

QC System Price-List

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Effective as from 08/01/2018
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 Currency EUR

All prices net, EXW (tax, duty, transportation, support extra)

| Item No. | Product | Explanation | required HW | Spec | Price per Unit |
|--|--|---|---------------------|--------|----------------|
| Hardware | | | | | |
| 2000-300 | KA3 - Klippel Analyzer 3 (LSX) | incl. Laser Card, Speaker Card, XLR Card, cable set, project management software (dB-Lab 210) | | H3 | 6.170 EUR |
| 2000-310 | KA3 - Klippel Analyzer 3 + internal Amp (ALSX) | incl. Amp Card, Laser Card, Speaker Card, XLR Card, cable set, project management software (dB-Lab 210) | | H3 | 7.170 EUR |
| 2000-324 | KA3 - Klippel Analyzer 3 - special card configuration (L), set | incl. Laser Card, USB cable, project management software (dB-Lab 210), recommended for LST, Bluetooth testing | | H3 | 4.190 EUR |
| 2000-328 | KA3 - Klippel Analyzer 3 special card configuration (X), set | incl. XLR Card, cable XLR male - XLR female 1m, USB cable, project management software (dB-Lab 210) recommended for active systems, headphone testing, electronic devices | | H3 | 4.070 EUR |
| Other KA3 card configurations are available on request. | | | | | |
| 4000-100 | PA - Production Analyzer | QC hardware incl. cable set | | H4 | 4.200 EUR |
| QC - Software for end-of-line testing (EOL)* | | | | | |
| 4004-001 | QC STANDARD Software, Release QC6 | full EOL-testing software for ultra-fast and complex measurements | KA3, PA, Dongle3 | C3 | 3.300 EUR |
| 4004-200 | QC Basic Software, Release QC6 | cost-efficient EOL-testing software for simple applications, easy upgrade option to QC STANDARD | KA3, PA, Dongle3 | C3 | 1.500 EUR |
| 4004-300 | QC Remote Configuration Software, Release QC6 | allows modification of limits and set up without hardware | Dongle3 | S14 | 1.300 EUR |
| Transducer Parameter Identification Modules* | | | | | |
| 4000-230 | MSC - Motor + Suspension Check | QC-Task: fast measurement of voice coil offset and suspension asymmetry | KA3, PA | S13 | 4.950 EUR |
| 4000-260 | BAC - Balanced Armature Check | QC-Task: measure of armature offset | KA3, PA | S39 | 5.200 EUR |
| Frequency Response + Distortion Modules* | | | | | |
| 4000-240 | ALD - Air Leak Detection | QC-Task: detect air leaks in transducers and audio systems | KA3, PA | S18 | 3.200 EUR |
| 4000-280 | COH - Coherence Analysis (beta-version) | QC Task: coherence and spectral analysis for user defined stimulus | KA3, PA | | 900 EUR |
| Simulation, Auralization Modules* | | | | | |
| 1001-104 | DIF-AUR - Difference-Auralization (beta-version) | auralization of defect symptoms based on signal differences | Dongle2/3 | S22 | 3.800 EUR |
| 4000-243 | ALS - Air Leak Stethoscope | QC-Task: localization of air leaks in loudspeaker systems | KA3, PA | S30 | 2.800 EUR |
| Transducer Part + Material Parameter Measurement* | | | | | |
| 2500-101 | SPM Pro Bench | Measurement Bench without clamping parts for SPM Pro/Lite, LST | | C2, C6 | 5.520 EUR |
| 2500-300 | LST Bench Set - for Internal Laser | for QC: LST testing of spiders, surrounds, cones, passive radiators, incl. internal laser mounting and adjustment slider | | C6 | 950 EUR |
| 2500-310 | LST Bench Set - for External Laser | for QC: LST testing for RnD: linear SPM & MPM measurements of spiders, surrounds, cones, passive radiators, incl. external laser mounting and adjustment bar | | C6 | 1.400 EUR |
| 2500-142 | LST - Internal Laser Fixture Set | 2-dimensional internal Laser mounting and adjustment unit, incl. mounting brackets and screws, distance adjustment washer set | | C6 | 300 EUR |
| 2500-141 | LST - External Laser Fixture | 2-dimensional external laser mounting and adjustment boom, incl. sensor slide rail, laser sensor rod | | C6 | 740 EUR |
| 2500-302 | Ring Set | clamping parts for SPM Bench + LST Bench | | C2 | 1.310 EUR |
| 2500-301 | Cone Set (plastic) | clamping parts for LST Bench (SPM Bench) | | C6 | 490 EUR |
| 4000-242 | LST Lite - Linear Suspension Test Lite | QC-Task: compliance check of spiders, cones and surrounds | KA3/PA + Dongle 2/3 | C6 | 1.050 EUR |

