

TA-SCOPE



Instruments

Balancing instrument

Engineering
GREAT Solutions

TA-SCOPE

TA-SCOPE is a tough, effective balancing instrument for measuring and documenting of differential pressure, flow, temperature and power in hydronic systems. Robust, accurate and easy-to-use, TA-SCOPE delivers quicker, more cost-efficient balancing and enables rapid troubleshooting. TA-SCOPE links effortlessly to the HySelect PC software gaining the maximum benefit from recorded data and enabling professional report writing and automatic software upgrades.

Key features

- > **User-friendly design**
Ergonomic and custom designed user-interface ensures easy and more comfortable balancing.
- > **Wireless communication**
For reliable balancing, a fully charged TA-SCOPE provides three days of power-efficient wireless performance.
- > **Interactive software**
Step by step software wizards for measuring, balancing and trouble shooting ensure a fast commissioning process.
- > **DpS-Visio**
The Dp Sensor has an OLED display for showing Dp measurement, temperature and status. It also has an automatic flushing and calibration function.



Technical description

Functions:

TA-SCOPE is a balancing instrument for measuring and documenting of differential pressure (Δp), flow, temperature and power in hydronic systems.

Measurement range:

Total pressure:
TA-SCOPE max. 1 600 kPa
TA-SCOPE HP max. 2 500 kPa
Differential pressure:
TA-SCOPE 0 - 500 kPa
TA-SCOPE HP 0 - 1 000 kPa
Recommended pressure range during flow measurements:
TA-SCOPE 1 - 500 kPa
TA-SCOPE HP 3 - 1 000 kPa

Temperature liquid medium measurement:

-20°C – +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

Battery capacity, operating and charge times:

Handheld unit:

- battery capacity: 4 400 mAh
- operating time (with backlight on): >25 h
- charge time to full capacity: 6-7 h

DpS-Visio (Dp sensor unit):

- battery capacity: 1 400 mAh
- operating time (continuous measurements): >25 h
- charge time to full capacity: 2.5 h
- Logging time (in sleep mode): >100 days

Ingress protection:

Handheld unit (in wireless mode): IP64
Dp sensor unit (in wireless mode): IP64
Safety pressure and temperature probe: IP65
Digital temperature sensor: IP65

Ambient temperature for the instrument:

During operation and 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

Charger:

Output voltage: 5.2 V DC (minimum 5.0 V, maximum 5.3 V).
Output current: Minimum 1 A.
Isolation: Class II.
Certification: IEC (868 MHz) and/or UL, CSA (915 MHz).
Complying with the LPS (Low Power Source) regulation.

Case dimensions:

TA-SCOPE Premium case:
LxWxH = 430x285x170 mm
TA-SCOPE case:
LxWxH = 325x255x165 mm

Construction

TA-SCOPE consists of two main components:

Handheld unit – computer-based unit programmed with the IMI TA valve characteristics. Straightforward functions with easy-to-follow instructions on the colour display.

Differential Pressure Sensor unit – the DpS-Visio communicates wirelessly with the Handheld and has an OLED display for showing its status, measured data and other information.

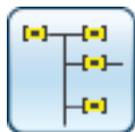
TA-SCOPE automatically performs calibration when needed. The design of the sensor unit and a short flow-through during calibration eliminate measurement errors caused by insufficient venting of the measuring device.

Hydronic functions



Quick Measure

Straightforward function to measure flow, differential pressure (Δp), temperature and power. To be used when only one or a few valves are of interest. The function does not require any predefinition of network or module.



Hydronic Networks

Complex networks created in HySelect are easily downloaded to TA-SCOPE. Use a network for measuring and balancing at any time; during commission, for control and inspection. All hydronic functions can be applied to a selected valve from a Hydronic Network.



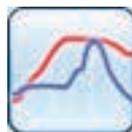
Balancing

The powerful TA-Wireless and TA-Diagnostic methods for balancing hydronic systems. TA-Wireless makes use of two Dp sensors with wireless technology to easily perform balancing of a hydronic module. With TA-Diagnostic, you measure all valves in a module. The method calculates a Dp diagnostic for the module and correct valve openings to attain design flows.



