

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



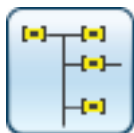
Quick Measure

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.



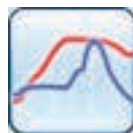
Troubleshooting

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.



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.



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.



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.

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.



Settings

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



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.



Information

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

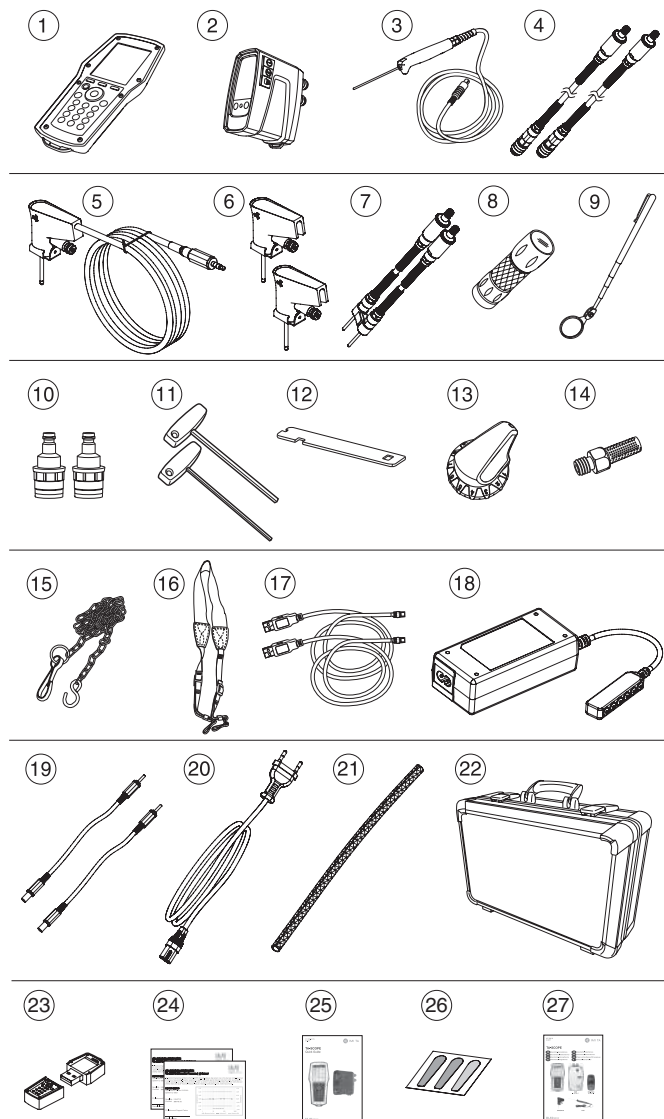
Case contents

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.

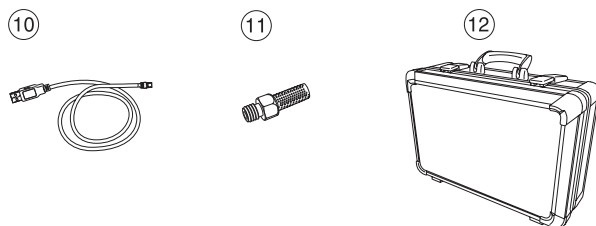
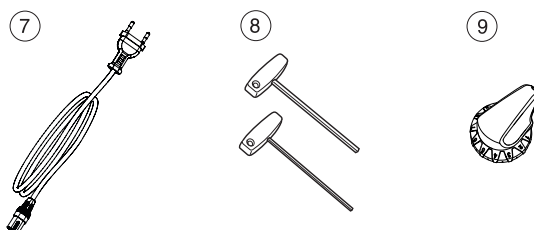
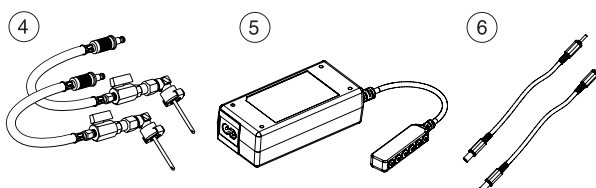
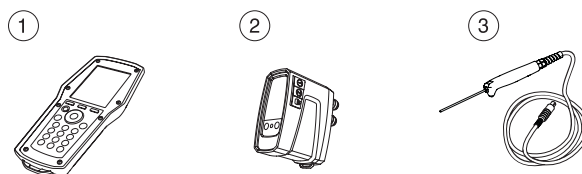
1. Handheld unit (Hh)
2. Dp Sensor unit (DpS-Visio)
3. Digital Temperature Sensor (DTS)
4. Measuring hoses, 500 mm, red/blue
5. Safety pressure and temperature probe (SPTP)
6. Safety pressure probes (SPP)
7. Measuring hoses with twin needle, 150 mm
8. Flashlight
9. Mirror
10. Chucks for older valves, 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 |
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| 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 |
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| 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.