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| 4000-244 | LST Pro - Linear Suspension Test Professional | QC-Task: LST Lite features + monitoring mass and stiffness deviation for passive radiators | KA3/PA + Dongle2/3 | C6 | 2.000 EUR |
| 4000-248 | LST Pro Upgrade | upgrade from LSI Lite to LSI Pro | | C6 | 950 EUR |
| 2500-604 | MSPM Bench Set, Rev. 1.1 | Small measurement bench for linear + nonlinear testing of small suspension parts (micro-speakers, headphones), Rev. 1.1 incl. Extended Clamping Ring + Adapter, 70mm | | A12 | 1.800 EUR |
| Post-Processing Tools* | | | | | |
| 4000-225 | STAT - Statistics (beta-version) | statistical overview of Klippel measurement data (1D and 2D data), pool-based visualization of measures allows quick assessment of variances and comparisons between test object groups | Dongle3 | S48 | 1.260 EUR |
| 4000-220 | MSP - Match-Speaker-Tool | find best matching pairs from a pool of speakers | Dongle2 | S15 | 1.900 EUR |
| Software Add-ons* | | | | | |
| 1001-107 | SYN - External Synchronization | synchronizing digital audio (e.g. Bluetooth); option for QC-Task (QC-STANDARD or QC-Task required) | KA3, PA | S32 | 1.400 EUR |
| 4000-250 | PNI - Production Noise Immunity | coping with noisy environment; option for SPL Task (QC-STANDARD or SPL Task required) | KA3, PA | S21 | 2.300 EUR |
| 4000-200 | MHT - Meta Hearing Technology | defect detection beyond human hearing; option for SPL Task (QC-STANDARD or SPL Task required) | KA3, PA | S20 | 1.370 EUR |
| 4000-241 | EXD - External Devices | QC-Task: integration of external measurement equipment (GPIB) | Dongle2/3 | S31 | 1.000 EUR |
| 4000-245 | EQA - Equalization & Alignment Standard | QC-Task: adjustment to user defined response (automatically or manually) | KA3, PA | S33 | 680 EUR |
| 4000-270 | DCX - Dynamic DC Check (beta-version) | QC-Task: measurement of AC/DC displacement with laser; option for SPL Task (QC STANDARD or SPL Task required, DC input modification of Production Analyzer Hardware required) | KA3, PA | | 3.200 EUR |
| QC Software Update | | | | | |
| 4004-101 | QC Update STANDARD System (V5 to V6) | update from version 5 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 1.400 EUR |
| 4004-102 | QC Update STANDARD System (V4 to V6) | update from version 4 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 1.900 EUR |
| 4004-103 | QC Update STANDARD System (V3 to V6) | update from version 3 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 2.300 EUR |
| 4004-104 | QC Update STANDARD System (V2 to V6) | update from version 2 to version 6 New Klippel Software Protection Dongle required. | Dongle3 | | 2.700 EUR |
| 4004-201 | QC Update BASIC System (V5 to V6) | update from version 5 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 800 EUR |
| 4004-202 | QC Update BASIC System (V4 to V6) | update from version 4 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 1.100 EUR |
| 4004-203 | QC Update BASIC System (V3 to V6) | update from version 3 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 1.300 EUR |
| 4004-204 | QC Update BASIC System (V2 to V6) | update from version 2 to version 6 New Klippel Software Protection Dongle | Dongle3 | | 1.400 EUR |
| 4004-010 | QC Upgrade BASIC to STANDARD | upgrade QC BASIC (Vx) to QC STANDARD System (V6) New Klippel Software Protection Dongle | Dongle3 | | on request |
| Service | | | | | |
| 6001-200 | KLIPPEL QC Support Contract | 1 year subscription, incl. software updates + email support by KLIPPEL staff (per unit) | | | 1.800 EUR |
| 6000-001 | Manufacturer Calibration | KA3, DA, PM8 or PA calibration with formal certificate, recommended every 2 years | | | 490 EUR |
| 6000-304 | PA USBonly Hardware Modification + Calibration | PA modification to USBonly Version incl. Manufacturer Calibration | | H4 | 740 EUR |

