or electric shock).
4. Do not put any sharp objects into the venting hole. (it may cause fire or electric shock).
5. Ensure to plug the multi-charger firmly.
6. Ensure not to use damaged cable(s). (it may cause fire or electric shock).
7. Ensure not to place the multi-charger on a bed, bag or inside a closet that is not good for ventilation.
8. Always wipe off the multi-charger with a soft fabric, not water mop. (water may cause electric shock).
9. Keep the power plug and outlet clean. (dirt may cause a short circuit and fire).
10. Keep the product out of reach of children.

SPP/SPTP







Technical specification

Measurement range

Total pressure

-TA-SCOPE ..... max. 1600 kPa
-TA-SCOPE HP ..... max. 2500 kPa

Differential pressure

-TA-SCOPE ..... 0 - 500 kPa
-TA-SCOPE HP ..... 0 - 1000 kPa

Recommended pressure range during flow measurements

-TA-SCOPE ..... 1 - 500 kPa
-TA-SCOPE HP ..... 3 - 1000 kPa
Temperature liquid medium measurement ..... -20 - +120°C

Measurement deviation

Differential pressure

– TA-SCOPE ..... 0.1 kPa or 1% of reading, whichever is the highest
– TA-SCOPE HP ..... 0.2 kPa or 1% of reading, whichever is the highest
Flow ..... as for differential pressure + valve deviation
Temperature ..... <0.2°C

Ambient temperature

During operation ..... 0 - +40°C
During charging ..... 0 - +40°C
During storage *..... -20 - +60°C

**) Do not leave water in the sensor when there is a risk of freezing*

Humidity

Ambient humidity ..... max. 90%RH

Sealing

Handheld unit (in wireless mode) ..... IP 64
Dp sensor unit DpS-Visio (in wireless mode) ..... IP 64
Safety pressure and temperature probe ..... IP 65
Digital temperature sensor ..... IP 65

IP6X = dust tight
IPX4 = protected against splashing water
IPX5 = protected against water jets

Multi-charger

Input voltage ..... 100-240 VAC
Input frequency ..... 50-60 Hz
Output voltage ..... 5 VDC
Output current ..... 6800 mA
Connectors ..... EU, UK, US, AU/NZ

Technical specifiactions valid at an altitude of max. 2000 m.

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IMI Hydronic Engineering

www.imi-hydronic.com