GESTRA Steam Systems

Product Range A1

Steam Trap Testing, Recording and Evaluation System
TRAP*test* VKP 40, VKP 40ex

VKP 40
VKP 40ex

System description

Steam trap testing, recording and evaluation system **TRAP*test* VKP 40** (**VKP 40ex** for application in explosion-risk areas) for checking steam traps of **all types and makes** for loss of live steam and banking-up of condensate.

The steam trap testing system consists of the **data collector VKPN 40ex** or **VKPN 40**, the **measuring transducer VKPS 40ex** and the **software** for data management on the PC.

Specification

The diagnostic system detects and analyses ultrasonic vibrations on the trap body caused by live steam flowing through the stream trap. The ultrasonic vibration is transmitted through the trap body and picked up by the hand-held probe by pressing the sensor tip onto a point of the trap body that is characteristic of the respective trap type. The ultrasonic vibration is then converted into electric pulses and – in the form of digital signals – fed via cable to the data collector VKPN 40Ex or VKPN 40. 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 working with or without loss of steam. The recorded ultrasonic vibration is 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 a service pressure has been specified (on the PC), the diagnostic system identifies blocked steam traps that cause banking-up of condensate.

If the annual operating hours and the 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. The current test results can then be compared with previous test results and with test results from other places of installation. In the long term, a custom database is created that shows historical survey data and enables the implementation of a consistent, regularly scheduled trap maintenance program. As a result it will be easier to decide which steam trap system is the best choice for a given application.

Features of the VKP 40 / VKP 40ex

- PC software independent of country-specific Windows version
- Universally applicable for steam traps of all types and makes
- Automatic evaluation of tested steam traps
- Convenient and easy-to-use PC software for entering and organizing steam trap data
- User-friendly financial analysis with results indicated in specified currency
- Prints maintenance and repair work orders in the form of a clear and concise list
- Export and import functions allow exporting databases created on other PCs and importing databases to other PCs
- Databases created by the predecessor VKP 30 can be imported at a mouse-click
- Other languages (in addition to German, English, Norwegian and Turkish) can be easily added
- Data exchange between PC and hand-held data collector at a mouse-click
- Comprehensive online documentation
- Country-specific features such as power supply rating, paper size, etc.

Hand-held data collector

- Data collector with convenient operating panel (membrane keypad with only 5 keys) for easy handling
- Integrated temperature measurement for detecting blocked steam traps
- Test measurements for ad hoc trap tests and automatic analysis without previous data entry on the PC
- Immediate visual indication of steam blowing traps
- No special knowledge required for testing
- Backlit graphics display shows recorded sound curves
- Protected against dust and splashing water: protection IP 65

Data collector VKPN 40ex and measuring transducer VKPS 40ex for application in explosion-risk areas

- Approved BVS 04 ATEX E 234
- CE 0158 Ex II 2G EEx ib IIC T4
- Type approval according to UL 913 in preparation

Data collector VKPN 40ex
with measuring transducer VKPS 40ex

Carrying case
TRAPtest VKP 40 / VKP 40ex

Scope of supply

1 Data collector VKPN 40 / VKPN 40ex
1 Measuring transducer VKPS 40ex
1 Connecting cable VKPA 40 incl. power supply unit and connecting cable with serial connector for connecting the data collector with the PC
3 Adaptor plugs for international usability
1 Strap for data collector
1 Holster for measuring transducer
1 Carrying case
1 TRAP*test* software on CD ROM
1 Operating manual
Adaptor for USB interface available on request

Steam Trap Testing, Recording and Evaluation System
TRAP*test* VKP 40, VKP 40ex

Technical Data

System requirements
Windows 98, 2000, NT 4 (SP6), XP, CD ROM drive

Minimum requirements
Computer with Pentium compatible processor with 700 MHz, 100 MB free hard disk memory, 128 MB RAM

Recommended:
Computer with Pentium compatible processor with 1.2 GHz, 200 MB free hard disk memory, 256 MB RAM

Test duration
Min. 10 sec., max. 20 sec.