Troubleshooting

Software wizards take you step-by-step through the process of locating and diagnosing problems and errors in hydronic systems, e.g., Dp (Δp) analysis.



Data Logging

Measurement during a predetermined period of time to analyse any fluctuations in flow, differential pressure (Δp), temperature and power. The logged data is stored and listed or displayed as a graph, both in TA-SCOPE and HySelect.

Support functions



Fluid

Settings of fluid in the system to be explored and diagnosed. Water is the most common fluid in hydronic systems but water with various additives can also be handled by TA-SCOPE.



Hydronic calculator

Perform calculations based on the relationship between flow, differential pressure (Δp), Kv value, power and differential temperature (ΔT). The function also gives guidance in selecting pipes and valves when designing hydronic systems and enables unit conversions.



Settings

Manage adjustments regarding the instrument and appearance of information from the Settings function.



Information

Displays information like software version, last calibration and battery details on Handheld, Dp Sensor and also Temperature Sensor when connected.

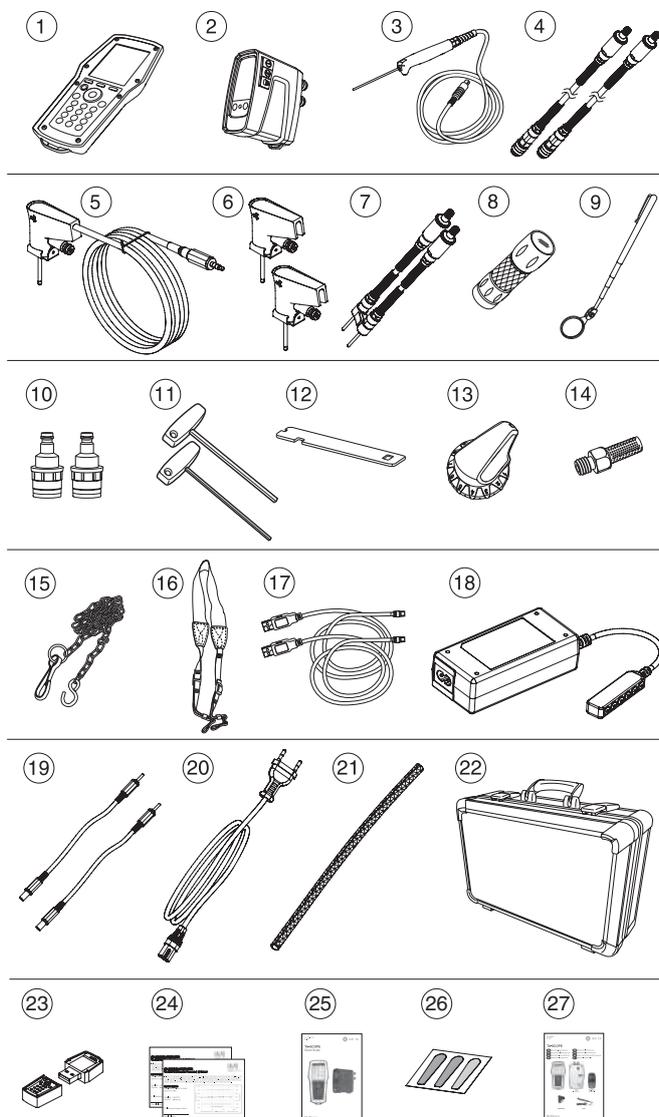
Case contents

TA-SCOPE Premium

TA-SCOPE Premium case is a larger robust partitioned case. Compared to the normal case, it includes:

- Combined safety pressure and temperature probe allowing automatic correction for fluid temperature and easier power measurement,
- A large set of accessories,
- Extra space for a second (optional) differential pressure sensor and tools.

