TA-SCOPE

Balancing instrument

TA

Pressurisation & Water Quality › Balancing & Control › Thermostatic Control

ENGINEERING ADVANTAGE

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 TA-Select PC software gaining the maximum benefit from recorded data and enabling professional report writing and automatic software upgrades.

User-friendly design
Ergonomic and custom designed user-interface ensures easy and more comfortable balancing.

Interactive software
Step by step software wizards for measuring, balancing and trouble shooting ensure a fast commissioning process.

Wireless communication
For reliable balancing, a fully charged TA-SCOPE provides three days of power-efficient wireless performance.

Technical description

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

TA-SCOPE consists of two main components:
Handheld unit – computer-based unit programmed with the TA valve characteristics. Straightforward functions with easy-to-follow instructions on the colour display.
Differential Pressure Sensor unit – the Dp Sensor communicates wirelessly with the Handheld unit and has LED indicators for indicating communication status and battery capacity. The units can optionally be connected via cable.
TA-SCOPE automatically demands 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.

Measurement range:
Total pressure: max. 2 500 kPa
Differential pressure:
TA-SCOPE 0 - 200 kPa
TA-SCOPE HP 0 - 1 000 kPa
Recommended pressure range during flow measurements:
TA-SCOPE 3 - 200 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
Dp Sensor unit:
- battery capacity: 1 100 mAh
- operating time (continuous measurements): >25 h
- charge time to full capacity: 1,5 h
Logging time (in sleep mode): >100 days

Enclosure class:
Handheld unit (in wireless mode): IP 64
Dp sensor unit (in wireless mode): IP 64
Safety pressure and temperature probe: IP 65
Digital temperature sensor: IP 65

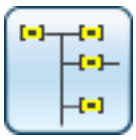
Ambient temperature for the instrument:
During operation and charging: 0-40°C
During storage*: -20-60°C
*) Do not leave water in the sensor when there is a risk of freezing.

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.

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 TA-Select 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 TA-Select.

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.

Articles

Case contents:

- Handheld unit (Hh)
- Dp Sensor unit (DpS)
- Digital Temperature Sensor (DTS)
- Measuring hoses, 500 mm, red/blue
- Safety pressure and temperature probe (SPTP)
- Safety pressure probes (SPP)
- Measuring hoses with twin needle, 150 mm
- Flashlight
- Mirror
- Chucks for older valves, red/blue
- Allen Keys 3 mm/5 mm
- Spanner for measuring points on older valves
- Presetting tool TBV-C/TBV-CM/TBV-CMP
- Spare filters (4 pcs)
- Chain for mounting
- Neckstrap
- USB-cables for connection; Hh – DpS and Hh – PC
- Multi-charger for Handheld, Dp Sensor(s) and TA-SCOPE Relays
- DC cables (2 pcs)
- AC cable (EU, UK, US or AU/NZ)
- Cable wrapping
- Case
- TA-Select Software
- User manual
- Calibration certificates for DpS, DTS and SPTP
- Quick Guide
- SPTP/SPP instruction
- SPTP/SPP stickers

TA-SCOPE

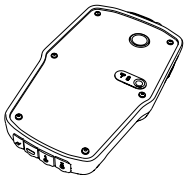
Version*		Manual language	EAN	Article No
AT	Austria/Germany	DE	7318793982605	52 199-006
AU/NZ	Australia/New Zealand	EN	7318793986603	52 199-023
BE	Belgium	FR, NL	7318793986702	52 199-024
CEE	Central Eastern Europe	CS	7318793982803	52 199-010
CEE	Central Eastern Europe	PL	7318793984609	52 199-011
CEE	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		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		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		52 199-029

TA-SCOPE HP

Version*		Manual language	EAN	Article No
AT	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		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		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		52 199-129

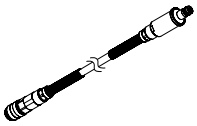
*) Version = Market related product range. All instrument versions include all of the above languages.

Additional equipment



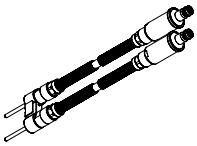
Dp sensor unit (DpS)
The handheld unit (Hh) can communicate with several Dp sensor units (DpS). Establish communication by connecting the cable (included in the TA-SCOPE case) between the handheld unit and the Dp sensor unit.
Included: 2 measuring hoses 500 mm, 2 identification rings for marking the DpS, 2 safety pressure probes (SPP) and 1 DC-cable.

Version	EAN	Article No
Standard	7318793983404	52 199-931
HP (high pressure)	7318793987006	52 199-932



Measuring hose

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

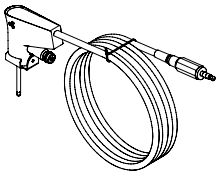


Measuring hose with twin needle

Length	EAN	Article No
150 mm	7318793985903	52 199-999

Safety pressure probe (SPP)

EAN	Article No
7318793998309	52 199-951

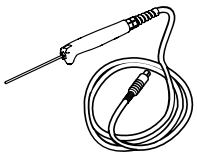


Safety pressure and temperature probe (SPTP)

EAN	Article No
7318793998408	52 199-952

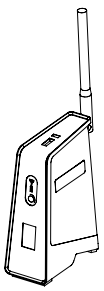
Cable wrapping
To keep SPTP cable and hose together

EAN	Article No
	310 355-01



Digital temperature sensor (DTS)

EAN	Article No
7318793983503	52 199-941



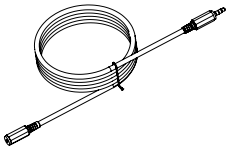
Relay
For long-range transmission.
1 DC cable per relay included.
For further information on TA-SCOPE Relay, see separate leaflet.

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

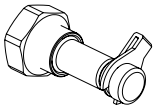
Measuring hose
Extension with shut-off valve

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



Extension cable for digital temperatur sensor

	EAN	Article No
5 m	7318793985408	52 199-994

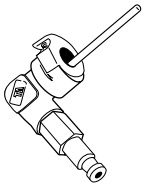


Measuring nipple
Thread connections G1/2 and G3/4

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

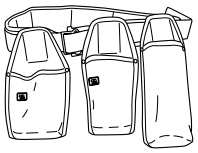
Measuring nipple
Extension 60 mm
Can be installed without draining of the system.

L	EAN	Article No
60	7318792812804	52 179-006



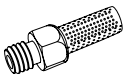
Measuring needle, angle

	EAN	Article No
	7318793787507	307 635-62



Belt
With instrument pockets

Size	Length	EAN	Article No
M/L	~ 1,25 m	7318793983602	52 199-991
L/XL	~ 1,51 m	7318793983701	52 199-992
Extra pocket for accessories		7318793983800	52 199-993

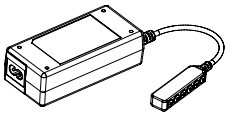


Filter
Spare part to measuring hoses

	EAN	Article No
	7318793741301	309 206-01

Identification rings
“DpS 1” and “DpS 2” for marking the DpS when using TA-Wireless.
To be placed on measuring hoses.

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

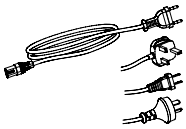


Multi-charger
With 6 DC cable connection points.
Excl. AC and DC cables.

	EAN	Article No
		310 395-01

DC cable
To connect a device to the multi-charger

	EAN	Article No
		310 397-01



AC cable

	EAN	Article No
Europe		310 396-01
UK		310 396-02
US		310 396-03
AU/NZ		310 396-04

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