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| 6000-301 | Production Analyzer Modification - High Sensitivity + Calibration | both speaker channels = High Sensitivity and Manufacturer Calibration | | H4 | 520 EUR |
| 6000-302 | Production Analyzer Modification - Very High Sensitivity & Calibration | both speaker channels = Very High Sensitivity and Manufacturer Calibration | | H4 | 520 EUR |
| 6000-309 | Production Analyzer Modification 0dB Mic Input Gain | both mic input channels adjusted to 0dB gain | | H4 | 140 EUR |
| | Individual Production Analyzer Modification | several configurations (individual channels) are available | | | on request |
| | Multiplexer Modification | several configurations are available | | | on request |
| Accessories** | | | | | |
| Laser | | | | | |
| 2103-250 | Laser Set LK-H052 (for Production Analyzer), Rev. 2.0 | 50mm +/- 10mm, for LST (incl. Controller LK-G5001P rev.2.0, 2m cable CB -A2, LEMO-XLR adapter for PA connection) | PA | A2 | 7.500 EUR |
| 2102-042 | Laser Set IL-065 for LST with PA | +/- 25mm, for LST only (incl. Controller IL-1000, PSU, LEMO-XLR adapter for PA connection) | PA | C6 | 1.580 EUR |
| 2102-044 | Laser Set IL-065 for LST with KA3 | +/- 25mm, for LST only (incl. Controller IL-1000) | KA3 | C6 | 1.430 EUR |
| Microphones | | | | | |
| 2400-009 | Mic 255 IEPE 1/2" Set | low noise - high sensitivity standard mic, 50mV/Pa, max. 135dB, prepolarized cartridge, IEPE powered pre-amp; mic, case, sensitivity chart, mic clip, 2m BNC cable included | | A4 | 990 EUR |
| 2400-314 | Mic 46AE IEPE 1/2" Set | low noise - high sensitivity mic, 50mV/Pa, max. 132dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m BNC cable | | A4 | 1.860 EUR |
| 2400-332 | Mic 146AE IEPE 1/2" Set | low noise - high sensitivity - rugged mic, 50mV/Pa, max. 132dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, 2 rugged grids, 1 standard grid, calibration adapter for rugged grid, case, sensitivity chart, mic clip, 2m BNC cable | | A4 | 1.990 EUR |
| 2400-312 | Mic 40PP IEPE 1/4" Set | QC test & ambient noise mic, 50mV/Pa, max. 129dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m BNC cable | | A4 | 680 EUR |
| 2400-006 | Mic 202E IEPE 1/2" Set | higher SPL - wider bandwidth mic, 14mV/Pa, max. 143dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m BNC cable | | A4 | 1.840 EUR |
| 2400-317 | Mic 46AM IEPE 1/2" Set | higher SPL - wider bandwidth mic, 14.5mV/Pa, max. 143dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m BNC cable | | A4 | 1.850 EUR |
| 2400-007 | Mic 40PP-S1 IEPE 1/4" Set | QC testing - higher SPL mic, 10mV/Pa, max. 142dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m BNC cable | | A4 | 690 EUR |
| 2400-005 | Mic 40PL IEPE 1/4" Set | QC testing - higher SPL mic, 10mV/Pa, max. 142dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m SMB to BNC cable | | A4 | 770 EUR |
| 2400-310 | Mic 301E IEPE 1/4" Set | max. SPL - max. bandwidth mic, 5mV/Pa, max. 155dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 3m Microdot to BNC cable | | A4 | 1.970 EUR |
| 2400-300 | Mic 46BE-S5 IEPE 1/4" Set | max. SPL - max. bandwidth mic, 4mV/Pa, max. 154dB, prepolarized cartridge, IEPE powered pre-amp; incl. mic, case, sensitivity chart, mic clip, 2m SMB to BNC cable | | A4 | 2.300 EUR |
| 2400-301 | Mic Supply Unit; IEPE type, IV11-S set | 1-channel, BNC I/Os, 5Vdc powered, switchable gain = 0dB/10 dB, incl. 1m BNC cable, BNC-XLR adapter, PSU | | A4 | 720 EUR |
| 2400-020 | Mic Calibrator; 4000 CL.1, 114dB @ 1kHz Set | Sound Pressure Calibrator for 1", 1/2", 1/4" mics, 114dB at 1kHz, 9V battery supply, case, calibration certificate | | A4 | 1.380 EUR |