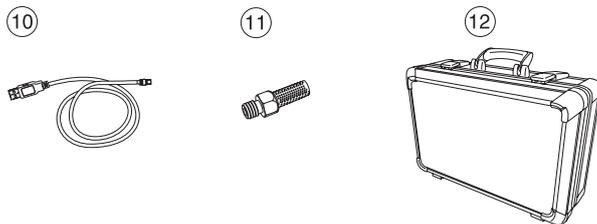
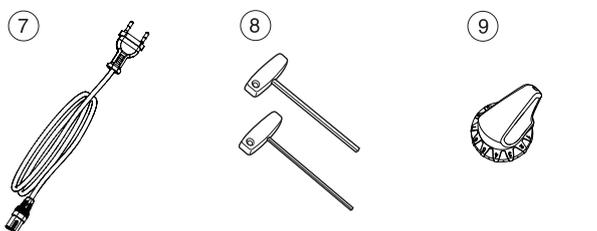
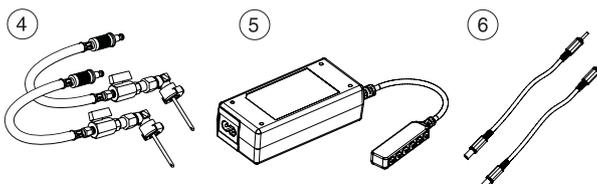
1. Handheld unit (Hh)
2. Dp Sensor unit (DpS-Visio)
3. Digital Temperature Sensor (DTS)
4. Measuring hoses, 500 mm, red/blue
5. Safety pressure and temperature probe (SPTP)
6. Safety pressure probes (SPP)
7. Measuring hoses with twin needle, 150 mm
8. Flashlight
9. Mirror
10. Chucks for older valves, 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. Spare filters (4 pcs)
15. Chain for mounting
16. Neckstrap
17. USB-cables for connection;
 - A. Hh - PC
 - B. Hh - DpS-Visio / PC - DpS-Visio
18. Multi-charger for Handheld, Dp Sensor(s) and TA-SCOPE Relays
19. DC cables (2 pcs; 1 Ø2,35 for Hh, 1 micro USB for DpS-Visio)
20. AC cable (EU, UK, US or AU/NZ)
21. Cable wrapping
22. Case
23. USB stick with user manual and HySelect software
24. Calibration certificates for DpS-Visio, DTS and SPTP
25. Quick Guide
26. SPTP/SPP stickers
27. Guarantee/Service/Calibration form



TA-SCOPE

TA-SCOPE case is a robust partitioned case. It is smaller and contains a reduced set of accessories compared to the Premium case.

1. Handheld unit (Hh)
2. Dp Sensor unit (DpS-Visio)
3. Digital Temperature Sensor (DTS)
4. Measuring hoses with probe
5. Multi-charger
6. DC cables (2 pcs; 1 Ø2,35 for Hh, 1 micro USB for DpS-Visio)
7. AC cable (EU, UK, US or AU/NZ)
8. Allen Keys 3 mm/5 mm
9. Presetting tool TBV-C, -CM, (-CMP)
10. USB-cables for connection;
 - A. Hh - PC
 - B. Hh - DpS-Visio / PC - DpS-Visio
11. Spare filters for hose (4 pcs)
12. Case
13. Calibration certificates for DpS-Visio and DTS
14. Quick Guide
15. Guarantee/Service/Calibration form