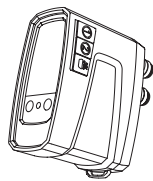
TA-SCOPE HP

| Version* | | Manual language** | EAN | Article No |
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| 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 |
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| IT | Italy | IT | 7318794011403 | 52 199-321 |
| JP | Japan | JA | 7318794010901 | 52 199-316 |
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| 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

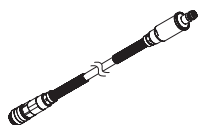


Dp sensor unit (DpS-Visio)

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.

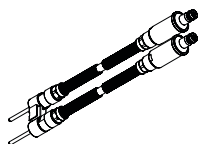
| Version | | EAN | Article No |
|---------------------------|------------|---------------|------------|
| Standard | 0-500 kPa | 7318794034204 | 52 199-971 |
| HP (high pressure) | 0-1000 kPa | 7318794034303 | 52 199-972 |



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

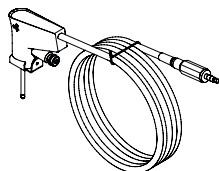
| Length [mm] | | EAN | Article No |
|-------------|--|---------------|------------|
| 150 | | 7318793985903 | 52 199-999 |



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.

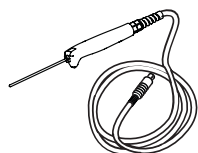
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|--|---------------|------------|
| | 7318793998408 | 52 199-952 |



Cable wrapping

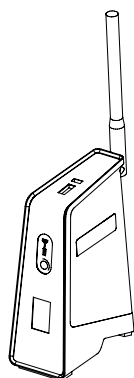
To keep SPTP cable and hose together

| | 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 |

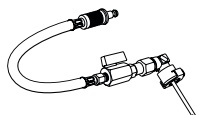
Accessories



Measuring hose

Extension with shut-off valve

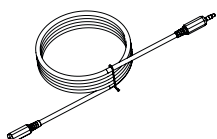
| Length [m] | | EAN | Article No |
|------------|------|---------------|------------|
| 3 | Red | 7318793817709 | 52 199-997 |
| 3 | Blue | 7318793817808 | 52 199-998 |



Measuring hose with measuring needle, angle

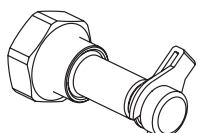
Hose and needle can't be disconnected.

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



Extension cable for digital temperature sensor

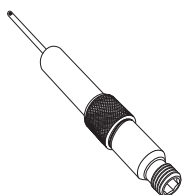
| Length [m] | | EAN | Article No |
|------------|--|---------------|------------|
| 5 | | 7318793985408 | 52 199-994 |



Measuring nipple

Thread connections G1/2 and G3/4

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

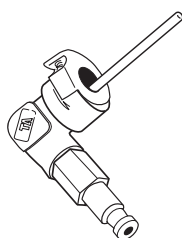


Measuring nipple

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

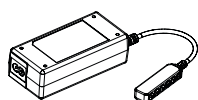
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|--|---------------|------------|
| | 7318793741301 | 309 206-01 |



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

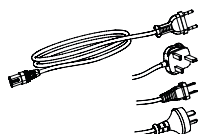
For device**EAN****Article No**

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