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| 2400-023 | Mic Calibrator; GRAS 42AG Multifunction Sound Calibrator, Class 1, Set | Sound Pressure Calibrator for 1", 1/2", 1/4" mics, 94 or 114dB at 250Hz or 1kHz, AAA battery supply, case, calibration certificate Not for Mic Sets MI17/MI17HL and MI18/MI18HL | | A4 | 1.590 EUR |
| 2400-024 | Mic Calibrator Adapter 1/4" for GRAS 42AG | Supplement item for GRAS 42AG Multifunction Sound Calibrator, Class 1 Adapter for MI17/MIHL and MI18/MI8HL | | | 160 EUR |
| Amplifier | | | | | |
| 2700-001 | Amplifier QSC PLX 1802 | 2 channels 525 W at 4 ohm / bridged 1100 W at 8 ohm | | | 1.300 EUR |
| 2700-002 | Amplifier QSC PLX 2502 | 2 channels 675 W at 4 ohm / bridged 1400 W at 8 ohm | | | 1.400 EUR |
| 2700-003 | Amplifier QSC PLX 3602 | 2 channels 1100 W at 4 ohm / bridged 2600 W at 8 ohm | | | 1.800 EUR |
| 2700-008 | Amplifier QSC GX 3 (230V) | 2 channels 425 W at 4 ohm (only available as 230V version, not for US) | | | 460 EUR |
| 2700-009 | Amplifier QSC GX 5 (230V) | 2 channels 700 W at 4 ohm (only available as 230V version, not for US) | | | 570 EUR |
| 2700-010 | Amplifier QSC GX 7 | 2 channels 1000 W at 4 ohm | | | 900 EUR |
| 2700-011 | Amplifier Lake People PHONE-AMP F388-S, Set | 4-channel headphone amp, min. 16 ohm (490 mW), TRS-SPEAKON cable, XLR-female to 2x XLR-male adapter included | | | 980 EUR |
| Multiplexer | | | | | |
| 2800-101 | Multiplexer BNC | MUX81-42 BNC (Mic version) | | A8 | 1.580 EUR |
| 2800-102 | Multiplexer XLR-IN | MUX81-42-XLR-IN (LINE-IN version, 8 x 1 or 4 x 2) | | A8 | 1.470 EUR |
| 2800-103 | Multiplexer XLR-OUT | MUX81-42-XLR-OUT (LINE-OUT version, 1 x 8 or 2 x 4) | | A8 | 1.470 EUR |
| 2800-104 | Multiplexer Speakon | MUX81-42-SPEAKON (Speaker version) | | A8 | 1.950 EUR |
| Simulators | | | | | |
| 2400-073 | GRAS 44AA Mouth Simulator, according to ITU-T Rec. P51 Set | with built-in power-amplifier, incl. CCITT P51 jig, IEEE 269 jig, 24Vdc power supply, 2m BNC cable, XLR-BNC adapter | | A14 | 2.990 EUR |
| 2400-077 | GRAS 44AB Mouth Simulator, according to ITU-T Rec. P51 Set | without built-in power-amplifier, incl. CCITT P51 jig, IEEE 269 jig | | A14 | 2.450 EUR |
| 2400-079 | GRAS 45CC-2 Headphone Test Fixture | Two channel (Stereo) Test Fixture for On-Ear (supra-aural) and Over-Ear (circum-aural) Headphones | | A14 | 5.490 EUR |
| 2400-080 | GRAS 45CC-6 Headset Test Fixture Set | Two channel (Stereo) Test Fixture for On-Ear (supra-aural) and Over-Ear (circum-aural) Headsets | | A14 | 8.110 EUR |
| 2400-071 | GRAS 43AC-S1 Ear Simulator Kit according to IEC 60318-4 | Single channel (Mono) Ear Simulator Kit for In-Ear Headphones | | A14 | 4.210 EUR |
| 2400-075 | GRAS 43AA-S2 Ear Simulator Kit according to IEC 60318-1 & -2 | Single channel (Mono) Ear Simulator Kit for On-Ear (supra-aural) and Over-Ear (circum-aural) Headphones | | A14 | 4.400 EUR |
| 2400-078 | GRAS 45CA-4 Ear Simulator Kit according to IEC 60318-1 | Two channel (Stereo) Ear Simulator for On-Ear (supra-aural) and Over-Ear (circum-aural) Headphones | | A14 | 11.820 EUR |
| 2400-081 | GRAS 45CC-4 Ear Simulator Kit according to IEC 60318-1 | Two channel (Stereo) Ear Simulator for On-Ear (supra-aural) and Over-Ear (circum-aural) Headphones | | A14 | 8.250 EUR |
| 2400-082 | GRAS 45CC-8 Ear & Mouth Simulator Kit according to IEC 60318-1 Set | Two channel (Stereo) Ear Simulator for On-Ear (supra-aural) and Over-Ear (circum-aural) Headsets | | A14 | 10.990 EUR |

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| Various | | | | | |
| 2800-400 | Prologix GPIB-USB Controller | GPIB-Controller for USB, required for External Devices Module | PA | S31 | 300 EUR |
| 2800-011 | Temperature + Humidity Sensor (for use with Klippel Analyzer 3) | automatic recording of temperature + humidity | KA3, PA + QC6 | A6 | 390 EUR |
| 2800-004 | Bar Code Scanner | quick data entry via Barcode/QR-Code | | A6 | 300 EUR |
| 2800-005 | Manual Sweep Controller | intuitive control of frequency and level for the manual sweep | | A6 | 240 EUR |

* Module price per 1 license, running on 1 hardware unit or 1 USB dongle.

** Prices for accessories from other suppliers (microphones, lasers, amplifiers) are valid only in combination with KLIPPEL Analyzer System.

Also available on request:

- Various types of microphones from Microtech Gefell and G.R.A.S.
- Several cables

This document is subject to change without notice. Errors and omissions excepted.