TA-SCOPE Premium / TA-SCOPE HP Premium



TA-SCOPE Premium

Version*		Manual language	EAN	Article No
AT/DE	Austria/Germany	DE	7318793982605	52 199-006
AU/NZ	Australia/New Zealand	EN	7318793986603	52 199-023
BE	Belgium	FR, NL	7318793986702	52 199-024
CEE	Central Eastern Europe	CS	7318793982803	52 199-010
CEE	Central Eastern Europe	PL	7318793984609	52 199-011
CEE	Central Eastern Europe	RU	7318793984708	52 199-012
CEE	Central Eastern Europe	HU	7318793984807	52 199-013
CEE	Central Eastern Europe	EN	7318793986801	52 199-025
CH	Switzerland	DE, FR, IT	7318793985309	52 199-022
DK	Denmark	DA	7318793984104	52 199-003
ES	Spain	ES	7318793984500	52 199-009
FI	Finland	FI	7318793984302	52 199-005
FR	France	FR	7318793982704	52 199-007
GB	Great Britain	EN	7318793985002	52 199-015
INT	International version	EN	7318793982506	52 199-002
IT	Italy	IT	7318793985200	52 199-021
JP	Japan	JA	7318793986207	52 199-016
KR	Korea	KO	7318793999603	52 199-026
LAM	Latin America	PT, ES	7318793986405	52 199-018
MEA	Middle East	EN	7318793986306	52 199-017
NL	Netherlands	NL	7318793984401	52 199-008
NO	Norway	NO	7318793984203	52 199-004
SAS	South Asia	EN	7318793986504	52 199-019
SE	Sweden	SV	7318793982407	52 199-001
TR	Turkey	TR	7318793999801	52 199-027
US	USA	EN	7318793984906	52 199-014
zh-CN	China (simplified Chinese)	zh-CN	7318793985101	52 199-020
zh-TW	Taiwan (traditional Chinese)	zh-TW	7318794001206	52 199-029

*) Version = Market related product range. All instrument versions include all of the above languages.



TA-SCOPE HP Premium

Version*		Manual language	EAN	Article No
AT/DE	Austria/Germany	DE	7318793987709	52 199-106
AU/NZ	Australia/New Zealand	EN	7318793989406	52 199-123
BE	Belgium	FR, NL	7318793989505	52 199-124
CEE	Central Eastern Europe	CS	7318793988102	52 199-110
CEE	Central Eastern Europe	PL	7318793988201	52 199-111
CEE	Central Eastern Europe	RU	7318793988300	52 199-112
CEE	Central Eastern Europe	HU	7318793988409	52 199-113
CEE	Central Eastern Europe	EN	7318793989604	52 199-125
CH	Switzerland	DE, FR, IT	7318793989307	52 199-122
DK	Denmark	DA	7318793987402	52 199-103
ES	Spain	ES	7318793988003	52 199-109
FI	Finland	FI	7318793987600	52 199-105
FR	France	FR	7318793987808	52 199-107
GB	Great Britain	EN	7318793988607	52 199-115
INT	International version	EN	7318793986900	52 199-102
IT	Italy	IT	7318793989208	52 199-121
JP	Japan	JA	7318793988706	52 199-116
KR	Korea	KO	7318793999702	52 199-126
LAM	Latin America	PT, ES	7318793988904	52 199-118
MEA	Middle East	EN	7318793988805	52 199-117
NL	Netherlands	NL	7318793987907	52 199-108
NO	Norway	NO	7318793987501	52 199-104
SAS	South Asia	EN	7318793989000	52 199-119
SE	Sweden	SV	7318793987303	52 199-101
TR	Turkey	TR	7318793999900	52 199-127
US	USA	EN	7318793988508	52 199-114
zh-CN	China (simplified Chinese)	zh-CN	7318793989109	52 199-120
zh-TW	Taiwan (traditional Chinese)	zh-TW	7318794001305	52 199-129

*) Version = Market related product range. All instrument versions include all of the above languages.

