



## DataEdge Quality Monitoring Software version 2.6

MebTec released version 2.6 of its DataEdge QMS Quality Monitoring System, and it installed a Mettler-based SNUS-version of QMS in 2008.

QMS is a true client-server software quality monitoring system for the factory floor that permits the automated download of data from QA-instrumentation to provide real-time data displays in graphical & tabular form to machine operators/technicians, while also providing management with extensive tools to analyze machine process capability, perform historical process review, store data, provide reporting and auditing tools. Its database is relational and is typically based on MS SQL Server 2000-2005. QMS stores all cigarette and filter quality control inputs, configurations, specifications, and control limits (DataMart QC software structure). It automatically analyzes and tags quality control data collected from various automated QA-instrumentation and transfers those to the database via data relay software (DataRelay QC software). QMS employs a distributable software component interface for providing output to various personnel (DataLink QC software) connected to QMS. QMS supports any of the OEM-instrumentation platforms.

A powerful and flexible system data report writer is also available to generate a wide selection of reports, and these can be filtered by data tag selections into various groupings and formats. Advanced data mining tools for custom reporting and exporting to Excel format exists.

QMS is installed in four locations and MebTec is in the planning stages to integrate components of into ERP/MES systems. QMS can be deployed as a thin-client application (using Terminal Services, Citrix, etc.)

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## IPM Anti-counterfeit indicators, special product design with laser cluster technology

Laser perforation makes it possible to perforate by pulsed or enlarged and focused laser beams are holes sizes from 60 to 200 microns at density of holes of typical 10 to 30 holes per cm, holes sequences from 100,000 to 400,000 holes per second at a maximal of 16 punctured rows by laser distributed over the material web width with traditional systems or machines for use in cigarette, tipping, plug-wrap, filter, packaging, packs, tear tape, plastic, film, foil and other material webs. With porosity levels from 100 to 3,000 C. U., normally in web widths from 100 to 500 mm at web speeds of up to 600 m/min, depending on porosity and material consistency in relation to its ability to perforate.

**IPM's patent grant and applied laser cluster perforation technology:** IPM developments of laser cluster perforation technology LPM-1 is patent grant by DE102004001327 that operates with quadruple beam inputs up to 8 KW to a high power twin level multiplexer to generate up to 200 individual laser perforation rows across the web, combines automatic positioned laser perforation heads, focus setting, web speeds up to 400 m/min, web widths up to 2,000 mm, up to 2,500,000 holes per second, jumbo roll-by-roll production, optical online permeability and perforation line position control, porosity feedback, high automation level and other features. Each laser perforation lines are archive able from 100 up to 1000 C.U.

The conception of high power twin level laser beam multiplexer enables plenty capabilities in other industry application fields as cutting, cut-off, welding, surface finishing, drilling, ablation, micromachining, polishing, forming, melting, surface treatment, roughness improvement, etc. Each of 200 single perforation heads

can be positioned across the through running web or static positioned material. The automatic processes, equipments and devices open outstanding possibilities in industry, domestic, tobacco product, medical, hygienic, wall covering, security cards, bank notes or food application.

**Working principle of MLL-1 Micro-Laser-Line perforation:** As known offline laser perforation machines or processes generate straight holes that form lines in web direction of the running tipping or other material sheets. Excluding spray laser designs which looks similar as random holes into certain zone areas as to electrostatic perforation.

The world-wide new and patent pending DE102004012081 Micro-Laser-Line technology generates cluster pattern, micro holes, sinus, waves, zigzag, cryptograms, logos, holograms, brand names or other kind of perforation designs in web direction which can look like as a group of micro laser lines.

**Concerned tipping paper means: non coaxial circumference at the cigarette filter:** New beams divert moving, scanning, and flipping elements that control each single laser perforation line in an across material direction which are precisely focused for micro holes in ranges from 50 up to 120 micron.

**Technical solutions:** Technologically this is performed by means of Piezo oscillators, ultra fast mini scanner, laser beam deflection, actuator with metal optics or asymmetrically, rotary reflection cones, which function and opera-

tional sequences is precise synchronize with the speed of web material.

Envelope curves of the selected perforation pattern are storage and calculated by PLC control before single holes and holes groups supervised during production processes.

**Product and process advantages:** Micro-Laser-Lines enables total different product indicators against all other laser perforation processes. It allows significant product property and trademark indications – patent claims MLL-1 perforation design indicates the unique company which had generated the micro perforation in tipping, packaging or other material webs wide range of laser perforation groups as a common active ventilation zone to obtain several advances in air stream distributions into cigarette filter fully perforation line guiding around the cigarette filter assure constant porosity results several pattern or wave line designs for different brands are possible number of holes per cm length are constant e.g. 10 or 20 porosity range from 100 up to 1,000 C.U. hole sizes from 50–120 micron hole densities from 100,000–500,000 holes per Second—in total from 1 up 6 perforation pattern or lines can combines one group perforation hole quality and porosity remains in standard levels many other web material, substrate or products are treatable in similar processes.

**Laser perforation machines/systems:** Existent laser perforation machines are able to modify with new optical, mechanical and control elements low in-

vestment of technical modifications because exchanges of certain elements complete MLL-1 devices are adaptable on existent offline laser perforation machines or other systems capability to adapt MLL-1 beam divert devices/unit at online perforation system at cigarette making machine perforation power and production output remains as before.

**Applications:** The MLL-1 Micro-Laser-Line perforation for web or sheet material as paper, metal, isolation, plastic, film, foil, leather, textile material enables now large number of possibilities for hole positioning with different perforation pattern, design, wave, zigzag, cryptograms, scripts, etc. lines or others which generates e.g. optimized air distribution characteristics in cigarette filter, unique anti counterfeiting indications and 100 other product advantages.

Special remark of MLL-1 creates fundamentally new product properties, e.g. as final products for mouthpieces with tipping paper at cigarette filter or other tobacco, packaging or security products.

Specific indication of brand names which is recognizable for everyone and product buyer – if the micro holes or pattern are to see with magnified glasses. Or touch able as Braille scripts as micro cluster perforation cryptograms.

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