Data collector VKPN 40ex / VKP 40
Plastic casing with backlit display.
Illumination can be switched on and off.
Illumination switches off automatically after 10 sec. if no key is pressed.
Resolution of graphic display: 128 x 64 pixels.
Membrane keypad with 5 buttons.
Storage capacity sufficient for approx. **1200** steam traps allocated to max. 500 test tasks.
Power supplied by two pre-installed Li-Polymer rechargeable batteries, capacity 1800 mAh.
4 hours charging empty battery provides approx. **8** hours operating time.
Max. operating voltage 3.3 V
Max. power consumption 0.25 A
Operating temperature –10 °C to 50 °C
Max. admissible service temperature: 50 °C
Min. admissible service temperature: –10 °C
Degree of humidity: 0 % to 90 % (not condensed)
Protection IP 65

Approval VKPN 40ex
Approval BVS 04 ATEX E 234
CE 0158 Ex II 2G EEX ib IIC T4

Measuring transducer VKPS 40ex
Casing made of titanium (3.7035)
Operating temperature –10 °C to 60 °C
Measuring range for surface temperature: 0 °C to 350 °C
Max. admissible service temperature: 60 °C
Min. admissible service temperature: –10 °C
Power supplied by rechargeable battery of the data collector
Max. operating voltage 5.0 V
Max. power consumption 0.03 A

Approval VKPS 40ex
Approved BVS 04 ATEX E 234
CE 0158 Ex II 2G EEX ib II T4

Connecting cable VKPA 40
The connecting cable VKPA 40 consists of the power supply unit with integrated connecting cable and circular plug for connecting the data collector VKPN 40Ex or VKPN 40 and the connecting cable with a serial connector for connecting the PC.

Supply in accordance with our general terms of business.

Power supply unit
100 – 240 V / 47 – 63 Hz
Output 12 V

Dimensions
Carrying case: **370 x 135 x 550**
(width x height x depth)

Weight
Carrying case with contents: approx. 5.1 kg

Order and Enquiry Specification

GESTRA TRAP*test* VKP 40

Steam trap testing, recording and evaluation system for checking steam traps of all types and makes, consisting of:
1 Data collector VKPN 40 (incl. rechargeable batteries)
1 Measuring transducer VKPS 40ex
1 CD
1 Connecting cable VKPA 40 (incl. power supply unit and connecting cable with serial connector for connecting the PC)
3 Adaptor plugs for international suitability
1 Carrying case
1 Operating manual

Protection IP 65

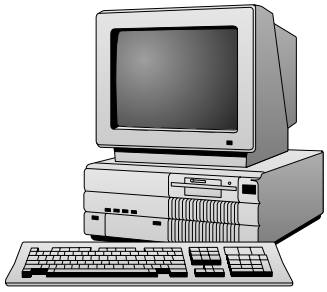
or

GESTRA TRAP*test* VKP 40ex
Intrinsically safe design for operation in explosion-risk areas.
Steam trap testing, recording and evaluation system for checking steam traps of all types and makes, consisting of:
1 Data collector VKPN 40ex (incl. rechargeable batteries)
1 Measuring transducer VKPS 40ex
1 CD
1 Connecting cable VKPA 40 (incl. power supply unit and connecting cable with serial connector for connecting the PC)
3 Adaptor plugs for international suitability
1 Carrying case
1 Operating manual

Protection IP 65

Approval
BVS 04 ATEX E 234
CE 0158 Ex II 2G EEx ib IIC T4

Approval certificate
Upon request we can present the EC type approval document.
Type approval to UL 913 in preparation.

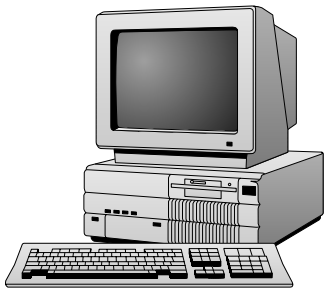


Data management on the PC

Data transfer
to data collector

Checking steam trap

Transfer of
test results to the PC



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