TA-SCOPE / TA-SCOPE HP



TA-SCOPE

Version*		Manual language**	EAN	Article No
AT/DE	Austria/Germany	DE	7318794006805	52 199-206
AU/NZ	Australia/New Zealand	EN	7318794009806	52 199-223
BE	Belgium	FR, NL	7318794009905	52 199-224
CEE	Central Eastern Europe	CS	7318794007208	52 199-210
CEE	Central Eastern Europe	PL	7318794008601	52 199-211
CEE	Central Eastern Europe	RU	7318794008700	52 199-212
CEE	Central Eastern Europe	HU	7318794008809	52 199-213
CEE	Central Eastern Europe	EN	7318794010000	52 199-225
CH	Switzerland	DE, FR, IT	7318794009707	52 199-222
DK	Denmark	DA	7318794006508	52 199-203
ES	Spain	ES	7318794007109	52 199-209
FI	Finland	FI	7318794006706	52 199-205
FR	France	FR	7318794006904	52 199-207
GB	Great Britain	EN	7318794009004	52 199-215
INT	International version	EN	7318794006409	52 199-202
IT	Italy	IT	7318794009608	52 199-221
JP	Japan	JA	7318794009103	52 199-216
KR	Korea	KO	7318794010109	52 199-226
LAM	Latin America	PT, ES	7318794009301	52 199-218
MEA	Middle East	EN	7318794009202	52 199-217
NL	Netherlands	NL	7318794007000	52 199-208
NO	Norway	NO	7318794006607	52 199-204
SAS	South Asia	EN	7318794009400	52 199-219
SE	Sweden	SV	7318794006300	52 199-201
TR	Turkey	TR	7318794010208	52 199-227
US	USA	EN	7318794008908	52 199-214
zh-CN	China (simplified Chinese)	zh-CN	7318794009509	52 199-220
zh-TW	Taiwan (traditional Chinese)	zh-TW	7318794010307	52 199-229

*) Version = Market related product range. All instrument versions include all of the above languages.

**) User manual available for download on www.imi-hydronic.com.



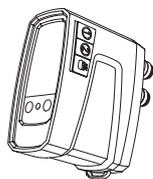
TA-SCOPE HP

Version*		Manual language**	EAN	Article No
AT/DE	Austria/Germany	DE	7318794007802	52 199-306
AU/NZ	Australia/New Zealand	EN	7318794011601	52 199-323
BE	Belgium	FR, NL	7318794011700	52 199-324
CEE	Central Eastern Europe	CS	7318794008205	52 199-310
CEE	Central Eastern Europe	PL	7318794010406	52 199-311
CEE	Central Eastern Europe	RU	7318794010505	52 199-312
CEE	Central Eastern Europe	HU	7318794010604	52 199-313
CEE	Central Eastern Europe	EN	7318794011809	52 199-325
CH	Switzerland	DE, FR, IT	7318794011502	52 199-322
DK	Denmark	DA	7318794007505	52 199-303
ES	Spain	ES	7318794008106	52 199-309
FI	Finland	FI	7318794007703	52 199-305
FR	France	FR	7318794007901	52 199-307
GB	Great Britain	EN	7318794010802	52 199-315
INT	International version	EN	7318794007406	52 199-302
IT	Italy	IT	7318794011403	52 199-321
JP	Japan	JA	7318794010901	52 199-316
KR	Korea	KO	7318794011908	52 199-326
LAM	Latin America	PT, ES	7318794011106	52 199-318
MEA	Middle East	EN	7318794011007	52 199-317
NL	Netherlands	NL	7318794008007	52 199-308
NO	Norway	NO	7318794007604	52 199-304
SAS	South Asia	EN	7318794011205	52 199-319
SE	Sweden	SV	7318794007307	52 199-301
TR	Turkey	TR	7318794012004	52 199-327
US	USA	EN	7318794010703	52 199-314
zh-CN	China (simplified Chinese)	zh-CN	7318794011304	52 199-320
zh-TW	Taiwan (traditional Chinese)	zh-TW	7318794012103	52 199-329

*) Version = Market related product range. All instrument versions include all of the above languages.

**) User manual available for download on www.imi-hydronic.com.

Additional equipment



Dp sensor unit (DpS-Visio)

The handheld unit (Hh) can communicate with several Dp sensor units (DpS-Visio). Establish communication by connecting the cable (included in the TA-SCOPE case) between the handheld unit and the Dp sensor unit.

Included: 2 measuring hoses 500 mm, 2 identification rings, 2 safety pressure probes (SPP) and 1 DC-cable.

