

VKP 40plus

Test Equipment for Steam Traps TRAPtest VKP 40plus

Description

Steam trap testing, recording & evaluation system TRAPtest VKP 40plus for checking steam traps of all types and makes for steam loss and banking-up of condensate.

The system TRAPtest VKP 40plus comprises the following components:

Data collector VKP 40plus

Measuring probe VKP 40plus

Com Box VKP 40plus

In addition, the software program TRAPtest VKP 40plus is part of the supply.

Function

The testing equipment detects and evaluates ultrasonic vibrations generated on the trap body surface by the media flowing through the steam trap. These ultrasonic vibrations are then picked up by the hand-held probe VKP 40plus by pressing the sensor tip onto a point on the trap body that is characteristic of the respective trap type. The ultrasonic vibrations are then converted by the measuring probe into electric pulses and – in the form of digital signals – fed via cable to the Com Box. The Com box then transfers the signals to the data collector VKP 40plus via Bluetooth.

The display of the data collector shows the signals received during the test as a standing curve. With this graphical representation one can see at once whether the tested steam trap is blowing off steam or not.

The recorded ultrasonic vibrations are analysed by the data collector and evaluated in accordance with certain empirically ascertained limit values that depend on the trap type. During the test the temperature of the steam trap is measured, too. Provided that the service pressures are specified, the system can also identify blocked (waterlogged) steam traps.

If the annual operating hours and the specific steam costs have been entered in the system, the software can calculate the financial loss caused by faulty steam traps. To quantify the steam loss caused by faulty steam traps, empirically obtained test values are used as reference.

All curves recorded for a steam trap as well as the associated numerical test results and the corresponding analysis by the system can be stored and printed out. This permits the comparison of current test results against those of former tests and also those taken from other installations. In the course of time useful information is thus obtained regarding the service life of the traps and standard maintenance intervals and it becomes easier to assess the suitability of the different trap types for the intended application.

Technical data

Power supply of the data collector

2 Lithium ion batteries (capacity 5,600 mAh)

max. operating voltage 7 V

Measuring probe

Measuring range for surface temperature: -10 °C to +350 °C

Power supplied by batteries in Com Box

Scope of supply

The following items are part of the supply:

Transportation case (hard case)

Carrying bag

Strap to fix the Com box

Data collector with accessories (see operating manual for the data collector)

Four power pack adapters for different types of mains sockets

Measuring probe with connecting cable

Com box

USB network cable for Com box

Power supply plug for Com box

Four power supply plug adapters for different types of mains sockets

DVD with VKP40plus program software for evaluating the test results on a PC

CD ROM with software for data collector

Adjustable mirror

File

Identification tags for steam traps (optional)

Operating manual for TRAPtest VKP 40plus

Materials

Component part	DIN / EN
Data collector	See operating instructions for the data collector
Body of the measuring probe	3.7035
Housing of the Com box	ABS (acrylonitrile butadiene styrene)
Identification tags	1.4301
Transportation case (hard case)	Aluminium / plywood / TCN film / foamed plastic / cardboard
Carrying bag	Nylon Cordura fabric Samoa

Dimensions and weights

Components	Dimensions (H × W × D) [mm]	Weight [g]
Transportation case (hard case), without content	173 × 450 × 340	4,900
Transportation case (hard case), cpl. with content		approx. 6,800
Carrying bag, without content	310 × 260 × 8	330
Carrying bag, cpl. with content		approx. 1,600
Data collector	144 × 82 × 32	575
Com box	83.0 × 96.0 × 32.0	160
Measuring probe (diameter × length)	36 × 210	440

Test Equipment for Steam Traps

TRAPtest VKP 40plus

Pressure & temperature ratings

If you want to use the TRAPtest VKP40plus outside the rated pressure/temperature range please contact a FLOWSERVE Gestra representative.

Components	Service temperature [°C]	Storage temperature [°C]	Air humidity
Data collector	-20 to +50	-20 up to +35 ¹⁾	0-95% (not condensing)
Com box	-10 to +50		
Measuring probe	-10 to +60		

¹⁾ If stored up to 24 hours: -20°C to +70 °C

TRAPtest VKP40plus setting	max. condensate flowrate
Steam tracer and steam line	0...20 kg/h
Heat exchanger	> 20 kg/h
Min. upstream pressure for temperature measurement	1.1 bar
Max. differential pressure	20 bar
Bluetooth range distance	8 m
Capacity of batteries ("battery life")	Data collector: approx. 8 h / Com Box: approx. 8 h

System requirements

To create test objects and to evaluate the tests you have to install the supplied software on your computer.