Version		EAN	Article No
Standard	0-500 kPa	7318794034204	52 199-971
HP (high pressure)	0-1000 kPa	7318794034303	52 199-972



Measuring hose

For use with SPP and SPTP

Length [mm]		EAN	Article No
500	Red	7318793998507	52 199-953
500	Blue	7318793998606	52 199-954



Measuring hose with twin needle

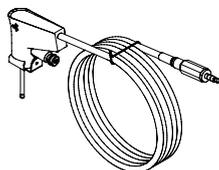
Length [mm]		EAN	Article No
150		7318793985903	52 199-999



Safety pressure probe (SPP)

For use with measuring hoses 52 199-953/-954 and extended hoses 52 199-997/-998.

	EAN	Article No
	7318793998309	52 199-951



Safety pressure and temperature probe (SPTP)

For use with measuring hoses 52 199-953/-954 and extended hoses 52 199-997/-998.

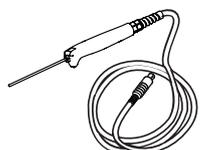
	EAN	Article No
	7318793998408	52 199-952



Cable wrapping

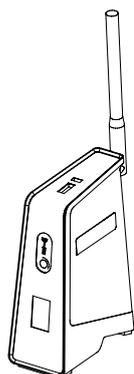
To keep SPTP cable and hose together

	EAN	Article No
		310 355-01



Digital temperature sensor (DTS)

	EAN	Article No
	7318793983503	52 199-941



Relay

For long-range transmission.
1 DC cable per relay included.
For further information on TA-SCOPE Relay, see separate leaflet.

Version		EAN	Article No
Relay kit, case with 3 relays (2 Kensington locks and 1 belt clip included)			
868 MHz	Europe	7318793998903	52 199-961
915 MHz	US/AU/NZ	7318793999009	52 199-962
Relay, separate			
868 MHz	Europe	7318793999108	52 199-963
915 MHz	US/AU/NZ	7318793999207	52 199-964

Accessories



Measuring hose

Extension with shut-off valve

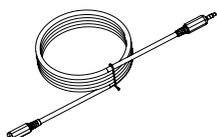
Length [m]		EAN	Article No
3	Red	7318793817709	52 199-997
3	Blue	7318793817808	52 199-998



Measuring hose with measuring needle, angle

Hose and needle can't be disconnected.

Length [mm]		EAN	Article No
500	Red	7318793996909	310 338-60
500	Blue	7318793996800	310 338-61



Extension cable for digital temperature sensor

Length [m]		EAN	Article No
5		7318793985408	52 199-994



Measuring nipple

Thread connections G1/2 and G3/4

		EAN	Article No
G1/2		7318793536808	52 197-303
G3/4		7318793536907	52 197-304

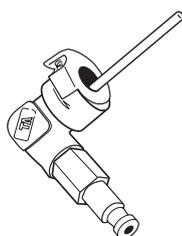


Measuring nipple

Extension 60 mm

Can be installed without draining of the system.

L		EAN	Article No
60		7318792812804	52 179-006



Measuring needle, angle

		EAN	Article No
		7318793787507	307 635-62



Chucks

For older valves and TA-BVS

		EAN	Article No
Red		7318793786609	309 748-60
Blue		7318793786708	309 748-61



Filter

Spare part to measuring hoses

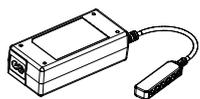
		EAN	Article No
		7318793741301	309 206-01



Identification rings

"DpS 1" and "DpS 2" for marking the DpS-Visio when using TA-Wireless. To be placed on measuring hoses.

		EAN	Article No
DpS 1			310 399-01
DpS 2			310 399-02



Multi-charger

With 6 DC cable connection points.
Excl. AC and DC cables.

EAN

Article No

310 395-01



DC cable

To connect a device to the multi-charger

For device

EAN

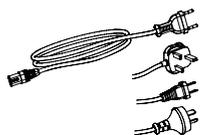
Article No

Handheld

310 397-01

DpS-Visio

311 040-01



AC cable

Version

EAN

Article No

Europe

310 396-01

UK

310 396-02

US

310 396-03

AU/NZ

310 396-04