To install the software on a computer the following system requirements must be met:

Operating system Microsoft Windows® 7 or Windows® Vista
SQL Server® 2008 Express
Microsoft Windows® Mobile Device Center
1 GB free hard disk memory
at least 1 GB RAM

ATEX

The VKP40plus is not approved for use in explosion-risk areas. Special equipment for use in explosion-risk areas is available on request.

Specification Text

GESTRA TRAPtest VKP 40plus

Monitoring, recording and evaluation system for steam traps of all types and makes

The system includes a palmtop computer (PDA) with stable touch screen. This PDA uses a special GESTRA software program. The Com Box and the measuring probe are Bluetooth enabled devices and allow for easy data exchange between them.

The PDA can be connected to a computer via USB port. The supplied software tool allows you to evaluate the test results directly on your PC and, among other things, to create repair jobs and view and print out financial analyses.

A constant contact pressure, which is independent of the actual pressure applied by the tester, ensures correct readings and, consequently, objective test results. A test is started by pressing the probe tip onto the trap body.

The display graphically illustrates the course of the test in form of a standing curve and also shows additional important information on the test. The large backlit colour display can be used even in poor visibility conditions.

Supply in accordance with our general terms of business.

Features of VKP 40plus

The system VKP 40plus offers the following benefits:

Universally applicable for all types and makes of steam traps

Automatic evaluation of the tested steam traps

User-friendly and easy-to-use PC software tool for logging and managing trap specific data

PC software is independent of country specific Windows versions

Allows for uncomplicated financial analysis (expressed in the currency of your country)

Clear and informative print-out detailing repair jobs

Export and import functions for importing databases created on other PCs or exporting databases to other PCs

Easy to migrate databases and import data from old VKP 40 versions

Additional languages can easily be added (English and German by default)

Data exchange between PC and data collector by the click of a mouse

Detailed online documentation

Country-specific settings (e. g. power supply, paper size etc.) possible

Features of the data collector

The data collector offers the following functions:

Clear graphical user interface

Easy to use touchscreen display

Data collector with PDA function

Protected against dust and splashing water acc. to IP 65

Storage capacity sufficient for 750 steam traps with 1 up to 256 test jobs

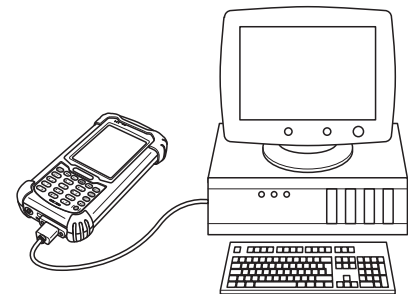
Integrated temperature measurement allows to detect waterlogged steam traps (banking-up of condensate)

Test measurement for ad hoc tests and automatic evaluation of trap performance without any previous data acquisition

During the test visual indication of steam loss caused by leaking trap

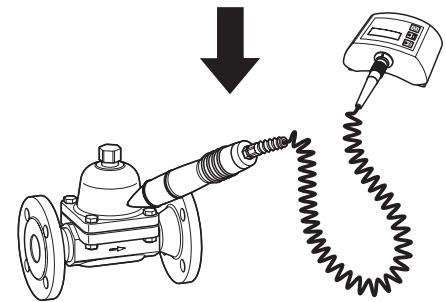
No skilled labour needed for the tests

Illuminated display shows the recorded sound in the form of a curve

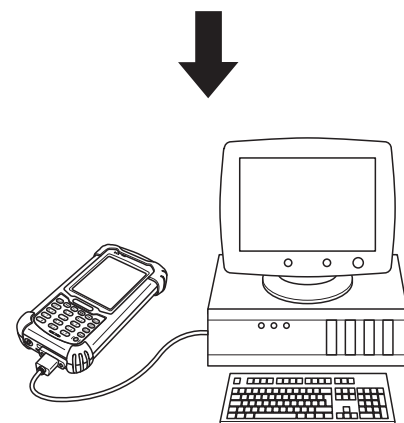


Data management via PC

Data are transferred to data collector



Steam trap is tested



Test results are transferred to the data collector

Test results are evaluated on the computer

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